INTERNATIONAL MIRE CONSERVATION GROUP

NEWSLETTER

issue 2004/1, March 2004

The International Mire Conservation Group (IMCG) is an international network of specialists having a particular interest in mire and peatland conservation. The network encompasses a wide spectrum of expertise and interests, from research scientists to consultants, government agency specialists to peatland site managers. It operates largely through e-mail and newsletters, and holds regular workshops and symposia. For more information: consult the IMCG Website: http://www.imcg.net

IMCG has a Main Board of 15 people from various parts of the world that has to take decisions between congresses. Of these 15 an elected 5 constitute the IMCG Executive Committee that handles day-to-day affairs. The Executive Committee consists of a Chairman (Jan Sliva), a Secretary General (Hans Joosten), a Treasurer (Philippe Julve), and 2 additional members (Tatiana Minaeva, Stuart Brooks).

Viktor Masing (†), Hugo Sjörs, and Richard Lindsay have been awarded honorary membership of IMCG.

Editorial

The first Newsletter of 2004, again full of interesting information on what is going on in the world of peatlands. We ask you to prepare yourself for the General Assembly that is taking place in South Africa later this year. Even when you cannot participate in person, you can contribute with discussion papers and proposals, and of course with voting.

Various positive developments can be reported including the decision of the Convention on Biodiversity of February 2004 to pay more attention to peatlands with respect to climate change. With respect to that topic also negative things have to be reported: the fallacy that peat is a renewable and climate neutral fuel is spreading. Read about it in a critical analysis.

We plan to publish the next Newsletter (probably thinner, but that is also upto YOU) at the end of May 2004 to be in time for the General Assembly. Therefore we need your contributions before 24 May. Please send all your proposals, contributions, news, publications, etc. to us, and with your help we will again prepare an interesting Newsletter.

Thanks to the work of Alexandra Barthelmes, the IMCG Newsletter is now also available in html format for fast online access and on-screen reading.

For information or other things, contact us at the IMCG Secretariat. Address updates should be sent to Jan Sliva (sliva@wzw.tum.de). In the meantime, keep an eye on the continuously refreshed and refreshing IMCG web-site: http://www.imcg.net

John Couwenberg & Hans Joosten, The IMCG Secretariat
Botanical Institute, Grimmerstr. 88, D-17487 Greifswald (Germany)
fax: +49 3834 864114; e-mail: joosten@uni-greifswald.de

Contents:

The IMCG bank acount : IBAN Number : FR76 1670 6050 0750 5170 9901 686; Bic Number (=swift) : AGRIFRPP867;
Name : Ass. International Mire Conservation Group; Address : 159 rue Sadi Carnot 59280 Armentières (France)

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General Assembly South Africa 2004

On the IMCG General Assembly on Sunday September 26 2004 in Paarl (Western Cape Province, South Africa) only a limited number of IMCG members can be present, and only limited time will be available. Therefore we will arrange the discussions and decisions largely by (e)mail, like we have done with the France 2002 General Assembly.

At the end of May 2004 we will send around the detailed **final agenda** for this Assembly (that will be available on our website as well) and in the beginning of July we will produce a Newsletter containing the full documents for the Assembly and all information on how the voting per email or snailmail will be done.

Therefore: provide the IMCG secretariat **IN TIME** with agenda points (*before* **25 May**). Once an item is on the agenda, you can submit background papers, concrete proposals, contributions for discussion, etc. until **5 July**. Nominations for the IMCG Main Board should also be sent in by the beginning of July – the sooner the better of course – so that we can arrange the democratic procedures in a smooth way.

A **preliminary agenda** of the IMCG General Assembly is as follows:

1. Opening and Welcome
2. Minutes of the General Assembly of 21 July 2002 in Besançon
3. Biennial report on the state of affairs in the IMCG and on its policy
4. Balance sheet and the statement of profit and loss
5. IMCG Action Plan: progress and amendments
6. Membership fee
7. Election of the Main Board
8. Conference resolutions
9. Information on next venue 2006 in Finland; Agreement on venue 2008
10. Any Other Business

IMCG Main Board Election

On our General Assembly in South Africa we have to elect a new IMCG Main Board. In order to guarantee an effective democratic election process involving all members, nominations have to be submitted to the Secretariat before 5 July 2004, so that ballots can be sent out in time.
Please send your nomination (incl. a short description of your backgrounds, your activities in, and vision on mire conservation) to the Secretariat.

IMCG Resolutions

Submit your draft resolutions!

The IMCG General Assembly in South Africa 2004 will again discuss and adopt resolutions. To streamline the procedure, IMCG members are requested to submit their draft resolution timely, i.e. as soon as possible, to the IMCG secretariat. This will enable to circulate the draft resolutions among the Main Board, to publish the necessary background information in the IMCG Newsletters of May and July 2004, and to put the drafts on our website so that everybody can send reactions (to the IMCG Secretariat).
Draft resolutions should identify the apparatus and bodies to which the resolution has to be directed or sent. Examples (phrasing and content) of resolutions can be found on the IMCG website (www.imcg.net/docum/france/frres.htm).
Resolutions are not always taken at heart by the governments they are addressed to. The Swedish government has yet to acknowledge receipt of the Resolution drawn up in France for example. Yet resolutions remain a strong tool in influencing government policies, the more so with the increasing strength of IMCG on the global peatland front.
Below you can find a draft resolution for Germany.

DRAFT
IMCG Resolution to the Federal Republic of Germany and the G overnment of Lower Saxony

To the Minister of Environment of the Federal State of Lower Saxony
To the Minister of Environment of the Federal Republic of Germany

The International Mire Conservation Group (IMCG) is a worldwide organisation of mire (peatland) specialists *etc. etc.*

In Germany most of the bog-landscapes are situated in the federal state of Lower Saxony (Northwest Germany). This state acknowledges its high responsibility for mire protection and has therefore in 1981 adopted a Mire Conservation Programme. Lower Saxony has since gained international respect for its consequent legal protection of complete peatland complexes, including rewetted areas, peat mining areas, and nature-like bog-remnants.
The Esterweger Dose is the largest bog complex in Lower Saxony. It is well known for its tragic history in the 1930s and 1940s when the fascist nazi-regime established a concentration camp in the nearby Esterwegen. The area is a classical site of mire study as it was the last extensive near-natural bog site of Northern Germany and a nature reserve since 1937. The largely state-owned area was, however, sacrificed to peat extraction at the end of the 1950's. The last near-natural parts were destroyed in the 1980s.

But still this complex has an enormous importance for mire conservation because of its potential to re-establish bog-like conditions over huge areas. The Esterweger Dose is currently the largest bog restoration area of West and Central Europe, with already 2000 ha being rewetted. The licenses for peat extraction prescribe „bog restoration "as after use. Parts of the Esterweger Dose are listed for Natura 2000 as part of the FFH-Programme of the European Union. Furthermore the whole area is listed in Natura 2000 as an Important Bird Area. Its listing in the European Natura 2000 network implies the obligation to provide the essential legal protection to the area.

After the last elections in Lower Saxony in 2003, however, the new Government has stopped the –almost completed - process of designating the Esterweger Dose as a nature reserve. Reacting on lobby from the peat industry, the new Minister of Environment has decided not to designate those parts of the Esterweger Dose that are still used for peat extraction.

This may severely hamper the long-term integrated development of the area as one of the most extensive and most promising bog restoration sites of West and Central Europe. The IMCG recalls that Lower Saxony sold another large and unprotected bog area as a training-centre to Mercedes-Benz by in 1992.

Therefore the IMCG requests the Minister of Environment of Lower Saxony to proceed without delay with the designation of the total Esterweger Dose as a nature reserve and in this way complete the consequent implementation of the Mire Conservation Programme of 1981.
Furthermore the IMCG request the Minister of Environment of the Federal Republic of Germany, who is responsible for the German part of the Natura 2000 – network, to support the conservation of the Esterweger Dose mire complex.

Resolutions and Russian Policy, or who will change the Ramsar Convention.

Tatiana Mineava

Resolutions of international meetings and conferences are considered to be an effective mechanism to influence national policy. In order to guarantee effectiveness, one or more of the following conditions need to be fulfilled: either the target state is democratic, or it has strong inside opposition supporting your idea, or it is economically dependent on other democratic countries. As the current situation shows, none of these applies to Russia. As long as oil prices are high, the Russian government is very proud of "choosing its own way" without any tiresome admonitions from the West. And one can feel that every day. Ten years working of NGOs to "educate" the government during the 1990s had step-by-step resulted in a positive reform of the legislation with respect to the use of natural resources and environmental conservation. The "strong government" of the 2000s has ruined all that in 3 years. It tried it once and saw that everything goes smoothly, no public reaction – so it goes further and further...

The funniest thing is that their motivations do not exceed their "datscha" (summer cottage) or the economical problems of their friends and relatives. Because most politicians had already build their houses along riverbanks, the "pocket" parliament has changed the recently adopted Forest Code (that was not bad at all) to make it possible to buy forests along riverbanks. To keep the noise from the public away from their nice houses on the lakeshores, our friends have introduced a new Water Code that enables to buy lakes without public servitude. According to that document it is now possible to bring sand on the bank of Lake Baikal and to construct a beach there; in this way that part becomes "artificial" and can then be used in what ever way, etc. etc. etc. Since October we try to give amendments to the text of the Water Code. The text, by the way, is not public. What is on the Web site differs very much from what is really under consideration. There is no chance to change things. There is no dialogue with the public, not even with the Ministry of Nature Resources.

And who are those bad boys? They are honest bureaucrats, good experts, and clever guys – but they are the macroeconomists of the Ministry of Trade and Economic Development. They are just doing their job: increasing commodity. The only Ministry that nowadays prepares laws in our country is the Ministry of Trade and Economic Development. And it does not matter what the Law is about - forest, water, biodiversity…-, they even have their own version of the Law on Protected Areas (naturally with the possibility to buy and sell property inside them). Those guys have applied to GEF for 20 mln dollars with a project proposal aimed to develop peat as an alternative and renewable energy resource! (www.gefonline.org/projectDetails.cfm?projID=2376) Peat as an alternative for coal and oil! It will not be surprising if GEF supports them.

The Conservation Director of WWF Russia gave 3 interviews to journalists of 3 different Russian TV channels explaining the dangerous consequences of the new legislation. All interviews were cancelled from the news on all three channels at the last moment. All of them! I was discussing the Water Code with bureaucrats from the Ministry of Trade and Economic Development. It was obvious that they see no obstacles for the endorsement of the new Codes. "But what about the Ramsar Convention?" I asked, "After endorsement of the new Water and Forest codes, our legislation will not provide mechanisms for the implementation of the Ramsar principles any more." The answer was: "Everywhere is that awful Ramsar Convention. People in Geneva were shaking when they heard about it. Change it!"

It will be interesting to see the developments. Will they really change the Ramsar Convention?

Do IMCG resolutions help in Russia? Since 2002 I would say: NOT IMMEDIATELY. The only chance is to wait until the oil prices have fallen to 20-22 US$. Now the activities of NGOs should be shifted from the Federal Government and from central regulation to the concrete spots in the regions. It is more effective now to solve very concrete problems. Influence from abroad could also be more concrete.

And then the only possibility is to wait, just to wait…. Maybe they will all leave for Cyprus soon…

REGISTER

Please fill out the IMCG membership registration form.

Surf to http://www.imcg.net or contact the secretariat.

CBD acknowledges role of peatlands for climate

The Conference of Parties (COP7) of the Convention on Biological Diversity (CBD) in Kuala Lumpur (Malaysia) has as Agenda item 19.12 adopted an important text on biodiversity and climate change which was approved on 21 February 2004.
The following paragraphs relating to peatlands were incorporated into the decision.

The Conference of the Parties

[…]

2. *Invites* Parties, other Governments, international organizations and other bodies to make use of the report on climate change and biodiversity prepared by the Ad Hoc Technical Expert Group on Biological Diversity and Climate Change in order to promote synergies at the national level between the United Nations Framework Convention on Climate Change and its Kyoto Protocol and the Convention on Biological Diversity, when implementing climate-change activities and their relation to the conservation and sustainable use of biodiversity;

[…]

The content of the mentioned report of the Ad Hoc Technical Expert Group with respect to peatlands was published in IMCG Newsletter 2003/4. Main statements of the report include:
"- Pristine mires play an important role with respect to global warming as carbon stores.
- Anthropogenic drainage has changed mires and peatlands from a global carbon sink to a global carbon (and other greenhouse gas) source
- Human activities continue to be the most important factors affecting peatlands, both globally and locally, leading to a current annual decrease of the mire resource.
- When peatlands are drained to create more agricultural land N2O emissions are increased and these lands become more prone to fires. In some years greenhouse gas emissions from the burning of these drained peatlands (e.g., in South East Asia) may constitute a substantial portion of the global emissions."

[…]

5. *Notes* that the Conference of the Parties to the Ramsar Convention on Wetlands at its eighth meeting adopted resolution VIII/3 on climate change and wetlands, which, inter alia, called on relevant countries to take action to minimize the degradation as well as promote the restoration. of those peatlands and other wetland types that are significant carbon stores or have the ability to sequester carbon and supports the request by the Parties to the Ramsar Convention on Wetlands to the Intergovernmental Panel on Climate Change to prepare a technical paper on the relationship between wetlands and climate change;
5 bis. *Welcomes* the proposed assessment on peatlands biodiversity and climate change being undertaken by Wetlands International and the Global Environment Centre with the support of UNEP-GEF, the Government of Canada, the Netherlands and others and encourages the involvement of parties in this assessment and in preparations for the consideration of its findings by SBSTTA prior to COP 9.

The paragraph welcoming the assessment of peatlands, biodiversity and climate change – and proposing a mechanism to formally link this to the CBD process – is of great strategic value for mire conservation. It is also directly relevant for the current UNEP-GEF Peat and Climate Change Project of the Global Environmental Centre and Wetlands International that is supported by IMCG.

6. *Notes* also that there are opportunities to implement climate change mitigation and adaptation activities in ways that are mutually beneficial and synergistic, and that contribute simultaneously to the United Nations Framework Convention on Climate Change and its Kyoto Protocol, the Convention on Biological Diversity, the United Nations Convention to Combat Desertification, Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer, the Ramsar Convention on Wetlands, and other international agreements, all within broader national development objectives;

[…]

Especially peatlands provide ample opportunities to interconnect the mentioned conventions.

[…]

11. *Encourages* Parties to take measures to manage ecosystems so as to maintain their resilience to extreme climate events and to help mitigate and adapt to climate change.

Paragraph 11 calling on Parties "to take measures to manage ecosystems so as to maintain their resilience to extreme climate events and to help mitigate and adapt to climate change" – is very important as it calls on countries to take specific actions to manage ecosystems rather than just undertake further studies.

[…]

The full text of the decision can be found under http://www.biodiv.org/doc/meetings/cop/cop-07/official/cop-07-l-16-en.pdf

Climate Change & Peatlands: Biodiversity Aspects

by Tatiana Mineava & Andej Sirin

The following article is based on a presentation held at the peatland side event of the Conference of Parties (COP7) of the Convention on Biological Diversity (CBD) in Kuala Lumpur (Malaysia).

Peatlands cover 2 to 6 % of the world's land surface, an estimated 50% of this area is located in Russia. The importance of peatlands to climate change and biodiversity has received more and more attention in recent years.

The Ramsar Convention on Wetlands has finally recognised the importance of peatlands and has now undertaken steps to improve the representation of peatlands as wetlands of international importance. Besides the important recommendation 6.1, made in Australia in 1996, recommendation 7.1. adopted in Costa Rica in 1999, and then culminating in the adoption of resolution 8.17 (GGAP) in Spain 2002, several other convention documents have strengthened the position of peatlands as wetlands of international importance. There have been several Recommendations and Resolutions on wise use and the ecosystem approach (Recommendation III.3, Canada 1987; Recommendation IV.1, Switzerland 1990; Resolution V.1, Japan 1993) and on adaptive management of wetlands in response to the impacts of global climate change, recognising the role of wetlands in climate change mitigation (Resolution VIII.3 and Strategic plan for 2002-2008, Spain 2002).

Within the United Nations Framework Convention on Climate Change (UNFCCC), there have been made several calls for inventory and assessment of carbon sinks and sources, including natural ecosystems. Furthermore, calls were made for the development of National and Global strategies for climate change mitigation and ecosystem adaptation. The Land Use, Land Use Change and Forestry (LULUCF) initiative includes forested wetlands, but not peatlands as such. Peatlands should particularly be considered in the climate change problem regarding following aspects:

- Peatlands are the main terrestrial sink of atmospheric carbon
- Peatlands are also an unquantified source of green house gases (CO_2, CH_4 , N_2O)
- Peatlands could mitigate effects of climate change
- Peatlands can adapt to climate change.

In relation to peatlands, also the Convention on Biological Diverstiy (CBD) offers many challenges and opportunities. In particular, the CBD calls for impact assessments and minimisation of adverse impacts (Article 14) as well as for ecosystem management and restoration in order to maintain ecosystem features (Ecosystem approach, decision VI/12 and Forest biological diversity, decision VI/22). With respect to climate change, the CBD specifically addresses that degradation of peatlands and mires as a measure for mitigation of Climate change effects should be avoided (review and recommendation for actions on the Interactions of Biological diversity and climate change 9th SBSTTA meeting, Montreal, Nov.2003)

Besides on species, the Convention on Biological Diversity also focuses on ecosystems and landscapes. Both these levels are important with respect to peatland conservation.

There are some few species that are obligatory peatland species during their entire life cycle. Next, a much larger group of species is connected with peatlands only during part of the life cycle. Then, peatlands provide potential refugia for criophytic species like *Rhynchospora alba*, *Drosera rotundifolia*, *Drosera anglica* (Europe in peatlands only, North America on sand/clay), *Betula nana*, *Trichophorum caespitosum*, *Eriophorum vaginatum*, *Rubus chamaemorus*, *Empetrum hermaphroditum*, *Sphagnum fuscum* (temperate zone in peatlands only, Arctics in a wide range of ecosystems), *Calluna vulgaris*, *Empetrum nigrum* (Continental Europe and West Siberia in peatlands only, in Oceanic regions on sands). Species like *Scheuchzeria palustris*, *Menyanthes trifoliata*, *Calla palustris*, *Oxycoccus palustri*s etc. occur in peatlands only.

Peatlands function as "refugia-in-time" after the major change in climate with the end of the last ice age for some mountain and cryophilic flora and fauna species like *Betula nana*, *Saxifraga hirculus*, *Empetrum nigrum*, and *Ledum palustre*. Also species of open habitats find refugium from anthropogenic pressure in peatlands (*Gladiolus imbricatus*, *Gymnadenia conopsea*, *Malaxis monophyllos*, *Epipactis helleborine*).

Besides for plant species, peatlands also provide important habitats for other organisms. The peatlands of Belarus, for instance, provide nesting habitats for a major part of several European populations of rare bird species like *Aquilla pomarina* (45%), *Porzana porzana* (46%), *Crex crex* (59%), *Acrocephalus paludicola* (57%). Peatlands also provide the sole habitat for some rare species on invertebrates.

On the landscape or ecosystem level there are many peatland classification systems. These all have one thing in common: they distinguish a lot of variation and many peatland types. Different types react differently to climate change and to human impact. For human use of and their impact on peatland ecosystems, reference is made to the Wise Use of Mires and Peatlands book (Joosten & Clarke 2002), where an exhaustive listing of material and non-material forms of peatland utilisation can be found.

Climate change itself leads to a loss of peatlands types. This is most obvious when climatic conditions are extreme as in case of arctic peatlands, where retreating permafrost leads to melting and subsequent drying out of peatlands, or in case of montane peatlands in arid climates that change to dry tundra

and steppe systems. Unwise use can reinforce and speed up the detrimental effects of climate change on peatlands.

This brings us to the measures necessary for the conservation of peatlands in a world focussing on Biodiversity and Climate Change. First of all, the wise use of peatlands needs to be promoted and the necessary informational background for decision making has to be drawn together and made accessible. The Ramsar Convention already has shifted focus towards peatlands, also with respect to climate change. For the other main Conventions, the following peatland related targets can be recommended.

The Targets for the CBD:
- address peatlands as distinct wetlands ecosystem types with their own characteristics.
- address peatlands ecosystem management in relation to climate change and biodiversity conservation:
  - peatlands and desertification
  - peatlands in permafrost areas
  - mountain peatlands ecosystems
  - inland water management and peatlands

Targets for the UN Convention to Combat Desertification (CCD):
- designate peatland ecosystems as threatened by desertification in all countries of the arid zone

Targets for the UNFCC:
- designate peatlands as the main terrestrial sink of atmospheric carbon
- include peatlands in green house gass (CO_2, CH_4, N_2O) source inventories
- recognise peatlands as a climate change mitigation factor
- develop a climate change adaptation strategy for peatlands

In Russia, where most of the world's peatland area is located, peatlands are distinguished from other wetlands type in the National strategy of biodiversity conservation. Now there is a need to develop an integrated policy document that is endorsed and approved by Federal authorities, that focuses on scientifically sound and systematic measures of peatland conservation and wise use, including legal, social, economic, and management tools, and that allows to take the urgent action that is needed now.

The IMCG Global Peatland Database on the Web (www.imcg.net/gpd/gpd.htm).

by Hans Joosten

In its last Conference of Parties (CoP8, Valencia, November 2002), the Ramsar Convention has identified the urgent need to establish a global database of peatlands and mires to provide the baseline information necessary to assist Contracting Parties and others in their delivery of Global Action for Peatlands. This Database should be made widely accessible, be compiled in the first instance from existing sources of information, and be brought into line with the standardised terminology and classification systems. It should include baseline information on the distribution, size, quality, ecological characteristics, and biological diversity of the resource.

With a grant of the Global Peatland Initiative (GPI) and much in kind support of Greifswald University and IMCG members, IMCG has taken the challenge to develop such a database (see also IMCG Newsletter 2003-3). The first results of this on-going project are now being made available on the Internet.

Information for 263 countries and regions covering the entire world has been gathered from over 800 publications, countless websites, and personal communications.

Many peatland experts have participated in compiling the data. Information has been supplied by a wide range of governmental, NGO, and private sector agencies.

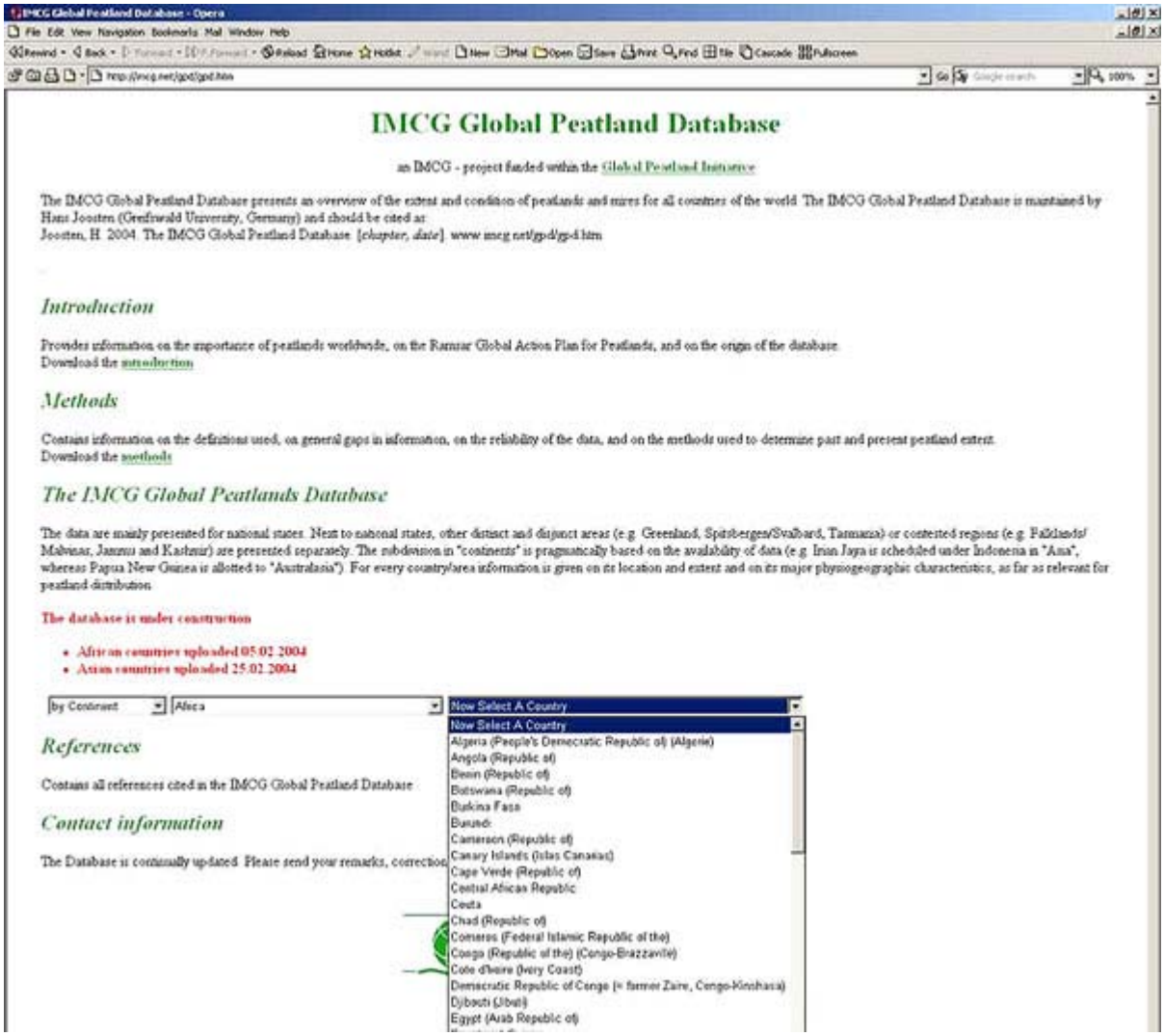
We have tried (…) to collect all available information on the distribution, extent, status and threat, and ecological characteristics of peatlands for all countries of the world.

The 263 country/region chapters clearly show the information coverage and the gaps in inventory. Evaluation of the data with respect to identifying priorities for further national or regional inventories still has to take place.

The classification and inventory approaches have been analysed in general and for every country individually. Differences in these approaches have been pointed out and instruments to make the data mutually compatible have been developed. Application of these models is still awaiting further verification with additional calibration data. Country/region chapters present a critical discussion

on available data and their international compatibility. Because of the incompatibility of data, a simple standardised numerical database could not yet be established.
The project has created the best and most complete overview of peatland occurrences and status currently available in the world. For many countries and regions information is made internationally accessible for the first time in history. All information is (being) made available on the IMCG website and is downloadable (in pdf-format) per chapter and country. The information is often still rough but will be continually improved and updated.

The database forms a good starting point for further work of the Ramsar partners and will be actively used by the Coordinating Committee of Global Action on Peatlands of the Ramsar Convention and by IMCG for prioritising their work. Because of its abundance the material has not yet been fully analysed. The results will be feed back to the Ramsar focal points in each country to check and complement the information.
Please check the information and add your knowledge to the collective body of information!!



IMCG Field Symposium Tierra del Fuego November 2005

First announcement:

In order to stimulate mire conservation in Tierra del Fuego, South America, and the extratropical Southern Hemisphere, IMCG is planning a Field Symposium in Tierra del Fuego (Argentina) from 16 - 25 November 2005.
This symposium will enable mire conservationists and administrators from Tierra del Fuego, South America, Southern Africa, and Australia, and other IMCG members to discuss topical issues with respect to mire conservation and wise use in this part of the world.
The Field Symposium will consist of three days of symposia and workshops in Ushuaia (with English as conversation language) and seven days of excursions. The number of participants in the field excursions will – for logistic reasons – be limited to a maximum of 50.

> We crossed the Varela River, climbed the hills and after the first few miles of bog came to K-Wheipenohrrh (Naked Ridge or Nose). Before us now lay a lovely picture of winding streams fringed with grass or bushes, and mountain valleys full of bright yellow bog, with clumps of dark evergreen beech trees clinging to the side where the rocks were not so steep. In the background were rock and patches of snow. A short distance away two small streams joined and, in the form of a diminutive waterfall, broke through a narrow gash in the second range.
>
> *Lucas Bridges (1948): Uttermost Part of the Earth*

The preliminary programme looks as follows:

November 16: Opening of the Symposium.
General introductions on Tierra del Fuego and its mires, including:
- The geology, geomorphology, and glaciations
- Climate and hydrology
- Flora and vegetation
- Peatland research history
- Peatland distribution and peatland types
- Peatland use
- Peatland conservation and legislation

November 17: Presentations by guests on themes related to peatland conservation and wise use in S-America, the Southern Hemisphere, and the World.

November 18: Excursion to the Valle de Andorra with delicately patterned eccentric Sphagnum magellanicum bogs: overview of research in peatland patterning development, hydrology, palaeoecology, vegetation. Peat extraction.

November 19: Excursion to the Ushuaia City mires and the Rio Olivia mires: problems of urbanisation, peat extraction, and recreation.

November 20 and 21: Two day excursion to the Valle Lasifashaj and Moat: spring mires, percolation mires, blanket bogs, *Astelia* aapa mires. Overnight stay in tents.

Peninsula Mitre Photo: H. Joosten, March 2004

November 22: Airplane flight over Peninsula Mitre (the eastern part of Isla Grande de Tierra del Fuego, an inaccessible wilderness large covered with mires) and other parts of Tierra del Fuego: mire expanses (> 2000 km2 of mires, mire patterning on landscape scale.

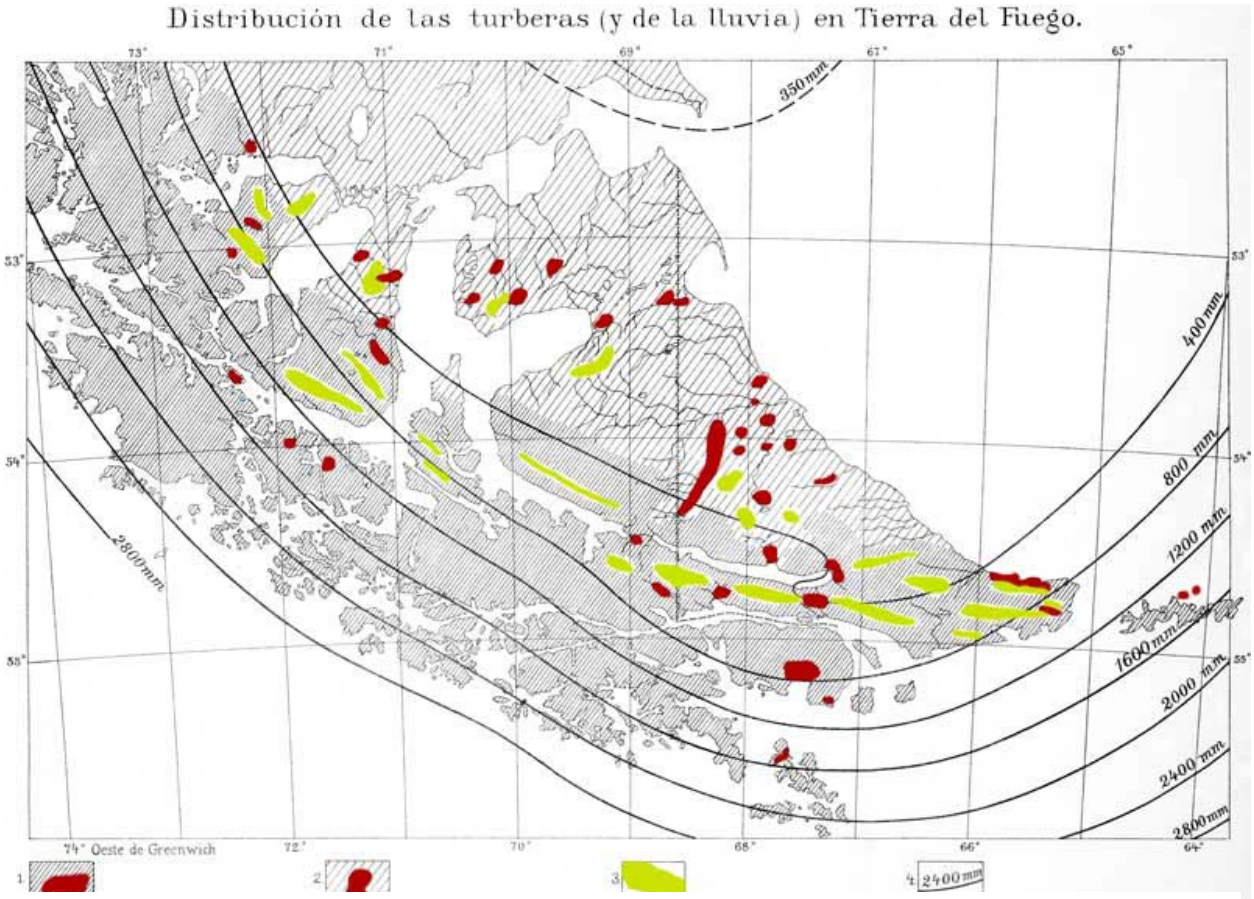
November 23: Excursion to Tolhuin: diversity of peatlands: patterned bogs, sloping mires, kettle hole mires, peat extraction, Vegas (pampa mires).

November 24: Excursion to Tierra del Fuego National Park

November 25: Symposium day (Ushuaia): Summarizing discussions, conclusions, resolutions, workshops, future planning.

The fees of the symposium are estimated at:
Early registration (before April 11, 2005):
Symposium registration: 150 Euros
Total package (incl. symposium registration, accommodation, meals, and excursions): 850 Euros
Regular registration (after April 11, 2005)
Symposium registration: 200 Euros
Total package: 950 Euros
We are trying to acquire funds to support participants with currency problems.
For more information: Rodolfo Iturrapse: iturraspe@tdfuego.com

Because of the intensive contact in the field between experts of many disciplines and countries, IMCG Field Symposia are a highly effective means for information exchange, training, discussion, and theory and policy development.



1. Humid areas where presently different types of forested peatlands are being formed. Several possible occurrences of these peatlands have been mapped based on data and publications of others and personal observations of the author.
2. Dry areas where forested peatlands are only found in a fossil state and where presently valley mires are formed of shallow swamps and humid meadows.
3. "Alpine" peatlands and peatlands of the "high pampas" (the former are mostly located in zone 1, the latter in zone 2).
4. Isohyets.

After: Bonarelli, G. 1917. Tierra del Fuego y sus turberas. Direcciòn General de Minas, Geología e Hydrología, Buenaos Aires. 121 pp.

Towards a protected natural area: "Peninsula Mitre", Tierra del Fuego, Republic of Argentina

by Nora Loekemeyer

The easternmost part of the Tierra del Fuego archipelago within the Republic of Argentina is known as the "Peninsula Mitre." It represents an area with exceptionally high natural and cultural values in various fields of nature conservation. Most knowledge on the area was collected and disseminated by the project "The Extreme East of the Tierra del Fuego Archipelago" carried out by the "Museum of the End of the World," an institution of the government of the Province of Tierra del Fuego. This institution presented the first proposals for the creation of a protected natural area in 1989.

The planning of this protected area was continued in 2001 by a multi-disciplinary team of various institutions of the provincial government with technical support of experts of the Centro Austral de Investigaciones Cientificas CADIC ("Southern Centre for Scientific Investigations"), the National Park Administration, and independent experts. The integration of all opinions of these different sectors resulted in the technical document "Peninsula Mitre: Creation of a protected natural area in the extreme southeast of Isla Grande, Tierra del Fuego, Republic of Argentina".

The report contains a description of the area, including its use in the past and present and its characteristics and outstanding values with respect to natural and cultural heritage. Furthermore, the document formed the basis for the elaboration of a draft bill, presented by the executive power to the provincial legislature.

The draft bill entails the designation of the major part of the Peninsula Mitre to a "Provincial Nature Park" whereas two smaller areas are categorized as "Natural Forest Reserve" and "Provincial Nature Monument." The marine area nearby should form a "Provincial Multi-Use Reserve." Besides, the designation of two adjacent protected areas, the valleys of the rivers Irigoyen and Moat, is in preparation.

A prompt passing of these laws will provide the necessary legal framework for the conservation of this region that is characterized by its diversity and extent of peatlands. Probably more than 2,000 km^2 of virgin mires, i.e. 80 % of the total mire resource of the Province of Tierra del Fuego and 75 % of that of Argentina, are found in this largely roadless wilderness, constituting one of the largest peatlands complexes in South America outside the tropics. The mires display a large variety of types with a diverse floristic composition: from extensive *Marsippospermum* dominated blanket bogs to iron rich spring mires with *Schoenus antarcticus*, from *Astelia/Donatia* dominated cushion mires to sedge-brownmoss percolation mires and raised bogs that are coloured intensively red by *Sphagnum magellanicum*.

Rodolfo Iturraspe in an *Astelia-Donatia* mire in the River Moat area. Photo: H. Joosten, March 2004

The large extents of mires and their undisturbed development have enabled the development of impressive mire patterning.
Besides, Peninsula Mitre has the following important values:

- It is a refuge for native animal species that are threatened by extinction - like the Culpeo (*Dusicyon culpaeus lycoides*), the Marine Otter (*Lutra felina*), the Southern River Otter (*Lutra provocax*), and the Ruddy-headed Goose *Chloephaga rubidiceps*) - or vulnerable - like the Striated Caracara (*Phalcoboenus australis*), the Snowy Sheathbill (*Chionis alba*), and the Blackish Sheathbill (*Cinclodes antarcticus*)
- It has a high diversity and abundance of marine birds and mammals including the Blue Eyed Shag (*Phalacrocorax atriceps*), the Rock Shag (*Phalacrocorax magellanicus*), the South American Sea Lion (*Otaria flavescens*), and the South American Fur Seal (*Arctocephalus australis*).
- It constitutes a feeding area of the Rockhopper Penguin (*Eudyptes chrysocome*), an IUCN endangered species
- Its streams and lakes have not been stocked with salmonides so that the native ichtyofauna of inland waters is preserved
- Its native forests of Nothofagus betuloides have special characteristics due to their litoral situation and high humidity, including the presence of *Drimys winteri*, *Maitenus magellanica*, and *Blechnum magellanicum*
- It is a habitat of endemic species of the vascular flora of Tierra del Fuego, including various grass species (*Festuca cirrosa*, *Poa darwiniana*, *P. yaganica*) and herbs and subshrubs (*Senecio eightsii*, *S. humifusus*, *S. websteri*, *Nassauvia latissima*)
- It is a habitat of a diverse marine benthic vegetation, including exclusive and endemic species
- Its extensive algal forests are a refuge and feeding area of various invertebrates, fish, birds, and marine mammals
- It is an important breeding area of the Patagonian grenadier (*Macruronus magellanicus*), a fish species with a high commercial value

Peninsula Mitre Photo: H. Joosten, March 2004

Workshop "Management of water basins regulated by peatlands". Ushuaia, Tierra del Fuego

by Adriana Urciuolo & Rodolfo Iturrapse

On March 9, 2004, the Directorate of Water Resources of Tierra del Fuego Province, Argentina, organized a workshop on Management of Water Basins regulated by Peatlands.

The Workshop was opened by the Minister of Production, Dn. Horacio Miranda, and the Secretary of Natural Resources, Dr. Marcelo Morandi. The workshop was attended by members of different organizations and institutions, including the Departments of Water Resources, Mining, Agriculture, Forests, Protected Areas, Environment and Land Planning, and Science and Technology of the Secretary of Natural Resources, the Secretary of Planning, research institutions like INTA and CADIC (CONICET), Greifswald University, and Patagonian University, the Municipality of Ushuaia, National Parks, and the NGO FinisTerrae.

The aim was to discuss the role of peatlands in the regulation of water quality and quantity. The abundance of mires in Tierra del Fuego implies that they exert an important influence on rivers and lakes.

There is limited knowledge about the extent of peatlands in Tierra del Fuego, about the peatland types and their distribution, and about the environmental functions they perform in water regulation, carbon storage and sequestration, and in the maintenance of biodiversity. On the other hand, in recent years a rapid increase in peatland utilization, including peat extraction, urbanization, and tourism, can be observed. These developments are not yet regulated in an integrated way because of the lack of inventory and the absence of land use planning.

The following papers were presented:

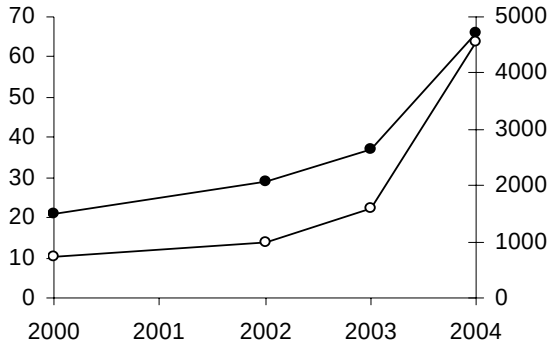
- The roll of mires in water basins regulation (Ing. Rodolfo Iturraspe - CADIC /Dir. of Water Resources of Tierra del Fuego).
- Extraction and conservation: excluding or compatibles positions? The wise use of mires and peatlands (Dr. Hans Joosten - Greifswald University, Germany)
- Our knowledge about the mires and peatlands of Tierra del Fuego (Lic. Claudio Roig - University of Patagonia, Argentina)
- Peat exploitation in Tierra del Fuego, Argentina (Lic. Claudio Roig - University of Patagonia and Lic. Alejandro Aguirre - Directorate of Mining of Tierra del Fuego)
- Mire conservation in Tierra del Fuego: Where and how? The importance of planning. (Dr. Hans Joosten - Greifswald University, Germany).

In the workshop discussions the following conclusions were drawn.

General recommendations

The workshop recommended

- To complete the inventory of the mires and peatlands of Tierra del Fuego in the next five years. In this inventory (scale 1:100,000) a typology based on various classification principles has to be applied and the suitability of the peatland types for various kinds of land use (incl. non use!) should be assessed.
- To develop an integrated land use planning for the mires and peatlands of Tierra del Fuego.
- To review the legal basis of mire use and conservation. The existing legislature should be reanalyzed and adapted (mire extraction is currently regulated by a national mining law that stems from the 19th century). For this purpose, two lines of action were identified:
- The generation of a proposal of Tierra del Fuego Province to modify the National Mining Legal Code.
- A viability analysis to come to a provincial law for the regulation of mire use.
- To study and quantify the roll of Tierra del Fuego mires for carbon storage and sequestration.
- To promote the conservation of mires in the Peninsula Mitre, because of their high environmental value.
- To inform the community and the political authorities about the environmental importance of the mires, the consequences of peat extraction, and the importance of defining conservation areas.



Number of concessions for (filled dots, left scale) and area in hectares (open dots, right scale) of peat extraction in Tierra del Fuego (Argentina). Numbers for 2004 are based on license applications.

Source: Alejandro Aguirre.

Urgent actions

The following urgent actions were identified:

1. The establishment of an interdisciplinary commission with the following objectives: a) to study the legal aspects of mires, b) to develop a proposal for the planning of mire use c) to carry out information dissemination activities. This commission should collaborate with the mining, environmental, and water management authorities

to achieve the wise use and conservation of Tierra del Fuego mires.
2. The development of a general zonation plan for mires and peatlands use, which must allow for modification when more detailed information comes available with future inventory and research.
3. The restriction of peat extraction, including the refusal of new permissions for extraction until the general land use plan is implemented.
4. The regulation of mire use on the basis of solid technical arguments with respect to hydrological and environmental aspects.
5. The wide dissemination of information about the high environmental value of mires and the consequences of their exploitation.
6. The creation of a protected area in the Peninsula Mitre in which peat extraction is excluded, because of the exceptional properties of the ecosystems in this area in an Argentinean and South-American context.

Peninsula Mitre Photo: H. Joosten, March 2004

The great moors with their numberless lakes and yellow moss or reeds were broken in many places by outcrops of rocks such as No Top, Flat Top and Haberton Mountain, all wooded to a certain height. Beyond these the moors gave place to hilly forest-land and then we could see the irregular shores of the Beagle Channel, with groups of islands scattered around the coasts.

…

To the south-eastward, over twenty-five miles away, we could plainly see Picton island, with the sheltered nook called Banner Cove where in 1871 Mother had seen, for the first time, a Yahgan family in their native state, paddling alongside the vessel in their bark canoe; the same Banner Cove where, twenty years earlier still, Captain Allen Gardiner and his gallant band had waited in vain for the relief vessel, which had arrived too late to save a single one of them.

Beyond Picton lay New island and, opposite us across the Beagle Channel, navarin. This last, with its forests and lakes, high moorlands and snow-clad peaks, would have cut off further view had it not been for one wide wooded valley with a great lake in the bottom, which ages ago may have divided the island in two. Through this valley we could see a large expanse of the southern ocean and, blue in the distance, the lonely Wollaston group, of which the southernmost rock is Cape Horn.

Lucas Bridges (1948): Uttermost Part of the Earth

Peninsula Mitre Photo: H. Joosten, March 2004

Renewability revisited: on folly and swindle in peat energy politics

by Hans Joosten

Already in 1997 (IMCG Newsletter 3: 13 – 17) we discussed in depth the various sophisms used by the peat industry to classify peat as a renewable resource. In that analysis ("Peat and the art of energy tax evasion"), we concluded: "The arguments presented to classify peat as a biomass and a renewable resource are insinuative, inconsistent, and scientifically wrong. Deliberate use of such 'pseudo-science' to influence EU energy taxation policy is not a contribution to a factual discussion, but a cynical attempt to evade taxes."

The rising levels of greenhouse gases in the atmosphere are changing the climate. To avoid the negative effects of climate change we have to stabilise or reduce the greenhouse gas concentrations. Society is therefore more and more aiming at replacing fossil fuels with renewable alternatives. Whereas ten years ago leading members of the peat industry were still advocating the non-renewability of peat, the tides have now turned. The peat lobby is now trying to convince uncritical politicians that peat as a fuel is renewable and sustainable and "good for the climate". The major instruments that are – opportunistically and with much success – applied in this process are unclear terms, false arguments, and doubtful assertions. Intent prevails over content. And therefore it is necessary to again pay attention to the 'renewability' of peat. Some fuel for thought and discussion…

Some recent developments

European Union

After seven years of discussions, the European Union directive 2003/96/EC has entered into force on the 1st of January 2004. This directive forms the legal base for energy taxation in the European Union.

Article 15 of the Directive allows Member States to apply exemptions or reductions in the level of taxation to electricity "generated from biomass or from products produced from biomass." Various attempts have been made by the peat lobby to get the addition "*such as peat*" to this article (with the argument that peat is a "renewable biomass"), but it was not included in the final text. The EU wanted to restrict the concept of biomass to "the biodegradable fraction of products, waste and residues from agriculture, forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste." But the special status of peat got in in another way, in a pre-amble that states "In addition to the taxable products listed in paragraph 1, any other hydrocarbon, *except for peat* (italics HJ), intended for use, offered for sale or used for heating purposes shall be taxed at the rate for the equivalent energy product."

Furthermore, the Directive allows zero or reduced levels of taxation, "where that will not be detrimental to the proper functioning of the internal market and will not result in distortions of competition," for "energy products and electricity used for combined heat and power generation," and for "electricity produced from combined heat and power generation, provided that the combined generators are environmentally friendly." The latter concept may be applied according to national definitions "until the Council, on the basis of a report and a proposal from the Commission, unanimously adopts a common definition." So the new Directive offers enough possibilities to assign a favourable tax category to peat.

Finland

In Finland peat is classified as a slowly renewable biomass fuel since the report "The Role of Peat in Finnish Greenhouse Gas Balances" (see IMCG Newsletter 2000/3) and the National Climate Strategy of 2001. Finland has taken the lead in international lobbying for this concept. Recently, for example, the country complained with the Statistics Division of the United Nations that peat extraction should not be treated as a part of mining, and that peat should be characterized as a "slowly renewable natural resource."
(http://unstats.un.org/unsd/cr/ctryreg/ctrydetail.asp?id=221)

Taxation is an important instrument for climate change and environmental policy in the Nordic countries. Finland was the first to impose a carbon based environment tax on fossil fuels. In heat generation, solid biofuels are not taxed. A tax subsidy for electricity production by renewable energy resources was introduced in 1997.

The CO_2 tax for 2003 was €18,10 per tonne CO_2. Peat, which is in Finland regarded as a slowly renewable biomass fuel is taxed at a much lower rate and if its consumption is less than 25 GWh it is tax-free. Current taxes for fuels in combined heat and power plants are: wood € 0, peat €1,59, natural gas € 1,91, heavy fuel oil € 5,25, and coal € 6,28 per MWh.

Source: Eubionet Biomass survey in Europe. Country report of Finland (2003)

Sweden

Also the Swedish Peat Commission (2002) concluded that peat is a slowly renewable biomass fuel (see IMCG Newsletter 2003/1). On 3 April 2003, the Swedish Parliament passed a bill according to which electricity produced through wind power, solar power, geothermal energy, biofuels, and certain kind of hydropower shall be eligible for green certificates. Peat was included also in this group of environmentally friendly energy resources. One of the major arguments for this inclusion was that peat could otherwise not compete with coal in combined heat and power plants. Last November the European competition commissioner, Mario Monti, confirmed that the decision of the Swedish Parliament is compatible with the EU competition regulations and

with the conditions for protection of the environment. As a result, on 1 April 2004 peat has been added to the Swedish electricity certificates system. The Swedish Peat Producers Society celebrates this as a victory. Now the peat industry is lobbying to more than double peat extraction volumes from the current levels of around 4 –5 million m^3 a year to 11 –12 million m^3 a year.
In contrast with that, the Swedish Government has recently proposed to include peat in the system of emissions rights and thereby to classify it together with coal, oil, and natural gas. Interestingly, this proposal is completely contrary to the Parliament's decision to grant peat electricity certificates.

"*Torven har vunnit en delseger*. Peat has won a partial victory. From 1 April 2004 it will be included in the system of electricity certificates."

Editor Marie Kofod-Hansen
in NYHETSBREVET FÖRNYBART NR 1, 2004
of the Swedish Peat Producers Society

Russia
In Russia, historically a major peat burner, the recent National Energy Strategy of the Russian Federation promotes the replacement of oil and gas by biomass fuel, and includes peat in its biomass concept. The Russian Ministry of Economy and Trade has recently applied for a grant of over 20 million US$ from the Global Environmental Facility (GEF) to fund its "Renewable Energy Program (RREP)" under the GEF focal area Climate Change (see also the contribution of Tatiana Minaeva in this Newsletter).

So on the one hand international conventions increasingly acknowledge the carbon storage and sequestration capacities of peatlands (Ramsar Convention November 2002, Convention on Biodiversity February 2004, see this Newsletter), whereas the burning of peatlands is propagated elsewhere. This global inconsistency asks for a thorough analysis of the arguments involved. A central issue is that the use of unclear defined terms frustrates a factual discussion and obscures factual decisions. We will attempt to lift the clouds by asking some questions and by providing some answers...

Is peat biomass?
That depends on how you define "biomass." If you define biomass as mass originating from living organisms, peat is undoubtedly biomass. But so is coal, lignite, oil, and natural gas.
If you focus on "biodegradable" (as the EU does), peat is biomass, but so is lignite and oil. If you concentrate on "products, waste and residues from agriculture, forestry and related industries" (again EU) the question arises in what way and to what extent these industries (peat extraction?) have to be "related."

In science, biomass is defined as the mass of living (bios = life) organisms or "living weight" (Odum 1971). In science, fuel peat is no biomass, as the peat comes from plants that died thousands of years ago.
The terms "biomass" and "biomass-fuel" as they are often used by the peat lobby are not given a clear content. The *intent* of using these terms is clear: it aims to separate peat from (other) fossil fuels and bring it closer to short rotation energy crops like straw and reeds.

Is peat a biological fuel, a biofuel?
Communication takes place by means of terms (words, names) that represent concepts (contents, objects, ideas, notions). In practice, you may connect any term to any concept as long as no confusion occurs. Using the term "biofuel" for the concept "peat" is non-advisable and confusing, because it is etymological nonsense. "Biological" means "pertaining to the science of life or to life and living things." The prefix "bio-" means "associated with life." Of course peat is "associated with life" as it stems from living organisms. But all carbon-based fuels are "associated with life" in that sense. Restricting the use of it to peat and not using it for other fossil carbon-based fuels is deceiving.

Is "biofuel" a sensible concept for peat with respect to climate change?
No, it is not. The terms biomass, biological fuel, or biofuel, as used in the meanings above, do not clearly identify the characteristics that are important from a climate point of view.

Then why are these terms used?
These terms are used to associate peat with living material (plants) and to disconnect it from lifeless rock (coal). This is done by
- people who are not well informed,
- people who misleadingly want to assign climatically favourable qualities of living plants to peat (see below).

Is peat renewable?
Yes: peat is renewable. Peat has been forming since at least 325 million years (and probably longer) and peat is still being formed at present.

Is peat slowly renewable?
That depends on to what you relate "slowly." Compared to coal peat is a rapidly renewable fuel, compared to rape-oil peat is a slowly renewable fuel.

Are other fossil fuels renewable?
Yes, other fossil fuels are renewable. The fact that we find coals of all ages between 20 - 325 million years

old, lignites of 0,1 - 50 million years old, and peats of 100 –120,000 (even 10 million) years old illustrates the renewability of fossil fuels. (The distinction between coals, lignites, and peat is mainly made on the basis of the Carbon content).
Lignite and coal deposits are still formed today, because the responsible geological conservation and transformation processes (tectonics and sedimentation) have been continuously operating in the same way in the past 1.3 billion years. Part of the present-day peat is at this moment changing into lignite and will in future change into new coal.
Even diamonds, the purest form of Carbon, of ages of 660 - 3,300 million years, are renewable. This is shown by their artificial creation under conditions of high temperature and pressure.

"Observations at the Aitape coast (New Guinea) indicate that in this area peatlands are rapidly and regularly covered by marine clastic sediments resulting from at least 4 m subsidence in the last 970-1100 years" (www.dpiwe.tas.gov.au/inter.nsf/WebPages/UTAR-52X8LP?open).

"Holocene to modern peat is also widespread along the Guyana and Suriname (Guiana) coastal plain adjacent to and southeast of the Orinoco Delta. Studies of the Orinoco Delta and Guiana coastal plain would provide valuable insight into environmental conditions conducive to widespread peat, and ultimately coal, development."
Warne, A.G., White, W.A., Aslan, A. & Guevara, E. H. 2001. Extensive Late Holocene peat deposits in the Orinoco delta, Venezuela. A modern analog for coal development in a tropical delta. http://gsa.confex.com/gsa/2001AM/finalprogram/abstract_18566.htm

What is the time frame associated with "renewable"?
This depends on the type of fuel. The age of the fuel gives a good indication of the renewability time frames (see table 1). Straw has a rapid turn-over cycle as it can be burned in the same year as the plant has been growing. In contrast burning coal means releasing Carbon that has not been a part of the atmosphere and the biosphere for many millions of years. Peat burned for fuel is usually several thousands of years old.

Table 1: Age of different types of fuel. Within parentheses: maximum age.

Fuel type	Age of fuel (in years)
Reed, straw	0,5 - 3
Willow coppice	1 - 5
(Living) wood	5 – 100 (- 5000)
Peat	100 –120,000 (-10 million)
Lignite	0,1 - 50 million
Coal	20 - 325 million
Oil shale	65 - 500 million

Why are fossil fuels considered to be non-renewable?
Fossil fuels like coal and lignite are considered to be non-renewable because superficially looking people are not aware of the current coal and lignite forming processes in the Earth's crust. More importantly, these fuels are called non-renewable because their renewability *rate* is so small (i.e. the time period required for their formation so long) that their renewability is *irrelevant* for society from an economic, cultural, and even biological point of view. Evolution shows that the average life span of a species (like *Homo sapiens*) is 3 million years, that of a genus 15 million years. The renewability of Coal with a rate of many millions of years therefore has no relevance for humankind.
The sense of renewability lies in the actual renewal and therefore renewable resources should not be exploited at a higher rate than their regeneration. The volumes of old coal currently being burned are many orders of magnitude larger than the volumes of new coal currently being formed. Such fuels must be assumed to be gone once we have spent them.

Is "renewable" a sensible concept with respect to climate change?
Yes it is. The greenhouse problem is caused by the mobilisation of long-term stored Carbon through the burning of fossil fuels and the destruction/reduction of the Earth's biomass (forests). Renewable with respect to the greenhouse issue means the use of energy sources that continually replenish as quickly as they are extracted and used up (= short rotation).
But: The fact that a type of fuel is renewable does not mean it is actually renewed. Rainforest wood may be a renewable source of energy, but in reality, it is largely not renewed: tropical forests are progressively devastated and replaced by vegetation with a much smaller biomass store. If the fuel is not given opportunity to renew, the use of a "renewable" fuel contributes as much to the greenhouse effect as any non-renewable fuel.

What is the time frame associated with "renewable" with respect to climate change?
Renewable fuel resources require a continual recovery after consumption. In some cases, this may happen on a daily or even hourly basis (solar, wind, and tidal energy). Straw is renewed after one year, willow coppice after some years, wood after some tens of years.
Peat has been classified as a "slowly renewable biofuel" (see above) because its renewal rate is much slower than that of living plants (but much higher than that of other fossil fuels, table 1). The turnover times of fuel peat, however, are so much longer than the timeframe of our modern civilisation that the renewability of peat is *irrelevant* for society.

Table 2: Some characteristics of different fuel types (from Finnish LCP WG, 2000).

	Steam coal	Milled peat	Bark	Wood chips	Heavy fuel oil	Natural gas
Ash (% of dry matter)	14	3-6	2-3	0.4	<1	0.0
Sulphur (% of dry substance)	<1	0.5	<0.2	0.05	<1	0.0
Fuel nitrogen compounds %	1	1.7	0.5	0.5	0.3	0.05
Bulk density (kg/ Nm^3)	1350	350	350	200	987	
Lower heating value LHV (MJ/kg)	28.7	20	19	19	40.2	48
CO_2 (gCO_2/kWh)	476.1	658.8			402.5	172.8
CO_2 (gCO_2/MJ) (LHV)	90	106-118	113	100	76	54
Emitted g CO_2 per electric kWh	207	244			175	96

Burning peat leads to emissions of greenhouse gases (per unit energy even more than by burning coals, oil or gas, see table 2). One cannot seriously argue that these greenhouse gases will be stored again after the peatland has been exploited and new peat accumulation starts. The volumes of carbon dioxide emitted by burning thick layers of peat cannot be compensated for by newly restored mires within any relevant time frame because peat formation and accumulation are very slow processes. The biomass and litter of a forest established on a cutover peatland also can only compensate for the peat carbon losses of peat extraction to a minor extent.

Peat is therefore not renewable on the spot. Peat extractors are well aware of that because they move, like hunter-gatherers, to other sites when the current sites are exhausted. Indeed many a peat extractor has "restored" cutover peatlands for a variety of reasons, but these reasons do *not* include future peat extraction for his or his successor's company. No fuel peat extractor in the world has therefore taken own responsibility for the renewability he preaches. Apparently, the renewability of fuel peat on the spot is no viable option, neither for individual enterprises, nor for society.

That is the reason that the peat industry claims the "gains" from still growing peatlands elsewhere to "balance" the losses of peat on their extraction sites.

May peat extracted here be balanced with peat that is being formed elsewhere?

The most common argument used to defend peat fuel is that less peat is extracted than is annually accumulating. This argument is false for a whole range of reasons:

- In almost all individual countries of Europe, in the whole of Europe, and over the whole Earth the peat balance is negative, i.e. more peat is disappearing than is being formed. Next to the actual extraction of peat, enormous peat losses occur in agricultural, forested, and cutover peatlands. The peat lobby likes to claim what is not theirs: they often balance all of the gain (all peat accumulation in a country or a region) with only part of the losses (only from their peat extraction). That claim is unfair: Why should peat accumulation only compensate for losses caused by peat combustion and not for losses from collateral damage of peat extraction as well (drained neighbouring sites), from peatland agriculture, from peatland forestry, and from non-peat associated carbon emissions (traffic, industry etc.)?
- Much peat accumulating "elsewhere" is not available for exploitation, because of technical or conservational reasons. Peat that is not available is no "resource" and may – with respect to the sustainability of the fuel - not be used for balancing losses through peat combustion.
- Even if the peat volume on Earth would still be increasing (in fact it is decreasing), even then peat extraction would not be sustainable. For peat extraction and combustion is not only destroying peat but also the peat accumulating ecosystems. If I start to slowly extract peat from a large virgin bog, it may take a long time before my annual peat extraction volume exceeds the annual accumulation of peat in that bog. But *unless* peat is actively regenerating on the cutover sites, this "sustainable" peat extraction will come to an end. If you are gradually destroying the bakery, it has no use talking about sustainability, even if at the start still more cookies are produced than consumed. And that is the current situation on Earth. The area of cutover bogs (and other degraded peatlands) that has successfully been restored to new long-term peat accumulating ecosystems is still negligible and stands in no proportion to the area degraded by peat extraction. "Renewability" is nice, but for *sustainability* peat accumulation in cut-over sites really has to be *renewed*.
- The peatlands "elsewhere" whose CO_2 sequestration is claimed for balancing CO_2 emissions from peat combustion were already part of the greenhouse balance long before the anthropogenic rise of atmospheric CO_2-levels. They were and are still part of the natural sink system that compensates natural sources.
- Peat extraction and combustion creates an *extra* source of greenhouse gases. To be greenhouse neutral additional sources require additional sinks. Peat extraction is mobilising new carbon sources without creating such new sinks. In this respect, burning peat does not differ from burning coal.
- From a climatic point of view, there is more to mires than carbon sequestration. Mires also emit methane (CH_4). Local CO_2 sequestration of virgin mires largely compensates for these local methane

emissions, i.e. virgin peatlands are climatically neutral. As such, the carbon sequestration side of the equation is already expended to balance the methane emissions of the mire itself. Claiming it to compensate CO_2 emission caused by peat combustion elsewhere is a clear form of intolerable double counting.

Is peat a climatically friendly fuel?
No. Peat combustion leads to a net emission of greenhouse gases. As these emissions are not balanced by additional sinks associated with the peatland itself nor by other peatlands, burning peat is similar to burning coal.

Conclusions
From a climate point of view the effects of burning peat are similar to those of burning other "fossil" fuels. The arguments of the peat lobby for the opposite are evidently wrong. Even when peat is "slowly renewable" and even when you call it a biomass, it does not change the fact that peat combustion simply is not a climate neutral activity, whatever sensible temporal or spatial scale of observation you may choose.
There may be honest reasons to locally – and with due observation of the many other values of peatlands – subsidise the use of peat for fuel, including domestic production or local employment. But "climate change" clearly does not belong to these honest reasons.

For peat combustion lobbyists, intent (stimulating peat sales) prevails over content (finding and telling the truth). The obscurity of their arguments and their selective use of the facts may be understandable, but from a societal point of view, it is irresponsible.
Subsidizing peat for fuel for climatic purposes may be nice for the peat industry, for society it is neither smart nor wise.

Peat in the desert…

Severe sand storms are currently ravaging large parts of central Asia, especially Mongolia and China, where deserts are rapidly expanding, threatening both people and peatlands. At the same time the International Peat Society publishes in her latest Peatlands International magazine an uncritical report on experiments of the Japanese Peat Society (JPS) and the Xinjiang Institute of Ecology and Geography. The JPS "is striving for the reclamation of desert and desertified land by utilizing the superior characteristics of peat". The experiments were performed in the period 1997 – 2000 in the Xinjiang Uygur Autonomous Region, north-western China. The Region with an annual rainfall of 150 mm is dominated by deserts. Only 5 percent of the area supports human life. It depends upon snowmelt water from the surrounding mountains to irrigate the oases. The Takla Makan Desert (300,000 km^2) between the Kunlun Mountains on the south and the Tianshan Mountains on the north is the second largest desert complex of the Earth. It occupies most of the basin of the river Tarim that in the past 30 years has dried up over 300 km as a result of reclamation of desert for cereal and cotton production. North of the Tianshan Mountains lies the Gurbantunggut Desert in the Junggar Basin where the experiments were done.
Peat from 200 km far away was mixed with the desert soil. The plots were irrigated with deep groundwater and fertilized with N and P. Of course the results of peat application were positive: yields were 4-6 times larger than without peat.
In the next decade China will allocate huge amounts of money to curb the country's desertification. Dragging peat into the desert will not be a solution to combat the country's desertification as it does not address the root causes. These include:
- Lack of water: one just has to accept that there are places in the world that are not suited for agriculture
- Overexploitation of these vulnerable habitats
- Waste of water in current agricultural practise
- Climate change.

Dragging peat into the desert on a large scale will destroy the peatlands over large areas and will contribute to climate change, both where the peat is extracted, and globally as the peat will very rapidly oxidize in these arid landscapes.

South Africa - Peatlands on Fire

byPiet-Louis Grundling

Southern Africa is at present experiencing one of the worst droughts in 40 years. Some areas, such as Pretoria in the interior of South Africa have received less than 20 % of its mean annual summer rainfall. The region is in general a dry area with rainfall varying from 1200 – 1500 mm per annum in the east to less than 200 mm per annum in the west.

The drought has resulted in huge pressures on already water stressed catchments and associated mires. Especially in areas where groundwater resources are exploited peatlands are in peril. The karst peatlands in the western part of South Africa (refer to article in IMCG Newsletter issue 2001/2, June 2001) are hit particularly hard. One of these peatlands, Bodibe, is currently one fire. The area is located in the midst of a rural community and the inhabitants are suffering from a overdose of acrid peat fire smoke, a fire hazard, and a lack of grazing and water of livestock. The fire has lead to the loss of at least two cattle and one man has sustained severe burns when trapped in the burning peat. Deep desiccation fissures along which the fire spreads also poses a health and safety risk.

Peat fires are part of the eco-system dynamics of the Okavango Delta in Botswana further towards the northwest. Ash layers within the peatland indicate that also in this part of the country fire is not an isolated incident. The peat fire was probably started when the peatland vegetation was deliberately burned to stimulate new growth for grazing.

The Working for Wetlands Programme has been requested by the government of the North West province to render support. The peat fire will be isolated by the digging of a trench after which a cut-off wall will be constructed within the peat to drown the fire with the remaining water within the peatland. Care will be taken to allow water to migrate downstream to maintain moisture levels in the wetland downstream of the peatfire.

Another peat fire is raging in the central part at the Rietvlei Nature Reserve near Pretoria. This is also a karst peatland and is one of sites that will be visited during the 2004 IMCG congress in Southern Africa (refer to 2nd Circular in IMCG Newsletter issue 2003/3, October 2003). The peat fire occurred in an area that has been on fire before due to a lowering in regional groundwater resources. This fire was a result of arson that originated outside the nature reserve. The fire is currently under control. A cut-off trench was dug around it and a feeder channel was dug by Working for Wetlands from the main channel to rewet this part of the wetland. Half of the water in this channel consists of controlled discharge from a sewage treatment plant up-stream of the peatland.

Two other peat fires are burning in the higher lying Steenkamsberg Plateau in the eastern part of the country. One is located in the Lakenvlei mire, which is also one of the sites that will be visited during the 2004 IMCG congress. This peatfire was caused by a run-away veld (grassland) fire. The mire is in a good condition and the fire did not burn very deeply into the substrate.

The other peat fire on this plateau occurred in an area that is afforested with exotic *Pinus* and *Eucalyptus* plantations. These plantations have a dramatic negative impact on regional watertables. The result is that peatlands dry out and it is ironic that it are usually management fires that result in the combustion of degraded peatlands within these plantations. Severe peat fires occur from time to time on the eastern seabord of South Africa where extensive plantations are found.

These fires do not only poses a health and safety risk to man and animal, result in the destruction of peatlands, but also pose an environmental disaster with the release of carbon gases into the atmosphere. More than anything else it is a reflection of a changing environment, not only on a global scale, but also on a local level – a monument of our failures as custodians of our environment.

Peatlands in Azerbaijan

by Jonathan Etzold

Azerbaijan (86,600 km^2) is a republic in Transcaucasia, bordered on the north by Russia, on the northwest by Georgia, on the east by the Caspian Sea, on the south by Iran, and on the west by Armenia. It is a land of high mountain ranges and low river valleys. The Greater Caucasus Mountains form much of the country's northern border, the Lesser Caucasus forms the country's southeastern boundary. The Aras-Kura river valleys dominate the central portion of the country. With the exception of the subtropical southeast and upper elevations in the mountainous zones, the climate is generally arid.

The literature is very scarce with information on peatlands that are extremely rare in Azerbaijan. Salaev (1966) described peaty soils in the mountain meadows of the Azerbaijani part of the Lesser Caucasus with a vegetation of sedge species. In the southern and eastern parts this vegetation is intermixed with *Nardus stricta* and other grass species that have a well developed root system that accumulates organic material. This organic root horizon is 5 – 8 cm thick. Real peat soils with more than 30 cm of peat are absent because of failing water.

Carbonate rich soils (organic content of 8-12%) are found in wet places in river valleys that have a high water table because of irregular flooding and (sub)surface runoff. Relevant communities include the Bolboschoenetum maritimi and the Suadetum confusae. In summer these communities accumulate much organic material in the form of mud and raw humus.

According to the interpreted World Soil Map (Van Engelen & Huting 2002) 7,330 km^2 of gley soils exist in Azerbaijan but no peatlands. This study, however, only covers large peatlands and small peatlands remain unnoticed.

Such small peatlands were found in 2002 on softly inclined and undulating hillsides on the northern macro-slope of the Greater Caucasus (Gusari Rayon, around the village of Sudur) at an altitude between 1900 and 2100 m.a.s.l. The bedrock consists mainly of limestone. Wet depressions on the slopes often show a fen-like vegetation, resembling Central European Parvocaricetea (similar to the Primulo-Schoenetum ferruginei) with *Carex* div. spec., *Primula* cf. *auriculata*, *Dactylorhiza* spec., carbonate encrusted brownmosses etc. (but also partly with *Equisetum arvense*). The exact depth and composition of the peat in these depressions were not assessed. Like all surrounding meadows also these fens are mown in July and August. Close to a small lake/pond (with *Chara* spec.) surrounded by zones of Parvo- and Magnocarices vegetation a distinct peat layer of more than 30 cm thickness was well visible in an erosional microcliff.

For Nakchivan possible peatlands are reported from mountain lakes (between 2000 and more than 3000 m.a.s.l.) in the vicinity of the recently founded national park Ordubad. In one case a large floating mat was observed (see picture).

Salaev, M.E. 1966. Potsvy Malogo Kavkaza (v predelach Azerbajdzjanskoj SSR). Izdatel'stvo Akademii Kauk Azerbajdzjanskoj SSR, Baku, 330 pp.

Van Engelen, V. & Huting, J. 2002. Peatlands of the World. An interpretation of the World Soil Map. ISRIC, Wageningen, unpublished. GPI Project 29 GPI 1.

On the picture: Elshad Askerov (WWF Azerbaijan, left) and Hafiz Yagubov (Minister of Ecology and Nature Resources of Nakchivan Autonomous Republic, right). In the background: the mire.

The Restoration of Scottish Raised Bogs (2001 – 2003)

Successful Conclusion of Latest European Peatland LIFE Nature Project

by Stuart Brooks

Since the start of the 19th Century the extent of primary, active, lowland raised bog in the UK has decreased by 85%. Two thirds of the remaining area is found in Scotland and, despite the scale of destruction, Scotland holds some of the best remaining examples of (Atlantic coastal) lowland peatland in the current European Union.

The project was lead by the Scottish Wildlife Trust (an NGO) but the bulk of the site works was carried out by Scottish Natural Heritage and Forestry Commission Scotland (both statutory agencies).

The project set out to restore 11 of the most important sites in the country representing 45% of the lowland raised bog area designated as Special Areas of Conservation (SAC) under the European Union Habitats Directive. The project provided the opportunity to undertake work across the full geographical range of lowland raised bogs in Scotland from the Atlantic coastal site of Moine Mhor, to Flanders Moss in the centre of the country and Turclossie Moss in the far north east. Interestingly this geographical range exhibits considerable variation in flora, mainly governed by the influence of the Atlantic. The wetter west coast sites are also much more tolerant of damaging activities such as drainage and burning.

The project concluded in December 2003 and has been declared a huge success. Within two years the partner organisations removed 430ha of non native conifer plantations, cleared 253ha of encroaching scrub, installed 2,153 dams into ditches, and erected 12,101m of fencing to control grazing. New techniques were developed to control scrub through conservation grazing and remove old stands of heather by mowing. The project also developed new techniques to block large ditches and construct floating access and harvest roads using tree waste and straw. Additional outputs included newsletters for local communities around the peatlands and on site interpretation boards.

Although the project exceeded all of its target outputs it is too early to tell if it has succeeded in restoring these peatlands or in some cases bringing them into favourable condition as determined by the Natura habitat condition assessment. Scotland is continuing to develop new and useful restoration techniques but it does so perhaps in some isolation of the scientific understanding that is required to underpin management decisions. In reality we do not know how these peatlands are behaving either as a result of their past land use or our current intervention. Our tendency has been to manage by intuition rather than design based on a thorough understanding of peatland processes. However, we also recognise that some of this knowledge already exists, perhaps within other countries where similar peatland types are found, such as the Baltic States. There is potential therefore to establish collaborative projects based on an exchange of expertise. Sharing our findings is part of that process.

The project reported its findings on two CD ROMs and at an international conference in Dumfries last October, attended by 100 delegates from a number of EU countries. Copies of the project CD ROMs can be requested by e-mailing Stuart Brooks at sbrooks@swt.org.uk. The CDs contain the final project report, digital images of the project sites and work carried out, technical papers, conference presentations and papers.

Stuart Brooks is Head of Conservation of Scottish Wildlife Trust.

The Global Peatland Initiative has a new website.
Surf to

www.globalpeatlands.net

and see what they have to offer.

European Habitats Forum (EHF) Meeting, Brussels, 29th-30th March 2004

by Richard Lindsay

The European Habitats Forum is the umbrella body for international environmental organisations concerned with nature conservation and sustainable use of Europe's spcies, habitats and landscapes. It was established some years ago at the instigation of the European Commission as a means of enabling the Commission to talk to as wide a range of environmental organisations as possible through one representative body. Since then, the EHF has become an effective means of ensuring that the member environmental organisations communicate and co-ordinate their respective activities to each other. The EHF membership embraces organisations such as WWF, Eurosite, IUCN, Planta Europa, and the European Environment Bureau (EEB). Through Birdlife International alone, the EHF can boast 1 million members, and is thus recognised as a powerfully co-ordinated voice for nature conservation within Europe as a whole (not just the European Union).

The IMCG was invited (through Michael Steiner) to join the EHF shortly after the EHF was first established, and has remained a member since that time. Membership enables the IMCG to ensure that peatland conservation issues are considered within the activities of fellow EHF members. It also gives direct access to the EU Environment Directorate (DGXI) at least twice a year, when the EHF meets with DGXI officials to review progress over a whole range of issues. Membership also provides the opportunity for IMCG to take part in (as part of EHF) events either at EU or at pan-European level and thus ensure that peatland conservation issues are not overlooked during such events.

On 29th March, the EHF met in Brussels at the IUCN office, and discussed a range of internal business. On 30th March the EHF was invited to its twice-yearly meeting with DGXI. A number of head-points of potential interest to IMCG members emerged from these meetings:

- It was agreed that the major issues for the EHF to tackle in the short-to-medium-term will be pressure to weaken the EU Habitats and Birds Directives (active steps are already being taken by several countries to reduce the strength of these Directives), landscape fragmentation through urban expansion and development, marine conservation, and agricultural intensification (though perhaps to a lesser extent thanks to CAP Reform).
- When the new EU Accession Countries (known as EU10) join on May 1st, the EU Topic Centre will look at the proposed lists of Natura 2000 sites (N2K) when they arrive from the EU10 countries, and will return them if obviously insufficient. Biogeographic seminars will only be held once the lists look reasonable. PLEASE, put any communication/complaint about these lists to DGXI in English, as they do not have the language capacity for all EU10 countries.
- EHF has two guaranteed seats on the European Commission's Scientific Working Group (SWG). One of these is taken by the EHF Secretariat, but the other will be filled by the most appropriate specialist from EHF membership. Requests may thus be made for specialist representation. IMCG has been represented on the SWG in the past, but not in recent years. The next meeting is 22nd September.
- The present round of LIFE funding for 2005 will go ahead, although if it is delayed then it will be rolled into 2006 and a composite budget will be approved for 2005/2006. However, the whole financial framework is changing from 2007. The large number of EU budgets will be reduced to a few, with sub-heads. As integration of environmental issues into all activities is seen as a good thing, it is proposed that Structural and Agricultural/Rural Development Funds are used to address environmental issues. It is vital that any influence on the overall planning for these funds is applied in the next year or so, because otherwise these massive funds will be allocated to 'development' initiatives instead.
- This is a particular concern because funding explicitly for environmental issues will be somewhat limited from 2007, and is aimed mainly at 'soft' topics such as communcation and networking. It is recognised by DGXI that certain habitats are not subject to 'land-use' in the traditional sense (e.g. bogs, or sand-dunes) and may thus need some explicit 'hard' funding within future DGXI financial instruments, but this is still being debated within DGXI. All of you who have enjoyed funding through LIFE peatland projects in the past should be very, very worried…
- Some Member States are saying that, because there will be little explicit EC funding, the environment is clearly not a priority. They are wrong, because the principle of the Habitats Directive is that MSs should meet funding needs from their own budgets. DGXI will tell them so, but it would extremely helpful if NGOs were also to emphasise this message. Consequently IMCG members should be as vocal as possible about both domestic funding for peatland conservation, and future funding for peatland conservation through the new Financial Instruments.
- Indeed the messages coming from the new accession countries suggest that the environment is not a high priority for these new Member States. This message is already having a major impact on general thinking about environmental issues within the European Commission. It is vital that EU10 states express a much greater interest in the environment, otherwise the long-term picture for

environmental issues within the European Union as a whole looks bleak.
- EU-funded research into biodiversity is also suffering from lack of support – not from the European Commission, but from those who carry out research. When there is a general call for EU research proposals into biodiversity, there has been little interest shown by academic/research institutes. The European Commission is thus further encouraged to believe that environmental issues are of little interest and should thus be a low priority. If this continues, the medium-long term effects could be disastrous for nature conservation within the EU, so grab those peatland biodiversity research ideas you have and take them to the European Commission.
- For those seeking to link their particular peatland conservation actions with specific events or initiatives, IUCN has initiated what it calls "Countdown to 2010", which is designed to focus attention upon biodiversity targets (see IUCN's web-site for more details). Planta Europa will be holding its next conference from 17th – 20th September, in Valencia, in particular seeking trend-data for plant species. There will also be a World Conservation Congress in Bangkok in November 2004, and an EU Green Week will be held in Brussels, 1 – 5 June, 2004.
- In terms of conservation casework, windfarms have become a major topic of controversy within DGXI because of the tensions created between those seeking to protect birds and habitats from the impacts of windfarm development, and those seeking to encourage large-scale renweable energy programmes. More information about the issue would be welcomed, from whatever viewpoint. Meanwhile the Via Baltica is a major road development through Poland; unfortunately, the proposed route also runs through several key wildlife sites, including some peatland areas (see IMCG Newsletter 2003/4). At present, DGXI has no legal remit to act, but when the Polish N2K lists come to DGXI in May (or some time after that), it will be possible for them to act provided the route impacts one or more proposed N2K sites. The list put forward by Poland will thus be of great interest to everyone…

New at the Ramsar Website

For the past 32 years, the Ramsar Convention has been the principal instrument for international cooperation for the conservation and wise use of wetlands and their resources. Adopted in Iran in 1971, it was the first of the modern global conservation treaties, and is still the only one dedicated to a particular ecosystem type. Parties to the Convention have committed themselves to designating all of their "suitable wetlands," based upon criteria developed over the years, for inclusion in the List of Wetlands of International Importance (the "Ramsar List") and maintaining their ecological character through management planning for their conservation and sustainable use.

As the Ramsar List has grown (presently to about 1,400 recognized sites of International Importance), certain types of wetlands, as loosely defined in the Ramsar Classification System for Wetland Type, have been identified by the Contracting Parties as having been neglected in favour of other, more common and obvious types. Numerous Resolutions and Recommendations over the years have called for greater attention to these under-reported wetland types, and in Resolution VIII.11 (2002) the Parties provided guidelines for the designation of peatlands, wet grasslands, mangroves, and coral reefs in particular. In addition, a few other wetland types have been put forward as requiring special attention, including mountain and Andean wetlands, seagrass beds, and temporary pools.

There is a page now on the Ramsar website intended to provide an up-to-date entry into Ramsar and related materials on the Convention's progress in bringing renewed conservation attention to these so-far **under-represented wetland types**. To learn more, surf to: http://ramsar.org/types_index.htm

There you will also find a link to a new page dedicated to **peatlands** within the Ramsar framework (http://ramsar.org/types_peatlands.htm). This page collects all relevant peatland related Ramsar information. Besides a listing links to those Ramsar Resolutions and Recommendations that are most directly related to peatlands, you will find relevant Ramsar guidance documents, peatland related news items, and some statistical information on peatlands under the Ramsar Convention.

Ramsar Small Grants Fund
Call for proposals

The Ramsar Small Grants Fund was established by Ramsar COP4 in 1990 as a mechanism to assist developing countries and those with economies in transition in implementing the Convention and to enable the conservation and wise use of wetland resources - since that time, it has provided funding and co-funding, up to 40,000 Swiss francs (about US$ 32,000) per project, for something like 165 projects totaling about 6 million francs. Funds are made available by voluntary contributions by Contracting Parties, notably Austria, Belgium, Denmark, France, Germany, Iran, Italy, Japan, the Netherlands, Norway, Switzerland, United Kingdom, the United States, and especially Sweden, as well as by WWF and other nongovernmental sources.

Suitable project proposals are those which contribute to the implementation of the Convention's Strategic Plan 2003-2008 for the conservation and wise use of wetlands; provide emergency assistance for Ramsar sites; or provide 'preparatory assistance' to allow non-Contracting Parties to progress toward accession. Eligibility is restricted to countries on the List of Aid Recipients established by the Development Assistance Committee (DAC) of the Organization of Economic Cooperation and Development (OECD), effectively meaning developing countries and countries with economies in transition. Projects may be proposed and implemented by any agency, NGO, or individual, but proposals MUST be endorsed and monitored by the Administrative Authority (the Ramsar implementing agency) in the Party's government, and seldom is more than one proposal approved from the same Party in any year.

Successful proposals receive 80% of the allocated funds upon signature of the contract and the remainder upon submission of an adequate final report, but countries from which adequate final project reports have not been received may be denied further consideration for funding until those outstanding project dossiers have been closed.

Projects for the 2003 cycle have recently been selected by the Standing Committee, and letters and contracts are presently going out from the Secretariat.

The call for proposals is now being made for the 2004 cycle, with a deadline of 30 June 2004 for application and with a decision by the Standing Committee around the end of the year. The current edition of the "SGF Operational Guidelines", which include complete information and the required forms, are now available on the Ramsar Web site in Word and PDF formats, as well as directly from the Secretariat. The Secretariat's regional teams also offer an advisory service to help with the preparation of suitable proposals, for which drafts should be submitted to the Senior Regional Advisors by 15 April 2004.

Readers can also find links to the Operational Guidelines, as well as lists of the successful project proposals for each year since 1992 and news reports of successfully completed projects, which may provide useful tips as to the kinds of projects and approaches most often selected for assistance, on the Ramsar Web site at: ramsar.org/key_sgf_index.htm.

Bog Butter

Peat diggers sometimes stumble upon a white substance called ‘bog butter’, which has the appearance and texture of paraffin wax. It is thought to be the remains of food once buried in the bog to preserve it. As peat is cool and contains very little oxygen, it can be used as a primitive kind of fridge. The question remained what type of food was buried in the peat. Local lore sometimes says that the waxy stuff is literally the remains of butter. Also dead animals could be the source for the waxy material, however. Corpses often contain adipocere, a substance also known as ‘grave-wax’. Therefore, bog butter could also be the remains of carcasses rather than dairy products.

In order to find out, the fatty acids in bog butter were analysed. The hydrocarbon chains in the fatty acids derived from dairy products tend to be shorter than when derived from animal fat. There are also differences in the relative amounts of ^{12}C and ^{13}C. Artificial bog butters, made in the 1970s from mutton fat and butter mixed with soil and water respectively, were analysed on differences. Furthermore, nine samples of bog butter from the National Museum of Scotland, some of which are 2000 years old, were analysed. Conclusion: Six of the museum bog butter samples come from dairy products, and three are from animal fat. It seems that ancient Scots clearly used the peat to store both types of food, they say.

Some mystery remains. It is still not known whether the food was buried solely to preserve it. Maybe burying it in peat helped to transform the foods to more palatable products in a kind of primitive food processing. Next up is research on burying some modern fatty foods in peat to find out if anything interesting happens to them and their taste.

source:
Berstan, R. et al. The Analyst, 129, 270 - 275 (2004)
http://www.nature.com/nsu/040315/040315-5.html

Regional News

European Peat and Growing Media Industry Association Founded

The companies Vapo Oy, Finland; Pindstrup Mosebrug A/S, Denmark; ASB Grünland Helmut Aurenz GmbH, Germany; Klasmann-Deilmann GmbH, Germany; Tref BV, the Netherlands; AS Tootsi Turvas, Estonia; Bas van Buuren BV, the Netherlands; Bord na Móna p.l.c., Ireland; Råsjö Torv Ab, Sweden; Scotts International BV, UK and William Sinclair Horticulture Limited, UK have formed the European Peat and Growing Media Industry Association. The aims of the organisation, led by a council chaired by Mr. Matti Hilli and Dr. Norbert Siebels, are to promote and support the use of peat in growing media and energy in Europe; to support the European growing media industry; and to protect the interests of the peat and growing media industries within the European Union and its institutions. The association is aiming to cooperate with other national, European and international organisations, such as IPS.
(source: IPS-Peat News 2004-2)

News from EU
CIRCA interest group

The CIRCA interest group on "Monitoring and the nature directives" is now publicly accessible, i.e. no password is needed anymore.
The Interest Group deals with monitoring, assessment and reporting of conservation status of species and habitat types under the EU Habitats (92/43/EEC) and Birds (79/409/EEC) Directive. There is currently a process ongoing in defining the way of assessing, monitoring and reporting in the view of the next progress report to be compiled by EU-Member States under Article 17 of the Habitats Directive in 2007. This Newsgroup shall support this process by making interesting documents, internet-links, papers, etc. available to whoever is interested in the process. The main function of this Interest Group is the library function. In the library you can look up and copy loaded documents. Under the Newsgroup-function "new documents", you can send documents to the system, which will then – if they are relevant – be put in the CIRCA-library.
Just click on http://forum.europa.eu.int/Public/irc/env/Home/main?index and then on the "Monitoring" interest group and you have access to the LIBRARY. For sending documents to the newsgroup: go to "Newsgroups", click on the "new documents" Newsgroup and then to the icon "post a new message". There is a folder for each Member State in the library, where documents on that states activities/concepts can be included.

News from Finland:
New Ramsar Sites

On the occasion of World Wetlands Day on 2 February 2004, Finland has designated 38 more wetlands to the list of important wetland areas in accordance with the criteria of the Ramsar Convention. Among these sites are valuable archipelago and bay areas, but also significant bird rich lakes and mire complexes. The newly designated mire areas include the Torronsuo national park, as well as the mires of Levaneva, Pilvineva, Patvinsuo, Kesonsuo, Veneneva-Pelso, Olvassuo, Martimoaapa, and Sammuttijänkä. Finland has now altogether 49 Ramsar sites covering an area of 785,780 hectares. All these are also included in the Natura 2000 network. The Ramsar list has been compiled by the Finnish Environment Institute (SYKE) and the Ministry of Environment together with regional environment centres, the Åland provincial government and the nature conservation service at the National Board of Forests (Metsähallitus). Finland has been a member of the Ramsar Convention since 1975.

News from Ireland:
Bog of Allen Nature Centre

The centre (formerly Peatland World) was purchased by the Irish Peatland Conservation Council last year. This charity's aim is build a nature space focusing on the heritage of bogs that will be used for education and research on Ireland's world famous peatlands.
The first priority project is a Field Survey of the Bog of Allen - the area lying within 13km of the nature centre. IPCC aims to find out what's left of the Bog of Allen and will be identifying wildlife habitats in the locality that are making a significant contribution to the heritage of the area. This project is being supported by the Heritage Council and the Leinster Leader.
In the grounds of the Bog of Allen Centre an exhibition of live carnivorous plants, unique species on bogs worldwide will be built in conservatories to be part of a major awareness-raising programme for children. Schools all over Ireland have been invited to help raise funds for this special project over the coming months.
Another project in the grounds is the creation of wetland ponds teaming with wildlife so that visitors can learn about freshwater habitats, so much a part of the character of the Bog of Allen. A series of ponds will be established in the grounds by volunteers this year. IPCC is looking for sponsors for this project.
A teaching laboratory is to be incorporated in the centre. This will allow to provide courses and talks for educational groups and for the local community.

Members of the public, planners and site managers have much need of a specialised Peatland Library to enable them to research the locations of peatland sites of conservation importance in Ireland. Such a service does not exist in Ireland. IPCC intends to fill this gap by providing a peatland library at the Bog of Allen Nature Centre.
There will be an open day with special courses and childrens events, sale of work and plant sale on Sat 29th May 2004 from 11am to 3pm.

Special Area of Conservation Threatened by Windfarm Development

Boleybrack Mountain SAC in County Leitrim is one of the most intact, wild expanses of upland blanket bog left in Ireland. It comprises a rich diversity of habitats, and is dominated by active mountain blanket bog and wet heath. Active mountain blanket bog is listed as a priority habitat on the EU Habitats Directive, which means that this habitat is threatened in the European context and that Ireland has an international responsibility to conserve it adequately. However, the granting of permission by Leitrim County Council for two separate windfarms within this SAC does not bode well for the long-term conservation of this important site and the habitats and species it supports.
IPCC has appealed this decision to An Bord Pleanála based on a number of issues, not least being the incompatibility of windfarm developments with the conservation importance of this site. The IPCC is disappointed that the National Parks and Wildlife Service have not fulfilled their duty in ensuring that this designated Special Area of Conservation is protected from damaging activities.
Windfarms are not compatible with the conservation of this site. The windfarms would include the digging of foundation pits for 39 turbines and the building of access and maintenance roads, within the SAC. These would be damaging to the sensitive peatland habitats and the species they support as well as to the upland landscape.
Blanket bogs are sensitive to bog bursts and peat slippage, as has been evident in recent months when a series of bog slides occurred in Ireland. Only three months ago, there was a major peat slippage in the Slieve Aughty Mountains at Derrybrien in County Galway. It occurred in an area of upland blanket bog where a windfarm was being developed. The reports on the investigation into the causes of this slippage have not been published yet, but it seems dangerous to allow a windfarm development in similar terrain in County Leitrim.
There is no doubt that windfarm developments are a welcome alternative to the burning of fossil fuels. However, the IPCC strongly opposes these developments if they are proposed within environmentally sensitive areas. The development of windfarms in Ireland is obviously a step in the right direction, but we have to be sure that they are not damaging to our environment.
The fact that both Leitrim County Council and the NPWS seem to be ignoring their responsibilities to protect this internationally important conservation area leaves IPCC with no option but to appeal to An Bord Pleanála to refuse permission for these two windfarms.

For more information:
www.ipcc.ie
bogs@ipcc.ie

News from Scotland: Wet Woods Project

The aim of the Wet Woods Restoration Project was to restore areas of bog woodland and floodplain woodland at five sites in Scotland. The Project was set up by the Caledonian Partnership, an innovative partnership of non-governmental conservation organisations and government forestry, conservation and research agencies, all with a wide experience of native woodland restoration.
These sites are located on or adjacent to five areas selected as candidate Special Areas of Conservation (cSACs) under the EC Habitats Directive. When fully designated, SACs will become part of the Natura network of sites, designed to conserve natural habitats and species that are rare, endangered, or vulnerable across the European Community.
The broad aim of the Project encompasses several objectives:

- To restore significant areas of wet wood habitat on or adjacent to sites that are candidate Special Areas of Conservation to a more favourable condition.
- To undertake scientific research to inform restoration, management and monitoring plans for wet wood habitats.
- To disseminate the information gained throughout the project via the existing network of partner institutions in order to demonstrate and promote an integrated approach to the conservation of wet woodlands.
- To support the ongoing work of developing partnerships between public agencies and private landowners.

The five areas include the Lower River Spey, located in north east Scotland, the Conon Islands at the mouth of the River Conon in the north east of Scotland, Pitmaduthy Moss in Easter Ross, northern Scotland, Monadh Mor in northern Scotland, the Cairngorms, in Central Scotland, with the Abernethy and Inshriach Forests.
For more information surf to: www.wetwoods.org

Aucheninnes Moss, Dalbeattie

The last site in Scotland for both the Bog bush cricket (*Metrioptera brachyptera*) and Sorrel pigmy moth (*Enteucha acetosae*) is a small, cut-over remnant of a once-larger raised bog complex close to the town of

Dalbeattie. The remarkable thing about the Aucheninnes Moss is that it continues to support both these species despite its past history of human impact. The site, on first appearance, seems to be little more than a *Molinia caerulea* sward mixed with patches of *Betula pubescens*. Look more closely beneath the *Molinia* and *Betula*, however, and you will find small remnants of the original raised bog dome surrounded by peat cuttings that are rich in *Sphagnum*. The raised fragments lie only a little way above these regenerating cuttings, and support a mix of typical peat-forming *Sphagnum* species, while the cuttings contain extensive swards of *Sphagnum papillosum* and *S. recurvum*. In other words, the site is demonstrating the sort of vigorous re-growth associated with a recovering peatland system. Given appropriate management, it would seem reasonable to expect that the area could continue to support the rare invertebrate assemblage - except that planning permission has just been given for a landfill site to be extended across much of Aucheninnes Moss. The Invertebrate Conservation Charity "Buglife" has been fighting to protect the site from this development for some time, and now it has gained substantial support from members of the Scottish Parliament, as well as all nature conservation NGOs in Britain. This could become a 'test-case' for such damaged peatlands in the UK, and possibly the first practical application of the IMCG/IPS Wise Use Guidelines. It is hard to reconcile the destruction of such a peatland site, with its known conservation interest, with the UK Government's commitment to the Ramsar GGAP and the Peatland Wise Use Guidelines. See the Buglife website:
http://www.buglife.org.uk/html/project_aucheninnes_moss.htm

Important Dutch court decision on 'de Groote Peel' peatland National Park.

On 24 December 2003 the highest federal court in the Netherlands ("Raad van State") passed an important decision on 'de Groote Peel' peatland in de southern part of the country. In 1986, this wetland received the status of Special Protection Area under the EC-Birds Directive (79/409/EC). Presently, more than 1% of the Northern European population of the Tundra Bean Goose (*Anser serrirostris*) is wintering in and around "de Groote Peel." To guarantee better protection of the peatland against desiccation, a 2000 meter wide buffer area surrounding the reserve was created in 1990. Within this zone, all drainage and all pumping are prohibited.
High ground water levels in the hydrological buffer zone are not only necessary for protection of the peatland reserve itself but are also important from another perspective. Many wader bird species sleeping in the peatland forage in de agricultural surroundings and depend on pastureland with high ground water levels.
Until 24 December 2003, there were no restrictions on the type of cultivation in the buffer zone. Following the developments of the international agricultural market, crops were changed and the area of flower and tree nurseries increased. The development plan of Asten, one of the municipalities in de buffer area, proposed to allow tree nursery in the buffer area. An appeal against this plan was now successful with 'de Raad van State'. This highest court has ordered that trees higher than 2,5 metres are absolutely prohibited in the area. Tree nurseries not only destroy the openness necessary for foraging wader birds, but also need a lowered groundwater table. This is conflicting with the protection of de Groote Peel.
This court decision is important for nature protection ruling within the European Union.
For more information: Boena van Noorden:
Noorden-Boena-Cecile@hetnet.nl

News from Germany
Renewable peat moss

Fossil white peat – slightly humified peatmoss peat – is an important raw material in professional horticulture. As its stocks in Western and Central Europe are nearly depleted, the pressure on pristine bogs in other countries increases. Good alternatives are still absent. Pilot studies have, however, shown that fresh peatmoss has properties that are similar to or even better than those of fossil peat. The cultivation of peatmosses has therefore high potential to replace peat mining and make – on the longer run – the production of horticultural substrates into a sustainable and carbon-neutral activity.
The Agency of Renewable Resources (FNR) in Germany has recognized this potential and has decided to finance the research project "Peat moss as a renewable resource" initiated by the University of Greifswald (Germany) in cooperation with the Soil Technological Institute in Bremen and the German peat industry. During the next three years, two scientists will do laboratory research into optimizing growth conditions for maximal annual crop.
For more information, comments, and suggestions contact Greta Gaudig: gaudig@uni-greifswald.de

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News from Belarussia:
Peat Extraction Programme

The Belarussian government plans to launch a special peat extraction development programme. The main task of this programme is to increase the peat fuel extraction based on modern and efficient technologies. The peat production programme will be funded by about 15 million USD in 2004.

News from Indonesia
Orang Utan faces extinction

New data on the rate of deforestation on the islands of Borneo and Sumatra have confirmed the prediction that, unless action is taken to reverse the decline, Sumatran orangutans are likely to be the first great ape to become extinct in the wild. Prof. Birute Galdikas, President of Orangutan Foundation International, blames accelerating habitat loss caused by forest clear cutting, mainly for palm oil plantations, to be the main problem. Other threats are forest degradation due to illegal logging, fires, and poaching. Currently nearly 1,000 orphan orangutans live in rescue and rehabilitation centers; the whole population amounts to approx. 30,000. According to the WWF, about 80% of the original forest habitats have been destroyed. Proposed actions to save the orangutan include the formation of a scientific commission, better protection of the key populations, the creation of new protected habitats, e.g. the Mawa peat swamp area in Central Kalimantan, redesign of the Ladia Galaska road scheme, and closing of canals in the peat swamps used for floating out illegal logs. More information can be found at
http://www.orangutannetwork.org and
http://www.orangutan.org

News from Japan
Naka-Ikemi Peatland, Tsuruga

Readers of the IMCG Newsletter may recall that in 1999 the IMCG became aware of a conservation issue relating to a small peatland site in Japan. The site, called Naka-Ikemi Wetland, lies in a deep basin and contains a peat archive of more than 50 metres in depth dating back at least 65,000 years. The site came to IMCG's attention when a presentation was made about it at the Global Biodiversity Forum, associated with the 7th Ramsar Conference in Costa Rica in 1999. The site was threatened by the development plans of Osaka Gas Company, who wished to build a storage facility for liquified natural gas (LNG) on most of Naka-Ikemi. A campaign was begun to protect the site by two local housewives who believed that the peatland was valuable and worth retaining. The campaign drew in a wide variety of specialists, some from Japan, others from abroad, and it became increasingly obvious that not only was the site extremely valuable for its peatland archive, but it was also one of the richest sites in Japan for dragonfly species. After intensive campaigning and lobbying (many IMCG members bought dragonfly brooches from the Friends of Naka-Ikemi stand at the Millennium Wetlands Event in Quebec), the campaigners learned in January 2004 that Osaka Gas Company has agreed to hand over the site in its entirety to Tsuruga City as a peatland nature reserve. The story is both astonishing and encouraging in many different ways – that such a small and modified peatland could have generated so much support for its protection, and that such a local campaign could have prevailed against the financial power of such a large Japanese corporation. Congratulations to the Friends of Naka-Ikemi Peatland !

News from Malaysia:
Fire Maps

The Malaysian Meteorological Service (MMS) will be producing daily fire danger maps for the Southeast Asia region.
The Canadian Forest Service (CFS) had begun producing fire danger maps for the Southeast Asia region in January 1996. In response to the transboundary haze disaster of 1997-98, the Canadian International Development Agency (CIDA) requested CFS to establish a technical project transferring Canadian fire danger rating knowledge to collaborators in the SE Asia region. The CIDA-funded project commenced in November 1999. With successful initiatives in place in Indonesia and Malaysia, the project is in its final year.
The new regional fire danger maps can be viewed at the MMS Fire Danger Rating System web site at
www.kjc.gov.my/english/service/climate/fdrs1_x.html
For more information regarding the Southeast Asia FDRS Project visit http://nofc.cfs.nrcan.gc.ca/seasia

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New and recent Journals/Newsletters/Books/Reports

Peatlands International 2/2003
The glossy magazine of the International Peat Society, covering articles on the November 2003 peatland meetings in the Netherlands (see IMCG Newsletter2003/4), the Amsterdam Peat in Horticulture Symposium (4 Nov. 2003), Irish peat news, an article on incorrect information in a UK newspaper on the extent and impact of peat extraction in Ireland, an account of a meeting of the German Peat Society in the Netherlands, a paper on environmental challenges facing the peat-based industry, the Bogor Wise Use Statement, a report of an experiment using peat in desert fertilization in China, a discussion on peatland use in Sweden, a note on Vincent van Gogh's connections to peat, a poorly informative overview of Georgian mountain peatlands, and an overview of the 90 year history of a major peat company: the Klasmann-Deilmann Group. As usual various papers are "more colour than content". Downloadable under www.peatsociety.fi/ publica/pi22003.pdf

The Holocene. Special Issue: Peatlands and Holocene Environmental Change. [The Holocene 14, 1 (2004)]
Edited by Dan Charman and Frank Chambers, this special issue of the palaeo-science journal features 12 articles on the topic of Holocene environmental change. There are 4 sections. Section I: Records of Holocene climatic change (4 articles); Section II: Peatland dynamics (4 articles); Section III: Carbon accumulation (2 articles); Section IV: Implications for conservation and management (2 articles).
For more information: www.holocenejournal.com/

Telma 33. The yearbook of the German peat Society (DGMT). € EUR 42,50 (in German) Obtainable from: alexanderharter@aol.com
Some papers interesting for international mire conservation include:
Heinicke, T.: Mires within the dry steppe zone of the Issyk-Kul basin (Kyrgyzstan).
Timmermann, T.: The hydrological dynamics of kettle-hole mires and their significance for the development of tree stands
Kossova, I.: Investigation of the parageneticcomplex "peatland-lake" of lake Seliger (Russia)
Tanneberger, F., Hahne, W. & Joosten, H.: Far and wide as the eye can wander: Mires, mire research and conservation in Western Siberia
Piaoecik, H., Gotkiewicz, J. & Łachacz, A.: Inventory and evaluation of wetlands in north-eastern Poland for the environmental protection
Joosten, H.: Wise Use of Mires: Backgrounds and Principles

Bauerochse, A & H. Haßmann (eds.) 2003. Archaeological sites - archives of nature - nature conservation - wise use. Proceedings of the Peatland Conference 2002 in Hannover, Germany. VML, Rahden. 256 p. EUR 39,80.
During all periods bog and peat landscapes exerted a certain fascination. On the one hand they were obstacles and dangers, but on the other hand, they provided fuel, raw material and the basis for living, they preserved organic material as sources for natural and cultural history, and often were considered sacred. The 25 papers of the publication cast light on peatlands under most different aspects: trackways in Ireland, the significance of beavers, peat archaeology in the Netherlands, Mesolithic peat-bog sites on the Upper Volga, Early Neolithic trackways and settlements on Lake Dümmer, geophysical investigation of peatlands, pre-Boreal elkhunting in Denmark, peat bog corpses, bog-finds from South Scandinavia, wooden idols from wetlands, problems and find conservation in wet archaeological sites, perishable artefacts from Windover Bog (Florida), the succession in peatlands of Canada's western boreal forest, ombotrophy in raised bogs from Britain and Ireland, ecology and vegetation of peatlands, subfossil oaks from bogs as a (dendro)archaeological archive, the history of bog conservation as well as the future protection and wise use of peatlands.
For more information surf to www.vml.de
or contact Andreas Bauerochse:
andreas.bauerochse@nld.niedersachsen.de

Bragg, O. and Lindsay, R. (Eds.) (2003). Strategy and Action Plan for Mire and Peatland Conservation in Central Europe. Wetlands International, Wageningen, The Netherlands. vi + 94 pp.
Western Europe has now lost most of its natural peatlands, largely as a result of agricultural and industrial development. Whilst similar influences have affected peatlands in Central Europe, losses have so far been less severe, so that this region still harbours many excellent examples of peatland types that are virtually extinct further west. Focus on the region is particularly appropriate at this time because of the impact of ongoing political, social and economic reforms, to a large extent driven by the imminent accession of six of its constituent countries (Czech Republic, Estonia, Latvia, Lithuania, Slovakia and Poland) to the European Union (EU). Although it is unlikely that Belarus and Ukraine will enter the EU within the next decade, these two countries are part of the same biogeographical region. They face their own significant political, economic and social challenges, which offer both constraints and opportunities for biodiversity protection.
The Central European Peatland Project (CEPP) was established to ensure that the natural heritage of peatlands would not be lost – indeed that it would be

enhanced – during a challenging period of economic transition, stabilisation, and growth.
Its specific intention was to:
- assist the eight participating countries to implement the recommendations of the Ramsar Convention, through the development and distribution of a Strategy and Action Plan for Peatland in Central Europe;
- produce an overview of the distribution of peatlands in Central Europe and to identify those peatlands that are of significant value for biodiversity;
- increase awareness about the values and functions of peatlands, not only for the protection of biodiversity, but also for their significance with respect to atmospheric carbon dioxide levels and for their roles in flood attenuation and water purification.

More specific objectives of the project were to
- Produce an overview of peatlands in Central Europe;
- Identify peatlands that are of significant value for biodiversity.

The report is an impressive piece of work that covers the following subjects:
- Definition of the peatland habitat
- Why peatlands are important
- Peatlands and global warming
- The description and evaluation of peatland diversity
- The diversity of Central European peatlands
- Distribution and current condition of peatlands in Europe
- Land-use change and peatland conservation
- Restoration
- International action: opportunities from a growing peatland awareness
- The peatlands of Central Europe: regional overview
- The Baltic-Black Sea Corridor: regional context of the CEPP
- The extent and condition of the peatland resource
- Peatland carbon store in the CEPP focal countries
- The peatlands of the focal countries, with chapters on all individual countries
- The protection status of Central European peatlands 61
- The principal threats to the peatlands of Central Europe
- Summary of needs for peatland conservation in the focal countries
- Towards Central European action on peatlands
- Wise use of peatlands
- National action priorities
- International recommendations

The appendices include
- Diversity of peatland systems
- Biogeographical regions of Central Europe
- The quality of currently available spatial data on Central European peatlands
- Summary peatland conservation statistics for the focal countries

The work is beautifully illustrated and highly informative and authouritive. Some points of criticism include:
- The unbalanced statement that natural succession in Central European mires represents a threat to peatland diversity. This mostly only applies to mire that has already been used for many centuries leading to altered hydraulic properties of the peat, even in absence of conspicuous draining. Such peatlands often degrade floristically when mowing or grazing is stopped
- Because of British editorship, too many examples are derived from Western European cases
- The options and impossibilities of restoration are insufficiently discussed
- The role of regional hydrology is under-exposed.

The Strategy and Action Plan for Mire and Peatland Conservation in Central Europe has been finalised thanks to the work of the focal countries' representatives, managed by the Danish National Museum and Wetlands International. The report can be downloaded from:
http://www.wetlands.org/pubs&/CEPP.htm

Gardner, R. 2003. Rehabilitating Nature: a Comparative Review of Legal Mechanisms that Encourage Wetland Restoration Efforts Catholic University Law Review, 52, 3: 573-620.

This paper outlines the legal aspects of wetland restoration (especially in Ramsar context.). Available on-line as a PDF file (2.1 MB):
www.ramsar.org/strp_rest_incentives_gardner.pdf

Haslam, S. M. 2003. Understanding Wetlands: Fen, bog and marsh. Taylor & Francis, London & New York, hardback, 312 pp., GBP 85.00.

A new book of the grand old lady of English wetlands: Sylvia Haslam. A book with a special signature as it testifies of a wide knowledge, an intense devotion, and a deep love for wetlands, gained over many decennia.
Chapter 1 "Introduction" gives an overview of terms and concepts and discusses various basic aspects of wetlands. Chapter 2 "Wetlands matter" deals with the values of wetlands, the history of drainage and reclamation, and the products that wetlands supply. Chapter 3 discusses "How wetlands work". In chapter 4 "In wetlands wilds" the (dis)continuities, forms and patterns, landscape elements, and the large varieties of wetland typologies (mostly vegetational) are presented. Chapter 5 "The animals" presents data on (typically English, but certainly necessary) invertebrates next to birds and mammals, including the effects of grazing. Chapetr 6 "The water of the wetlands" describes water flow, -fluctuations, -levels, -chemistry, -sources, and the role of vegetation as

indicator for water regimes. Special case studies are presented from Britain, the Netherlands, and Belgium. Chapter 7 "Chemical types and vegetation types" similarly treats water and soil chemistry, pollution, plants as indicators with case studies from the Netherlands, Belgium, and the Czech Republic. Chapter 8 "The power to purify" discusses the role of natural and artificial wetlands in water purification with special attention to the role of buffer strips. Chapter 9 "Phragmites: a study in plant behaviour and human use" deals in detail with one of the specialities of Sylvia Haslam: the autoecology of Phragmites and contains the fascinating conclusion: "Phragmites is more like people in its sensitivity and complex response to environment than is generally realised!" Chapter 10 "The silent battlefield: vegetation changes" pictures competition especially between pairs of (largely reed) species illustrated with funny pictures. Chapter 11 "Threats and losses, past and present" discusses the major reasons for wetland losses illustrated with examples largely from England. Chapter 12 "Conservation" shortly discusses some principles of wetland conservation.
"Understanding wetlands" is not an ordinary textbook dealing with wetland ecology in a systematic and detailed, but dry way. It is – as the info on the back describes – an "integrated and holistic account of wetlands." This culminates - at the end of the book - in a set of "basic figures" and "basic charts" that integrate various concepts, relations, and approaches. Placing these basics at appropriate spots in the book and relying on the recognition of the basic patterns could have been more effective than the practise of putting them jointly at the end of the book, but this might be a matter of preference.
While containing enough scientific information, also for the specialist, it is not only a scientific book: It illustrates with its many quotations and its sometimes more artistic than informative pictures these things beyond science that drive both scientists and conservationists. Therefore, the book surprises, teaches, and inspires.

Lapshina, E.D. 2004. Mires of south-east Western Siberia (plant diversity, development, and Holocene carbon storage dynamics). Tomsk State University, Russia (in Russian), 426 pp.

Based at the Botany Department of Siberia's oldest university and virtually surrounded by the World's largest mires, Dr Lapshina has studied the mires of south-east Western Siberia intensively over the last 20 years. Her recently finished state doctorate thesis presents a flora including 344 vascular plant and 242 moss species, an ecological-floristic classification of the plant communities (with 88 syntaxa newly described), and a classification of the south-east West Siberian mire landscapes. It further includes extensive data on the mires' stratigraphy and gives new figures on Holocene peat and carbon accumulation in south-east Western Siberia: Peat accumulates at different average rates in the zonal peatlands (0.62 mm yr-1) and in valley mires (0.98 mm yr-1). Carbon accumulation in the Southern Taiga and Subtaiga takes place with an average 41.2 ±12 g C m-2 yr-1. Highest accumulation rates are measured in sedge-brownmoss fens with 56.7 g C m-2 yr-1. These and other quite unique results can be found in the comprehensive thesis and also in about 60 Russian and English publications published previously by the author.
We wish Lena Lapshina good luck with her doctorate defence which will take place 29 April 2004 at Tomsk University! For further information please contact: Elena Lapshina, ed@uriit.de.

Mander, Ü, & Jensen, P. (eds) 2002. Natural Wetlands for wastewater treatment in cold climates. Advanced in Ecological Sciences 12. Southampton: WIT Press. 248p.

This book presents 13 contributions about the potential and use of natural wetland ecosystems for wastewater treatment in cold climate areas. Natural wetlands includes slightly influences, semi-natural, wetlands in this case.
Contents: Low temperature effects on pollutant removal at Minot's wetland; Wetland Oxelösund, Sweden - the first five years of operation; Use of the overland flow wetland treatment system for the purification of runoff water from peat mining areas - the service life of the system; Spatial modeling of nutrient reduction in the natural wetlands of the Liaohe delta, China; Wetlands for treatment of polluted waters: Swedish experiences; Vegetation development, nutrient removal and trace gas fluxes in constructed Typha wetlands; N_2O und N_2 fluxes from reflooded fen peatlands with and without wetland plants in lab model experiments; Response of a natural river valley wetland to supplementary runoff and pollutant load from urban wastewater discharge; Bioplato technology for ecological rehabilitation of eutrophied water bodies; Landscape analysis for implementing ecological engineering methods for wastewater treatment; Siting and sizing of (re)constructed wetlands for watershed planning and management; Biological removal of heavy metals from wastewater sludge; Behavioural and physiological responses of two benthic invertebrates in bioassay of the sublethal effects of coastal pollution;

Meade, R. 2004. Proceedings of the Risley Moss – Bog Restoration Workshop 26-27 February 2003; English Nature, Peterborough, UK

Most if not all of the UK raised bogs have been damaged. Risley Moss (85 ha) is a degraded raised bog that may still be capable of natural regeneration. It is part of the Manchester Mossland cSAC (candidate Special Area of Conservation within the European Union's Natura 2000 series). Ten years after commence of restoration measures in Risley Moss (and other damaged bogs), a workshop was

held to evaluate techniques and monitoring. These proceedings present results, experiences, and general considerations on bog restoration as well as a wider debate on the restorability of damaged raised-bogs.
To mention two articles more specifically:

B.D., Wheeler, R.P. Money & S.C. Shaw: Bunders, Blunders, Blenders and Bogs
This paper provides an extensive critical overview on experiences in bog restoration worldwide. The primary aim of restoration is the re-establishment of vegetation of "undisturbed" raised bog systems (*Sphagnum rubellum, S. magellanicum, S. papillosum*), that may then provide the prerequisite for the restoration of a functioning acrotelm. Although long-term observations are lacking, the paper encourages optimism: "Cut-over peatlands are *potentially* one of the easiest wetland habitats to restore..." Of course this is *potentially* true for any other type of ecosystem. Unfortunately, not all references are listed.

Lindsay, R.A. „Peat forming process and restoration management"
Lindsday's paper describes and explains two conceptual models for peat forming processes: terrestrialisation and paludification. Most restoration work is actually a combination of both. Blocked drains themselves are colonised and filled with terrestrialisation peat, whereas the immediate surroundings of the drain will paludify. The article gives an alternative scenario for terrestrialisation and large-scale engineering emphasizing the importance of paludification for bog restoration.
The case is made that, in order to keep a high level of "naturalness," *Sphagnum* fragments should not be added, while trees, shrubs, and even Molinia litter are repeatedly removed. The difference between these "positive" and "negative" management activities is not made clear.
The proceedings can be downloaded from: http://www.english-nature.org.uk/images/dl_pdf2.gif (1.7 Mb PDF)

Otte, M. (ed) 2003. Wetlands of Ireland: Distribution, Ecology, Uses and Economic Value. University College Dublin Press. 256p. 30 EUR.
Ireland is famous for its notoriously wet and mild climate. Wetlands in Ireland have traditionally been viewed as smelly, dangerous place, best avoided or 'reclaimed'. But attitudes have been changing and wetlands are now regarded as invaluable ecosystems, rich in resources and providing important ecological services. This nicely illustrated semi-popular book for the first time brings together specialists in wetland science discussing a wide range of topics from an Irish perspective, including the ecology, fauna, vegetation, and distribution of various types of wetlands; the use of wetlands for wastewater management; the archaeology of wetlands; and protection and conservation.
The chapter on Peatlands is written by Gerry Doyle and Colmán ó Críodáin. It should not be expected from a single chapter presenting an overview in a semi-popular book to address or even clear up all existing scientific problems. This chapter is not very well structured and rather adds to those problems though by uncritically and superficially citing all kinds of typologies and terms. The overview of utilisation and conservation of Irish peatlands is very informative and reads well.

Quinty, F. & L. Rochefort, 2003. Peatland Restoration Guide, second edition. Canadian Sphagnum Peat Moss Association and New Brunswick Department of Natural Resources and Energy. Québec.
The new Peatland Restoration Guide contains more than 100 pages of easy understandable practical recommendations and their (scientific) background for everybody (particularly peat extractors) planning a restoration of cut-over peat bogs. The solid work is based on ten years of research of the Peatland Ecology Research Group (PERG Laval), on the application of the methods in restoration practise, and on the experience of Canadian peat extractors.
The first part in a succinct way explains the basic concepts regarding peatlands, their vegetation, and their hydrology, which is probably enough for a general understanding. The second and main part of the guide shows the Canadian approach to (bog) peatland restoration and describes restoration techniques. Chapter 4 discusses "other options" and after use in the form of flooding, agriculture, or forestry. The chapter is awkward and out of place in a restoration guide.
Useful are the boxes with short summaries of all pertinent information within each chapter, more detailed remarks or necessary resources, time, and money as well as the quick reference sheet and monitoring forms.
More than 50% of the expenses for equipment and manpower are calculated for the collection and spreading of plant material. A cultivation of the required plants should be considered because with similar costs the negative impact on natural mires would come to an end and the plant cultivation can be aimed at the required species. For the European situation this would be an alternative to the generally lacking (obtainable) natural resources.
Unfortunately no specification about the extent of peat extraction is given and the negative effects of peat extraction are hardly mentioned – rather the opposite is illustrated: an extraction area next to the restoration site seems to be positive (as a source for water and plant material). It seems that the possibility of (successful) restoration gives a legitimation for peat extraction.
All in all, the Peatland Restoration Guide is essential for all Canadian bog restoration projects and gives important suggestions for bog restoration practitioners in other countries (climates).

Schouten, M.G.C. (ed.) 2002. Conservation and restoration of raised bogs. Geological, hydrological and ecological studies. Dept. of the Environment and Local Government Ireland / Staatsbosbeheer, The Netherlands / Geological Survey of Ireland, 220 pp.

This great book results of a decade of co-operation between the Irish and Dutch organisations responsible for nature conservation and between Irish and Dutch scientists. This co-operation had its basis in the Irish Peatland Conservation Committee (the later IPC Council) founded in 1982 and the Dutch Foundation for the Conservation of Irish Bogs (founded 1983). In 1987 the Dutch Foundation acquired four Irish peatland sites of primary conservation importance and handed them over to the Irish government. This was the beginning of an intensive exchange of information and joint research between Ireland and the Netherlands in peatland management and restoration. Ireland could provide bogs that were still rather undisturbed as reference sites, whereas the Netherlands could offer experience in peatland research and restoration. This book reports on detailed studies in Raheenmoor Bog and Clara Bog, both in County Offaly, that were performed between 1989 and 2001. The beautifully edited and instructively illustrated large size book contains a wealth of information on the two sites, including regional geology, regional hydrology, bog hydrology, and vegetation ecology, with much attention to hydrochemistry. The book includes an extra chapter on “soaks”, areas of mesotrophic or minerotrophic vegetation, occurring on otherwise ombrotrophic bog, which are usually associated with internal drainage systems. An overview is given of the relationships between biotic and abiotic conditions, again with much attention for hydrology and hydrochemistry. The last chapter “General conclusions” summarizes the implications for management and restoration on the scale of the bog-landscape (macro-scale), the different ecological systems (meso-scale), and the different habitat types (micro-scale).
A must for everybody interested in bog ecology and restoration.
For more information: Sake van der Schaaf: Sake.vanderSchaaf@wur.nl

Timmermann; T., Wichtmann, W., Succow, M. & Billwitz, K. (eds.): Alternative Nutzungsformen für Moorstandorte in Mecklenburg-Vorpommern. (Alternative land use of peatlands in Mecklenburg-Vorpommern. Greifswalder Geographische Arbeiten 31: 1-123. 10 €
These proceedings of a symposium on land use alternatives for peatlands present an overview on the various aspects of this topic.
In central Europe, many peatlands that were formerly used for agriculture are now being abandoned and pose the problem of after use. In many areas the drainage systems are still functioning, leading to large carbon losses to the atmosphere and restoration measures are needed. On the other hand there is also the social demand of maintaining living quality in rural areas and the need to develop alternative economically viable forms of use.
These proceedings present an overview of the practise and expertise on the interesting combination of peatland restoration and economically viable forms of use of fen peatlands in North Eastern Germany.
The 12 contributions cover the following topics:
- sustainable land use politics (M. Backhaus, H. Holst),
- mire functions (M. Succow)
- ecological services and monetarisation (A. Schäfer)
- production and use of renewable resources:
  – reeds (T. Timmermann, W. Wichtmann)
  – alder wood (I. Koska, A. Barthelmes, A. Kaffke, J. Schröder)
  – mosses (G. Gaudig, H. Joosten)
  – energy production (T. Gottschau)
  – pasturing and nature conservation (M. Rühs, C. Lenk, H. Manthe)
  – eco-tourism (N. Schäffer).

For more information contact Tiemo Timmermann (tiemo@uni-greifswald.de) or Wendelin Wichtmann (wicht@uni-greifswald.de).
The issue can be ordered from Tiemo Timmermann.

Wells, C. 2002. A survey of the peat stratigraphy of seven 'bog woodland' sites in Scotland.
A report published in the framework of the Scottish Wet Woods project, presenting insight on seven bog woodland sites located across a bioclimatic gradient from the west Highlands through Speyside to the Black Isle. All of the sites bar one were characterised by pine. Lòn Lèanachain contained a birch wood. The peat stratigraphy of the sites was surveyed.
Tree growth at every site was established on genuine mire peat and did not represent tree growth on mineral substrates masked by superficial cover of fresh Sphagnum, or trees restricted to peripheral mineral ground transitions to mires.
All sites except Mar Lodge were considered to fall within the compass of the definition of 'bog woodland' adopted for the survey although the hydrology at Lòn Lèanachain is not consistent with the definition used for the selection of candidate Special Areas of Conservation. Mar Lodge was excepted because it appeared to represents invasive colonisation of desiccating peats by trees, rather than a stable bog-wood system.
The sites exhibited marked stratigraphical variation. A common feature of many of the eastern Highland sites was the disturbed nature of the upper peat stratigraphy. Monadh Mor, Pitmaduthy and Inshriach appear to exhibit the most extensive and systematic disturbance to the peat stratigraphy, probably from

ancient peat cutting. It is therefore possible that many of the bog woodlands, or parts of them, are therefore comparatively recent in origin (i.e. <150 years old). The Western Highland sites of Loch Maree islands and Lòn Lèanachain appeared to be the exceptions, as here no truncation to the peat stratigraphy was detectable.
Although evidence for peat cutting was absent at Lòn Lèanachain, there is circumstantial evidence that a combination of past grazing pressures and burning may have formerly discouraged birch growth in the peripheral areas of the bog. It is possible that the recent relaxation of such pressures might have allowed the establishment of the modern bog woodland. Evidence that burning had affected the vegetation in the past was also present in most of the sites examined.
The Rothiemurchus peatland sites might also represent areas which are returning to some kind of wooded equilibrium after centuries of intense grazing pressure and burning (as well as some peat cutting), following recent changes in management practice.
(taken from the abstract)
The report is available as a PDF under:
http://www.wetwoods.org/Library/PeatStratigraphy/

Wiseman, R., Taylor, D. & Zingstra, H. 2003. Wetlands and Agriculture.
Proceedings of the Workshop on Agriculture, Wetlands and Water resources: 17th Global Biodiversity Forum, Valencia (Spain), November 2002. Reprint of: International Journal of Ecology and Environmental Sciences 29: 1-122.
Interesting compilation of papers on conflicts between and wise integration of wetlands and agriculture with contributions from Swaziland, Sri Lanka, Uganda, India, Ethiopia, South Africa, Malawi, Malaysia, Lithuania, Estonia, Cameroon, Poland, Karelia, Latvia, USA, Panama, and the Czech Republic. For more information: Henk Zingstra: Zingstra@IAC.AGRO.NL

Mire development concept Bavaria (Germany)
Mires belong to the most valuable landscape types of the German federal state of Bavaria. Most peatlands have lost their important natural functions for biodiversity conservation and climate and water regulation. Many restoration activities have already been taken, but the current situation necessitates a systematic and integrated approach to general improvement. This is the aim of the "Moorentwicklungskonzept Bayern" (MEK) that was officially presented on August 4, 2003. The focal areas and the necessary measures are listed in a priority list (available under www.bayern.de/lfu/natur/landschaftsoekologie/moorentwicklungskonzept/mhs_gesamtliste.pdf) for 158 peatlands of which 22 have got the highest priority for restoration.
Furthermore a Peatland Restoration Guide has been developed. The guide offers a review of activities with respect to land use planning and technical implementation, including the optimal employment of labour and methods, and the juridical and financial conditions. The Restoration Guide is available as pdf files for bog restoration (3 MB) under www.bayern.de/lfu/natur/landschaftsoekologie/moorentwicklungskonzept/hochmoorleitfaden.pdf and for fens (5 MB) under:
www.bayern.de/lfu/natur/landschaftsoekologie/moorentwicklungskonzept/niedermoorleitfaden.pdf
For more information: Alfred Wagner: wagner-ugau@t-online.de

Conservation Finance Guide
The Conservation Finance Alliance is made up of a number of leading intergovernmental and governmental agencies and NGOs dedicated to increasing awareness of the range of conservation finance mechanisms available.
The Guide has a flexible structure designed to allow non-experts to get started and make tangible progress on conservation finance initiatives. Tools in the Guide are designed to help ask the right questions and reach the right decisions. The Guide is organized around two structures:
At a macro-level, the Guide is structured around what is called the "Conservation Finance Process (CFP)". A fundamental barrier to scaling up the use of innovative conservation finance mechanisms is the lack of an overall, systematic approach to this topic. To help remove this barrier, the Guide introduces, and is structured around, the CFP - a systematic, business-based approach to (i) understanding; (ii) selecting; (iii) assessing; and (iv) implementing the most appropriate finance mechanisms.
At the chapter-level, with some deviations, a standard structure has been used for each chapter devoted to a specific finance mechanism.
The Conservation Finance Guide is available online http://guide.conservationfinance.org/

IMCG Main Board

UPCOMING EVENTS

See for additional and up-to-date information: http://www.imcg.net/imcgdia.htm

Tropical Peatland Workshop in West Kalimantan, Indonesia

14 - 16 April 2004, Pontianak, West Kalimantan

An international workshop on "Assessment, Conservation Restoration and Sustainable Use of Tropical Peatland and Peat Swamp Forest Biodiversity". Topics to be discussed are: methods for assessing environmental values of tropical peatlands and peat swamp forest, achievements from studies of their sustainable development, integrating their environmental values into national, local and international economic systems, conservation and restoration of peatlands, policy and instruments for their Wise Use and new approaches to their sustainable development. For more information contact Jack Rieley: jack.rieley@nottingham.ac.uk

XII International Peat Congress: Wise Use of Peatlands

6-11 June 2004, Tampere, Finland

more information at http://www.suoseura.com/

Peatland Conservation and Sustainable Use

7 - 9 July 2004, Lanzhou City, Gansu, China

Please note the new dates!!!

For more information, surf to the IMCG homepage

The 7th INTECOL international wetlands conference

25 - 30 July 2004, Utrecht, The Netherlands

for more information visit
http://www.bio.uu.nl/intecol/

32nd International Geological Congress

20 - 28 August 2004, Florence, Italy

The congress hosts a symposium entiteled "Peatlands: basin evolution and depository of records on global environmental and climatic changes"
for more information have a look at http://www.32igc.org/ or contact Peter Martini pmartini@uoguelph.ca

IMCG Field Symposium and General assembly in South Africa

12-26 September 2004

For more information and registration form see previous IMCG Newsletter or surf to the IMCG Homepage.

Anthropogenic influence on wetlands biodiversity and sustainable management of wetlands

23-25 September 2004, Narew National Park, Poland

Papers are invited that cover the following topics:

- Sucess and failure stories in wetland nature management and restoration
- Theory and practical application of management support systems in wetlands
- Involvment of NGO s in mainatining the wetland areas
- Role of the agro-environmental schemes

The organisation is able to cover travel and accommodation costs for 15 attendants. Please send an abstract (300 words) of your paper before 15.06.2004 to Magda Jarecka:
m.jarecka@levis.sggw.waw.pl

IMCG Field Symposium in Tierra del Fuego

16-25 November 2005, Tierra del Fuego (Argentina)

See elsewhere in this Newsletter

VISIT THE IMCG HOMEPAGE AT

http://www.imcg.net