INTERNATIONAL MIRE
CONSERVATION GROUP

NEWSLETTER

issue 2011/1, July 2011

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 currently 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 (Piet-Louis Grundling), a Secretary General (Hans Joosten), a Treasurer (Francis Müller), and 2 additional members (Ab Grootjans, Rodolfo Iturraspe).

Fred Ellery, Seppo Eurola, Lebrecht Jeschke, Richard Lindsay, Viktor Masing (†), Rauno Ruuhijärvi, Hugo Sjörs (†), Michael Steiner, Michael Succow and Tatiana Yurkovskaya have been awarded honorary membership of IMCG.

Editorial

This Newsletter comes to you with some delay, for which we apologise. The rising global interest in peatlands has kept us busy. Particularly the UNFCCC negotiations and the development of new IPCC guidelines to address the climate effect of drained and rewetted peatlands in a post-Kyoto framework have kept our agendas filled. Next to our 'normal' work, of course – Hans is currently trudging across the Siberian tundra, studying polygon mires.

The UNFCCC negotiations are still developing on the peatland front. After the issue of peatland drainage and rewetting was brought to a successful interim-end, the main focus is now on Reduced Emissions from Deforestation and Degradation (REDD) and what it may entail with respect to tropical peatlands. We will report on it all in the next issue of the Newsletter. The voluntary market for carbon mitigation projects in peatlands is gaining shape as well. This Newsletter reports on the launch of the 'moorfutures', a regional peatland carbon standard.

In this issue you will furthermore find a first (preliminary) programme for next year's Field Symposium. The 2012 IMCG Field Symposium will take place in the Andes Mountains of Peru, Columbia and Ecuador. High altitude peatlands are fragile, but important ecosystems, playing a key role in water cycling. Next to regulation of global and regional climate, the provision of water is a major ecosystem service offered by mires and peatlands.

Besides the upcoming Field Symposium, this Newsletter provides an overview of finances by IMCG's treasurer Francis Muller and a report by Olivia Bragg on the joint IMCG/IPS scientific journal Mires and Peat. Francis has also sent in a number of articles for our section of Regional News, which again provides a wealth of news items from around the world. Thanks to everyone for providing us with copy, keep it coming.

Michael Trepel recently revamped the IMCG Website to make it look nicer and more easily navigable. The new content management will help us and Michael keep you up to date.

The next Newsletter will again report on peatlands all over the world in every aspect of conservation and management, including everything that you will send to us. We plan to produce the next Newsletter: in September 2011, so please provide your contributions in time.

For information, address changes or other things, contact us at the IMCG Secretariat.

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A note from the Chair

Dear fellow members,

I had the privilege of spending time in April and May with several of our members in various mires across South Africa. Jan Sliva (from Tsegge/Germany) has traveled across South Africa sharing his vision to establish a mire research facility with many of us (read more about these exploits in this edition) Jonathan Price from Canada (not a member yet…..) visited Althea and myself on our PhD projects in Maputaland (North eastern South Africa) and what an experience we had: We were sitting with Jonathan at a waterhole near the Muzi North Mire in Thembe Elephant Park where 4 lion, a rhino and some elephant were interacting with one another. I am waiting, whilst writing this foreword to meet up with Ab Grootjans (from the Netherlands) and his wife Baps, to visit some mires in Kruger National Park. Together with them we discovered at the end of April a calcareous mire in Mapungubwe National Park!

It was while sitting at that waterhole in Thembe Elephant Park that I realise why I enjoyed mires and the IMCG so much. Hans Joosten once said that mires are one of the last frontiers to be explored...What more do you need then than to explore these unique wetlands with friends, all passionate about théir mires. The IMCG certainly brings people from across the world together. Soon we will all meet again in South America!! Read more about the IMCG Field Symposium and general Assembly in 2012!!

Networking as colleagues and friends at different levels of mire conservation is one of the fundamental strengths of our organization. We might not all be able to participate in global forums (such as IPCC and UNFCCC) (see report from Hans and John Couwensberg), but can get involved on a local level where conservation matters. Francis Muller is also emphasising the importance of initiating and supporting regional co-operation in areas where we have lesser membership.

We say in Setswana, a local African language: ‘Re batho batee’ – together we are one!! So let’s together make a difference in mire conservation.

Piet-Louis Grundling
South Africa

IMCG Field Symposium 2012 in the Andes

Whereas not all plans are final, the preparations of the IMCG Field Symposium in the Andes are becoming more and more concrete. The current plans are to include three Andean countries (Peru, Ecuador, Colombia) in the trip in order to get a wide overview of peatland types and management problems. This will also mean that some transport during the trip will happen by airplane because long-distance travel by bus is time-consuming and not recommendable.

Basic information:
- Timing: July 2012
- Participants should arrive in Lima (Perú) and leave from Bogotá (Colombia)
- There are two flights involved in the trip: Lima-Quito and Quito-Bogotá. The costs of these two stretches depend on whether you can include these flights in your intercontinental ticket.
- All field visits, except Fúquene, will be at altitudes of 3500 to 4000 m asl, but overnight accommodation will be at lower altitudes.
- We will visit a north-south transect with not only the paramo ecosystem, but also puna wetlands.
- We will not only visit protected areas, but also areas with a great deal of intervention and interact with relevant stakeholders and policy makers.
- The programme does not involve travelling to sensitive/insecure areas in Colombia, nor in the other countries.
- More information, including concrete timing and budget, in the next IMCG newsletter.

Very preliminary programme:

Day 1	Arrival of participants in Lima, Peru. Welcome event / start up meeting
Day 2	Field visit to wetlands in Central Peruvian highlands. Travel time from Lima 6 hours.
Day 3	Continuation of field visit in Central Peruvian highlands.
Day 4	Continuation of field visit in Central Peruvian highlands. Travel back to Lima.
Day 5	Meeting with stakeholders, especially Lima Water Company and Ministry of Environment (comments on process of legislation for environmental services). Evening: flight Lima-Quito
Day 6	Field visit to paramo wetlands in the Eastern Cordillera, Papallacta – Antisana area. A scientific station for paramo monitoring and research is being set up here.
Day 7	Field visit to Cotopaxi area
Day 8	Stakeholder meeting in Quito: a.o. Quito Water Fund FONAG, Ministry of Environment, Vice-Minister Climate Change
Day 9	Flight Quito-Bogota and road travel Bogota-Fúquene (approx 4 hours)
Day 10	Field visit Fúquene area
Day 11	Further field visits
Day 12	Field visit Chingaza National Park
Day 13	Scientific symposium in Universidad de los Andes, Bogotá
Day 14	Scientific symposium in Universidad de los Andes, Bogotá / IMCG General Assembly
Day 15	Participants leave from Bogotá, Colombia

REGISTER

Please fill out the IMCG membership registration form.

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

IMCG Finances

by Francis Muller, treasurer

This article is a follow-up to the article on page 3 of IMCG Newsletter 2010-1, in which I explained why **we need money for IMCG**. The reasons remain the same today:

- to try and expand the Group's activities outside Europe, and especially to countries where mires have yet to be taken into adequate consideration. This action generates costs that cannot always or all be supported by the people who represent IMCG;
- to help and increase knowledge and public awareness and support restoration actions of mires in countries where local correspondents cannot fulfil these tasks alone;
- to provide assistance and expertise…

During the 2010 General Assembly in Poland, we once again decided that **IMCG membership would be free**; this to make this membership affordable to anyone, and also to avoid having to collect small amounts of money in numerous currencies. Yet the issue of donations was raised again. At present, IMCG has €10,497 in its account, which hardly enables us to be very reactive if projects appear.

For each donation made to IMCG, I will send you a **receipt**. This receipt is worded according to French regulations (IMCG is registered under the French law) and makes the donation tax deductable for French citizens. Please inquire with your tax office in how far a donation to a 'French' non-profit organisation of general interest is tax deductable for you.

Alternatively, projects can be prepared and funding sought by IMCG as a group, using our contacts with governments, foundations, charities or universities. Of course this requires voluntary input in seeking out funds and preparing applications.

In light of the increase of IMCG actions around the globe, we should set up **permanent commissions in each continent** or subcontinent. Each of these commissions would define regional actions and raise its own funds to realize them. Such a more regional approach would enable contacts between members to remain more constant between the biennial meetings. Moreover, the impact of a biennial meeting can be much enhanced when a regional network is in place to carry not only the organisation of the event, but – possibly more importantly – keep the spirit alive when all the foreign attention has left. We have seen this happen in recent years in South Africa + Lesotho, Tierra del Fuego and Georgia.

IMCG's Main Board remains open to all your suggestions. Please make your donations to the IMCG bank account at Crédit Coopératif:

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Name : IMCG, Crédit Coopératif Besançon, France.

EU Life: restoring flyway habitats for the migrant Aquatic Warbler

The aquatic warbler (*Acrocephalus paludicola*) is by far Europe's rarest warbler. It breeds in central and eastern Europe (Poland, Hungary, Germany, the Baltic States, Ukraine and Belarus) and has an estimated population of 15,000 pairs.

This small passerine bird is found in wetlands with sedge and similarly structured marshy habitats. Drainage of such wetlands and destruction of the habitat has meant that the species has declined by 40% in the last 10 years. It became extinct in western Europe in the 20th Century and has declined dramatically in central Europe. As a result, the aquatic warbler is the only globally threatened passerine bird found in mainland Europe. At the European level, the bird is classified by IUCN as endangered and is included in Annex I of the Birds Directive.

For many years, its wintering grounds were unknown, but recently it was discovered that the bird's European population spends its winters in Djoudj National Bird Sanctuary in Senegal –between 5,000 and 10,000 birds visit this single site. Aquatic warblers have been recorded in 13 European countries on their migration path. Birds from Poland and eastern Germany migrate in a westerly direction along the Baltic coast in Poland and eastern Germany, then along the North Sea coast of western Germany, the Netherlands, Belgium and sometimes England, before heading south along the French and Iberian Atlantic coast.

Furthermore, the main stopover and feeding areas during the post-breeding migration are in north-western France, along the Channel coast and further down the Iberian Peninsula. These regions are characterised by a string of coastal marshes and wetlands that are currently suffering from inadequate management, degradation of hydrological conditions, natural filling-up, water pollution and man-made changes. These factors have led to a decline in their ecological value as feeding and resting habitats for the aquatic warbler during its migration.

LIFE has co-funded three projects that focus on the stopover sites of the species along its migration route. Projects in Spain, 'Conservation of the aquatic warbler in the ZEPA, La Nava-Campos' (LIFE02 NAT/E/008616), and France, 'Conservation of the aquatic warbler in Brittany' (LIFE04 NAT/FR/000086), targeted resting and feeding areas, while the project 'Conserving *Acrocephalus paludicola*' (LIFE05 NAT/PL/000101) in Poland and Germany targeted breeding sites.

Specifically, the Spanish and French projects aim to maintain or rehabilitate the ecological functions essential for the aquatic warbler. Actions aimed to: improve knowledge of the migratory stopover sites and the role of their habitats for the species (using radio tracking and other techniques); restore and manage the wetlands habitats (by clearing and maintaining ditches); implement management plans for the most important stopover sites; and share results with interested parties.

The main Polish and German project actions involve raising awareness among local authorities, local communities and key stakeholders of the need for conservation of the warbler, in particular its specific habitat requirements. The project also improved the warbler habitat in Pomerania and Biebrza and enlarged its habitat. Finally, it will identify replicable financial and legal mechanisms for ensuring the long-term sustainable management of the warbler in Germany and Poland. The project will create 1 500 ha of potential habitat in Pomerania and Biebrza and implement restoration actions on another 1 500 ha with the aim of increasing the population of aquatic warbler by 15%. Measures to be implemented include hydrological management, removal of shrubs and overgrowth from wet meadows and mires, initiation of extensive grazing and appropriate mowing of aquatic warbler habitats.

Together these LIFE projects actions along the migration route of the aquatic warbler will help to ensure the conservation of the species. Moreover, the projects have established a platform for knowledge-sharing and co-ordinated conservation efforts throughout the flyways. Nevertheless, full conservation of the entire route entails protecting wintering sites outside of the EU (e.g. Senegal) by enforcing the international agreements under AEWA.

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http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/documents/green_infra.pdf

EU Life: Reconnecting bogs in Europe

A significant number of LIFE Nature projects have focused on the restoration of Europe's bogs. As well as restoring important services provided by these ecosystems, such as water retention and CO_2 intake, LIFE co-funding has also helped to increase the bogs' resilience.

Since 2002, a total of seven LIFE Nature projects dedicated to bogs and wetland habitats have taken place in Belgium (two for species, four for peat restoration and one on a military site in the Ardennes). While these projects have been carried out by a range of beneficiaries, they have had certain common goals:

- To stop threats to existing sites;
- To restore these sites and extend their borders; and
- To increase connectivity by restoring new sites.

When all seven LIFE projects are completed, more than 4 000 ha will have been restored and 1 500 ha will be classified as nature reserves.

Four of the seven Belgian projects have taken a highly integrated approach to restoration of bog habitats, with major benefits for species. The LIFE Croix Scaille project (LIFE05 NAT/B/000087), which ran from January 2006 to the end of 2009, targeted the Croix Scaille plateau in southern Belgium (containing the following habitats: bog woodland; *Nardus* grasslands and Tilio-Acerion; and alluvial forests). Extensive conifer plantation has caused the destruction and fragmentation of these semi-natural habitats. In particular, the bogs are threatened by spontaneous reforestation and invasion by purple moorgrass (*Molinia caerulea*).

The project focused on the removal of 160 ha of exotic conifer plantations from three Natura 2000 sites. The overall objective was to improve the quality of the two river valleys of the Croix Scaille plateau by restoring open landscapes and enhancing connectivity between fragmented habitats.

Thanks to the extensive work of the beneficiary, Réserves Naturelles-RNOB, and its project partners, an area of 170 ha was cleared of conifers (60 ha from the peat zones on the plateau and 110 ha along the river valleys leading from the plateau). The project team also restored some 85 ha of river valley habitats (low marsh, alluvial meadows, etc.) and 44 ha of peat bogs by blocking drains and digging hundreds of ponds.

To maintain and develop the achievements of the Croix Scaille project, a long-term management plan has been prepared. The plan proposes four kinds of actions, depending on the particular site and habitat:

- Maintenance by mowing;
- Maintenance by grazing;
- Maintenance by coppicing; and
- Total non-intervention (re-wilding).

rehabilitation of heath and mires

The 'high fens' of eastern Wallonia are a region of great ecological value with outstanding flora and fauna that preserve boreo-montane and oceanic elements. As a result of drainage, widespread spruce plantation and the abandonment of traditional extensive agricultural, this area of heaths, fens and bogs has been reduced from some 20 000 ha at the end of the 18th century to just 5 000 ha today, much of which is in a degraded state.

LIFE restored open landscapes and enhanced connectivity between fragmented bog habitats in Belgium

The aim of the LIFE project, 'Rehabilitation of heath and mires on the Hautes-Fagnes plateau' (LIFE06/NAT/B/000091), which runs from January 2007 until December 2011, is to restore some 1 800 ha of endangered peaty and wet habitats on a 9 724 ha working zone in six Natura 2000 sites. Targeted habitat types include peat moss (*Sphagnum*) and birch woods, raised bogs, damaged or inactive bogs, wet heathlands, transition mires, wet open acid peat with white beak-sedge (*Rhynchospora alba*), old acidophilous oak woodlands on sandy plains, as well as dry heathlands, mat-grass swards, mountain hay meadows, rivular alder woods, and tall-herb communities of humid meadows or watercourse fringes.

In addition to clearing trees from 400 ha, purchasing 100 ha of forest for habitat restoration and negotiating with forest owners to turn 630 ha of plantation forests over to nature conservation, the project seeks to guarantee the sustainable conservation of the open landscapes and related habitats through the introduction of extensive grazing via agreements with farmers.

An important feature of the two LIFE Nature projects outlined above, and the other Belgian projects targeting wet habitats, is that they have focused on existing core natural areas (e.g. mires and heathlands) and areas with a good conservation status. These areas can act as sources (donors) of species and habitats for surrounding areas, which have the

potential for recovery, and connect with other core areas. This increases connectivity, improves landscape permeability and creates many new possibilities for the exchange of individuals and genes, even over short distances.

enhancing connectivity and resilience across Europe

LIFE support for restoration of bogs, fens and mires is not limited to Belgium, however. In the UK, for example, the projects 'Restoring active blanket bog of European importance in North Scotland' (LIFE00 NAT/UK/007075) and 'Restoration of Scottish raised bogs' (LIFE00 NAT/UK/007078) are also noteworthy. The former, in addition to enlarging an area of restored blanket bog – benefiting more than 16 600 ha of peatland through the removal of commercial forestry and blocking of drains – devised the Peatlands of Caithness & Sutherland Management Strategy 2005-2015, a long-term land use strategy for the sustainable management of the SAC/SPA in co-operation with the principal stakeholders (landowners, conservation NGOs, the forestry authorities and the statutory conservation agency). A Peatlands Partnership is continuing to promote sustainable economic development and an appropriate balance between woodlands and peatlands. The second Scottish LIFE project again used a partnership approach to restore 1 256 ha of active raised bog across 11 sites to a favourable condition, as well as increasing an area of raised bog by 315 ha through the clearance of trees, shrubs and heather.

In Germany, the 'Rosenheim Master Basin Bogs' project (LIFE05 NAT/D/000053) took steps not only to restore 444 ha of raised bogs, but also, crucially, to improve the hydrological situation of adjacent fen-meadow habitats through closure of drainage ditches. By maintaining the natural dynamics of rivers and streams in the project area, it is hoped that the long-term hydrology of the bogs and fens will be improved.

Such restoration of bogs, fens and mires projects improved the conservation status of the targeted habitats. As a result, the projects were able to reconnect bog habitats in a spatial coherent way and increase the permeability of the landscape, not only to species movements, but also to water flow and dynamics between the restored bogs. This was done mainly by eliminating overgrowth and commercial forests that broke up the bogs landscape, and by regulating and raising the water levels of the bogs (by blocking the drainage). Moreover, the projects improved some bogs' ecosystem functions, such as ground water retention and gas intake (CO_2) and retention (methane), as well its aesthetic value. All of these projects have helped to enhance the conservation status of the bog habitats and species, improve intake of gas as a mitigation measure against climate change, and increase resilience to climate change of these important habitats.

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http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/documents/green_infra.pdf

Mires and Peat: recent milestones and achievements

Mires and Peat - the IMCG-IPS open-access peer-reviewed internet journal – has now entered its sixth year. Volume 8 opened on 01 January 2011 and so far contains just two articles, both of which are well worth reading. The first is a new analysis of long-term carbon and mass balance at the Åkhult Mire (south Sweden) from Nils Malmer and colleagues, and the second encapsulates the pressing case for improvement of greenhouse gas emission factors for managed peat soils that John Couwenberg has just presented to the IPCC in Geneva (see elsewhere in this newsletter).

Last year saw some significant milestones and achievements for *Mires and Peat*. First, the 100th manuscript submitted since the journal began was published as Article 6.07, squeezing into the main volume for 2010 just before it closed in December. The author list features Ab Grootjans and both Grundlings, along with colleagues from South Africa and Canada. It is illustrated with Grootjans hallmark 'conceptual model' diagrams, which are used to help determine whether thermal mires that have developed around hot-water springs in Kruger National Park (South Africa) are threatened by the large game animals that visit the site to drink. Perhaps disappointingly, there are no elephant, rhinoceros or buffalo in the photographs.

Although 2010 began quietly enough with publication of another article from Ab Grootjans explaining the ecohydrology of sites visited during the memorable IMCG field symposium in Tierra del Fuego, it did not stay that way. On 01 June we opened Special Volume 7 (2010/11), *Review of Protocols in Peat Palaeoenvironmental Studies*, which is guest-edited by François De Vleeschouwer, Paul Hughes, Jonathan Nichols and Frank Chambers. The aim of this volume is to establish standard procedures for the derivation of proxy palaeoenvironmental evidence from the peat archive. It already contains nine articles written by leading specialists and further contributions on radiocarbon dating, diatoms, pollen and non-pollen palynomorphs, stable isotopes and biomarkers are planned. The year also saw the completion of Special Volume 4 (2008–2010), *Wind Farms on Peatland*, after a long wait for finalisation of the contribution "Calculating carbon budgets of wind farms on Scottish peatlands" from Dali Rani Nayak and colleagues at Aberdeen University. This article has now been pleasingly complemented by Todd Mitchell and colleagues (Edinburgh University), who carried out an independently conceived calculation of CO_2 payback time for a hypothetical wind farm installation at their long-term research site on afforested shallow peatland in northern England.

The primary purpose of *Mires and Peat* is to publish high-quality research and review articles on all aspects of peatland science, technology and wise use, plus occasional book reviews in this subject area. Since the journal first went online, 61 articles (740 pages) have been published; the shortest turnaround interval from manuscript submission to publication is 44 days; and the rejection rate is around 30 %. The journal is currently 'read' by around 6,500 visitors to our website each month, and the enduring most-popular Article 1.01 has been downloaded more than 6,000 times. *Mires and Peat* is indexed by CSA, CABI and EBSCO, and our first evaluation for Thomson Reuters *Web of Science* is ongoing.

Mires and Peat is produced with the help of a core editorial team of 'volunteers' comprising Professors Jack Rieley (Deputy Editor) and Dicky Clymo (Assistant Editor), Drs Richard Payne (Assistant Editor) and Michael Trepel (Website Administrator), and Derrick Lai (Assistant Editor - book reviews and page layouts) supported by 24 Associate Editors representing most continents of the world, occasional Guest Editors, and many reviewers who often contribute anonymously. All of these inputs, along with the continuing support of the IMCG and IPS Secretariats and the vital contributions of our authors, are most gratefully acknowledged. I am always happy to hear from any new volunteers for active editorial roles such as journal promotion and, especially, English language editing. But in any case, please continue to consider publishing some of your papers in *Mires and Peat*, and to cite our articles in any manuscripts that are destined for other academic journals. To find *Mires and Peat*, go to http://www.mires-and-peat.net/mpj3.html and browse!

Olivia Bragg

Moorfutures:
A new regional carbon standard for peatland rewetting

On 2 March 2011, the Minister of Agriculture and Environment of the German federal state of Mecklenburg–Western-Pomerania presented 'MoorFutures', a new investment instrument for climate and nature conservation. Mecklenburg–Western-Pomerania is with 300,000 ha of peatlands the German state with most peatlands. Most of these peatlands have been drained, largely for agriculture, and currently these peatlands emit an equivalent of 6.2 Megatons CO_2. This makes peatlands to the single largest source of CO_2 in the state followed on a distance by public electricity and heating with some 4 Megatons.

Since the 1990s, climate change mitigation and peatland conservation are seen in Mecklenburg–Western-Pomerania as a joint endeavour. Already the first climate strategy of the state, published in 1997, mentioned peatland rewetting as a typical climate mitigation option. The interrelations between climate and nature conservation policy further materialized in the Concept for Conservation and Utilisation of Peatlands (2009). The concept presented a practical and cheap monitoring approach (the GEST-approach, Couwenberg et al. 2011) that enables to estimate greenhouse gas fluxes from peatlands using vegetation as an indicator.

This approach allowed to quantify emissions reductions and to offer regional carbon credits, the MoorFutures, on the voluntary market.

For the generation of these credits the Ministery in collaboration with Greifswald University defined scientifically sound and transparent criteria that are based on the criteria of the Verified Carbon Standard (www.v-c-s.org) and the Kyoto-Protocol. Ministry and University guarantee the high quality of the MoorFutures standard.

After rewetting, the property of the sites will be transferred to a dedicated foundation (Stiftung für Umwelt und Natur) that will manage the sites perpetually and/or the rewetted status will be legally prescribed in the cadastre in order to guarantee permanence. Land acquisition will be coordinated by the Landgesellschaft Mecklenburg-Vorpommern. This team, Ministry, University, Foundation and Landgesellschaft can look back to over a decade of experience in peatland rewetting.

The first project to be financed with MoorFutures is the 50 ha large Polder Kieve in the Müritz region. Its rewetting will cost around 500,000 Euro. Over a project period of 50 years the project will avoid some 15,000 tons of CO2 equivalents, leading to avoidance costs of around 35 € per ton.

Peatland rewetting is not only interesting from a climate point of view. Pristine and rewetted peatlands are important habitats for threatened species. In this way climate policy can be coupled to biodiversity conservation. Intact peatlands furthermore function as sinks of nitrogen, purifying the water. In addition they may buffer weather extremes and cool the regional climate by evaporation cooling. Especially the importance of the latter services will grow with changing climate. Mecklenburg–Western-Pomerania has now started also to quantify and monetize these services that can be seen as an 'add-on' to the MoorFutures.

MoorFutures is a specific regional standard that allows companies to invest in rewetting sites in their own region, thus allowing the investments to be reached and enjoyed easily.

More information: Thorsten Permien: T.Permien@lu.mv-regierung.de

Couwenberg J, Thiele A, Tanneberger F, Augustin J, Bärisch S, Dubovik D, Liashchynskaya N, Michaelis D, Minke M, Skuratovich A & Joosten H. (2011). Assessing greenhouse gas emissions from peatlands using vegetation as a proxy. Hydrobiologia. DOI: 10.1007/s10750-011-0729-x

Regional News

News from France
New National Wetlands Action Plan

In 1995, after more than half of the surface of mires had disappeared during the five previous decades, the French government decided to implement an Action Plan for Wetlands (PNAZH). The plan aims mainly to stop wetland loss and associated degradation. A recent assessment showed limited results, however. So, it was decided to launch a new action plan. What are the measures proposed and how would they affect mires?

The plan aims:

- to develop sustainable agricultural practices in wetlands. Several semi-natural fens are grazed with low intensity. A decline in these practices (or, in contrast, an intensification of grazing, as it appears in the Pyrenees – see our presentation for the IMCG conference in Finland in 2006) would increase degradation;
- to include measures favourable to wetlands not only in the policies of the Ministry of Ecology but also in those of other ministries and administrations;
- to support mobilization of specialists in order to restore and manage wetlands, developing the networks and knowledge of these specialists;
- to enforce the knowledge of wetlands, i.e. by better understanding of the goods and services they provide and the effect global change may have on them, and by refining the monitoring of a selection of wetlands in order to judge the effects of protection (10 mire areas have newly been added to this selection). Wetland data should be better organized and available;
- to make French wetlands more widely known on an international level, improving the inclusion in the Ramsar network, developing international co-operation.

Some other measures relate to wetlands in general: protecting wetlands of urban areas, reinforcing Medwet actions (initiative for wetlands in the Mediterranean basin). A special focus lies on French Overseas Territories, including some 'hotspots' of biodiversity.

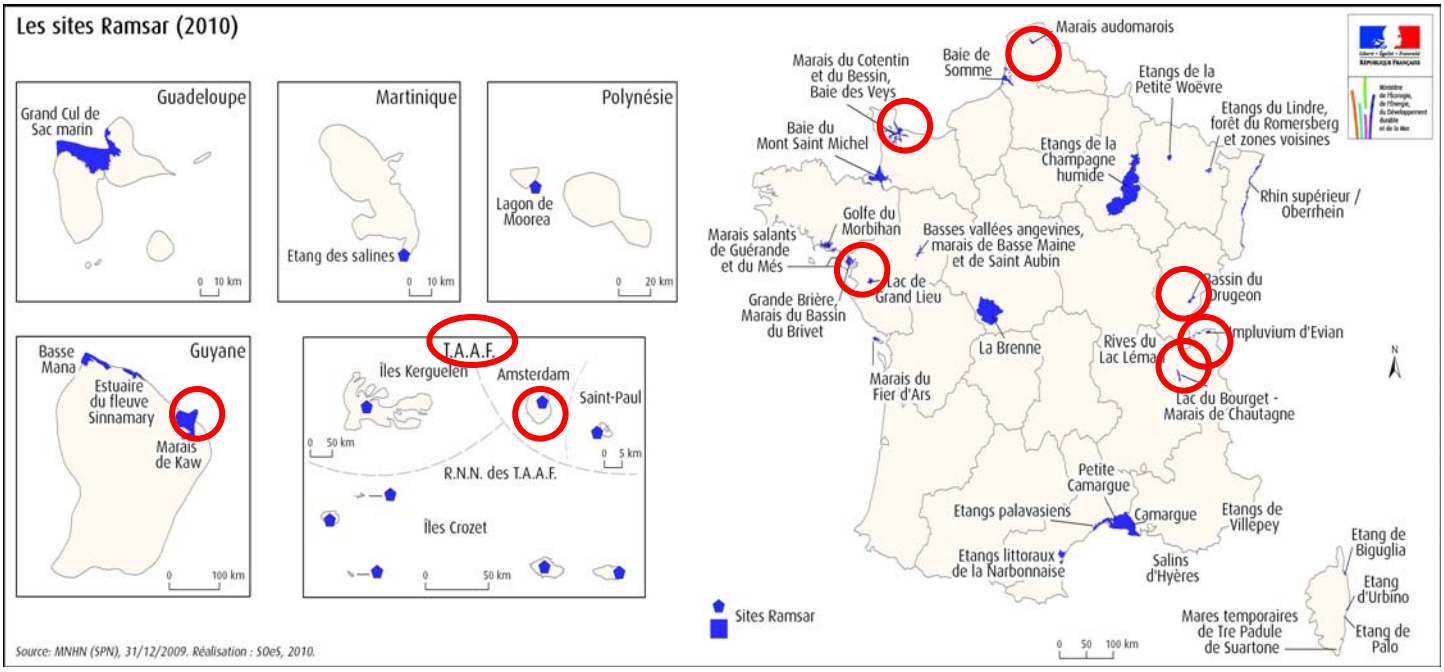
A working group, composed of people involved in wetlands (from, for example, NGOs, farmer organizations, administrations, water agencies, etc…) regularly meets to implement these actions. Although the budget is limited and some conflicts may appear, the goal is to resolve issues (e.g., drainage, water catchments) and coordinate sustainable management of wetlands.

The framework of French protected mires, including Ramsar sites

Mires in France were badly damaged during the last centuries. More than 100,000 hectares of peatland remain in mainland France; most of them have suffered considerable change from their original condition. Many of the most valuable peatlands are being designated as protected areas, but legal protection alone will not be sufficient for long term viability as often active management is required.

France has until now designated 36 **Ramsar sites**, after ratifying the Convention on wetlands in 1986. Until recently, few sites were adequately protected in terms of management plans and targeted actions. Things have begun to change: not only were new sites approved but also a charter of Ramsar sites is being prepared, and site managers have started to meet regularly.

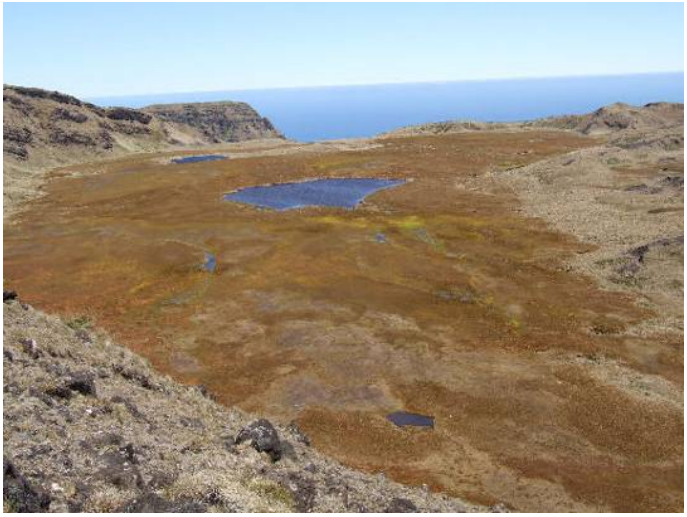
Several Ramsar sites include significant areas of mires; see map below:



On mainland France, Ramsar sites that include mires are:
- Marais audomarois (region Nord-Pas-de-Calais)
- Marais du Cotentin et du Bessin (region Lower Normandy)
- Grande Brière (region Pays-de-la-Loire)
- Bassin du Drugeon (region Franche-Comté)
- Impluvium d'Evian (region Rhône-Alpes)
- Lac du Bourget et marais de Chautagne (region Rhône-Alpes)

The fens of Chautagne, Rhône-Alpes, photo F. Muller, 2006

In French Overseas Territories, mires are found in the Ramsar sites of:
- Guyane (Guiana) at 'Marais de Kaw', and may also be in the other sites
- TAAF (French Southern and Antarctic Territories): the vast nature reserve includes mires especially in the crater of former volcano on Amsterdam Island, in south-western Indian Ocean, that has been studied by the former chair of IMCG, Jennie Whinam.



The mires on Ile Amsterdam, TAAF, South-western Indian Ocean, photo J. Whinam

New sites may be added to the Ramsar network, like original Mediterranean mires on Corsica, near the village of Moltifao.

The percolation mire of Bagliettu, Moltifao, Corsica. Photo F. Muller, 2010

The nine **National Parks** (PN) of France include few wetlands and even fewer mires, except for Cévennes PN. A proposed new forest PN between Burgundy and Champagne will include interesting tufa formations. A Wetlands PN is also planned, but the three projects presented (none including significant mire areas) have faced significant local opposition.
Several **National Nature Reserves** (RNN) include mires, both fens and bogs and are protected and managed by the network of French Conservancies federated by FCEN. They are complemented by **Regional Nature Reserves** (RNR), like the one protecting the relatively large mires area of Frasne, in Franche-Comté. But the political dynamics are very different from one region to the other.

RNN of Lac Luitel, near Grenoble, Rhône-Alpes, the first official French Nature Reserve, celebrates its 50th anniversary in 2011. Photo F. Muller, April 2011

Of course, as mires are important within the Habitats Fauna Flora Directive of the European Union, many sites have been designated in this framework, contributing to the **Natura 2000 network**. Some

actions have already been implemented, despite limited budgets, local opposition, or inadequate inclusion of mire types, e.g., acidic fens.

News from the French Mire Resource Centre

The French Mire Resource Centre was created in 2002 under the first PNAZH, along with similar centres for three other types of wetlands (Inland peatless marshes and ponds, Mediterranean lagoons, Atlantic coastal swamps). Still being operated by the Federation of French Conservancies of Natural Areas (Fédération des Conservatoires d'espaces naturels - FCEN), with a team of 4 persons, the "Pole-relais tourbières" is now in its second phase. Funds from the State were cut by half, obliging us to find new resources on a regional level or through different programmes.

Nevertheless, several actions were implemented during the past few years:

- an international conference on "The use of peat in horticulture and the restoration of mires" in Jura in 2007, in which several IMCG members took part (www.pole-tourbieres.org/ Actes_Colloque.htm)
- a number of **meetings and conferences** involving partners and focusing on mires on a regional level. Two of the meetings were cross-border conferences, concerning the mires of Vosges and the Black Forest (with Germany: www.pole-tourbieres.org/ Bitche.htm), and the mires of the Pyrenees (with Spain: www.pole-tourbieres.org/pau.htm). In 2011, we will have meetings and share experiences with our Belgian colleagues who run large restoration programmes on their mires, especially in the Hautes-Fagnes area (old.biodiversite.wallonie.be/ offh/lifeplthautesfagnes).
- the operation of our **documentation centre** located in Besançon, which makes wetland references and reports available to the public and includes a national portal website on mires in collaboration with the Wetlands database run by the National Board of Water and Aquatic Habitats (ONEMA).

The documentation centre of « pôle-relais tourbières » in Besançon, Franche-Comté. Photo F. Muller, 2009

- the completion of **studies**, like one in the region Franche-Comté, on how to make field sites accessible to the public without damaging the mires.
- the **support of regional projects**, like in the Alps and in the Paris Basin. Following the recent creation of a Conservancy in French Guiana, we met with colleagues from Guiana to scope the mires between the coastline and the large forests to arrive at a protection plan for these sites.

Meeting in Grenoble, Rhône-Alpes, about how to limit the negative effects of winter sport resorts and tracks, on mires and other wetlands. Photo F. Muller, 2008

Publications and exhibitions

Other goals of Pôle-relais tourbières are to enhance the public awareness for mires and to give mire managers tools and information.

Concerning the first objective, a series of 4 to 6 page flyers were produced aimed at different professions or activities, highlighting how to support mires, or at least avoid or mitigate damage! These pamphlets were aimed at farmers, mayors, foresters, ski resort managers, fishermen, hunters, holiday monitors and teachers, and even soldiers on manoeuvre! A project is currently underway at Pôle-relais tourbières, to edit a manual for companies working on wetlands, to provide good practice guidance for these fragile habitats.

We are also preparing, with the Science Pavilion of Montbéliard, an exhibition on mires. The exhibition will be aiming at a young public and highlight what we can be learnt and discovered in these habitats. The exhibition will be released nationwide after its inauguration in Besançon at the end of this year.

Two of the publications for site managers we edited deserve particular mention: one focuses on management of floodplain fens and marshes, and the other on mountain mires and their management (http://www.pole-tourbieres.org/publications.htm).

Scientific research in French mires

There are many scientific research programmes on French mires currently being undertaken by universities and research institutes, like the Universities of Franche-Comté, Orléans, Rennes, St-Etienne and Lausanne in Switzerland…
Some of the research programmes include:

- the **'Peatwarm' programme**, aiming to understand the behaviour of mires subjected to climate change. Measuring stations have been established on mire sites, using 'Open Top Chambers' that increase the temperature under their open domes.
Several French mires, all over the country, are now equipped with meteorological and hydrological stations (http://peatwarm.cnrs-orleans.fr/accueil/home2.html).
- the **'µPOL-AIR' programme,** using Sphagnum bogs to quantify long distance deposition caused by air pollution.

A measuring station of the 'Peatwarm' programme, in Frasne, Franche-Comté. Photo F. Muller, 2009

All French news provided by Francis Muller

News from South Africa: Peatlands of the Western Cape

Nancy Job and Debra Bekker conducted their first field trip to the Goukou Wetlands in the Western Cape, as part of their research for their Masters Degrees being done in collaboration with Fred Ellery at Rhodes University. The research aims to discover the factors contributing to the formation and degradation of this spectacular peatland, which is dominated by *Prionium serratum* ("palmiet"), a single genus in the family Prioniaceae. Palmiet is a robust perennial plant that is somewhat palm like and forms dense strongly-rooted stands up to 2 m tall and with woody stems up to 10 cm diameter.
The group of researchers was extremely fortunate to briefly host Jan Sliva on the first 3 days of the trip, and they learnt an enormous amount about peatlands and peatland processes. South Africans are very appreciative of the interest shown by Mire Specialists in our systems, and hope that friendships and collaborative links continue to strengthen and grow.

The Goukou Wetland, situated north and east of the town of Riversdale, is singularly spectacular in its extent (tens of km long and up to 1 km wide) and

depth of peat (typically 6-8 m of peat overlying beds of cobble and boulder that indicate high-energy fluvial environments typical of streams of the Cape Fold Mountain Belt). Sections of the wetland are in a pristine state, while sections – especially in tributary streams – are alarmingly damaged by gully erosion to bedrock. In these damaged tributary streams, gully walls are up to 8 m high, made of peat and ash, and reduced to streams that flow on beds of quartzite cobble and boulder. In many sections, erosion has removed the armour of rock and the stream flows directly on bedrock. Huge rafts of peat have broken off the side walls and litter the valley floor, some with dimensions of 2 m x 2 m x 2 m. Fred Ellery has described this as a national disaster, but the scale of the problem is daunting and the cost of rehabilitation excessive given the massive size of the gullies and the energy of the streams.

It is hard to believe, given the high energy of the streams flowing from the mountains upstream, that peat forms in this environment. Research is clearly showing that palmiet plays a major role in taking hold of streams and converting them to peatlands that are nothing short of spectacular.

Nancy and Debra hope to shed light on why these peatlands form and why they degrade, so that rehabilitation, when it does happen, can be in harmony with natural processes and lead to the long term security of these amazing valley-bottom peatlands that are an important part of our natural heritage.

Text: Fred Ellery
Photographs: Nancy Job

News from Southeast Asia: Training on peatland assessment and management

The 'Training Program on Peatland Assessment and Management – Regional Training of Trainers (TOT) was held in Kuala Selangor, 22-26 February 2011. More than 40 participants representing 9 countries in Southeast Asia participated in this training. The Training Programme was organised by the ASEAN Secretariat and the Global Environment Centre in partnership with the Forestry Department Peninsular Malaysia, and the Selangor Forestry Department. It was held as part of the regional capacity building activities to support the implementation of the ASEAN Peatland Management Strategy (2006-2020) under the IFAD-GEF funded ASEAN Peatland Forests Project (APFP). The training was also jointly supported by the European Commission under SEApeat project. In conjunction with this Training, the European Commission Ambassador H.E. Mr Vincent Piket launched the EC funded SEApeat project in the presence of the Director General of the Forestry Department Peninsular Malaysia, the Director of Global Environment centre, and all the representatives from ASEAN countries participating in the Training.

The objective of the TOT session is to build the capacity of senior technical personnel from Southeast Asian countries in sustainable peatland management and conservation, focusing on the area of peatland assessment and management. Modules of the training programme include 1) Introduction to Peat, 2) Values of Peatlands, 3) Threats to Peatlands and Consequences of Disturbance, 4) Management of Peat and, 5) Training on Peat Assessment. Besides classroom lectures, participants were also assigned into various groups for the field assessment component, and to prepare a field assessment report.

David Lee

Local community in Indonesia requests end to REDD+ funding from Australia

Local communities are becoming increasingly vocal in their opposition to REDD+ (Reducing Emissions for Deforestation and forest Degradation). In Indonesia a local NGO, Yayasan Petak Danum (YPD), has written to the Australian Government to voice the objections of local communities against a REDD+ Pilot program in Kalimantan. They have asked that the Australian Government withhold funding for the project until their concerns are addressed.

The REDD+ pilot program is part of the Kalimantan Forests and Climate Partnership (KFCP), signed by the governments of Australia and Indonesia in 2007. Australia has committed $30 million to the partnership. But local communities have raised a number of concerns with the REDD+ project: bias in reporting of the project progress; lack of recognition for customary rights; inadequate inclusion of community input in the project and activity design; absence of effective community consultation and engagement; poor understanding of REDD policy; and failing confidence in the international NGOs contracted to implement the pilot project.

The carbon cost of peatland conversion

A research group around the ecologist Lian Pin Koh investigated carbon emissions due to peatland conversion into oil-palm plantations in Southeast Asia. They tried systematically to assign a value to the loss of carbon by peatland destruction. The clearance of about 6% of all peat-swamp forest in the area of Peninsular Malaysia and the two islands Borneo and Sumatra of Indonesia caused a release of CO_2 equivalent to the amount released by the entire UK transport sector in one year.

Further calculations refer to a recent study according to which over a period of the first 25 years after the conversion of peat-swamp forest into oil-palm plantations, every year 60 t of CO_2 per hectare are released. Since 90% of the oil-palm plantations of Southeast Asia were developed on non-peat soil until the early 2000s, up till then the conversion of former vegetation into oil-palm plantations is responsible for

a total release of 140 million t of carbon from above ground biomass and an additional release of 4.6 million t of carbon from below ground peat. In recent years this picture has changed dramatically, as more and more oil palm plantation are on peat soil.
Accounting for endemic species in peat-swamp forests the study uses a 'species extinction calculator' model to examine effects of land-use change on wildlife, finding that the conversion into oil-palm plantations had put four bird species at risk of extinction in Borneo, 16 species at risk in Sumatra and 46 in Peninsular Malaysia.
Because of a lack of remote-sensing images only older plantations and plantations bigger than 200 hectares could be considered in the study. Yet because of its large geographical focus, the study remains valuable.

Source: nature.com

Indonesia names two new Ramsar sites

The Government of Indonesia has designated two additional Wetlands of International Importance, Rawa Aopa Watumohai and Sembilang National Parks, bringing the country's Ramsar Sites total to five sites covering 964,600 hectares.
Rawa Aopa Watumohai National Park, located in the Province of South East Sulawesi consists of mangroves, savannah, peat swamps, lowland tropical rain forests and sub-montane forests.
Swamps within the national park (particularly Aopa Peat Swamp) are important regulators of water. They act as a reservoir for freshwater, while run-off habitats help to control water discharge. Aopa Swamp is the only representative peatswamp wetland in Sulawesi. Threats to the site include illegal logging, poaching of waterbirds and collection of eggs. A section of the Aopa Swamp is being drained to direct water into surrounding agricultural areas.
Sembilang National Park in South Sumatra Province supports a unique estuarine environment which has the largest mangrove formation in East Sumatra, along the western part of Indonesia. The site also supports coastal forest, lowland tropical forests, swamps, and peatlands.
The swamps and peat forests act as container areas to store freshwater, this in turn recharges ground water that feeds seventy small rivers in the park. Threats to the site include illegal logging and encroaching development (e.g. harbour and industrial estates).

Source: ramsar.org

News from Canada: ~~Biomass~~ peat extraction

Peat Resources Limited and BioEnergy Inc., both Canadian enterprises, have reached agreement to collaborate on technological research and development. The work is intended to lead towards the establishment of a Joint Venture to develop advanced processing technologies and products derived from peat. Peat Resources Limited is active in Newfoundland and Ontario and holds rights to large peatland properties in both provinces. The company has designed an "environmentally acceptable" extraction and processing system to supply peat fuel to utilities and other industrial facilities for heat and power generation, and has established a small-scale peat fuel processing facility in Stephenville (Newfoundland). Based in Nova Scotia, BioEnergy Inc. is developing new technologies for the manufacture of specialized "biomass" products, derived from peat and other materials, for energy generation, water purification, gas purification and other applications.
For more information: www.peatresources.com and www.bioenergy.ca.

News from the USA: Whooping cranes

In February 2011, the Louisiana Department of Wildlife and Fisheries (LDWF) started an attempt to release a small flock of whooping cranes (*Grus americana*) in a protected wetland. Due to habitat loss and hunting the wild population had decreased to only 21 individuals in 1941. Since 1975 three attempts to reintroduce captive-bred birds were undertaken but were not as successful as hoped.
This time it is the first reintroduction site with historically documented nesting data. The 10 birds were brought to the White Lake Wetlands Conservation Area in Vermilion Parish, southwestern Louisiana. In this area the cranes were absent for 60 years but the habitat is still likely to be right. Whooping cranes breed in prairie wetlands and hence also in mires. Coastal Louisiana is a giant wetland with different wetland types. The southwestern part itself has more than 5000km² of marshes and open water supporting a rich variety of bird species.

Source: nature.com

News from the EU: Biodiversity Strategy for 2020

The European Commission has adopted an ambitious new strategy to halt the loss of biodiversity and ecosystem services in the EU by 2020. There are six main targets, and 20 actions to help Europe reach its goal. Biodiversity loss is an enormous challenge in the EU, with around one in four species currently threatened with extinction and 88% of fish stocks over-exploited or significantly depleted.
The six targets cover:
- Full implementation of EU nature legislation to protect biodiversity
- Better protection for ecosystems, and more use of green infrastructure
- More sustainable agriculture and forestry
- Better management of fish stocks

- Tighter controls on invasive alien species
- A bigger EU contribution to averting global biodiversity loss

The strategy is in line with two commitments made by EU leaders in March 2010 to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and to restore them in so far as feasible. The new Biodiversity Strategy follows on from the 2006 Biodiversity Action Plan.
http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm

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News from Ireland: Millions in fines over peat cutting

The Irish government has been told by the European Commission that it could face penalties of tens of millions of euro plus fines of more than €20,000 per day unless it takes steps to end peat cutting in protected peatland habitats. Small scale peat cutting by hand continues in these areas in spite of their protected status. In lieu of the penalties, the Irish Minister for the Environment and the Minister for Heritage announced a compensation package for peat cutters with turbary rights on sites designated as special areas of conservation (SACs).

Under the compensation scheme, peat cutters would receive payments of €1,000 per year for a maximum of 15 years. Alternatively, where feasible, peat cutting would relocated to alternative, non-designated sites. The scheme will apply immediately to peat cutters on 31 raised bog SACs where a cessation of cutting was confirmed by the previous government in May 2010. Similar measures will apply for a further 24 raised-bog SACs from the end of 2011.

The announcement follows a decision by the Irish government to establish an independent peatland council to deal with the future management of peatlands, including the protection of bogs designated as SACs and natural heritage areas (NHAs). In their programme for government the Coalition said it would allow an exemption for domestic peat cutting on 75 NHA sites, subject to the introduction of an agreed national code of environmental practices as well as resolving the SACs issue.

Ireland's raised bogs are regarded as the best examples of the tiny portion of such habitats left in Europe. The scientific advice available to the Government is that continued peat extraction and conservation of these sites are incompatible.

Altogether there are some 3500 landowners in the 31 SAC bogs where peat cutting was due to cease in 2010. Of these it is estimated that 750 are active peat cutters. If each of them was to receive €1,000 in compensation per year for 15 years, the cost would be €11.25 million. A similar annuity scheme for those with turbary rights in the remaining 24 raised-bog SACs would bring the overall cost to about €20 million.

Meanwhile, the opposition accuses the government on breaking promises they made before the general election that people would be able to continue cutting peat, even in protected habitat areas.

Farmers have complained that the compensation package to end peat cutting on designated peat and habitat sites did not go far enough and would not ease the anger among turf-cutters over the restrictions. It has been suggested to raise the payments to €2,000 per annum, and for the lifetime of the bog, not 15 years.

The NGO Friends of the Irish Environment said the row over turf-cutting was only the tip of a vast unregulated industry that was using loopholes in the Environmental Planning Acts to avoid planning and licensing, with raised bogs in excess of 100 hectares being stripped across the midlands. Peat was apparently being trucked out for export with no planning permission or EPA licence.

Source: The Irish Times

News from Germany: I am not a peat head

Friends of the Earth Germany recently started the campaign "I am not a torfkopp (peathead)!" raising awareness that the use of peat containing potting soil leads to the destruction of both mires and climate and advertising horticulture without peat. On their webpage a lot of articles informing about related aspects, peatlands in general and the situation in Germany can be found - unfortunately not in English:
http://www.bund.net/bundnet/themen_und_projekte/naturschutz/moore/sei_kein_torfkopp/

News from The Netherlands: Largest peat experiment in the world

An alliance consisting of universities and firms started the largest peatland experiment in the world on a site near Amsterdam which formerly served as a disposal area for toxic waste. The Volgermeer Polder is the most heavily contaminated area in Western Europe and a total clean up of the hazardous waste is impracticable and risky. Therefore plans have been developed to cover the waste with foil and sand and then allow reestablishment of the natural vegetation consisting of peat wetlands.

As re-inducing peat formation is a great challenge, a research project was set up to investigate this challenge in general and the capacity of the Volgermeer Polder to grow peat in particular. The interactions between driving factors will be tested to optimize wetland development and peat formation. In order to create realistic environmental conditions, the experiments will be held at field scale in controlled replicated basins – the largest experiment of its kind so far.

Source:uva.nl

News from Belarus: plans for peat extraction in protected areas

On 17 June 2011, the Council of Ministers of the Republic of Belarus has adopted Decree No. 794 "On questions of peat extraction and optimization of the system of specially protected territories".

This Decree defines new potential peat deposits for peat extraction in order to meet the economic demands for peat. The peat deposits in question are situated in protected areas. The decree orders to amend the relevant legislation with respect to protected nature areas to enable them to be used for peat extraction. The protected areas will be reduced in area to enable peat extraction for existing peat factories. New peat factories will not be built, but instead the existing will expand their activities in the protected territories. The number of hectares that will be sacrificed to peat extraction is defined, but no maps exist that indicate which concrete areas are concerned, i.e. nobody knows (also not the factories in question) where exactly in the protected areas peat extraction is going to take place.

List of protected areas in Belarus where new peat extraction is planned

Name of area	District	Protection status	Total protected area (ha)	Extraction area planned (ha)
Morochno	Stolin	Local biological reserve	5,283	200
Vygonoschanskoe	Lyakhovichi	National landscape reserve	54,915	500
Janka	Šarkaŭščyna	Planned national wetland reserve	13,800	1,000
Golubitskaya puscha	Dokshitsy	Local reserve	6,734	500
Dokudovskij	Lida	National biological reserve	1,985	500
Ozery	Grodno	National landscape reserve	23,871	250
Veterevichski	Pukhovichi	Local landscape reserve	1,533	200
Unuhalskoe-1	Klichev	Local hydrological reserve	686	200
Total			108,807	3,350

The plans for expanding peat extraction in specially protected nature areas are inconsistent with other plans, including the national plans to expand the area of protected territories from currently 7.7% to 8.3% by 2015. Furthermore, the national landscape reserve Vygonoschanskoe is a prospective wetland of international importance and an important bird area, while Ozery holds a health centre of the National Bank of Belarus including all necessary infrastructure for tourism. Both areas are included in the list of the Ministry of Natural Resources and Environment of protected areas that are promising for the development of tourism. Last but not least, just a few years ago, UNDP/GEF has allocated considerable amounts of money for the rewetting of Dokudovsky and Morochno, and in that framework the government has guaranteed the sustainable use of these restored wetlands. Is the right hand not knowing what the left is doing?

Within the Climate Convention, Belarus champions the inclusion of peatland rewetting under the Kyoto Protocol. At home Belarus implements ambitious programmes of peatland rewetting with financial support of UNDP (25,000 ha), the International Climate Initiative of the German Government (17,000 ha) and other funders. At the moment Belarus even prepares the sale of considerable amounts of carbon credits from rewetted peatlands on the voluntary market, which could become the first large-scale sales under the new Peatland Rewetting and Conservation module of the Verified Carbon Standard VCS.

The Decree of the Council of Ministers seems at odd with all these developments. It is not the most important issue that Belarus wants to continue using peat as a fuel. Peat is just a fossil fuel, similar to coal or oil, only somewhat dirtier. Its emission factor is 106 t CO_2/TJ against 98.3 for coal (anthracite), 73.3 for fuel oil and 52.2 for natural gas. Replacing other fossil fuels by peat thus increases greenhouse gas emissions. It is also not so, that Belarus has to drain pristine peatlands to continue peat extraction. Belarus has before 1990 drained 1.5 million ha of peatlands for peat extraction, forestry and agriculture. Some (parts of) these peatlands are impossible to rewet because of inadequate relief and water conditions. If peat extraction is necessary, it should be concentrated on these areas.

On the other hand, some 800,000 ha of drained peatlands are degraded, i.e. not anymore suited for the purposes for which they have been drained. These areas are largely available for rewetting. As rewetting decreases greenhouse gas emissions, it may compensate for the extra emissions from using peat as a fuel. To what extent this compensation is partly, total or whether even overcompensation is taking place, depends on the areas of rewetted peatlands and the volumes of burned peat involved.

The Decree of the Council of Ministers is inadequate because it tries to address current and future economic problems with strategies of the past. It focuses on a low quality and dirty fossil fuel, disregarding that harvesting biomass from rewetted peatlands (paludiculture) may provide an economically feasible, sustainable and climatically beneficial alternative. Several projects in Belarus, funded by Germany and the EU, currently explore this potential, e.g. by large-scale harvesting and

pelleting of biomass from peatlands and by reconstructing a peat briquette factory to producing mixed peat/biomass briquettes. Biofuels from rewetted peatland share with peat the much-wanted benefits of energy diversification, national energy independence and sustainable rural employment, but have a much better greenhouse gas and biodiversity profile. It is anyhow remarkable that a country like Belarus, which is so rich in forests, agricultural lands and highly productive wetlands, derives only 1.6% of its energy from biomass.

The second reason that the Decree is unfortunate is because it fails to notice that trading carbon from peatland rewetting on the voluntary market is – most and for all – a matter of excellent performance and long-term reliability. The voluntary market does not trade in mere carbon; its main asset is the "good name". Even if the extra emissions from the use of peat fuel would be overcompensated by reduced emissions from peatland rewetting, the "clean and positive story" that buyers of carbon credits need is more difficult to communicate. Buying credits from a country that mutilates protected areas by peat extraction is not the best way to boost your corporate social identity. Potential buyers will quickly seek their fortune in countries with a less complex story.

What Belarus needs is a transparent, integral and consistent long term peatland policy, not the ad hoc behaviour it performs now.

News from Russia: all-Russian Peat Forum

The Peat Forum in Tver – a Russian region situated between Moscow and St Petersburg - was initiated by the Ministry of Energy of Russian Federation and the Russian Peat Society, a member of the International Peat Society. The forum was the logical prolongation of a conference held in June 2010 in Kirov, European Russia, see IMCG Newsletter 2010-3/4.

The Peat Forum, in which tremendous amounts of money were invested, had one main goal: to push the idea that peat can be classified as renewable energy source and even more: that it is a biofuel. Such classification would help the Russian peat industry to exploit all benefits and preferences that the Presidential Aid Program gives to companies to implement the Strategy for Effective Energy Use.

The draft decision that was presented to the Forum used concepts like "safe and effective energy based on peat biofuels" and asked for simplification of relevant land use procedures.

Tatiana Minaeva and Andrey Sirin chaired one of the sections: "Environment technologies, use and conservation of peatland resourses and problem of peat safety". In our section we tried to make the participants aware that the development as proposed by the Forum is risky: Under present conditions of permanent changes in Russian legislation and the already accumulated unbalances in some spheres of legislation, the situation may arise in which the short-sighted preference for one sector of peat use causes problems for other sectors, especially with respect to land management, after use and rehabilitation. It may happen that the entire responsibility for after use (rehabilitation, rewetting, etc.) will be transferred to the municipalities who cannot afford to implement it. The energy sector will compete with agriculture, forestry, water management and nature conservation. The balance between these sectors is a regional issue and can not be provided by overall preferential mechanisms on the Federal level. The presentations in our section demonstrated which difficulties managers and decision makers face in their attempts to implement the principles of wise use of peatlands.

The Tver Peat Forum featuring Belarus Academician Ivan Lishtvan (Photo: Andrey Sirin).

We also had a discussion in which the Byelorussian Academician Ivan Lishtvan opposed the idea to consider a peat deposit as a mire; that all those mires are the consequences of activities of foreign funds, that we all are serving the "dollar". He again - as 20 years ago – pushed the idea that it is necessary to forbid the organization of protected areas on peatlands – everything like in good old kind Soviet times….

The entire Forum looked like a Communist Party Forum indeed and even I looked like a Komsomol activist – those things fascinate the public….

I will not be surprised if peat will be classified as a biofuel in Russian legislation soon.

Tatiana Minaeva

New and recent Journals/Newsletters/Books/Reports/Websites

Last year the Wetlands International project "Development and Introduction of Principles of Complex Administration and Protection of Peat Bogs in Russia" within the BBI Matra Program (Matra/2007/037) supported several interesting publications:

Stroganov M (2010) The Russian Bog: Between Nature and the Culture: Materials of the International Scientific Conference. Tver: Tver State University, 348 p. (in Russian)

This collection of articles presents the description of the natural system of the bog as a cultural space. The authors try to reveal the reasons for the complex negative connotations connected with the bog, which conflict with its beauty and the economic benefits it entails. Addressing the problems of the bog from various scientific and cultural viewpoints reveals the significance of bog for Russian culture. The goal of the authors was to overcome stereotypes in reception of the bog for the purpose of advocating it as a positive factor in human life.

Yurkovskaya TK (2010) Research problems and goals in modern mire science in Russia. Tula, 276 p. (in Russian)

This book is dedicated to the prominent Russian mire scientist Ekaterina Alekseevna Galkina. It presents the outcomes of recent research on mires and peatlands in Russia including new theories and data, methodological innovations and review articles. The topics covered are: classification, mapping and patterns of mire vegetation; floristic analysis; Holocene peat accumulation and palaeogeography; peatland hydrodynamics and related processes; applications of remote sensing in mire science; regional studies; and mire conservation. This publication will be of interest to experts in a wide range of disciplines including mire science, vegetation science, physical geography, terrestrial hydrology, palaeogeography, palaeoecology, peat science, ecology, forest and water management and mire conservation.

Russian Academy of Agriculture Science (2011) Innovative technologies of agricultural use of peat. VNIIPTIOU, Vladimir, 470 p. (in Russian)

This collection presents an analysis of the current use of peat resources in agriculture and considers major lines of restructuring agricultural use of peat in Russia. New technologies for using peat and peat products in agriculture are described. Issues of improving the legislative and normative basis for peat extraction, processing and use are discussed and principles of peatland conservation and environmental friendly utilization are formulated. The collected papers are targeted at agricultural sector specialists, research scientists and planners concerned with the issues of agricultural use of peat.

Ministry of Energy of theRussian Federation 2010. Energy Strategy of Russia for the Period up to 2030. Approved by Decree N° 1715-r of the Government of the Russian Federation dated 13 November 2009. Moscow, 172 p.

From the document:

"The objective of the energy policy of Russia is to maximize the effective use of natural energy resources and the potential of the energy sector to sustain economic growth, improve the quality of life of the population and promote strengthening of foreign economic positions of the country. …

p. 112–113: "The use of local energy resources in the regional energy balances is insufficient at present. In 2008, the share of peat in the fuel and energy balance of Russia was less than 1%, the share of other hard fuels, including various wastes, and wood fuel for heat supply were within the range from 3 to 4%.

"Peat is one of the most important and promising local fuel. Main areas of the peat utilization will be satisfaction of municipal and household needs, as well as requirements of agriculture and related industries. Upon increase in the volumes of peat production and modernization of technological base of the peat industry, its efficient use at thermal power plants will become possible.

"Along with traditional areas of its use as fuel and fertilizer, the peat, due to its multisided natural features, will also be used in medicine and oil industry, which will require to form an appropriate legislative base, as well as development and application of rational forms of state support of the peat industry, including the issues of appropriate target programs elaboration, subsidizing of interest rates payable on loans for production development incurred by the peat industry entities, etc. This will enable facilitation of introduction of modern highly efficient technologies and equipment for mining, agglomeration and burning of peat products for the needs of small and medium energy enterprises, as well as increase the share of peat use in the fuel and energy balance of peat-producing regions from the current insignificant amounts (as a rule not exceeding 1–2%) to at least 8–10%.

"The state policy in the sphere of local energy resources use for the period up to 2030 will provide for the following:

- restoration and support of development of local energy resources production, establishment of thermal power plants and boiler rooms running on these sources (peat, wastes of forestry and wood processing industries), including in hard-to-reach and remote areas;
- creation of favorable conditions for energy production on the basis of municipal wastes.

Implementation of the stated policy, along with the development of autonomous energy sector and use of local hydrocarbon and coal resources, will make it

possible to reduce the share of delivered energy resources in regional fuel and energy balances by a factor of 1.3–1.5, while at present this share amounts to about 45%. …
P. 114-115: "At the second and third phases of the Strategy implementation …[t]he use of coal from the Siberian federal district, as well as local energy resources (coal, biomass, peat) will be slightly increased.…"

World Growth (2011) The Economic Benefits of Indonesia's Palm Oil Industry. How Indonesian Palm Oil Contributes to Economic Growth and Food Security in Indonesia and the World. 27 p.
This report assesses the palm oil industry, addresses the benefits and challenges facing the industry, and examines the role the industry has played in Indonesia's economic growth and development. It counters arguments of NGOs who continue to engage in 'smear campaigns' against the industry, with 'misleading' information about environmental impacts. In Indonesia, for example, the palm oil industry supports directly and indirectly nearly 20 million people and produces exports worth over $US6.5 billion.
Download PDF:
www.worldgrowth.org/assets/files/WG_Indonesian_Palm_Oil_Benefits_Report-2_11.pdf

Public Institution Economic Research Center (2011) Cost-benefit analysis. Effect of the increase of state tax on natural resources for the Lithuanian peat industry and state tax collection. Vilnius, 15 p.
Discusses the effect of the increase of state tax on natural resources for the Lithuanian peat extraction industry. With much information on Lithuanian peat extraction. Downloadable under: tinyurl.com/3fqr4cn

WWF Austria / Austrian State Forestry / Austrian Ministry for the Environment (2011) Moore im Klimawandel. Wien/Purkersdorf, 23 p. (in German)
In Austria 90% of the originally existing peatlands are already lost and 2/3 of all existing areas are disturbed. As a response to climate change and the expected significant changes in rainfall and temperature, the vulnerability of peatlands will increase, especially the one of bogs. New modelling data from the Umweltbundesamt show that 85% of all bogs are critically endangered due to a temperature increase of 2.3°C until the middle of the 21st century. In order to safeguard the carbon storage of Austrian peatlands and to enable climate adaptation, a dual strategy is necessary which means to preserve existing peatlands and to restore disturbed areas.
Download PDF:
www.oebf.at/uploads/tx_pdforder/Studie_Moore_im_Klimawandel.pdf

Galudra G, van Noordwijk M, Suyanto, Pradhan U. (2010) Hot spots of confusion: contested policies and competing carbon claims in the peatlands of Central Kalimantan, Indonesia. ASB Policybrief 21. Nairobi: ASB Partnership for the Tropical Forest Margin
The policy brief is available from: http://www.worldagroforestry.org/sea/Publications/files/policybrief/PB0017-11.PDF

Verwer, C.C. & van der Meer, P.J. 2010. Carbon pools in tropical peat forests. Towards a reference value for forest biomass carbon in relatively undisturbed peat swamp forests in Southeast Asia. Alterra-report 2108, Alterra, Wageningen, 64 p.
Critical overview of sources and methodologies to estimate above ground and below ground biomass and carbon content of litter, coarse woody debris and peat soil. The report gives an overview of the most important data limitations, uncertainty of results and potential improvements of the current estimates. Downloadable under:
http://content.alterra.wur.nl/Webdocs/PDFFiles/Alterrarapporten/AlterraRapport2108.pdf

Kamphuis, B.M., Arets, E.J.M.M., Verwer, C.C., van den Berg, J., van Berkum, S. & Harms; B. 2011. Dutch trade and biodiversity. Biodiversity and socio-economic impacts of Dutch trade in soya, palm oil and timber. Alterra-report 2155, Alterra, Wageningen, 146 pp.
Downloadable under:
http://content.alterra.wur.nl/Webdocs/PDFFiles/Alterrarapporten/AlterraRapport2155.pdf

The Water Wheel July/August 2010 with lead article: For peat sakes – Can SA afford the demise of its natural carbon & water stores for the sake of short-term economic gain?
With overview of South African peatland topics. Downloadable under: http://tinyurl.com/WW2010-04

Wendel, D. 2011. Autogene Regenerationserscheinungen in erzgebirgischen Moorwäldern und deren Bedeutung für Schutz und Entwicklung der Moore / Autogenous regeneration phenomena in peatland forests of the Ore Mountains and their importance for peatland protection and development. PhD thesis, Technical University, Dresden. 248 p with extensive appendices (in German)
Rewetting due to filling-up of ditches and peat cuttings by sedimentation and autogenous peatland regeneration occur even in heavily degenerated peatlands. Regeneration areas account, however, for only a small part at the peatland area (study area: 1 %, study sites: 12 %) and are often of mesotrophic nature. The regeneration potential is determined by

abiotic conditions. Irreversible changes of the hydro-morphological structure due to drainage or peat cutting are limiting factors. Regeneration prevailingly occurs in cases of convergent water flow and slight inclination. Local processes like the formation of obstacles for water flow may cause ditches to become ineffective. Establishment of peat-forming vegetation is crucial. Downloadable under:
http://www.qucosa.de/recherche/frontdoor/?tx_slubopus4frontend[id]=6794

Keßler, K., Edom, F., Dittrich, I. with Wendel, D. & Feger, K.-H. 2011. Informationssystem Moore. Erstellung eines Fachkonzepts für ein landesweites Informationssystem zur Lage und Verbreitung von Mooren und anderen organischen Nassstandorten (SIMON). Schriftenreihe des LfULG, Heft 14/2011. Landesamt für Landwirtschaft, Umwelt und Geologie, Sachsen. (in German)

The Saxonian information system for peatlands and organic wet locations, briefly SIMON, aims to bundle available information on peatlands in Saxonia for nature protection, soil conservation, spatial planning and water management. This report gives an overview of peatland inventories in other federal states and of other countries.
By compiling existing maps of various disciplines, the total area of peatlands in Saxonia was determined at approx. 46,800. Information is given on peat depths, land use, ecological condition and protection status.
Downloadable under:
www.umwelt.sachsen.de/umwelt/boden/23800.htm

Sodhi NS, Ehrlich PR (2010) Conservation Biology for all. Oxford University Press, xvii+344 p.

Oxford University Press offers this high quality conservation biology book as free download. The book contains basic but state of the art knowledge written by some of the most prominent scientists in the field. It covers the following research areas: balancing conversion and human needs, climate change, conservation planning, designing and analyzing conservation research, ecosystem services, endangered species management, extinctions, fire, habitat loss, and invasive species.
Offering this book for free aims for making conservation knowledge available to as many persons as possible bearing in mind the paradoxal situation that access to authoritative literature is often especially difficult in those regions where the potential benefit of knowledge application is greatest and the need for action most urgent.
Download PDF:
http://www.mongabay.com/conservation-biology-for-all.html

Friends of the Irish Environment 2011. The destruction of Ireland's protected raised bogs. A report by Friends of the Irish Environment on the continuing cutting of Ireland's Natura 2000 raised bogs. 24 p.

Ireland has failed, generally and structurally, to apply EU law in respect of peat extraction. This photo collection illustrates the destruction of Ireland's 'protected' bog heritage.
Ireland's behaviour represents a direct, persistent challenge to the rule of law in the EU (see Regional News in this IMCG Newsletter). To date, no effective action has been taken, either at the EU or national levels, to protect Ireland's peatlands, notwithstanding the designation for protection of raised and blanket bogs under the Habitats Directive, legal proceedings brought by the European Commission, and adverse judgments of the European Court of Justice (ECJ).
Active raised bog and active blanket bog are priority habitats under Annex I of the Habitats Directive. As such, they are amongst the most threatened habitats in the EU, and must be protected by the designation and protection of Special Areas of Conservation (SACs).
In February 1998, Síle de Valera, then Minister for Arts, Heritage, Gaeltacht and the Islands, announced that she would seek to phase out turf cutting in blanket bog SACs over 5–10 years, and that a ban on turf cutting should apply immediately in respect of raised bog SACs. However, by February 1999 - just one year later - following "a series of consultations…with representatives of the farm organisations and turf cutters", the government's position had changed fundamentally. Minister de Valera announced a self-awarded, unlawful „derogation" of up to 10 years for „domestic cutting" in raised bogs and a „derogation" of indefinite duration for cutting in blanket bog SACs. The results have been devastating, and cutting continues to this day, notwithstanding the expiry of the „derogation" in respect of Ireland's first 31 raised bog SACs.
In their 2006 Report, "Assessment of impacts of turf cutting on designated raised bogs", Valverde et al. record „the reduction in the original raised bog area [in Ireland] from 311,000ha to [the] current area of around 18,000ha [a reduction of over 94%]." Ireland's 2007 Article 17 report to the European Commission under the Habitats Directive recorded a further decrease of 36% in active raised bog extent from 1994-2005. Most recently, Ireland's 4th National Report to the Convention on Biological Diversity, released on 14 May 2010, stated that „It is estimated that there has been a 99% loss of the original area of actively growing raised bog in Ireland, and one-third of the remaining 1% has been lost in the last 10 years."
The 2006 Valverde et al. report noted that of the 139 bogs designated for protection under EU and national legislation, turf cutting was taking place on 117 – 84.2%. …
This Report is composed of sample photographs illustrating the forms of damage recorded during our

site visits and a summary Table which lists the damage recorded and gives links to the full photographic records of each visit – more than 700 photographs in total - together with GPS locations.
As Valverde et al. concluded in 2006: "Turf cutting has broken the link between the peat body and local topography, climate and local hydrology. The long term conservation of raised bogs requires that this link be re-established as far as possible. After the cessation of turf cutting it is essential to proceed to restore the hydrology of the bog. Unless urgent steps are taken to prevent further deterioration of the remaining examples of this priority habitat, Ireland is in danger of losing these invaluable habitats in the next few decades."
The full photographic record can be viewed online at http://tinyurl.com/FOIE-DestructionBogsIreland

4th edition of the Ramsar Handbooks

The 4th edition of the Ramsar Handbooks for the wise use of wetlands is now available in PDF format on the Ramsar website at www.ramsar.org/handbooks4. The 20 handbooks, joined by the Ramsar Strategic Plan 2009-2015 as a 21st volume, embody all of the current guidelines and advice officially adopted by the Conference of the Contracting Parties on a wide range of wetland-related matters, including wetland policy and management, inventory and monitoring, river basin management, Ramsar Site designation, international cooperation, and much more. The 4th edition, in English, French, and Spanish versions, supersedes all previous editions of the Handbooks – a CD-ROM edition is in preparation and will be available free of charge.

IMCG Main Board

UPCOMING EVENTS

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

Necessity of peatlands protection

1 - 2 September, Tleń, Poland

Topics to be covered are peatlands and forest areas, protection of peatlands in agricultural and forestry landscape and multifunction of peatlands. The conference is dedicated to Professor Kazimierz Tobolski on the occassion of his 75th birthday. More information can be found at www.tiny.cc/cyl4r.

2nd Asian Wetland Convention and Workshop "Asian Wetlands and Beyond - Livelihood, Sustainability and Management"

13 - 15 September, Kuching, Sarawak, Malaysia.

The convention will have sessions on 1) Livelihood practices in wetlands, 2) Wetland sustainability and management, 3) Wetland science and biodiversity and 4) Wetlands and climate change. It will include workshops on best management practices and wetland rehabilitation/restoration and a visit to the Sarawak Ramsar Site

For more information please visit www.unimas.my/swsac2011.

Baltic Peat Forum 2011: After-Use of Cut-over Peatlands: Measures and Methods

14 - 16 September, Riga, Latvia

The Latvian National Committee of IPS is hosting this year's Baltic Peat Producer's Forum. More information:
www.peat.lv/index.php?m0=6&m1=11&lng=en.

Sustainable management of wetlands in transboundary context

11 – 13 October, Minsk, Belarus

The Conference will be organized by the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus in cooperation with UNDP/GEF. For more information contact conferenceminsk@gmail.com