



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 (Jennie Whinam), a Secretary General (Hans Joosten), a Treasurer (Philippe Julve), and 2 additional members (Tatiana Minaeva, Piet-Louis Grundling).

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

### Editorial

The first IMCG Newsletter of 2007 arrives with some delay. We have been very busy at the Secretariat with too many things. Anyhow, here is another Newsletter filled with many interesting things, like some statistics on our IMCG Webpage and an overview of the first year of the IPS/IMCG Journal "Mires and Peat".

We further bring you the good news that the Vasyugan mire, the largest uninterrupted peatland of the world, has been proposed as a UNESCO World Heritage site. We hope to provide more details soon.

The discussion on peat as a renewable resource has been rekindled by our friends from the International Peat Society. Hans has been working on a detailed reply to debunk their false claims and pseudo-science, but he did not make the deadline for personal reasons. These things happen, but we will provide you with his article in a special issue of the IMCG Newsletter as soon as possible.

A special issue, because this discussion has become a burning question that occupies a European Union that wishes to fulfil its ambitious goals of substituting at least 10% of its fossil fuels with renewable energies. Meanwhile the Dutch Minister for the Environment has proposed to ban one source of "renewable" energy: palm oil from plantations on carbon rich soils, like the massive oil palm plantations on the peatlands in SE Asia.

We plan to publish a next regular Newsletter at the end of July 2007. Please continue sending all your discussion contributions, news, publications, etc. to us. Deadline for the next Newsletter is 27 July 2007.

For information, address changes or other things, contact us at the IMCG Secretariat. In the meantime, keep an eye on the continuously refreshed and refreshing IMCG web-site: <http://www.imcg.net>

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### A note from the Chair

The end of summer brought welcome rains to much of eastern Australia (including floods). There is speculation that this may be the end of the drought that eastern Australia has been suffering from (to varying degrees) for the past 5 years – which has included several large scale peatland fires. This can only be beneficial to the peatlands of the region, many of which are located in climates that are marginal for peat formation.

In IMCG there has been activity on peatlands in several regional fronts, as well as drafting of the IMCG Strategy and Action Plan (as discussed at the IMCG field symposium in Finland last year). The draft is currently being finalised (with thanks to John

Couwenberg) and will be placed on the IMCG website.

There is some discussion as to whether peat can be considered a renewable, 'green' fuel in the EU. (see IMCG website). In their guidelines the Intergovernmental Panel on Climate Change (IPCC) says that 'peat is not considered a biofuel in these guidelines due to the length of time required for peat to re-accumulate after harvest.....Note that peat is treated as a fossil carbon in these guidelines as it takes so long to replace harvested peat.' This is a position that the IMCG endorses.

Enjoy the peat news from around the globe.

Jennie Whinam

### Co-opted Main Board member

The elected IMCG Main Board of 13 recently co-opted Faizal Parish as additional Main Board member.

Faizal Parish is an ecologist with 25 years experience in peatland assessment, management and conservation. He has been based in Malaysia for the past 24 years and was the Director of Wetlands International Asia Pacific for 15 years and has been the Director of the Global Environment Centre since 1998. He has played a key role in the development of

the ASEAN Peatland Management Strategy (2006-2020) which was adopted by the Ministers of the environment from the 10 member countries of the Association of SE Asian Nations in November 2006. For the past four years he has been the technical coordinator of a global project on integrated management of peatlands for biodiversity and climate change and has also been active in guiding restoration of peatlands in China and Southeast Asia

### IMCG Website is prospering

The web statistics of the IMCG website [www.imcg.net](http://www.imcg.net) indicate growing interest in mire and peatland conservation worldwide. IMCG has been using a website for rapid information exchange since the late 1990's. Before 2001, Richard Lindsay and Germain Mesureur from London University managed an IMCG website at their University server. At the end of 2000, a domain was registered and in January 2001 the website was established at [www.imcg.net](http://www.imcg.net).

Since August 2002 the activities on the website are monitored by webstats. In January 2007 the IMCG web pages had been visited more than 30,000 times. The annual growth rate of page views increased constantly from 10% in the period 2002 - 2003 to 35% in the period 2005 - 2006. Hopefully in 2007 [www.imcg.net](http://www.imcg.net) will be visited for the first time by more than 10,000 visitors in a single year.

The website interests people worldwide. However, visitors come predominantly from Europe (75%), North America (12%) and Asia (6%). Visitors from Africa (2%), Australia (1.6%), South America (1.2%) and Central America (0.3%) clearly are a minority. This spectrum of visitors reflects past IMCG activities. Field symposia in South Africa and Tierra del Fuego, Argentina, led to an increase in the number of page views from those areas.

At present the web site offers

- a complete archive of the IMCG newsletter since 1997, (only the first newsletters from before 1997 are missing),
- an archive of IMCG resolutions and statements from Norway in 1994 to Finland in 2006,
- a list of publications and teaching material authored by IMCG or IMCG members,
- a global peatland database with information about mire and peatland distribution and quality per nation,
- links to other mire and peatland related websites,
- an up-to-date overview of upcoming events related to mire and peatland conservation worldwide,
- a list of threatened mires and peatlands,
- other membership information including application forms, IMCG past and present action plans, and contact details.

These are good reasons to make the IMCG website [www.imcg.net](http://www.imcg.net) your entry point to mire and peatland conservation on the web. If you want to add anything to the website contact the IMCG secretariat at [info@imcg.net](mailto:info@imcg.net) or web administrator Michael Trepel at [trepel@gmx.net](mailto:trepel@gmx.net).

Michael Trepel

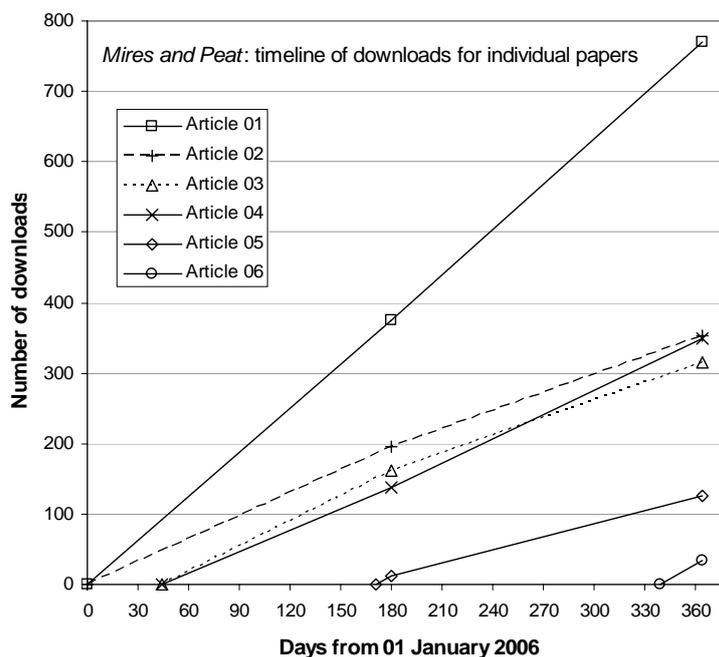
## Mires and Peat: The first year

by Olivia Bragg

Volume 1 (2006) of the IMCG/IPS open-access web journal *Mires and Peat* is now complete. It contains six papers originating from a range of academic disciplines and countries, and runs to 88 pages. Topics include peatland distribution (Article 01); chemical stratigraphy (Articles 02, 05); and mire formation and degradation processes (Articles 03, 04, 06). The Editor's first Annual Report was submitted to the IPS and IMCG Boards in January 2007, and this contribution to the IMCG Newsletter is primarily an overview of that report. The journal arose from the joint IPS/IMCG meetings in Valencia (November 2002) and Amsterdam (October 2003) and it was officially launched by the two organisations nearly four years later, in Espoo (Finland, July 2006). So far, 22 new manuscripts have been submitted and subjected to rigorous peer review and editing, with a rejection rate for the first year of around 35%. Turn-around was initially slow, but once the journal's web site was opened it became possible to make significant improvements. Whereas Articles 01–04 had been in hand for 60–70 weeks when published, the times from submission to publication for Articles 05 and 06 were 32 and 36 weeks respectively and the first paper of Volume 2, published on 01 January this year, was submitted on 05 September 2006 and published 17 weeks later.

Readership data are promising. During 2006, there were 12,337 'hits' (page impressions) on the journal's web site and 1,950 downloads of individual papers. Most papers have been downloaded ca. once per day since they were published; but Article 01, with its detailed colour maps showing the distribution of peatland across Europe, proved particularly popular with an average of more than 2 downloads per day during 2006 (see graph).

Interest escalated after the launch in July, when the journal was made accessible via the IPS (in addition to the IMCG) web site (see histogram). The colour flyers printed for the launch began their distribution around the world in the suitcases of delegates returning home from the IMCG field symposium. Further opportunities for global publicity were provided by the Fifth European Conference on Ecological Restoration in Greifswald (August) and the mire restoration sessions at the British Ecological Society meeting in Oxford (September), and the first paper on peatland restoration has recently arrived in the Editor's mailbox.



Article 01, L. Montanarella, R.J.A. Jones & R. Hiederer (Italy/UK) The distribution of peatland in Europe. 10p, published 1 January.

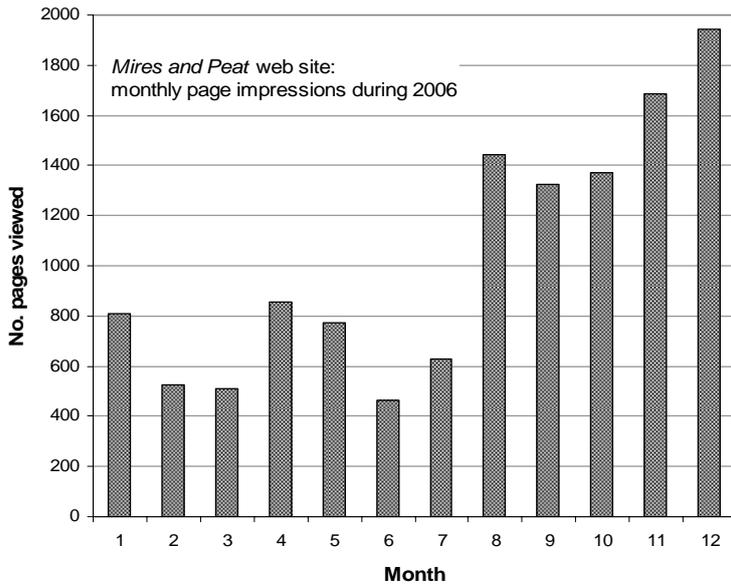
Article 02, M. Malawska, A. Ekonomiuk & B. Wiłkomirski (Poland) Chemical characteristics of some peatlands in southern Poland. 14p, published 1 January

Article 03, L.G. Franzén (Sweden) Increased decomposition of subsurface peat in Swedish raised bogs: are temperate peatlands still net sinks of carbon? 16p, published 14 February

Article 04, D.E. Yeloff, J.C. Labadz & C.O. Hunt (UK) Causes of degradation and erosion of a blanket mire in the southern Pennines, UK. 18p, published 14 February

Article 05, M. Malawska, A. Ekonomiuk & B. Wiłkomirski (Poland) Polycyclic aromatic hydrocarbons in peat cores from southern Poland: distribution in stratigraphic profiles as an indicator of PAH sources. 14p, published 21 June

Article 06, G. Gaudig, J. Couwenberg & H. Joosten (Germany) Peat accumulation in kettle holes: bottom up or top down? 16p, published 6 December



In November 2006, the full Editorial Board (EB) of *Mires and Peat* was officially appointed. The EB now includes the Editor (Olivia Bragg), Deputy Editor (Jack Rieley) Web Administrator (Michael Trepel) and 24 Associate Editors representing 12 countries and 5 continents. Current and planned new tasks under this new management include:

- increasing the submission rate of suitable manuscripts;
- widening the geographical and subject range of published papers;
- minimising review/editorial turn-around times without compromising quality or availability of the journal to authors and countries whose work would otherwise be inaccessible to the international community;

- establishing a mailing list to inform ‘subscribing’ readers of new articles and other developments relating to the journal (now implemented);
- providing an opportunity for public discussion of topics/content of published papers, probably in the form of a moderated forum operating for a fixed period of time following publication of each article (now implemented); and
- adding a section for selected (i.e. the most relevant) book reviews.

Volume 2 (2007) started well with publication on New Year’s Day of a beautifully illustrated comparison of the Russian and Finnish approaches to mire vegetation cartography from Olga Galanina and Raimo Heikkilä. This was followed in March by a contribution from Jos Schouwenaars and Margaret Gosen giving helpful insights into the hydrological constraints on *Sphagnum* carpets recolonising cutover peatlands in the Netherlands, and some new data from Gashaw Ayalew and colleagues (Ireland) on microwave dielectric properties of peat that is relevant to both the horticultural peat industry and remote sensing of peatlands.

Surf regularly to <http://www.mires-and-peat.net> during 2007 for these and at least some of the 10 further manuscripts that are already on the way.

Finally, if you have an academic paper to publish on any mire/peat-related topic, please consider seriously whether you could offer it to ‘our own’ journal. To support ‘our’ journal and make it better accessible for example through university library searches, you can recommend it to academic literature services – you can suggest it for the Thomson Scientific database at <http://scientific.thomson.com/forms/isi/journalrec/> Your recommendation supports the goal of giving “*Mires and Peat*” an ‘impact factor’.



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## The ongoing destruction of Turkey's largest upland mire

by Richard Payne, Warren Eastwood & Dan Charman

Peatlands in Turkey are rare ecosystems of high conservation value. The first systematic survey of peatland plants identified five species new to Turkey and one species new to science (Byfield and Özhatay, 1997; Scholz and Byfield, 2000). Despite this importance many mires have been destroyed by peat cutting and drainage; the total remaining peatland area is probably no more than 30 km<sup>2</sup> (Çaycı et al., 1988; Öz, 1996). The majority of peatlands are fens and only one large ombrotrophic bog has been documented. This site, the Sürmene Ağaçaşası Yaylası peatland lies in the Soğanlı Dağ Mountains of Northeast Turkey just to the south of the coastal Black Sea town of Sürmene. High local rainfall together with the elevation of the site (2000 m asl) has allowed blanket peat formation to a depth of over 3 m. Dominant plant species are *Sphagnum palustre*, *S. fuscum* and *Carex* spp. The site includes several plant species that are extremely rare in Turkey including *Carex pauciflora*, *Drosera rotundifolia*, *Eriophorum angustifolium*, *Lycopodium inundatum*, *Rhynchospora alba*, *Andromeda polifolia* and *Carex lasiocarpa*, the latter two are only known from this site. Many plant species characteristic of northern European peatlands may reach their southernmost limit in this mire making it important from a biogeographic point of view (Byfield and Özhatay, 1997). Other groups such as insects and micro-organisms have not been surveyed systematically, but given the isolation of the site it is likely that many uncommon species may be present. The site furthermore is valuable as an archive of the past environments of the mire and the region. Previous research has investigated the dendrochronological and pollen record from the site (Aytuğ et al., 1975). Currently we are investigating the vegetation and climate record as part of the ENVANET project ([www.gees.bham.ac.uk/research/ENVANET](http://www.gees.bham.ac.uk/research/ENVANET)).

Sürmene Ağaçaşası Yaylası as the name implies, is a "yayla" or seasonally-occupied village where the inhabitants practise transhumance and occupy the upland mountainous region only during the summer months returning to lower elevations during the harsh winter months. Despite this and despite the uniqueness of the mire, the site is severely threatened by human activities, primarily peat cutting for fuel. Peat cutting at the site is a comparatively recent phenomenon. Exactly when the first cutting took place is uncertain; responses from local people depended on who is asked and varied between approximately 20 and 50 years ago (i.e. 1950s to 1980s). There is no indication that peat cutting is a very long established activity as is commonly the case in Western Europe. Peat is removed from throughout the site by people from seven surrounding summer villages and used as domestic fuel. No trade in peat is known. Peat is cut by hand into blocks approximately 4-5 cm thick. Cutting takes place in two general ways. In many areas peat has been cut by

digging holes down into the peat surface, these holes vary in size up to about 3 m across. In other areas peat cutting has followed an approach more similar to traditional peat cutting in northern Europe with cutting from a marginal peat face up to 1.5 m high, the majority of the most recent cuttings are of this type. Cut blocks are left to dry on the surface or piled up into heaps.



Peat pits and piles

Although peat cutting is solely for domestic use and is practised using manual techniques, the impacts are severe. Up to 20 people have been observed working the site at any one time (Byfield and Özhatay, 1997). During one visit in August 2006 we estimated the size of the cut peat piles on the surface of the mire and in the surrounding area. Over 350 piles were counted with an estimated volume of 120 m<sup>3</sup>. Although some of the piles may be from previous years, peat was being removed actively at the time of visit so this figure may be an underestimate of the volume of peat removed in a year.

Peat cutting has drastically affected the site. Cut holes are found throughout the site and there are no large areas of deep peat that are free of signs of past cutting. There has not been a systematic attempt to drain the site but areas near the cut faces are very dry, water tables were a metre or more below the surface in August 2006. The unusual pattern of peat cutting by holes may have resulted in less hydrological impact than if all peat had been removed from cut

faces at the site margins. Peat holes left by this cutting revegetate and in a few cases a continuous *Sphagnum* cover has been established. Where peat has been removed from the site margins revegetation has been limited.



*Peat cutting face*

Peat cutting is the most drastic human-impact on the site; other impacts are also significant, however. The areas around the peatland are used for cattle grazing. Cattle graze the margins of the mire and some areas show signs of trampling and cattle faeces. There is a significant amount of litter across the site, particularly plastic bags and bottles. In some areas peat cuttings have been used as tips for larger amounts of rubbish.

It is now a decade since the conservation importance of Turkish peatlands and this mire in particular were highlighted by Byfield and Özhatay (1997). The destruction of the mire has continued and perhaps even accelerated in the intervening years. If the mire is to be conserved even in a semi-natural state, conservation action will need to be taken in the very near future. Preventing the cutting would not be straightforward, as peat clearly plays an important role as a domestic energy source for the villages concerned. Furthermore, the remoteness of the site would make direct prohibition very difficult to enforce if the local people were unwilling to cease peat cutting. In the short-term the western areas of the site could be preserved and cutting could continue in the eastern areas of the site which are already highly degraded and unlikely to be restorable to anything like a natural state. In the longer-term, replacements for peat as fuel should be investigated. Villagers report that the area was forested as recently as the early 20th century; sustainable forestry may be practical in more sheltered areas of the surrounding vicinity.

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## REGISTER

**Please fill out the IMCG membership registration form.**

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

## Vasyugan Mire proposed for UNESCO World Heritage list

The Great Vasyugan mire was recently proposed for inclusion into the UNESCO List of World Heritage. With over 60 000 square kilometers, the Vasyugan mire is the largest uninterrupted peatland of the world.

The absence of settlements in this inaccessible area guarantees a high level of safety for the ecosystem and its biodiversity. Economic activities are not carried in the area; there is no timber production and no proven oil and gas fields.

Traditional use of the mire includes berry and herb gathering and licensed hunting, coordinated by the Vasyugan reserve administration.

Gaining the status of UNESCO world heritage will allow enhanced safety of the area and protection from economic activities.

The Great Vasyugan mire is a unique system, with a high landscape complexity. The mire is located in a transitional belt between the small-leaved forest and

the southern taiga zone. Differences in salinity and alkalinity of the subsoil and in peatland development have resulted in a high diversity of peatland types and forest-peatland complexes.

Besides harbouring important biodiversity on the species and particularly the ecosystem level, the Great Vasyugan mire also provides important ecosystem services in terms of Carbon sequestration and storage and water regulation and storage. The Vasyugan mire serves as the source of large tributaries to the Ob and the Irtysh Rivers.

Both the Russian and the global World Heritage Lists do not contain any similar objects. Minerotrophic peatlands of the northern hemisphere as a rule are transformed by economic activities, but still in pristine state within the Great Vasyugan mire. Many nominations include raised bogs, but they do lack the extent and significance of Vasyugan.

<http://whc.unesco.org/en/tentativelists/5114/>

## Buttongrass Moorlands Management Workshop

5-7 July 2007, Tasmania

Buttongrass moorlands are a major landscape feature of western Tasmania and a significant value of the Tasmanian Wilderness World Heritage Area.

Buttongrass moorland covers more than half a million hectares, primarily in western Tasmania where it is a significant landscape feature. Buttongrass moorland is a treeless sedge vegetation typically dominated by buttongrass (*Gymnoschoenus sphaerocephalus*). Nearly two-thirds of all buttongrass moorland in Tasmania is protected within the Tasmanian Wilderness World Heritage Area. The buttongrass moorland ecosystem is unique to Tasmania and has only recently been recognised as a world heritage value. Three key features of this ecosystem contribute to its world heritage status.

Firstly, it comprises the only extensive vegetation type dominated by a hummock-forming tussock sedge. Secondly, the presence of burrowing crayfish living in the acidic peats is highly unusual world-wide. Another important feature of the buttongrass moorland ecosystem is that much of it is largely undisturbed by the impacts associated with post-European settlement of Tasmania, although there are concerns about the impacts of inappropriate fire regimes, disease, and global warming.

Other unusual features of buttongrass are:

- The vegetation is highly flammable and may be the most flammable vegetation type in the world

- The peat that underlies the moorland is highly acidic (pH 3.5-4)
- The plants are typically low in nutrient value; indeed, buttongrass itself has the lowest recorded phosphorous levels in its foliage of any plant species.

This workshop will present and celebrate the many unique and diverse values encompassed by the buttongrass moorland ecosystem. Presentations will range from soil formation processes to landscape evolution and the palaeo-environment while also covering the many and varied adaptations of the biota to the environmental extremes of waterlogging, low nutrient availability and flammability of this ecosystem. The ecosystem, juxtaposed as it is in many places to fire sensitive vegetation including significant commercial assets such as the wet forests in State Forest, presents a significant fire hazard. Appropriate and economically viable fire management protocols which deliver both conservation and fire protection outcomes will be a major focus of the workshop. The impact of the root rot plant pathogen, *Phytophthora cinnamomi*, which has serious and long-term impacts on the moorland ecosystem will also feature in the workshop presentations.

For more information: <http://tinyurl.com/2nsu3m>

**International Congress Peat and Peatlands 2007 –  
Peat in horticulture and the rehabilitation of mires after peat extraction**

*8-11 October 2007, Lamoura (French Jura)*

An International Congress named “Peat and Peatlands 2007 - Peat in horticulture and the rehabilitation of mires after peat extraction: which issues for tomorrow?” will take place in the French Jura from 8-11 October 2007. The congress is organised by the Fédération des Conservatoires d’Espaces Naturels and the French Mire Resource Centre, in collaboration with the university of Franche-Comté, the Groupe d’Étude des Tourbières, the Comité Français des Tourbières, the French section of the International Peat Society and the International Mire Conservation Group.

This congress will address following topics:  
“Peat in horticulture”

- Definitions, technical characteristics and usefulness of peat and growing media;
- Current and future market for growing media, peat-based or otherwise;
- Alternatives to peat use;
- Discussions, grouped in 3 workshops, according to the markets considered: hobby gardeners,

professional horticulturists, and communities using peat;

- Prospects for the future of growing media in relation to ‘Wise Use of Mires and Peatlands’.

“Rehabilitation of mires after peat extraction”

- Present situation of mires subject or formerly subjected to peat extraction, in France and other parts of Europe;
- Experiences and lessons learned from restoration carried out in different countries around the world;
- Current restoration experiments and the issues surrounding them;
- Scientific and technical knowledge on restoration of mires after peat-cutting.

Languages: oral presentation will be in English or French. Simultaneous translation will be provided during the congress. Renowned specialists on each subject will be invited to chair and give introductions on the different sessions of the congress.

For more information contact Francis Muller:  
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## Peatscapes

Peatscapes is a new, collaborative project that aims to conserve and enhance the internationally important peatland within the North Pennines Area of Outstanding Natural Beauty (AONB). The objectives of Peatscapes are:

- Restoration: Supporting restoration and management work through the promotion of existing agri-environment and wildlife enhancement grants and through sourcing new additional funds;
- Celebration: Raising the level of understanding and appreciation of the significance of the resource to those living in, working in and visiting the area;
- Promoting best practice: Supporting the provision of management advice on upland peatland to form the basis of practical management works;
- Research: Supporting and disseminating new and existing research into peatland processes, ecology and management.

The North Pennines contains about 27% of England's peatland resource. The area is of European and nationally recognised biodiversity importance for key plant community types and bird species and has important cultural and economic links to current and past land use. Despite their importance in the North Pennines, peatlands are poorly understood and little valued as a landscape.



The North Pennines peatlands face some significant environmental challenges that need to be addressed. Drainage ditches (grips) cut into the peat over the last 60 years are still in place in many instances and are lowering the water table of many peatland areas. It is estimated that there are currently more than 10,000 kilometres of drainage grips in the North Pennines, which are having measurable and concerning effects on water quality, flooding risk and greenhouse gas emissions. Using detailed digital spatial information Peatscapes will identify priority areas for blocking and begin to restore some of these areas while continuing to link farmers, land managers and owners with the appropriate government stewardship schemes.

Environmentally insensitive burning also occurs in some areas; which has the effect of changing the structure of the plant and shrub layers which impacts of the formation of peat. Heather burning is done mainly as a management technique for grouse hunting. Grouse hunting is an important activity providing significant incomes for many of the estates in the area and as such negotiating environmental sustainable and economically viable agreements is necessary. Peatscapes will work with government agencies to present land managers with sound scientific advice as to burning techniques and to raise awareness that burning can be undertaken so that it minimises environmental damage and maximises economic benefits to community.



High levels of grazing of sheep in some areas also cause erosion and diversity problems in the peatlands. While this is not a wide spread problem in the North Pennines as grazing levels are typically low, grazing levels are one of the criteria required by English Nature to be considered when evaluating the condition of peatlands. Peatscapes will continue to disseminate information regarding the appropriate levels of sheep grazing in upland habitats.

Peatscapes is supported by the Environment Agency, Natural England, Northumbrian Water and by the County Durham Environmental Trust (CDENT). CDENT awarded Peatscapes a £75,000 grant that will be used to undertake a peatland restoration pilot project, blocking a series of grips on the Weardale moors. The restoration project area is currently being negotiated with landowners and work is anticipated to begin in winter. The actual grip blocking process is a fairly straightforward undertaking which involves strategically blocking the key grips with dams or plugs that are usually made out of peat; but can be made of other substances depending on the terrain. This grip blocking project will be the first in a series lead by the Peatscapes project over the next 3 years

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## Rospuda and Biebrza update – 20 April 2007

### *Rospuda Valley: Poland on a 'collision course' with the European Commission – preparatory construction continues despite European Court of Justice case.*

On 9 February 2007, the Podlasie voivod (district) issued the final required building permit for construction of the Augustow City Bypass. This bypass runs through the pristine Rospuda Valley, which is part of the Natura 2000 site "Augustow Primeval Forest". Numerous spontaneous actions for protection of the valley erupted all over the country, including pickets, concerts, open letters, petitions, "green ribbons", a billboard in front of the Ministry of Environment, and more.

Particularly spectacular was the tent camp at Augustow Forest. During several weeks, campers watched the site, opposing the felling of primeval forest on the way to Rospuda Valley. Despite temperatures reaching -20°C the camp was filled with hundreds of people from Poland and abroad. The forest and fens were guarded until 1 March when the yearly ban on noisy work during breeding season got into force. This ban will last until the end of July.

The Polish Ombudsman applied against the building permit as it runs against the right of all Polish citizens to benefit from sustainable development. He also shared concerns about various legal aspects of this investment.

During the second half of February the construction works started officially, with land measurements and markings along the route of the bypass. This not only further raised the already very high media interest in the issue, but also stimulated the European Commission to send a final written warning, the so-called Reasoned Opinion, to the Polish government at the end of February. The EC called upon the Polish government to discontinue the project until all legal concerns were clarified. As the Polish government merely insisted that the project is legally sound, Brussels decided to refer the case to the European Court of Justice.

The commission's appeal was accompanied by an application for compensatory measures to be implemented on a site in the "Sejny Lake District" neighbouring the Augustow Forest. These measures included the idea to plant a forest on the existing open areas in order to compensate for the lost habitats of Hazel Grouse (*Bonasia bonasia*). But these open areas themselves support habitats protected by the EU Habitats Directive (xerothermic meadows - \*6120/6120 and quacking mires - 7140) as well sites with Habitat Directive species *Pulsatilla patens* and *Thesium ebriactatum*. The NGO Save Wetlands Association noticed this and raised concerns first with the Polish decision-makers and then – when this was unsuccessful – with the European Commission. On 18 April the European Court of Justice decided that Poland must not start or suspend any activities on these habitats until the case is clarified in terms of compliance with the requirements of the Habitats Directive.

Noisy works are forbidden in "Augustow Forest" Natura 2000 sites during the birds breeding season (1 March –

31 July). Major preparatory works with heavy machinery are currently being carried outside the protected sites, however, like tree and scrub clearance, earthworks, etc. After the breeding season on 31 July, the Polish Roads Agency will likely start works within the Natura 2000 site, including irreversible felling of primeval forest alongside other heavy works. If these works are not suspended at an early stage, they will effectively determine the route of this road section. This is why the European Commission will send another application to the European Court of Justice for suspending the construction works in the protected site until there is a final judgement of the court on the compliance of the investment with the Habitats Directive. It usually takes the court about 1,5 years to issue such an official judgement.

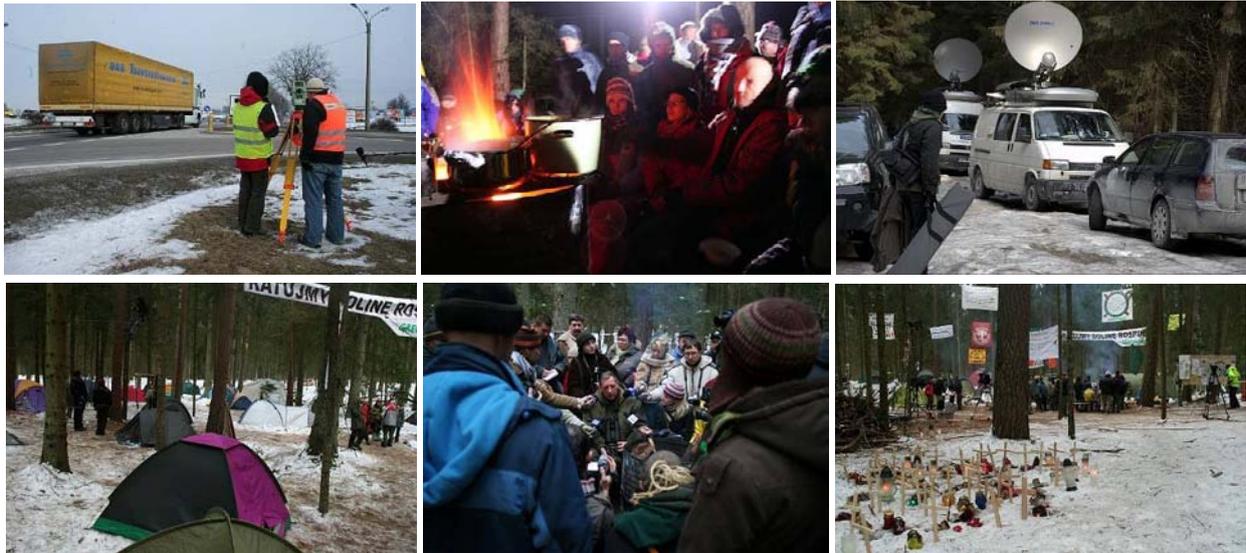


Camp at Augustow Forest



Picket in Suwałki.

In the meantime high diplomats visited the valley to learn more on the case and see the most famous peatland in Poland. While embassy representatives of 7 EU Members States visited, the invited NGOs were blocked on the road to the valley by a car belonging to the chief of the Social Committee for Building and by a car belonging to the General Directorate for National Roads and Motorways...



Photos: Start of land measurement, NGOs camp at Augustow Forest, satellite cars of TVs, tents in February, press conference of minister of environment in the camp, crosses brought by Augustow people to highlight road safety problem in the city.

The major concern for the majority of local people from the town of Augustow is to have heavy traffic removed from their town. The proposed road is not the only (or indeed the most appropriate) way to achieve this. The situation being presented to local people, however, suggests that not having the proposed road through the valley means having no decent road at all. Yet, there are a significant number of local people that do not support the Augustow City Bypass on the proposed route through Rospuda Valley, a fact not widely reported. Having in mind the regional election and referendum on the route of the Augustow bypass (planned for 20 May 2007) the disinformation campaign will likely intensify over next weeks.

***Biebrza Valley: A new disastrous section of the 'S-8' route approved through Biebrza Wetlands***

On 11 April 2007 an environmental consent for a further section of planned S-8 expressway was issued by the Podlasie voivod. This road project is a bypass of Sztabin City and includes construction of a four-lane bridge plus a service road through Biebrza Valley.

Biebrza is an outstanding site of global importance for wildlife, drawing thousands of visitors each year from across the world. It has nearly every possible

level of protection, including Ramsar site, National Park, Special Protection Area, Potential Site of Community Interest and is furthermore the site of an EU-funded LIFE conservation project. It is difficult to imagine a worse site for an expressway.

The project will have a negative impact on 10 bird species listed in EU Annex I Birds Directive. For five of these species (Marsh Harrier, Spotted Crake, Little Crake, Corncrake and Great Snipe) Biebrza Valley is a key breeding area in Poland.

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## Palm oil as biofuel?

Environmentalists have long warned that many plantations in Indonesia and Malaysia, where 85 percent of commercial palm oil is grown, were planted on cleared rain forest, threatening the home of endangered animals like the orang-utan and the Sumatran tiger.

Now, after calculating the carbon balance of producing palm oil fuel, it was found increasingly negative. As a result few companies have already put plans on hold to switch to palm oil.

The PEAT-CO<sub>2</sub> report published last year (<http://tinyurl.com/ymlq3r>) pointed out how some plantations produce far more carbon dioxide than they save. Seeded on drained peat swamp forest, they unleash large amounts of carbon from the peat.

Palm oil is an ingredient in cooking oil, cosmetics, soaps, bread, chocolate – in fact, in about one in every 10 products on the supermarket shelf. It also is used as an industrial lubricant.

It is attractive for bioenergy because it is relatively abundant, cheap at about US\$550 / €420 per ton, and more easily integrated into existing power stations than most other alternative fuels.

Unlike carbon-rich fossil fuels, production is considered carbon neutral, meaning the carbon emitted from burning palm oil is the same as that absorbed during growth. But the surrounding environmental cost is becoming increasingly apparent.

An estimated 600 million tons of carbon dioxide are released into the atmosphere every year from drained peat swamps and another 1400 million tons go up in smoke from (rain) forest fires often deliberately set to clear new land for plantations. Together, those 2 Gt of CO<sub>2</sub> amount to 8 percent of global fossil fuel emissions.

These figures have yet to be independently verified by the U.N. Climate Change Secretariat in Bonn (Germany), by the World Resources Institute in Washington, D.C., or by academic experts. But all said the research appeared credible.

Awareness of the vast amounts of carbon released from degraded peatlands is so new that the problem is not included in the recently published IPCC reports. The IPCC 4<sup>th</sup> Assessment summary report led European leaders to approve a bold plan to cut greenhouse gas emissions by 20 percent from 1990 levels by 2020 – and increase that to 30 percent if other countries join. Part of that goal would be achieved by converting at least 10 percent of Europe's energy supplies to biofuels.

Despite this pressure to replace coal, oil and gas with cleaner fuels, major power companies in Britain and the Netherlands have scrapped plans to partially convert electricity generation to palm oil.

After investigating the matter RWE, Britain's largest electricity supplier, decided against palm oil because

it could not verify all its supplies would be free of the taint of destroyed rain forest or peat bogs.

The Dutch power company Essent also announced in December it had suspended the incineration of palm oil until it can trace and verify the sources.

Biox, another Dutch company, said it plans to go ahead with the construction of three 50 megawatt power stations exclusively burning palm oil.

Meanwhile, the Netherlands State secretary of Environment Van Geel apologised for spending hundreds of millions of Euros in subsidies to build new palm oil plants. Van Geel says that the energy companies that have received the subsidies, at that time, met the requirements and therefore the subsidies were just. But he does think things should be done differently from now.

The Netherlands are the biggest buyers of palmoil in Europe and fourth largest worldwide. Last year, 1.5 million tonnes were imported.

So far, the industry's reservations do not seem to have affected the market. Crude palm oil production rose 6.6% last year and will increase another 5.5% this year to 37 million tons, according to Fortis Bank. Prices have risen 35 percent in the last year and are still going up.

In a twist for the good, the Dutch Minister of Environment Cramer last week presented a report with sustainability criteria for bio-fuels. The report proposes to end all support to bio-fuels which are produced on carbon rich soils like peatlands because of the consequent CO<sub>2</sub> emissions. The sustainability criteria were drawn up as a guideline for legislation on bio-fuels by the Dutch government, including targets and subsidies.

These Dutch criteria could have a great impact. The rapidly growing demand for palm oil as a bio-fuel is largely the result of supportive legislation in various countries. With the Dutch governmental committee recognising that palm oil production on peat leads to excessive CO<sub>2</sub> release, subsidies and targets will likely halt and pressure will grow to make palm oil production more sustainable. The EU is working on a new Bio-Fuel Directive, which includes criteria for sustainability. The decision from the Netherlands as the first EU-member to present its criteria is encouraging.

With concerns mounting over sourcing, plantation owners joined forces with processors, investors and environmentalists three years ago to form the Roundtable on Sustainable Palm Oil with the aim of monitoring the industry and drawing up criteria for socially responsible trade. But the RSPO has yet to create a foolproof system to verify the supply chain.

Source: AP, [www.corporateeurope.org](http://www.corporateeurope.org),  
Wetlands International

## Carbopeat

A new 2-year project CARBOPEAT on tropical peatland, funded by the EU INCO budget line, has just been launched. This is a 'Specific Support Action' to promote dissemination of information derived from previous projects on tropical peatlands to policy makers in the EU and in Southeast Asia. Furthermore, it will maximise publicity on the importance of tropical peatland in the global carbon cycle and climate change to a range of stakeholders including International Conventions, Governments in countries with large areas of peatland, the private sector and the public.

In order to do this scientific data will be translated into a form that can address these important outlets and this will be done through five topic working groups, an International Expert Network, three major interactive events and Internet outreach.

The intention is to be as inclusive as possible and to embrace within CARBOPEAT all of the major actors and audiences that have an interest in tropical peatland and peatland globally. Everyone who has carried out peatland research in the tropics or elsewhere in the world, or who is involved in policy formulation and implementation, is welcome to join CARBOPEAT. This can be done in one or more of several ways: (1) providing primary or secondary data to a Working Group; (2) participating in one or more of the three major events planned for Yogyakarta (August 2007), Tullamore (June 2008) and Kuching (August/September 2008); (3) providing interface or links with International Conventions and other bodies including NGOs; (4) assisting in the processing and dissemination of information; and (5) any other action that will help achieve the project objectives.

The first major event will be held in Yogyakarta from 27-31 August 2007 and this will also be the venue of a major symposium on tropical peatland that will be sponsored by BAPPENAS and opened by the Indonesian Vice President. A pre-symposium stakeholders' meeting and field excursion will be held in Central Kalimantan, the International Peat Society will organise a fact-finding mission to Indonesia and hold an Executive Board meeting at Yogya, and a post symposium/workshop meeting is planned to Riau or West Kalimantan.

IMCG members are most welcome to join the field excursion; the necessary invitations and arrangements can be provided.

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### Carbon-Climate-Human Interactions Carbon Pools, Fire, Mitigation, Restoration and Wise Use

*symposium and workshop on tropical peatland  
Yogyakarta, Indonesia, 27-31 august 2007*

This international symposium and workshop, is a major opportunity to present the most up to date scientific information on tropical peatlands derived from the EU RESTORPEAT and similar projects. It will also mark the launch of CARBOPEAT. It will further assess the important role of tropical peatlands in the carbon cycle, nationally, regionally and globally and provide a stakeholder platform for information dissemination, strategy implementation and policy guidance involving Government Agencies in the EU and Southeast Asia, International Conventions, NGOs, industry, and local communities.

#### *Objectives:*

1. To present the most up to date scientific information on tropical peatlands
2. To integrate data from three EU Projects and those of other research teams to determine more precisely the magnitude and importance of the tropical peat carbon store.
3. To identify human impacts and natural processes that cause loss of tropical peat carbon and formulate strategies to counteract these threats.
4. To focus on the over-riding problems of fire in tropical peatland and present strategies for fire awareness, prevention and suppression
5. To share and diffuse expertise on carbon-climate-human interactions with respect to tropical peatlands through networks and working groups.
6. To develop tools for ecosystem adaptability and mitigation, including restoration measures and wise use.
7. To investigate the potential for carbon offset and trading mechanisms with respect to tropical peatlands and prepare inputs to a side event at the UNFCCC CoP13 meeting that will be held in Bali in December 2007.
8. To target policy makers and decision takers in the EU and DCs and to advise them on the economic and environmental benefits of keeping peat carbon stores in situ and
9. To impress upon the IPCC and UNFCCC that peat carbon should be included in carbon accounting and offset procedures.

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## Peatlands and energy

One of the challenges IMCG currently faces is that of peatlands in relation to energy. Not only the renewed focus on fuel peat in Sweden, Finland, Canada, the USA, Uganda, Rwanda, Burundi, Senegal, Jamaica and many other states, poses a problem that needs to be addressed.

With the decreasing availability of global oil/gas reserves and the increasing energy demand of developing countries (China!), peatlands will increasingly be used as sources of energy and alternative raw materials.

So not only peat extraction poses a threat, but also an increased use of peatlands for forestry and the cultivation of energy crops such as is already happening in Germany (maize) and SE Asia (oil palm). It will be important to stop perverse incentives for energy crop production on drained peatlands and to direct biomass production to already degraded peatland sites and combine it with rewetting.

Peatlands are furthermore threatened by infrastructure for fossil fuel extraction. Vast areas of peatlands in Russia (W.-Siberia), Alaska (Prudhoe Bay), and Nigeria (Niger delta) have been destroyed or are threatened (cf. Arctic National Wildlife Refuge, USA). In Georgia (Transcaucasia) facilities are being constructed in the Ramsar protected Kolkheti National Park to carry Caspian oil to the Black Sea. The planned pipeline between Siberia and

China will affect peatlands along 150 km. Road and pipeline constructions not only change the hydrology, but also cause GHG exchange misbalances over large areas. Also opencast mining of coal and lignite causes important losses in several countries.

The increasing demands for clean and renewable energy lead to the destruction of mires through flooding for hydropower. In Canada 20,000 km<sup>2</sup> of water reservoirs have flooded 7,500 km<sup>2</sup> of wetlands and peatlands. In Finland, approximately 900 km<sup>2</sup> of peatland are covered by water reservoirs. In Russia, most fens of the Volga valley were destroyed by a cascade of reservoirs built for hydroelectricity. Current hydroelectric projects are planned or carried out in Iceland, Malaysia, Cameroon, Brazil, South Africa, Lesotho, and Uganda. Even if the reservoirs do not cover large areas, still they may affect mire biodiversity substantially.

Rapid expanding facilities for wind energy generation threaten and destroy peatlands in oceanic and mountainous regions (Ireland, Scotland [Lewis Island], Northern Spain), and may create new environmental disasters.

Peatlands and energy is one of the major blocks of the IMCG Action Plan 2007-2010. IMCG is its members and that means you. Please send your ideas and comments on how to tackle this topic to the Secretariat.



Windfarm on blanket bog in Galicia (Spain). The development of windfarms on peatlands is a hotly debated subject in Europe. Next year IMCG will organise a meeting on the topic (photo: Eduardo Garcia Rodeja).

## Regional News

### News from the EU Reporting on Habitats Directive

In 2007 all EU Member States will have to monitor, assess and report on the conservation status of all habitats and species listed in the Habitats Directive that are found in their countries. This is to comply with Article 17 of the Directive, which requires all Member States to report on progress every 6 years.

The European Commission is looking for two main conclusions: Firstly to know the conservation status of all species and habitats listed in the Directive and secondly to assess how much the Birds and Habitats Directives contribute to meeting the target of halting the loss of biodiversity by 2010.

NGOs need to get involved with both aspects to ensure that the conservation status assessment is scientifically accurate, and also to ensure the reports reflect the vital contribution played by the Directives in protecting Europe's biodiversity. This is particularly important at the moment as the Directives face considerable pressure from other lobby groups.

Some suggested steps for NGOs to get involved in this process are:

1. Contact the person who is responsible for this work in your country. You could ask the delegate from your country on the Habitats Committee who is specific responsible for the monitoring and reporting. The names and addresses of the delegates are available at: <http://tinyurl.com/2vrlvs>
2. Use the Habitat Forum Monitoring Report in your contact with the Member States. Copies of the report are available on request from the IUCN office in Brussels or can be downloaded at: <http://tinyurl.com/2r6frv>
3. Find out from them what timetable they are following for completing the report and ask what opportunities there are for involving NGOs and scientific experts on their reports.

### EU Parliament thinks peat is biomass fuel

During the final hours of the last meeting before Christmas on 14 December 2006 a tired and holiday hungry European Parliament adopted a new "Resolution on a strategy for biomass and biofuels (2006/2082(INI))". In item 78, it "calls on the Commission to include peat, with regard to the life-cycle aspect, as a long-term renewable energy source for biomass and Bioenergy production".

That this decision is ill-thought over becomes evident when the parliament at the same time warns that although wood biomass is particularly suitable, the use of forest biomass must not lead to increased pressure on natural forests, halt the recovery of historically over-exploited forests or lead to expansion in monocultures or exotic species plantations and must always be promoted in ways that were compatible with improving the ecological quality of forests. Such

warning should definitely also apply to peat and peatlands!

The peat industry is on record stating they would not "harvest" pristine mires. Actually, the peat industry suggests to "harvest" only already degraded peatlands, which really raises our collective eye-brows on the "renewability" aspect as degraded peatlands do not form peat.

Without drainage and degradation of pristine mires there is no increase in the area of degraded peatlands. So either you start exploiting EU Natura 2000 habitats, or you stop calling peat a renewable resource. You cannot have it both ways.

Full text of the EU Parliament Resolution at [www.tinyurl.com/3aqw27](http://www.tinyurl.com/3aqw27).

### News from Germany Rewetted Dümmer fen area

The EU-Life project "Rewetting of the western Dümmer fen area" (2002-2007) has been concluded successfully. The Life project was part of the fen restoration efforts focussing on the Lake Dümmer Area (Lower Saxony; Northwest Germany (30 km north of Osnabrück), where 2.500 ha of fens have been purchased by the public authorities. Rewetting has been carried out in the whole project area now, with water levels regulated by adjustable weirs. The main target is restoration and conservation of wet grasslands and meadow bird populations.

Measures to ensure the sustainable management of wet grasslands were carried out in cooperation with more than 100 local farmers. Since 1993 the nature conservation centre Dümmer has been in charge of managing the rewetted grassland area.

Migrating bird populations have been increasing with several breeding species, not recorded for a long time, returning to the area.

For more information: <http://tinyurl.com/2s4tcy>

### News from Czech Republic Mountain mire Ramsar site

The Czech Republic has added Krušnohorská rašelinište (Krušnohorská mountains mires) (11,224 hectares, 50°31'N 013°10'E) to the Ramsar List. The new site comprises about 30 mire islands of representative patterned mires and raised bogs, with neighbouring natural and artificial watercourses, fishponds and reservoir shores in the northwest of the country near the border with Germany.

It includes mosaics of highly alkaline fens with scattered tree patches, preferred by grouse birds - *Tetrao tetrix*, *Tetrao urogallus*, *Tetrastes bonasia* - and bog expanses occupied by krummholz stands of

*Pinus x pseudopumilio* and the Central European endemic tree *Pinus rotundata*, supporting high numbers of endangered plant species, such as *Hamatocaulis vernicosus*, *Carex chordorrhiza* and *Drosera anglica*.

Ore mining had a long tradition in the mountain area, which led to the disappearance of alluvial fens since the 16th century. In subsequent centuries, as mining activities retreated, many bogs were affected by peat extraction and agricultural overexploitation. Presently the site is mainly used for game keeping and forestry - in a few localities peat mining remains a critical conservation issue. A direct impact on the biota within mires is also caused by the high concentration of deer, which cause eutrophication and trampling disturbance of ombrotrophic sites. The site provides various facilities for tourism, such as marked hiking and biking trails and cross-country skiing routes.

Source: [www.ramsar.org](http://www.ramsar.org)

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### **News from Estonia Peat fired power plant**

Fortum Tartu AS, the subsidiary of Fortum in Estonia, is building a new combined heat and power plant in the city of Tartu. The station will be fired by peat and other local fuels and have a production capacity of 52 MW heat and 25 MW electricity. So far, the customers in Tartu were provided with gas-based heat. With this investment, Fortum will transfer its know-how on the use of "biofuels" to Estonia, keeping the local heat price at a competitive level and improving the reliability of energy deliveries. The new power station is planned to be completed by the end of 2008 and will cost about €60 million. For more information, please visit <http://tinyurl.com/3ybens>.

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### **News from Finland New peat extraction technique**

The Finnish peat extraction company Vapo Oy has completed work on a new method of extracting peat. In this new method, peat is excavated with a clam-shell bucket, then slurried in a tank to a solution of approximately 80 percent moisture. The slurry is then pumped to a drying area that can be as far away as one kilometer, where it is spread evenly over a large tarmac. Within 24 hours the moisture is down to between 35 and 40 percent moisture.

One of the advantages of this system is that it is not as weather-dependent as milling the peat. Today the milled peat method can be used for an average of about 40 days whereas the new technique could be used for up to six months.

Vapo reports that this method has a much higher efficiency and that they hope someday this new method will account for 15 to 20 percent of production.

Source: CSPMA BaleMail

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### **News from Sweden Bioenergy Conference**

Svebio, the Swedish Bioenergy Association, will hold a conference and exhibition "Nordic Bioenergy 2007" in Stockholm on 11 - 13 June 2007, covering all aspects of Bioenergy, including peat. As side event 3, Torvforsk, the Swedish Peat Research Foundation, has arranged a 1-day seminar on "the sustainable use of peat" on 13 June, with speakers from Sweden, Finland and the Baltics. Among the items covered are the benefits of co-combustion of biomass with peat, peat utilization and climate change, how biological diversity is affected by peat extraction and the Swedish and Finnish peat industries' view on a "sustainable use" of peat. More information: [www.nordicbioenergy2007.se](http://www.nordicbioenergy2007.se).

Source: IPS Peat News

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### **News from the UK Lewis wind farm**

Monday 5 February was the last day for the Scottish Executive to receive formal consultation responses on Lewis Wind Power's revised proposals for a 181 turbine wind farm on Lewis, Western Isles. IMCG has also submitted an objection (see [www.imcg.net/threat/lewisobjectionimcg2007.pdf](http://www.imcg.net/threat/lewisobjectionimcg2007.pdf)).

In this objection IMCG stresses that the proposal to build a windfarm, with all its attendant infrastructure, across some 140 km of the blanket bog landscape of Lewis, represents a major threat to this internationally important, and internationally recognised, part of Europe's natural heritage. The Environmental Statement prepared by the developer adopts a naïve approach in relation to a range of peatland issues. It does not follow accepted practice for assessment of peatland habitats, it adopts a number of highly-questionable positions on various ecological issues, and appears to favour a minimalist view of impact evaluation rather than genuinely seeking to identify the realistic scale and extent of combined potential impacts.

Specifically, the classification systems involved, for example for the hydrological typology and for the identification of 'active blanket bog' are not based on accepted systems. The developer states that 'floating roads' will be used across 70% of the site because the peat is so deep, and floating roads have little impact on the hydrology of the bog. This is incorrect because any linear structure such as this will cut across the natural flow of water through the bog surface. Besides, such roads will sink into the peat if they are not supported by solid pilings, and if they sink they will increasingly cause widespread diversion of surface and sub-surface water flow. Even if, in places, drainage is provided beneath such roads, this will locally concentrate flows and so potentially stimulate erosion downslope.

The developer seems to be suggesting that an estimate of likely drainage impacts over the 25-year life of the

windfarm can be derived from a single study lasting no more than a year and measuring only a limited range of factors. Given the developer's own repeated admissions that the science and ground conditions are uncertain, this position appears untenable as a genuine attempt to identify the possible extent of impacts through the life of the windfarm and beyond. In sum, the scheme is ill-advised in terms of its location, ill-conceived in its approach to impact assessment for peatlands, and ill-prepared both in terms of the information gathered and in the evaluations made on the basis of that information. The IMCG has therefore urged the Scottish Executive in the strongest possible terms to refuse the application. The RSPB commissioned an independent assessment of the economic benefits claimed by the developer Lewis Wind Power (LWP). It is estimated that the number of jobs created on the Western Isles by the wind farm would be 70% less than the developer claims. Furthermore, the negative impact on the local tourism sector has not been taken into account at all by LWP. If reductions in tourism are taken into account, the net employment impact of the scheme proposed for the Western Isles could be zero or less. LWP have consistently made extravagant claims about the economic benefits that the world's largest onshore wind farm could bring to Lewis and the Western Isles, arguing that these outweigh any environmental damage it would cause. Its own Environmental Statement states that 137 jobs will be supported during the development phase of the wind farm, and that a further 233 jobs will be supported once the wind farm becomes operational. However, these figures have been found to be misleading and hugely optimistic. The RSPB commissioned assessment estimates that the development will support about 70 jobs. During the operational phase, instead of 233 jobs, only 73 jobs will be supported over a period of about 20 years, and these jobs are likely to be off-set by losses in tourism.

**News from Canada**  
**Conservation of a large exceptional peatland on private land**

A section of the largest peatland of the St. Lawrence valley was given by the private company Abitibi-Consolidated to the group Nature Conservancy of Canada (see previous IMCG Newsletter). This section (1409 ha) covers a major part of the Lac à la Tortue peatland (6633 ha). This new protected area lies adjacent to an ecological reserve (100 ha) created in 1992 by the Quebec government.



Lac à la Tortue (1) and the Grande Plée Bleue (2) peatlands (Picture: government of Canada)

IMCG Main Board member Line Rochefort gave a presentation at a press conference on why it is important to conserve peatlands in the province of Québec, which was received well by the press and government representatives.

The conservation of the Lac à la Tortue peatland is very important for the southern Quebec area, because most peatlands here were destroyed by agriculture, forestry, and peat cutting. In this region of the St. Lawrence valley, agriculture is one of the most important economic activities. The Nature Conservancy of Canada will now prevent exploitation of the area, but it should also limit other human activities, such as passage of all-terrain vehicles.

Nature Conservancy of Canada is a private, non-profit organisation, striving to conserve Canada's nature in perpetuity. The group currently manages more than 768 900 hectares of ecologically significant land nationwide and is the most important owner of privately protected areas in the Quebec province ([www.natureconservancy.ca](http://www.natureconservancy.ca)).

The superb landscape of the Lac à la Tortue peatland is characterised by a patterned complex with ponds in its center. The vegetation between the ponds is composed of *Picea mariana*, *Larix laricina*, ericaceous shrubs (such as *Kalmia angustifolia* and *Chamaedaphnea calyculata*) and *Sphagnum* species. The sections without ponds are more homogenous and include different plant communities typical of ombrotrophic boreal peatlands. The field inventories which took place in this peatland identified species designated as threatened and vulnerable species, such as *Hemidactylum scutatum*, *Platanthera blephariglottis* var. *blephariglottis*, *Anchistea virginica*, and *Utricularia geminiscapa*.



Lac à la Tortue peatland. Photos: top, government of Québec; bottom, Nature Conservancy of Canada.

Its biodiversity and location in the St. Lawrence valley make the peatland an ideal object for research and university teaching. A group from the Peat Ecological Research Group of Line Rochefort (Univ. Laval, Quebec) plans to visit this site during the summer in order to make an assessment on the state of the peatland.

#### **A new ecological reserve: the case of the Grande Plée Bleue peatland**

The Grande Plée Bleue peatland is a large natural peatland (11 km<sup>2</sup>) located in the area of Chaudière-Appalaches, at the south of the St. Lawrence River. In February 2006, the Quebec provincial government authorised acquisition of the peatland for the creation of a new ecological reserve (gazette no. 131-2007). Currently, peatlands under protection in the province of Québec correspond to 3.6% of the total peatland area of the province. Four other provinces in Canada show higher conservation records (Manitoba: 25%, Nova Scotia: 15%, Prince Edward Island: 12.5% and New Brunswick: 11%). The creation of this new ecological reserve will be an important step to improve the record of peatland conservation in Quebec province.



The ecological reserve of the Grande Plée Bleue  
Photos: top, Paul Grant; bottom, Jean Cazes

Like the Lac à la Tortue peatland, the Grande Plée Bleue peatland is one of the few relatively untouched peatlands in the southern Quebec province. The Grande Plée Bleue peatland does not present good peat quality for the horticultural market. Ownership of the peatland is furthermore split between different owners, making it difficult to exploit for peat companies. With its new statute of ecological reserve, this peatland will be preserved in its entirety and human activities prohibited, except for educational projects.

The diversity of the Grande Plée Bleue peatland is evident at the landscape scale as well as in its species richness. The formation of this ombrotrophic peatland began 7000 years ago and the peat thickness varies from 3 to 5 meters. Each year, several inventories and educational visits are carried out. In total, 655 ponds are identified on the peatland, which corresponds to a total area of 18.4 ha. Several plant and animal species use this peatland as refuges in a region where the landscape is strongly fragmented by human activities. With a total of over 150 plant species, the vegetation is composed of ericaceous shrubs (*Kalmia angustifolia*, *Rhododendron canadense* and *Ledum groenlandicum*), herbs (*Eriophorum* sp.) and trees (*Picea mariana*, *Picea glauca*, *Larix laricina* and *Alnus* sp.). Rare species include *Platanthera blephariglottis* var. *blephariglottis*, *Utricularia geminiscapa*, and *Arethusa bulbosa*. This important plant diversity offers a variety of habitats for the fauna. For example

*Bombycilla cedrorum*, *Anas rubripes*, *Circus cyaneus* and *Bubo virginianus* are observed there. The presence of *Dolichoderus mariae*, an ant species usually found at lower latitudes, makes the pride of the entomologists!

The conservation of this peatland was made possible with the support of several organizations: Ducks Unlimited Canada, the government of Quebec, the city of Lévis, the Fondation Hydro-Québec pour l'environnement and the Société de conservation et de mise en valeur de la Grande Plée Bleue.

Claudia St-Arnaud  
Peatland Ecology Research Group  
Université Laval, Canada

### CSPMA Annual Meeting

For an interesting look at how peat extraction companies view their future, we include a report on the Canadian Sphagnum Peat Moss Association (CSPMA) Annual Meeting as it was published in the CSPMA Bale Mail newsletter.

The Eighteenth Annual Meeting of CSPMA at Deerfield Beach, Florida, the theme of which was "The World of Peat," featured nine speakers from eight different countries in Europe. Most of the speakers were members of the International Peat Society Executive Board and were asked to speak about their country's peat industry. Markku Makela, IPS President, and head of the Finnish Geological Survey opened the meeting with a short welcome from IPS and a prediction that the next important issue facing the world peat industry will be the impact of climate change on the peat world and the effect of the peat world on climate change.

Jaakko Silpola, Secretary General of IPS in Finland, spoke on two topics: the first was an overview of the Finnish peat industry and the second one described a new harvesting method recently developed by Vapo Oy, the largest peat company in Finland.

The modern day Finnish peat industry began during the Second World War when the government initiated a program to drain peatlands for forestry. This led to utilizing peat for energy and then for horticulture. Today the industry extracts about 20 million cubic meters for fuel and 2.3 million cubic meters for horticulture. There are over 100 peat extraction companies in Finland: Vapo Oy is the largest, extracting about 70 percent of the country's peat. There are seven mid-size and about 110 small peat cutting companies. More than one million people (about 20 percent of the population) get their heat and power from peat-fuelled generating plants. In terms of the non-fuel peat market, there is little growth in sales to the horticulture industry but a significant increase in the use of peat for landscaping and animal bedding.

The Fins say they are serious about wise after-use. So far 20,000 hectares have been cut over and returned to some form of after-use including energy crops (2,300 hectares), agricultural use (4,300 hectares), forestry

(4,100 hectares), rewetting (250 hectares) and natural revegetation (1,500 hectares).

Mr. Silpola concluded his remarks with a look to the future. The possibilities include:

- Producing second-generation diesel out of peat and wood – the first large-scale factory could be in production by 2015.
- Improving the value of peat based growing media two times by making the product last longer in order that less peat would be needed.
- To begin "A wise use evaluation process of all peatland use" in the country in order to secure land use possibilities for peat extraction.
- The peat industry must be able to carry on environmental discussions both within their countries and internationally.
- Continuous product, production and environmental protection systems must be developed

Håkan Bjur, managing director of Neovo, the largest peat company in Sweden, gave an overview of the peat industry in Sweden. He began by telling the audience that climate change is a serious issue: five of the warmest years on record occurred since 1998! The Swedish government realizes the importance of reducing the use of fossil fuels. They have stated that they want to end their dependence on oil by the year 2025. This offers a great opportunity for the peat industry to pick up the slack as oil usage drops. Currently peat accounts for about 0.66 percent of energy in Sweden. Mr. Bjur felt that the peat industry has the potential of providing more than two percent of the energy in Sweden in the future or in other terms, triple the amount used today.

Dr. Hans-Georg Belka, Managing Director of Klassman-Deilman presented an overview of the German peat industry. Dr. Belka reported that his company had a turnover in 2005 of 122 million Euros and employed 980 workers. They sold 2.7 million cubic metres of substrates for professional growers, 300,000 cubic metres of potting soil for the hobby market and about 70,000 cubic metres of green waste compost. There were 47 companies in Germany in 2000, whereas by 2005 there were only 38. Employment is near 1,600 workers. In 2000 9.6 million and in 2005 8.6 million cubic meters of peat were sold, of these 2.2 million (2000) and 1.5 million (2005) cubic meters of white peat. Black peat is now the predominant type of peat extracted in Germany, accounting for 86 percent of total amounts. Approximately 3.6 million cubic metres of black peat are used in potting soil, 2.5 million cubic metres in professional substrates, and 1.1 million cubic metres for the hobby gardener.

Dr. Belka indicated that the German peat resources will be depleted within the next two to three decades. For this reason, German peat companies are relying more and more on peat imported from the Baltic States. Not only do they buy from Baltic companies, many of the German peat companies are opening their

own peat extraction companies in the Baltics. This peat is imported to offset the reduction and also to take advantage of the peat processing plants that are already in place.

Licenses are granted only for areas “without importance for nature” [sic!] but the licenses have a lot of conditions on them, especially for the protection of nature. Nearly 100 percent of bogs are rewetted when harvesting stops.

Belka shared his vision of the future of the German peat industry:

- The home-based industry will decrease.
- Companies will become more international in production and sales.
- Sales in Germany will remain the same while the import of white peat will increase.
- Substitutes like green waste compost and wood fibre will become more important.
- The German peat industry will change to an international industry and will play an important role in the international growing media market.

Source: CSPMA

### Boreal region conservation

The Canadian Boreal region, stretching from Yukon across the continent to Newfoundland, contains some of the world’s most intact forests and wetlands. It represents both an unprecedented conservation opportunity and a place at great risk as a frontier for extractive natural resource industries. Already much of Canada’s southern Boreal has been allocated for resource development. It is increasingly clear that the window for conserving the ecological integrity of the region is limited.

More than a 1000 scientists from Canada, the U.S., and throughout the world have signed a letter to urge Canadian policy makers to recognize the importance of the Boreal and their responsibility for its protection. Scientists are invited to sign the letter to show the Canadian government and the world that the scientific community, as represented by hundreds of scientists, recognizes the Boreal as one of our world’s last great conservation opportunities.

You can read the letter and add your name in support (scientists only please) at:  
[www.borealbirds.org/petition/](http://www.borealbirds.org/petition/)

### New Brunswick Peat Industry Review 2006

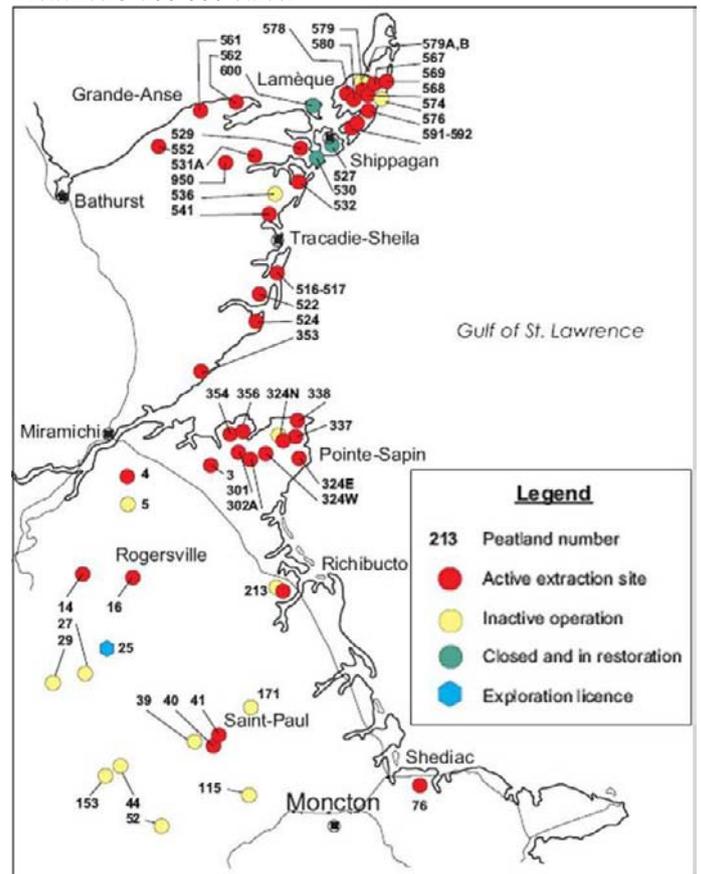
In New Brunswick, peat is considered a quarriable substance and, as such, it belongs to the landowner. Its extraction on Crown Lands is administered under the Quarriable Substances Act. Peat is defined as an organic matter of geologic origin, excluding lignite or other coal that has a minimum organic content of seventy-five per cent on a dry weight basis.

Peatlands cover about 2% of the land surface area of the Province, equivalent to an estimated total of

140000 ha. About 70% of the 70000 ha peatland with commercial potential are located on Crown Lands. Peat produced in New Brunswick is mainly used in horticulture and greenhouses as a soil amendment or as a component of growing mixes. It is also used as casing material in the mushroom growing industry and in the manufacturing of peat containers for plants and peat pellets for seed germination.

Twenty companies were extracting peat in the Province in 2006. Most of the development is concentrated in northeast New Brunswick, mainly in the Acadian Peninsula and in the Baie-Sainte-Anne region. About 84 % of the production comes from Crown lands.

In 2006, generally poor climatic conditions contributed to production levels of 12 700 000 bales, a 5 % decrease compared to the average of the last five years. Shipments dropped 12 % from the previous year, reaching only 12 200 000 bales. In June, inventory stood at 3 000 000 bales; in December it reached 5 700 000 bales.



Peat extraction in New Brunswick, 2007

Export destinations remain unchanged from last year. The United States continues to be the principal export market for New Brunswick peat producers. In 2006, about 7 million bales were shipped to the USA and 3.4 million bales were distributed in Canada. The Japanese market, although diminishing, continued to favour peat of Canadian origin and accounted for 8 % of New Brunswick’s exports.

Peat imports by Japan were at their lowest since 1993 and exports of Canadian peat continued their downward slide, falling to their lowest levels since

1991. Canada's share of the Japanese market plunged below 50 %, whereas it accounted for 84 % in 1991. Canada's main competitors are Germany, the Baltic States, China and Russia. The three Baltic States continued to strengthen their presence accounting for 13% of Japan's imports of peat. The Province of New Brunswick holds about 27% of the Japanese peat market representing 58% of Canadian exports to that country. In 2006, Japan imported about 3.4 million bales of peat from 22 different countries, valued at \$38 million dollars.

Updated peatland inventory data shows that in 2006 there was 5 250 ha of peatland area used for the extraction of peat in New Brunswick. Abandoned commercial peatland area totals 1 400 ha of which 480 ha have undergone restoration. Peatlands protected within the park system or inside protected conservation zones total about 15 500 ha.

See the following web page address for more information on the New Brunswick protected areas: <http://www.gnb.ca/0399/index-e.asp>

As a result of combined efforts by industry and government, restoration of former commercial extraction areas is becoming better integrated in peat companies activities. To assist in the preparation of peatland restoration plans, the Department of Natural Resources has adopted a policy that provides a regulatory framework and guidance in preparing restoration plans. Beginning in January 2005, the Department has initiated a process to revise and update restoration plans for all companies operating on Crown lands. To date, twenty-five plans have been approved.

Source: New Brunswick  
Department of Natural Resources

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### **News from Trinidad & Tobago Nariva Swamp restoration initiative**

The Nariva Swamp is a tropical, freshwater to brackish, coastal wetland located on the Caribbean island of Trinidad. It is the largest and most diverse wetland system in the country, with 15,400 acres (6,234 hectares) of swamp forest, palm swamp forest, herbaceous swamp and mangrove forests. This area contributes to a rich biodiversity by providing habitat for numerous species of flora and 300 species of animals.

It is especially important for large numbers of waterbirds and small populations of endangered manatee and anaconda. The swamp was designated as a Ramsar site in 1993. Although almost entirely state owned, extensive areas of the swamp have been subjected to illegal rice farming. Illegal rice-farmers drained plots by digging ditches. When dried out, the section was burned to eliminate peatland vegetation and to burn as much of the peat layer as possible. As rice does not do well in peaty soils, the soil usually

was exposed to sun-drying during two dry seasons in order to oxidize enough of the peat

Despite recent removal of these illegal operations by the Trinidad & Tobago government, the ecological integrity of this area remains altered. Irrigation channels constructed by illegal rice farmers have drastically modified the natural hydrology and intense dry periods and high winds have made these drained areas conducive to fires. The goals of the Nariva Initiative are to conserve and restore the natural hydrology and aquatic vegetation of Nariva Swamp, reforest areas cleared illegally for agriculture, and develop a comprehensive fire response plan.

The Nariva Swamp Restoration Initiative Map is now on-line ([gis.ducks.org/NarivaSwamp/](http://gis.ducks.org/NarivaSwamp/)). Comments and suggestions for improving it are welcome as data is still being added. The goal is to provide the Government of Trinidad and Tobago with management tools (hydrology information, land cover changes, fire prevention, and engineering options) for the successful restoration of the Nariva Swamp.

More information: <http://tinyurl.com/ys3yxb>

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### **News from Zambia New Ramsar sites**

The Zambia Wildlife Authority has used the occasion of World Wetlands Day, 2 February 2007, to designate four large and rich new sites for the List of Wetlands of International Importance, and to extend very significantly the areas of two more. All six sites are all or mostly parts of National Parks and Game Management Areas, and all are home to an array of mammals, birds, and fish, many of them rare or vulnerable and many of them endemic. The four new Ramsar sites are Busanga Swamps (200,000 hectares, 14°05'S 025°47'E) in Northwestern Province; Luangwa Flood Plains (250,000 ha, 12°40'S 032°02'E) in Eastern Province; Mweru wa Ntipa (490,000 ha, 08°52'S 029°47'E), the lake of that name and surrounding flat wetland plains in Northern Province; and the Zambezi Floodplains (900,000 ha, 15°15'S 023°15'E) along the Zambezi River in Western Province, the second largest wetland in the country. In addition, Zambia has extended the areas of the Bangweulu Swamps and Kafue Flats Ramsar sites, both designated in 1991, to 1,100,000 and 600,500 hectares respectively. Brief descriptions of the new sites can be found here:

[http://www.ramsar.org/wn/w.n.zambia\\_4new.htm](http://www.ramsar.org/wn/w.n.zambia_4new.htm).

Zambia now has seven Ramsar sites covering a surface area of 3,800,500 hectares.

Source: [www.ramsar.org](http://www.ramsar.org)

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### **News from Kenya: Course on African Wetland Management**

The International Course on African Wetland Management (ICAWM) has been offered annually since 2001 in Naivasha, Kenya, by the Kenya Wildlife Service Training Institute, and the next 6-week session will run from 12 September to 23 October 2007.

ICAWM is designed for middle-level managers who are actively involved in either inland or coastal wetland management. Participants may be wetlands, wildlife, environment, water resource, forestry or fisheries officers as well as resource planners in the county councils and officers from non-governmental organizations within or outside Africa.

The ICAWM is endorsed by the Ramsar Convention and based on the Ramsar "New Guidelines for Management Planning for Ramsar Sites and other Wetlands".

Please find the brochure on the KWSTI Web site: <http://www.kws.org/images/KWSTI-ICAWM-Brochure-Nov-2006.pdf>.

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### **News from Indonesia: Peatland conservation project**

The Indonesian government has announced that a large part of its peatland reclamation "mega rice project" in Central Kalimantan will be set aside for conservation projects.

Eighty percent of the peatland, or around 1.1 million hectares must be conserved, with the remaining 20 percent of the converted peatland, 300,000 hectares, used for agricultural land, to be worked by locals and transmigrants. All agricultural work in the area would have to take the conservation effort into account.

The government had earlier said that it would reclaim up to 500,000 hectares of peatland in Central Kalimantan for agricultural use and plantations as part of an effort to revitalize the agricultural sector. Another 600,000 hectares of the peatland was to be conserved to reduce damage to the ecosystem.

The new project is part of an effort to salvage the plan of former president Soeharto to turn 1.4 million hectares of peatland in the province into agricultural land, although the project was later abandoned.

The aborted project, kicked off in 1995, toward the end of the Soeharto administration, caused massive environmental destruction.

Forests in the vicinity of the converted peatland have also been destroyed by illegal logging. Between 1996 and 1997, only 70,000 hectares of peatland was converted into agricultural land.

Then president B.J. Habibie issued instructions to halt the conversion of the peatland in 1998. But now plans to convert the land are revived and like before the plans are to plant with rice and other field crops. Some of the land will also be used for cattle raising and aquaculture.

The central government is yet to disclose how much it will spend on the new peatland project, but a great deal of it will be covered by the Central Kalimantan provincial budget.

Source: <http://www.thejakartapost.com>

### **Alliance to save Sarawak's largest freshwater lake park**

The Sarawak Forestry Corporation (SFC) is working out a management plan with the United Nations Development Programme (UNDP) to conserve Loagan Bunut, Sarawak's largest natural freshwater lake that is in danger of becoming extinct.

The SFC in a statement said the development and implementation of the plan would encourage the conservation and sustainable use of globally significant genetic, species and ecosystem diversity of peat swamp forest surrounding the lake that had been declared a national park in 1990.

The UNDP will fund the project under its Global Environment Facility (UNDP/GEF) that involves promoting tourism activity at the park.

A guidebook on the park was recently launched, being the first-ever informative guide on the national park that contains a general glimpse of the park's diverse plants and animals, as well as the rich cultural heritage associated with the lake.

The management plan was adopted as the lake was facing threats from land development activities upstream, which contributed substantial sediment to its bottom and raised fears it could be gone in 60 years if the problem is not addressed.

The sediment has also affected the lake's aquatic habitat and the situation has been made worse by unsustainable fishing activities and illegal hunting of wildlife around the park.

Located in the Baram river flood plain in north-eastern Sarawak, the national park covers a 10,736ha area where the lake, depending on the season, could reach a maximum size of 650ha.

The park records over 800 species of flora and fauna rarely seen in other places. The lake and its ecosystem is the source of livelihood for local communities residing there.

Source: <http://www.thestar.com.my>

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

### New Webpage: Global Restoration Network

The Global Restoration Network (GRN) - a project of the Society for Ecological Restoration International - offers the field of ecological restoration a new database and web-based portal to information on all aspects of restoration, from historic ecosystems and recent causes of degradation to in-depth case studies and proven restoration techniques. The mission of the GRN is to link restoration projects, research, and practitioners.

The field of ecological restoration is currently experiencing an explosion of ideas and practices as the number of experts and practitioners increases, and more and more restoration projects are being undertaken around the world. Now that the field has been established, there is a need for a comprehensive source of information for governments, individuals, corporations and nonprofit organizations on the current state of degradation and the best restorative practices.

The GRN offers a resource for policymakers, professionals and community stakeholders alike: whether researching options for ecosystem restoration, writing a project proposal, or looking for educational programs and funding. Perhaps the most exciting feature of the GRN is its Database where you can make a specific query and find restoration case studies and annotated links to a variety of relevant resources including experts, organizations and literature.

Surf to <http://www.globalrestorationnetwork.org/>

### Haslam, S. M. (2006). *River Plants – the macrophytic vegetation of watercourses*. 2nd revised Edition, Forrest Text, Cardigan, UK, 438 p. (ISBN 0-9550740-4-5)

30 years after the first edition, Sylvia Haslam has published a second edition of her well-known classic on river plants. The book is more than welcome: It still offers a comprehensive and detailed overview of the ecology of river plants. There are 20 chapters, with the first eleven chapters discussing river vegetation and individual plant growth are influenced by e.g. flow, substrate, river width, drainage order, width-slope pattern, light, nutrients or rock type. The following three chapters describe the vegetation of streams on soft rocks, hard rocks or in channels with little flow in Britain. The next five chapters look at uses and benefits of river plants, flood hazards caused by river plants, and how river vegetation is managed and maintained. The last chapter introduces the principles of restoration of river vegetation.

Whereas the text in all chapters was updated with new scientific findings, the chapters on nutrients and rock type, plant patterns in streams, pollution and restoration were completely renewed or added to the book.

As most mires and peatlands are naturally drained and sometimes fed by rivers; and drainage and water management are among the most obvious and severest threats for mires, profound knowledge of the ecology of plants growing in water is needed to maintain the best sites and to restore wherever possible a site specific, diverse river and wetland vegetation. The European water framework directive creates much action on river and peatland restoration; however, the measures suggested are often not planned in accordance with the individual biological and morphological properties of river sections. This book offers wetland and river managers the required ecohydrological knowledge to better plan and implement river vegetation restoration measures. This knowledge is especially needed for convincing civil engineers to adapt their “restoration strategy” to the ecological and hydrological requirements of river and wetland plants (and animals).

Sylvia Haslam has not only written an update of her scientific book, but she has peppered the book with her personal view on the developments in river vegetation sciences and restoration over the past 30 years. Together with the excellent line drawings by P. A. Wolseley, the up-to-date reference list on river vegetation and a glossary the book can be truly considered as a contribution to human happiness, both aesthetically as well as practically.

To quote Sylvia Haslam’s approach to river and wetland restoration: “There is no single restoration technique to be applied to all brooks and rivers. There is the principle of good structure, and the possibly opposing principle of stipulated discharge capacity of a stream, to avoid causing flood damage. These two can be worked out in harmony, to the advantage of all interests. It takes much more time at the level of planning and creative thought, but less, with machines on the ground. And it gives much more pleasure, aesthetic and amenity value (as well as the conservation and practical values) to streams. Contributing to human happiness is something to aim at, not to despise! (Haslam 2006: 400)”

Michael Trepel

### IPCC (2007). *Climate Change 2007*

The Fourth Assessment Report (AR4) of the United Nations Intergovernmental Panel on Climate Change (IPCC) is the fourth in a series of reports on climate change. The Assessment is subdivided in three areas, a) the scientific basis, b) impacts, adaptation and vulnerability and c) mitigation of climate change.

The Working Group I Summary for Policymakers (Climate Change 2007: The Physical Science Basis) was published in February 2007; the full report will be published later this year.

The summary report states that warming of the climate system is unequivocal and that most of the

observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations. The report notes many observed changes in the Earth's climate including atmospheric composition, global average temperatures, ocean conditions, and other climate changes.

The Working Group II Summary for Policymakers (Climate Change 2007: Impacts, Adaptation and Vulnerability) was published in April 2006. The summary reports that observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. The report observes that anthropogenic warming likely has had a discernible influence on many physical and biological systems.

You can download a PDF of the summary reports from the IPCC webpage: <http://www.ipcc.ch/>

**Parish, F. & Canadell, P. (2006). Vulnerabilities of the Carbon-Climate System: Carbon Pools in Wetlands/Peatlands as Positive Feedbacks to Global Warming. Asia-Pacific Network for Global Change Research, 66 p.**

The project on Vulnerabilities of the Carbon-Climate System: Carbon Pools in Wetlands/Peatlands as Positive Feedbacks to Global Warming was undertaken in the period August 2005-August 2006 under the joint leadership of the Global Environment Centre (based in Malaysia) and the Global Carbon project (based in Australia). The purpose of the project was to bring together interested experts from the Asia Pacific Region and elsewhere in the world to share knowledge on the importance and vulnerability of tropical peatland carbon stores and their potential impact on future climate change.

For a PDF download of the report, please surf to: <http://tinyurl.com/2lmmx9>

Some of the numbers published in this report have been refined since publication.

**Vapo Oy (2006). Local fuels – Properties, classifications and environmental impacts. Vapo, 23 p.**

In Finland biomass and peat combustion play an increasing role in energy supply. Local fuels are important as they support a decentralised and diversified energy system, providing employment and welfare, and securing supply.

This report gives an overview of the Finnish use of biomass and peat for energy, including tables comparing various energy sources with respect to environmental impacts, caloric values, costs and taxes.

A PDF file of the report can be found here: <http://tinyurl.com/35oc9n>

**Greb, S.F. & DiMichele, W.A. (eds.) (2006). Wetlands through time. Special Papers of the Geological Society of America 399. 304p. Geological Society of America. \$155/€118**

The importance of wetlands in the global ecology is undisputed. This is not only true of present wetlands, but has been true of wetlands for at least the last 400 million years. In fact, with changing flora and fauna, there has been an evolution of wetland functions and ecological links. Because many wetlands are located in lowland habitats and have poorly oxygenated substrates, they have the potential for rapid burial with little erosion and high potential for preservation. For these reasons, abundant fossil flora and fauna have been found in association with ancient wetlands, which are a cornerstone of the terrestrial fossil record and of our understanding of earth history. Likewise, the coals we use as an energy resource are ancient wetland deposits.

Wetlands through Time contains 14 research papers on the ecology and importance of ancient wetlands, spanning the time from the initial colonization of plants on land to an ice-age mammoth-bearing wetland.

**Ontario Ministry of Energy (2006). An assessment of the viability of exploiting bio-energy resources accessible to the Atikokan Generating Station in Northwestern Ontario.**

On 15 June 15 2005, the government of Ontario announced the scheduled closures of Ontario's four remaining coal-fired plants.

The Atikokan Generating Station (Atikokan GS) currently uses lignite coal as a feedstock and is scheduled to terminate operations by the end of 2007. This planned closure would impact the local economy by eliminating 90 direct full time positions and 80 indirect positions as well as reduce roughly tax revenues to the Township of Atikokan by one third. Consequently the Township of Atikokan has made a request to the Ontario Government to convert the Atikokan GS from lignite coal to "sustainable" biomass fuels, including peat.

With respect to peat, the report gives a detailed overview of the possibilities and risks of peat fuel. The use of fuel peat at the Atikokan GS would maintain the current station rating of 215 MW and would require a capital cost of \$211 million to modify the existing boiler (\$5 million) and add stringent emission controls (\$206 million). There would be sufficient fuel-grade peat from bogs in the region to meet the entire demand of the Atikokan GS. Peat would be extracted from bogs in the region and delivered in pellet form at 20-25% moisture. The peat would be pulverized before entering the boiler. The biggest risk element of this option is associated with securing environmental permitting for peat extraction on crown lands. Indeed, permitting would be subjected to Individual Environmental Assessment and the onus is on the proponent to meet environmental regulations.

Available under: <http://tinyurl.com/2e5mej>

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## UPCOMING EVENTS

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

### **SWS-Europe, 2nd Annual Meeting**

*31. May - 03. June 2007, Trebon, Czech Republic*  
for more information visit <http://www.enki.cz>

### **International Conference on Multi Functions of Wetland Systems**

*26-29 June 2007, Legnaro (Padova), Italy*  
for more information visit [multiwet-conf.it](http://multiwet-conf.it)

### **4th Workshop And Short Intensive Course On Wetland Water Management 2007**

*02-08 July 2007, Biebrza, Poland*  
For more information: [levis.sggw.waw.pl/wethydro/](http://levis.sggw.waw.pl/wethydro/)

### **Buttongrass Moorland Management Workshop**

*04-05 July 2007, Hobart, Tasmania*  
For details, see elsewhere in this Newsletter or visit: <http://dpiw.tas.gov.au/buttongrass>

### **IALE World Congress: 25 years Landscape Ecology: Scientific Principles in Practice**

*08-12 July 2007, Wageningen, The Netherlands*  
for more information visit <http://www.iale2007.com>

### **Biannual Conference of the German Peat Society**

*20-23 July 2007, Bad Muskau, Germany*  
for more information visit [www.dgimte.de](http://www.dgimte.de)

### **2<sup>nd</sup> International Field Symposium West Siberian Peatlands and carbon Cycle: Past and Present**

*26-30 August 2007, Khanty-Mansiysk, Russia*  
For more information see previous Newsletter or visit <http://www.edu.ugrasu.ru/conferences/?cid=2>

### **International Symposium and Workshop on Tropical Peatland**

*27-31 August 2007, Yogyakarta, Indonesia*  
See elsewhere in this Newsletter or visit: <http://www.soil.faperta.ugm.ac.id/CT/>

### **Monitoring the Effectiveness of Nature Conservation Programmes**

*03-06 September 2007, Birmensdorf, Switzerland*  
for more information visit: [http://www.wsl.ch/event\\_07/monitoring/](http://www.wsl.ch/event_07/monitoring/)

### **WETPOL 2007 – 2nd International Symposium on Wetland Pollutant Dynamics and Control**

*16-20 September 2007, Tartu, Estonia*  
for more information visit: <http://www.geo.ut.ee/wetpol2007>

### **Climate Change and Mires in Germany**

*5 - 6 October 2007, Freising, Germany*  
For more information visit: <http://www.dgimte.de>

### **Peat and Peatlands 2007 - Peat in horticulture and the rehabilitation of mires after peat extraction**

*8 - 11. October 2007, Jura, France*  
For more information see elsewhere in this Newsletter or visit: <http://www.pole-tourbieres.org>

### **History of mires and peat**

*18 - 20 October 2007, Laon, France*  
Since the re-evaluation of the role of the wetlands, scientists and environment managers have often dealt with the study of mires and peatlands, but mostly under a biophysical approach. The history of these areas, apart from palaeohistory, is hardly evoked, at least in France. This symposium aims to fill that gap. More information: [http://ghzh.free.fr/Colloque\\_tourbe\\_oct\\_2007.pdf](http://ghzh.free.fr/Colloque_tourbe_oct_2007.pdf)

### **13th International Peat Congress After Wise Use - The Future of Peatlands**

*9 - 15. June 2008, Tullamore, Ireland*  
for more information, visit [ipcireland2008.com](http://ipcireland2008.com)

### **IMCG Field Symposium and Congress**

*27 August – 11 September 2008, Georgia/Armenia*  
for more information see IMCG Newsletter 2006/4

VISIT THE IMCG HOMEPAGE AT

<http://www.imcg.net>