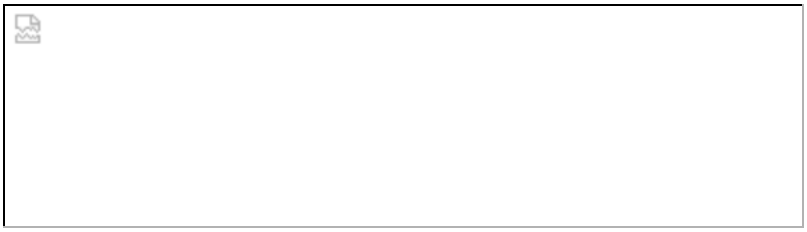
Issue 3 **NEWSLETTER** *July 1997*

Reporting mire conservation across the world. Conserving mires, wherever they are. Your newsletter, your news, views, books, reports and meetings.



The 2nd Working Group Meeting
Schneverdingen, Germany
MINUTES

The views expressed in this newsletter are those of the authors, and do not represent IMCG policy. The Editors reserve the right to edit contributions for length and essential understandability, in consultation with the author(s) concerned.

Editorial

You will note that on reading the minutes, there are many action points for the Working Group, proposals for the Decision Making Group and most importantly requests to ëmembers' asking for help and information - please respond. We cannot become a credible and active organisation unless we demonstrably have an active membership who are prepared to devote time and energy to the IMCG. *Could ëmembers' please send their responses to Richard Lindsay (address below) by 15th September..*

As ever, a plea for contributions. Please, please, please - send your news. The newsletter follows the following guidelines:

Working Group agenda

Minutes of IMCG meetings

Working Group proposals

Decision Making Group decisions

Liaison

Mire protection in a country

News

Other symposia/meetings etc.

Discussion papers for comment

Letters and comment

A newsletter can only work if contributions are sent - and lots of them! So now you have the headings, please get writing. Do not worry about getting the English slightly wrong - Rob Stoneman will translate it into better (though not necessarily perfect) English; similarly, if you find it too difficult to write in English, then you could use German or Dutch (Hans Joosten will translate) or French (Phillipe Julve will translate).

ADDRESSES

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Minutes
2nd Working Group Meeting - Schneverdingen, Germany
26-29th February, 1997

Agenda

Present: Richard Lindsay (RAL), Rob Stoneman (RS), Hans Joosten (HJ), Phillippe Julve (PJ) and Michael Steiner (GMS).

Abbreviations: Working Group (WG), Decision Making Group (DMG).

Acknowledgements: The WG group is particularly grateful to our hosts - the Alfred Toepfer Akademie für Naturshutz.

Agenda: The meeting follows the agenda set out in the February 1997 IMCG newsletter (Issue 2).

Protocols for the Meeting

Protocols

The WG co-opted RAL onto the WG and appointed him as Chair of the meeting.

The WG appointed RS to take and compile minutes.

The WG supported a continuing tradition of openness and transparency.

Agenda

Three agenda items were added - 2a - Action Plan, 2b Newsletter evaluation and Canada 2000 Symposium and Congress.

No comments of WG agenda were received from ëmembers'.

Minutes of Previous WG Meeting

Comments from the DMG

Comments were received from Marina Botch and Olivia Bragg concerning the way the resolution from the IMCG should be organised and sent. The WG thanks the DMG for pointing out some inherent problems with the system set out in Proposal 2 (see last newsletter - issue 2). Indeed, these comments led to a lengthy discussion on resolutions and biennial conference organisation. Three proposals have arisen from this discussion.

P6 The Biennial Conference. Presently resolutions are usually sent from the delegates of the biennial IMCG symposiums. In Kushiro, this led to some confusion as to who was able to vote - symposium organisers for example? Further, as IMCG becomes more active, more symposiums involving IMCG members or organised by IMCG are likely to take place. The Solovetsky workshop/symposium (see item 3) is an example.

It was suggested that perhaps the more formal business of the IMCG be carried out through a biennial IMCG Congress. The Congress would be held within a field symposium. All IMCG members (see item 9) would be welcome to attend the Congress even if symposium organisers cannot guarantee places on the field symposium.

In the context of the resolution discussion, the advantage of having an IMCG Congress is that resolutions could only be adopted following agreement from the **Congress**.

P7 Procedure for Resolutions. This proposal replaces the inadequate Proposal 2 set out in the last newsletter.

Resolution guidance, and invitations to consider preperation of resolutions, sent out one year before IMCG Congress.

Resolutions sent to WG for English and format alterations three months before the symposium.

Note: Steps 1 and 2 are not relevant to resolutions prepared during the symposium. In these cases, proposers must ensure they have enough time to fulfil step 4 (below).

The WG will liaise with the resolution proposers and relevant IMCG national representatives.

All resolutions will be circulated to Congress **delegates** for 1-2 days during the symposium.

Resolution presented formally to the Congress to be accepted or rejected by acclamation of those who are in the room at the time of voting (to permit those who need it - perhaps for domestic political reasons - the opportunity not be be associated with a particular resolution).

If an overwhelming majority is not immediately obvious, a vote would be taken. The resolution accepted if **æ** of the delegates who vote give a **yes vote** (rather than abstain, vote no, spoil their paper or do not vote).

The resolution is then sent by the Chair of the IMCG on behalf of the organisation.

P8 Letters of Recommendation

Resolutions can only be sent following adoption by an IMCG Congress. However, this should not unduly restrict IMCG's ability to advise at other times. A different procedure is required for this. The proposed solution being *Letters of Recommendation*. Every IMCG member has the right to propose ëLetters of Recommendation'. Procedure:

Letters of recommendation are prepared and sent to the WG for English and format alterations. (Proposer can choose to wait until a Congress - in which case it becomes a Resolution and follows the procedures laid out in Proposal 7).

The WG will liase with proposers and any relevant national representatives within IMCG.

The WG then proposes the Letter of recommendation to the DMG for approval. The proposal would be accompanied by appropriate information (e.g. views of the national representative). The proposal of the WG is then approved or rejected by the DMG. Approval is granted unless º of the DMG **reject** the recommendation (i.e. presently 3 or more DMG members; this will rise to 4 when the DMG expands to 12 following Australasian, Latin American or SE Asian representation).

The Letter of Recommendation is sent by the Chair on behalf of the IMCG.

Formal Adoption of Minutes of the 1st WG Meeting

Notes

A draft was sent by RS to the WG for checking and clarification of some points.

Some uncertainity emerged about responsibility for the IPS/IMCG meeting and for making contact with Dr Becker-Platen. **AP22: Responsibilities have been assigned to HJ.**

HJ paid EHF fees for 1996 **and** 1997 - many thanks.

Correction to 2.2.10 - The Valdai Workshop is technically ë*The Restoration of Fens Workshop in Valdai*'.

Minutes were accepted and thanks given to RS for compilation.

Review of Action Points - refer to last newsletter to make sense of this.

AP1 Ongoing

AP2 Details sent out.

AP3 Not necessary - Wetlands International have informed RAL, that a Chinese Wetlands International project has been given GEF funding and a workshop is likely to be incorporated**. AP23: RAL to contact Mike Moser (Wetlands International) about IMCG workshop linkage**.

AP4 BW replied (see item 8).

AP5 RS has now given GMS newsletters on disc so web site should now be able to proceed.

AP6 Not carried out.

AP7 Replied.

AP8 On-going - see item 8.

AP9 Partly - see item 8.

AP10 No reply from Micke as yet.

AP11 Done - see last newsletter and item 2a.

AP12 Done - see item 9.

AP13 Done - see item 9.

AP14 Not done.

AP15 Not done - see item 9.

AP16 Done - see item 4.

AP17 Opportunity did not arise - see item 4.

AP18 Done - see item 4.

AP19 Done - but no reply - re-contact.

AP20 Done - HJ has approached Governement of Mecklenburg-Vorpommen for DM20-30,000 to run classification conference in Greifswald in March 1998 - see item 10.3.

AP21 Done.

2a Work Programme

2a.1 Notes

The work programme outlined in the last newsletter (issue 2) is a provisional draft document to be considered by the ëmembers' and the WG. **The WG will contact all people mentioned to ensure their support (AP 24)**. Each element has an associated WG member to ensure identified actions are carried out. Once all the people have been contacted and comments from ëmembers' incorporated (*i.e. you - M11 send comments to RL*), the work programme will be put to the DMG for approval and then published in the newsletter.

2a.2 Changes:

1.2 Organisation structure discussions will be completed by Winter ë97/'98.

Items 1.11 moved to section 3.3.

3.5 Peat archive work programme is to be led by Barry Warner - project team includes RS, HJ and Mati Illomets.

2a.3 Additions:

1.13 Expand the IMCG - seek new ëmembers' especially in under represented regions (RAL, DMG, WG and ëmembers' - i.e. everyone).

2.5 Peatlands and the Habitats Directives. Exploit opportunities presented by the E.U. Habitats Directive to enhance peatland conservation within the Union (WG).

3.8 Classification of Mires (GMS)

3.8.1 Prepare paper for comments (PJ).

3.8.2 Set up a classification conference (HJ).

3.8.3 Set up a work programme and working group (GMS).

3.9 Sustainable Use of Peatlands (RS)

3.9.1 Prepare a paper for comments (RS).

3.9.2 Set up a working group to take the issue further (RS).

4.1.4 Set up a web page for the IMCG (GMS).

2b Newsletter Evaluation

2b.1 English

There have been comments that the English of the newsletter is occasionally too complicated for non-English speakers. AP25 RS and RAL will work together to improve the situation.

2b.2 English translations

HJ was also concerned that the meaning of certain newsletter items were changed slightly following RS's editing. **AP25 RS will add a standard paragraph (a disclaimer) to the beginning of the newsletter pointing out that views are those of the authors, but editors take responsiblility for any errors in editorial translation** (editors note: this will only be possible if people stick to deadlines).

2b.3 Next newsletters will be in July, October '97 and Jan '98.

2b.4 *M12 Could all ëmembers' distribute copies to potential members to increase the membership*. **AP26 RAL will also produce an IMCG flier for this purpose.**

Solovetsky Islands Workshop

There has been some confusion about whether the workshop is a symposium. For the record (and contrary to information presented in the last newsletter), the meeting is a IMCG workshop and not the 8th IMCG symposium.

With increasing cofusion possible between the naming and numbering of symposia, workshops and congresses, it is proposed that all are simply named by their place and date., eg ë*The 1997 Field Symposium in Solovetsky'* or ë*The 1998 IMCG Symposium on Mire Classification in Greifswald'* etc.

Apart from that, the meeting appears to be going smoothly. **RAL will contact Marina Botch over her plans for any proceedings / items for the newsletter (AP27) and prepare an IMCG meeting for the workshop (AP28).** Note, Marina's e-mail number is botch@area.usr.pu.ru.

IMCG Symposia

IMCG Symposium and Congress 1998, Estonia and Latvia

Official Support

Letters have been received from both the Latvian and Estonian authorities giving their enthusiastic support for holding the IMCG symposium in the two countries. The Latvian government specifically point out that financial support will not be possible. The Estonian authorities will contribute - the WG are unsure if this is financial or ëin kind' support. There may be the possibility for financial support through a joint EU/Latvia/Niedersachsen proposal for mire protection - **RAL to contact Illona Lodzina to investigate (AP29)**.

Pre-meeting

Some members of the WG will visit Latvia and Estonia before end '97 to discuss organisational issues. **RAL will contact Mati Illomets and Mara Pakalne to arrange (AP30)**.

IMCG Symposium and Congress 2000, Canada

Clarification is still required about the way the IMCG Symposium and Congress will fit with the IPS Congress: **RAL to contact BW to get his thoughts (AP31)**. A variety of options were discussed; the following approach was favoured:

The Congress of the IMCG held as a separate event from the IPS Meeting - i.e. immediately before or after the IPS Congress.

The IMCG and IPS jointly organise workshops in Commissions I and V which relate to nature conservation. Issues not relating to conservation should be dealt with by IPS alone.

An entirely seperate IMCG field symposium is held after the IPS meeting.

Fen Restoration Workshop in the Valdai Region

The WG noted that the workshop will be well attended by IMCG ëmembers' and look forward to the resulting proceedings.

IPS/IMCG Meeting 1997

The WG considered who would be the appropriate person to give a personal view on behalf of the IMCG to set off discussions on each subject. **HJ will contact speakers (AP32) and these people must have prepared their at least three weeks before the meeting (AP33)** to give the WG enough time to collate and distribute statements to those who are going.

Kushiro Resolution

National Resolutions

These have now all been sent out. All replies will be responded to. Responses will be drafted after an evaluation by the national representatives: **RAL to send replies to national reps (AP34). National rep. and RAL will prepare a response which is then circulated to the WG for comments (AP35). Finally, responses will be circulated to the DMG for approval (given unless *rejected* by º of the DMG, i.e. 3 or more) - (AP36)**.

Pan European and Ramsar Resolutions

Tim Jones of the Ramsar Bureau has suggested that the Bureau could distribute both resolutions on IMCG's behalf via the Ramsar website or via the diplomatic bags of government. **AP37 RAL to contact Tim Jones to ensure resolutions are distributed.**

Biodiversity Convention Resolution

RAL is having difficulty in working out where to send this resolution. **AP38 RAL to sort out and send.**

Kushiro Proceedings

IMCG's Japanese hosts for the '96 Symposium have kindly agreed to take on responsibility for the Kushiro Proceedings. Authors will be given deadline dates and delivary addresses as soon as these are available.

An editorial group will be required to assist refereeing of the papers, both for their English and their scientific content. Several people have already been contacted about this and have agreed to help.

IMCG Organisation and Structure

Structure

The WG considered a report by Sarah Fowler on developing a structure for the European Elasmobranch Society which identified the costs, opportunities and problems of setting up this type of organisation in the UK. This showed that a British based institution would be possible, but rather complicated and expensive compared to Dutch, Austrian or French possibilities.

The WG agreed that RAL should explore these three options further. Since then, the European Habitats Forum (EHF) has also found itself needing to formalise its structure for many of the same reasons as the IMCG. RAL has therefore become part of an EHF task force to look into the options available, and will report the findings in due course.

AP38 RAL to write a paper setting out the criteria and issues which should be considered.

AP39 HJ, PJ, GMS and RAL to match criteria/issues against the situation in Holland and Germany, France, Austria, and Britain respectively.

Funding Sources

HJ is attempting to set up an international course in ëLandscape Ecology and Nature Conservation' which might offer opportunities to base IMCG at Greifswald.

RAL's appointment to the University of East London (UEL) solves some of the immediate problems of Secretariat administrative costs, because the facilities of UEL will be made available to the IMCG Secretariat (for which we are very grateful).

Wetlands International (WI) has (since the WG Meeting) contacted IMCG about the possibility of IMCG acting as an expert group for a project being considered by WI for mires in Eastern Europe. The project details are still at the early stage of preparation, but, if finally approved and funded, would provide IMCG with funding to carry out certain tasks within the overall project.

John Wiley & Sons, the publishers, have indicated a willingness to consider giving IMCG an advance on royalties for its Review of European Mires book. This would pay for the editorial work needed to produce a completed text.

AP40 All WG members to further consider the issue of IMCG funding - in particular, RAL to establish the facilities availabel through UEL, IMCG's involvement in WI's project, and possible funding from John Wiley and Sons.

Membership

Discussion shelved until paper is produced **(AP15)**. However, *once this paper is produced, it is proposed that the WG will compile a provisional membership list which will be sent as a proposal to the DMG (P7). After this time, it is proposed that members will be proposed by existing members, appraised by the WG and put to the DMG for approval (P8)*. To help GMS write this paper **(AP15)**, the **WG will send, as examples, a possible list of ëmembers' from their country with the reasons why (AP41).**

Projects and Progress

Mire Species List (PJ)

AP42 Work in progress, PJ will send file and hard copy to relevant researchers to add to.

European Mires Book

AP43 RAL to pursue funding further with John Wiley and Sons.

Global Classification of Mires

HJ has developed a funding bid to hold a workshop in Greifswald in March '98.

IPS/IMCG meeting will provide a good basis for developing this discussion. To set this going, **PJ will prepare a discussion paper for the newsletter (AP43)**.

China Workshop

GEF have approved funding for a peatland conservation initiative in China - see AP23. AP44 RAL to contact Meng Xian Min to assess possibilities for incorporating an IMCG symposium.

Record Value

No progress as yet.

Any Other Business

Compics

Compics CD have proposed a photo CD for mires if they could guarantee 70 buyers. This could be used to support the European Mires project and raise money (20% of purchase price) for IMCG. *M14: Send comments to GMS including willingness to participate.*

Chilie

Kath Dickinson (New Zealand) has reported possible peatland exploitation problems in Tierra del Fuego. **AP44 RAL to contact KD for more information and then contact North American colleagues to agree on an action plan. RAL to ask KD for an item for the newsletter.**

Next Meeting

End of October - before IMCG/IPS Papenburg meeting. Note, there will also be an opportunity for discussion between IMCG members in the Solevesky Islands Workshop in August.

NEWS

IMCG Secretariat : a home at last!!!!..

Richard Lindsay has been appointed Principal Lecturer in Wildlife Conservation at the University of East London (UEL) to begin on 1st August (although he will be in the Solovetsky Islands then).

His appointment represents an opportunity to give the IMCG Secretariat a fixed base, at last, with all necessary facilities to carry out its work. UEL is enthusiastic about linking up with the IMCG network. Given such support, the possibilities for the future look very exciting.

Details of the IMCG Secretariat's new address etc. will follow in due course, but for the moment all contact should continue to be sent to Richard's home, as given in the address box (1st page). Richard will continue to live in Peterborough, so correspondence can still be sent there.

A strategy for wetlands management

Asbjorn Moen writes to say he is involved as an expert advisor in a project being carried out in Estonia and called "Strategy for Wetlands Management". The project is funded by the World Bank, and involves an Estonian Project Group including Mati Ilomets. The ecological team, involving a large number of Estonian ecologists, will be busy with survey as you read this Newsletter, and aim to finish the inventory work by the end of the summer. Asbjorn is mainly responsible for the mire inventory work, although the project also includes coastal lagoons and meadows, reedbeds, floodplain meadows and natural lakes.

Part of Asbjorn's responsibilities will be to consider the European and international significance of Estonia's mires, and he is therefore in deep discussion with his Estonian colleagues about criteria, classification, terminology and evaluation methods. Any suggestions for classification, evaluation methods and mapping of mire regions, particularly as used in Central Europe would be gratefully received by Asbjorn, who can be contacted at:

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Tierra del Fuego
The Rio Condor Project

The text below is provided by IMCG's Southern Hemisphere correspondent Kath Dickinson, University of Otago, New Zealand, about the situation in Tierra del Fuego:

Tierra del Fuego forms the southernmost part of mainland South America. Positioned in subantarctic latitudes, the island system straddles Chile and Argentina and supports a mosaic of southern beech (*Nothofagus*) forests, subalpine and alpine communities along with extensive peatland systems. In 1995-96, a multi-disciplinary Chilean science team was voluntarily commissioned by the Trillium Corporation based in the USA to assess a large property the Corporation had acquired in Tierra del Fuego. This team of researchers was spearheaded by Professor Mary Kalin Arroyo from the University of Chile at Santiago.

The Rio Condor Project set out to assess the feasibility for sustainable management of the southern beech forest ecosystems supported there. At the same time, the aim was to give a rapid ecological assessment of the conservation values of the property with a view for potential 'conservation-gain' trade-offs to attempt a balance against forest areas to be logged. Many of these identified areas for protection are magnificent and extensive patterned wetland systems. The findings and recommendations of the Rio Condor assessment were presented as a dual language Spanish-English book at the Second Southern Connections International Congress in Valdivia, Chile in January 1997 (Arroyo et al. 1996). On reading this book as an ecologist, it was hard to come to any conclusion other than sustainable management is just not feasible with any form of economic logging. The trees, being at these climatically severe southern high latitudes, at or close to their limits of ecological tolerance, have very slow growth rates. Furthermore, effective regeneration is highly questionable. Nonetheless, the scientific report produced has to be held as an icon for the assessment of sustainable management and the Trillium Corporation acknowledged for their commitment to a scientifically credible exercise.

The current situation in Chile over whether logging will go ahead has become very complex. Recent correspondence indicates that through an unanticipated legal hiatus resulting from a court challenge of the Government Environment Commission who approved the Trillium project, the EIS was not submitted within a legal framework. Consequently, the Corporation is evaluating whether it will stay in Chile. If they stay, they have to resubmit the EIS, under revised law. If they do not stay, the fate of the Rio Condor property is very uncertain. It is a private property and may well be sold off on a piecemeal basis with little acknowledgement by the buyers of sustainable management or conservation values. The alternative is that the land is bought for conservation by the Chilean

government which seems unlikely or by private funding. International support is vital if this latter outcome is to be a reality.

Attention should also turn to the Argentinean sectors of the property. In contrast to Chile, the science infrastructure to undertake a similar assessment to that commissioned by Trillium is just not present and environmental awareness also appears considerably less. Having said this, Chile is still engaged in large-scale wood-chipping of its native forests in parts of Patagonia to the north, to be then planted up with *Radiata* pine.

The reality seems to be that the protection of these very special ecosystems may be secured in one part of the Rio Condor property but not in others if the Trillium enterprise goes ahead. If Trillium pulls out, then no protection might result unless a conservation focused buyer is found in Chile. The case in Argentina seems even more serious. The long term impact on ecological, hydrological, and landscape values can only be substantial and internationally. significant wetland systems may be damaged irreparably. There is a clear need for the international scientific community to attempt to prevail on the Argentinean Government to put restrictions on any proposed logging operation on the basis of the Chilean evaluation by Arroyo et al (1996).

(Arroyo, M.T.K., Donoso, C., Murua, R., Pisano, E., Schlatter, R.P. and Serey, I. 1996. *Toward an Ecologically Sustainable Forestry Project. Concepts, Analysis and Recommendations. Protecting Biodiversity and Ecosystem Processes in the Rio Condor Project - Tierra del Fuego.* Departamento de Investigacion y Desarrollo ((DID), Universidad de Chile, Santiago.)

Meetings

Valdai Fen Restoration Workshop

Current issues with respect to fen restoration were discussed at the Valdai Fen Restoration Workshop (Russia, 26/5- 1/6/97), in the hospitable Central Forest Zapovednik. Conspicuous aspects included the differences in restoration attitude and experience between Russia and Western (Central) Europe. The excursions brought us to impressive natural areas in and around the Zapovednik, including natural forests and bogs, paludification processes, and, of course, both natural and cut-over fens. Discussions covered practical aspects of restoration in Russia, the naturalness of fen types, goals and controversies of fen restoration, future developments with respect to climate and its consequences for restoration policy, and concepts of sustainable peatland use. We are planning to publish the proceedings of the Workshop at the end of this year.

A limited number of copies of the Abstract volume are still available. The volume includes the abstracts of 35 papers and posters, both in English and Russian. People who are interested in receiving the volume, may contact Hans Joosten (Greifswald).

Joosten, H. & T. Minayeva (eds.), 1997. *Fen Restoration Workshop, 26/5 - 1/6/97, Central Forest Nature Reserve. Abstracts*. Central Forest Biosphere Nature Reserve. Botanisches Institut Greifswald/Wetlands International, Zapovednik, 81 p.

Pripyat mires: protection and destruction.

The *International Conference on the Ecology and Conservation of Floodplains and Lowland Mires in the Polesia Region* (Minsk, 21 - 24 May 1997) ended with the adoption of a Final Document, including an Action Plan.

The Final Document stresses the importance of the mires and floodplains of Polesia for the conservation of biodiversity and natural heritage in Europe and recommends the establishment of new protected areas and the enlargement of the existing ones, restoration of drained mires and canalised rivers. The Action Plan stresses in more detail the establishment, management and monitoring of the protected areas, and the development of sustainable landuse concepts, including nature conservation, sustainable forestry, fisheries and agriculture, and ecotourism. The responsible Ministry is very sympathetic towards the conservation of these natural areas of high international value. Some implementation problems are, however, expected the Ministry of Forestry. The proceedings of the Conference will be published. We will keep you informed.

A joint Ukrainian-Belarussian-German expedition, surveying the Ukrainian part of Pripyat and its tributaries in the weeks after the Conference, found out that in Ukraine reclamation (melioration) activities are still going on. Although some mire areas of good quality could still be discovered, several areas proved to be deteriorating as a result of recent drainage, and many mires appeared to have been drained and cultivated in the last 5 years...

Hans Joosten

EHF Meeting with DGXI

15th May, 1997

This was quite a small meeting, attended by Richard Lindsay and Philippe Julve, together with five other EHF members. It was chaired by Bertrand Delpeuch, from DGXI, accompanied by Micheal O'Brian and another DGXI staff member who's name I'm afraid I didn't catch. As usual the meeting was informal, frankly spoken, yet friendly.

Habitats Directive

There had been some progress on this, including the general movement of all Member States, including France - which had temporarily halted all work on the Directive - to begin putting draft lists together, though DGXI is still waiting to receive official information from several States. The *Interpretation Manual for Habitats* has also been published, as has a summary of Life Projects so far - both available from DGXI.

The Biogeographical Workshops have been delayed, but the new timetable is: Alpine - end September; Atlantic - November; Boreal - early December (with likely IMCG representation); Mediterranean - January '98; then the remainder will follow after mid-May '98. They hope to have the symbolic gesture of having at least one Biogeographic region completed 3 years after the inauguration of the Directive - i.e. by June '98.

DGXI prefer not to adopt the approach of the Birds Directive where sites have gradually been added over time. They want to get as many as possible on the present list because the lack of urgency over the Birds Directive has led to a terribly long-drawn-out affair. *Do, therefore, make sure that all the sites you wish to see are included on the Habitats Directive list during this present phase ñ you may not get a second chance.*

Member States (MSs) are obliged to provide information to NGOs, but DGXI is not really in a position to enforce this. It will remind a MS of its obligations to provide information, and if nothing happens it will then give some data to the NGO, but its problem is that it does not know which is the "final" list until it is formally told this by the MS. DGXI's information supply to NGOs will thus be limited, because it must err on the side of caution. Also, it can't really act until the MS says why it is refusing to supply the data. However, key data will be supplied by DGXI for the Biogeographical Workshops. It is worth noting that Portugal has put all its information on the Internet!..

LIFE Funding

Concerns were expressed that the LIFE Budget for future years, just as the Habitats Directive was reaching its most expensive phase, may be reduced rather than expanded. DGXI could not confirm that a decision had definitely been made, but from budget papers

obtained by EHF members, it was clear that reduced funding is a real possibility. EHF members expressed alarm at this, but DGXI said that this was a matter to take up with the EU Parliament and the Commission, not with DGXI.

Subsequently, a letter was drafted by Richard Lindsay, Marta Ballesteros and Tim Sands to be sent to the European Parliament on behalf of the EHF, urging more, rather than less, funds to be allocated to the LIFE Fund.

Life Projects

DGXI expressed their unhappiness about projects which were put forward under NA3 - species protection - which were in reality projects for NA1 and NA2 (National Site Lists, and Birds Directive) but which were being proposed under NA3 because the slow movement of MSs meant that the projects could not qualify under NA1 or NA2. Similarly, there were projects which should more properly be funded through the CAP, but which were being put forward under NA3. As a result, DGXI has drawn up guidelines for NA3 projects, and if you are considering putting one forward you should consult these guidelines first.

DGXI recognises that the requirement of bank guarantees is a problem for many NGOs applying for projects under LIFE, but says that unfortunately there is nothing that can be done about this. One case in Greece was given special derogation, but it will not happen again.

Complaints

Again, DGXI emphasised that investigating complaints takes a great deal of time - for example a European Parliamentary Question has to be translated into 11 languages - so please can the facts of any complaint be checked before sending it to Brussels?

Pan-European Strategy

DGXI intends to put relatively little activity into this initiative, mainly because it is committing most of its resources to the Habitats Directive. The map displayed at the meeting in Aarhus raised real worries that the impression of "protected" areas given by the map would be far greater than is actually the case - thereby weakening arguments for further conservation in Europe. Concern was also expressed by DGXI that the original aim of having East European countries at the heart of the Strategy has been somewhat lost.

Biodiversity Strategy

DGXI sees its main contribution to the Biodiversity Strategy being to deliver a fully-working Habitats Directive. Consequently it is focusing its activities on this, rather than on some of the wider aspects of the Strategy.

The meeting ended with us each being given a "Natura 2000 Watch" - made as part of a LIFE project - and some Habitats Directive postcards. If you want your own reminder that time is running out for the Directive, or just some nice postcards, contact DGXI direct!!

Richard Lindsay

Future Meetings

IPS Meetings

Natural and agricultural ecosystems in peatlands and their management. (IPS et al.) 25-30 August 1997. St. Malo, France. Info: Dr. A.-J. Francez . Tel. + 33 299 281676. Fax + 33 299 281626. E-mail Andre-Jean.Francez@univ-rennes1.fr

Moore im Alpenraum - Entstehung, Nutzung, Schutz. (DGMT) 29 September - 2 October 1997. Salzburg, Austria. Info: Dr. J.-D. Becker-Platen, DGMT, Stilleweg 2, D-30655 Hannover. Tel. + 49 511 643 2241. Fax: + 49 511 643 2304.

Meeting of IMCG and IPS. Probably 29 October - 1 November 1997. Info: Hans Joosten, Botanisches Institut, Grimmerstrasse 88, D-17487 Greifswald. Tel. + 49 3834 864128. Fax: + 49 3834 864114.

Peat in horticulture - its use and sustainability. (IPS et al.) 2 - 7 November 1997, Amsterdam, the Netherlands. Info: Mr. W. Tonnis, IPS-Nederland, P.O. Box 22, NL-7760 AA Schoonebeek. Tel. + 31 524 536 034. Fax + 31 524 536 049.

Peatland restoration and reclamation. (IPS et al.) 14 - 18 July 1998. Duluth, Minnesota, USA. Info: Dr. Tom Malterer, Natural Resources Research Institute, University of Minnesota Duluth, 5013 Miller Trunk Highway, Duluth, MN 55811 USA; Tel. + 1 218 720 4324. Fax + 1 218 720 9410. Email: tmaltere@sage.nrri.umn.edu

The spirit of peatlands. Jubilee symposium 30 years of International Peat Society. (IPS) 7 - 10 september 1998. Info: IPS Maiju Salenius, Kuokkalantie 4, FIN-40420 Jysk@, Finland. Tel. + 358 14 674 042. Fax + 358 14 677 405. peatsocinternat@peatsoc.pp.fi

IMCG Meetings

Workshop on Global Mire Classification

From 25 - 29 March 1998, IMCG plans a Workshop on Global Mire Classification. Aims of the Workshop are:

to discuss the concept of ecosystem diversity (cf. *Convention on Biological Diversity*) with respect to mires,

to discuss existing classification systems, and to try to reach a basis for a global mire classification system,

to discuss the implications of such classification(s) for a global mire conservation strategy.

The Workshop will be organised in Greifswald (Germany). IMCG-ëmembers', who want to contribute to the workshop, may contact Hans Joosten, Botanisches Institut, Grimmerstrasse 88, D-17487 Greifswald, Germany. Tel. + 49 3834 864128, fax + 49 3834 864114.

Meeting of the IPS and IMCG.

The first meeting between IPS and IMCG, originally planned for 12 - 14 September 1997, will most probably be postponed to 7th - 10th November 1997. In the past months, there has been much discussion on the character of the meeting. After the initial proposals of the IPS-chairman to discuss a variety of items, and after (minor) amendments from the IMCG-Working Group, the IPS Annual Assembly decided in April 1997 to confine the meeting to technical items, including the co-operation on terminology, the Canada 2000 meeting, and co-operation in the Global Peat Resources project. The Assembly feared that we would drown in the discussions about global mire resources, diversity, sustainable use, peat as a renewable resource, climatic effects, rehabilitation etc. etc.

Although this fear might be correct, the organisers of the meeting Jens-Dieter Becker-Platen (IPS) and Hans Joosten (IMCG) consider that only discussing these technical points would be too meagre: they do not justify an expensive 3 days trip to Germany. The items mentioned can (and should) more easily be discussed in bilateral contacts. Therefore, they proposed to include discussions with somewhat more body, focusing on the sustainability of mire and peatland exploitation. As this would involve a revision of the decision of the IPS-Annual Assembly, the members of the IPS-Executive Board had to be consulted (a process that is not completed yet (July 5 1997). Jens-Dieter Becker-Platen is very clear in his letter to the IPS-EB: "If the majority of us can not accept the scientific part of the meeting (this includes discussion about sustainable wise use, and peat as biomass (HJ) then I intend to cancel the meeting".

Another issue is, that potential attendants from both IPS and IMCG propose to postpone the IPS/IMCG meeting to just prior to the IPS Symposium in Amsterdam, what would enable people coming from far away to combine the two trips.

So, the situation looks as follows now (my estimation):

the meeting will be postponed to 7th ñ 10th November

the meeting will also discuss some *hot* issues. The final agenda will be prepared by J-D B-P and HJ as soon as possible after the decision of the IPS-EB.

as soon as it is clear what exactly is going to be discussed, and what format the discussion is going to get, I will contact IMCG ëmembers' to contribute to the meeting.

If you are interested in participating, don't hesitate to contact me (as some IMCG ëmembers' have already done).

Hans Joosten, Greifswald

Europe's Natural Heritage.

From 9 - 13 November 1997, the IUCN World Commission on Protected Areas will organise a European regional working session in order to

review the realisation of the IUCN *Parks for Life* Action Plan (1994),

assist in the finalization of a number of priority projects in the plan,

advise on the future development of WCPA's work in Europe.

The Workings Sessions will give particular attention to:

- The management and protection of category II sites in Europe,
- Natural World Heritage Sites in Europe,
- Trans-boundary protected areas in Europe,
- The Ramsar Convention in Europe,
- Military land and conservation,
- The Biosphere Reserves in Europe.

One of the priority projects is the identification of Natural World Heritage Sites in Europe. The World Heritage Convention came into force in 1976. Sites for listing are proposed by governments and are admitted by the World Heritage Committee. In Europe only 16 natural sites and 3 mixed natural-cultural sites have been listed so far. The project, that is co-ordinated by Lars-Erik Esping from Sweden, aims to develop a provisional list of additional sites for listing under the Convention. This list will be presented in the Session in November, and after finalisation be sent to governments for submitting them officially to the World Heritage Committee.

In Solovetski, we should discuss which European mires and peatland sites would fit within the criteria of the World Heritage Convention, (exceptional examples of the earth processes, biological evolution, natural habitats of endangered species, most significant and typical areas for conservation of natural biodiversity, scene of exceptional beauty, spectacular view, etc.), so that they can be included in the provisional list.

Meeting details sent by Hans Joosten.

The Solovetsky Islands

The next IMCG meeting will be organised in the Solovetsky Islands located in the White Sea (NW Russia, 65°N). The archipelago consists of many islands of which Solovetsky is one of the biggest. The island is covered with spruce and birch forests, with sandy and stony beaches around the islands. Mires cover about 25% of the islands (pattern bogs composed of *Sphagnum fuscum*, heath and lichens). The peat deposits are very shallow - 1.2m deep. The areas is part of a Ramsar site because of important bird populations.

On the island, there is a famous XVII century monastery and many old churches.

The meeting will be devoted to the growth of mires to discuss the many problems surrounding pattern development in northern European bogs. The Solovetskies represent a typical northern European area with poorly studied mires. We should be able to investigate some of these sites whilst staying at a small hotel close to the monastery and the sea - should be good!

Marina Botch

Books

Peatlands in Finland

Vasander, H. (ed.), 1996. *Peatlands in Finland*. Finnish Peatland Society, Helsinki (Finland). 168 p. ISBN 952-90-7971-0. Orders: Finnish Peatland Society, Kuokkalantie 4, FIN-40420 Jysk, Finland. FIM 170.00 + mailing costs.

The Finnish Peatland Society has a good tradition in publishing review books on mire ecology and peatland utilisation in Finland. The first was published in association with the International Peat Congress in Otaniemi 1972, followed by another overview 10 years later. Now, after 15 years of new developments, both in science and in exploitation, the present book is published under the editorship of Harri Vasander. In 26 concise well-written contributions, the authors give an overview on the state-of-the-art of Finnish peatland research and utilisation. Research specialities include the origin and development of Finnish mires and their rate of peat accumulation (Korhola & Tolonen) and the relation between forest drainage and the greenhouse effect (Laine and Minkkinen).

The part on peatland exploitation covers "peatland forestry" (Paivanen & Paavilainen) and "energy use of peat" (Asplund), with contributions on exploitation activities that are still marginal in Finland, such as "environmental use of peat", "balneology" and "peat textiles".

Much attention is paid to the after-use of cut-over peatlands (forestry, agriculture, game management and mire restoration) and to environmental aspects of peatland utilisation (emissions to the hydrological system and to the atmosphere). The book is illustrated with clear figures and beautiful colour pictures.

I have few critical remarks. The information given on peat used in manure treatment is somewhat different in the two chapters where its mentioned. The last figure in the book, on radiative forcing caused by Finnish peatlands, is not completely clear. It looks to me as if two lines are exchanged. The publication, to which is referred to, cannot solve this point, as the figure has been changed considerably.

All-in-all a highly informative book. Try to get a copy!

Archives of Metal Deposition

The journal WATER AIR AND SOIL POLLUTION (Kluwer Academic Publishers, Dordrecht) is publishing a Special Issue on **Peat Bog Archives of Atmospheric Metal Deposition** at the end of this year. This special issue results from a Workshop held at the University of Berne in October of 1996, that was organised by Bill Shotyk.

If you want to purchase a copy, please send your order as soon as possible (but not later than 1. August) to Dr. William Shotyk, Geological Institute, University of Berne, Baltzerstrasse 1, CH-3012 Berne, Switzerland, either by post, FAX (+ 41 31 631 4843) or email (shotyk@geo.unibe.ch). The cost is 90 Sfr per copy (special pre-publication price) and payment must be made in advance. Contact Bill for details!

Other New Publications

Tropical Peatlands

This editor (Rob) is delighted to announce that a new book on that massively understudied ecosystem - tropical peatlands - has just been published.

Its called **ëBiodiversity and Sustainability of Tropical Peatlands'** edited by Jack Rieley and Sue Page. Order from Samara Publishing Limited, Tresaith, Cardigan, SA43 2JG, Wales (UK). Tel ++ 44 (0) 1239 811242, Fax ++ 44 (0)1239 811508. Cost £45, postage free in UK, £5 (elsewhere in Europe), £10 (rest of theworld).

The Bog Management Handbook

I'm equally delighted that after much research and editing, the Scottish Wildlife Trust alongside the Royal Society for the Protection of Birds and Scottish Natural Heritage have produced **Conserving Bogs: The Bog Management Handbook** due out in September/October. Its edited by Rob Stoneman and Stuart Brooks and is available from the Stationary Office, South Gyle Crescent, Edinburgh, EH12 9EB, Scotland. Tel ++ 44 (0)131 479 9000. Cost £80 (!!**!!) + postage.

These two books will be reviewed in the next newsletter.

Mires in Europe: a preliminary status report.

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Mires once covered extensive areas in Europe. In many countries they have suffered extensive damage as a result of agricultural reclamation, peat extraction and forestry. Good statistics about former and present day occurrence of mires in Europe, however, are not available.

Wetlands, mires, peatlands ñ defining the definitions

The main reason for this lack of data is, that "mire" is not a familiar concept outside the world of mire scientists. A mire is a landscape (ecosystem) in which peat is accumulating. Peat can only accumulate, when the landscape is wet enough. Therefore, mires are (almost always) wetlands. But "wetland" is not identical to "mire": in many wetlands no peat accumulation takes place.

According to many definitions, mires are characterized by the presence of peat. Areas where peat is occurring (at the surface) are also called "peatlands". Almost all mires are peatlands, but not all peatlands are now mires. A mire that is drained so that peat accumulation stops, remains a peatland (for a while...) but stops being a mire.

[The IMCG definition of a "mire", proposed in Switzerland in 1992, is: "a wetland which has at least some vegetation which is normally peat-forming". This has the advantage of recognising that some mires have no peat deposit, and distinguishes between *mires,* which have peat-forming vegetation, and *non-mire peatlands*, which no longer possess any peat-forming vegetation. Nevetheless, because this definition was proposed in recent times, the majority of available data use earlier definitions which render these various datasets difficult to harmonise into a single concept.

Terminology and language problems

A related complicating factor is, that specific words for "mire" do not exist in many languages. Often the subject is covered by a word meaning "peatland", and no distinction is made whether active peat accumulation is taking place or not (e.g. the German "Moor", the Dutch "veen", the Russian "boloto"). In other languages, there are only words for wetlands on the one hand, and for places where peat can be extracted on the other, e.g. in Roman languages.

Even in English, the concepts "mire" and "peatland" are often mixed up. The 1993 textbook "Mires - Process, Exploitation and Conservation", edited by Louise Heathwaite, for example, translates the German word "Moor" into "mire", with ridiculous consequences. The book describes "mires" covered by several metres of sand, and calls conifer plantations on drained peatland "mire vegetation"...

The scope of this Review

Most reviews therefore concentrate on either wetlands or on peatlands (e.g. Lappalainen 1996). Both concepts may give (in different ways) an overestimation of the occurrence of mires, and an underestimation of the loss of mires by human activities. In this paper, I have tried to make a first estimate of the former occurrence of mires in every country of Europe, the loss of mires by human activities up to the present day, and the area of mires currently under protection.

Notes of explanation

In interpreting the data, the following points should be taken into account:

1. Every peatland is or has been a mire. A good starting point to get an overview of the former occurrence of mires is therefore to use data on the present-day or former occurrence of peatlands and peat soils.

2. The definition of "peatland" and "mires" differs from country to country. Some countries use a minimum depth of 30 cm of peat, other include in "mires" also areas with a "mire" vegetation in which the peat layer is thinner than 30 cm (e.g. Finland), others provide only data for peat thicknesses greater than 70 cm. Also the concept of "peat" is not consistent in space and time, and may even differ between various disciplines within one country (e.g. Russia). Sometimes a minimal share of 30 % of mass of organic material is required to call something "peat", other classifications use 50 % or other values. In the concept "mire", I have included all areas where peat is actively accumulating, and that have a peat layer of minimally 30 cm deep (excluding the vegetation layer), the "peat" consisting of at least 30 % of organic material. In many cases I had to correct existing data to that definition.

3. The mire concept used thus is not identical with "meso-landscape" (cf. Ivanov 1981). When in a largely degenerated peatland one hectare is still accumulating peat, this part is counted as "mire", even when on the longer run such part may not be sustainable.

4. It has not (yet?) been possible to differentiate for different types of mires. Certainly some types have suffered more than others. In Ireland, for example, 1 % of the raised bogs, 3 % of the blanket bogs, but only 0.4 % of the original fen area are currently under protection.

Subsidence and oxidation in originally shallow peatlands will have changed these areas from geological or pedological "peatlands" (having a minimum peat depth) into mineral soils. Especially superficial fens (interesting for agriculture and sensitive to rapid oxidation) and superficial bogs (use of sods for litter and fuel) will have undergone that fate. Deep mires may also have vanished completely without leaving any trace. Such examples are abundant in Belgium and the Netherlands, where large deep bogs were already destroyed by the Middle Ages and subsequent oxidation removed all remaining peat layers (cf. Leenders 1989: "Vanished Peatlands"). A correction for these sources of error has been made on the basis of estimated historical land use intensity.

6. "Former" occurrence implies a time frame to be referred to. It is not possible to fix a "zero" time period, because at the same time mires were still actively expanding, while at other places they were already being destroyed. In the Netherlands, the first human activities leading to large-scaled mire destruction already took place 3000 years ago. Therefore, I have taken as "original occurrence" the maximum expansion of mires in the second half of the Holocene.

7. For every country, I have taken the 1997 borders. Especially in Central Europe national borders have been changing considerably in the 20th century, leading to complications when using old inventory data. As it was impossible to find data for all individual

countries of the former Yugoslavia, these data are presented "en blocque".

8. "Human activities" also include indirect side-effects of human activities outside the mire area itself, e.g. changing hydrological conditions. Human activities have not only led to destruction of mires, but also to (a stimulation of) the origin and expansion of mires (cf. Moore 1975, Törnqvist & Joosten 1988). It is difficult to judge to what extent this mire expansion would also have taken place without human interference (as changes in human activities are also often a function of changing abiotical conditions, e.g. climate). Therefore, I have not balanced the possible positive "constructive" activities with the destructive ones.

9. "Protection" includes all sorts of protection status, varying from strictly forbidden and strongly guarded reserves to sites that are in fact only protected on paper. This category therefore will be an overestimation of the mire area that is really "safe".

10. "There are lies, damned lies and statistics". Of course the data presented are not true, but it was the best "guestimate" I could make on the basis of the information available to me. Please send your critical remarks to me, so that we are able to improve these data!!!

11. In this overview, I refrain from detailed references (I did not make up the figures, but a complete account of all possible sources would take too much space and time here). I would, however, appreciate if your remarks would include detailed references, calculations, estimates, assumptions etc. etc. (not only for mires in general, but also for different types of mires), so that we can discuss the data bilaterally in detail.

The data

The data include for every country the original mire area in 10^3 km^2, the percentage of the country once covered by mires, the estimated loss, and the area protected currently, both expressed as a percentage of the original area.

	Original mire area (10^3km^2)	**Mire area remaining**	**% of original area lost**	**Area protected (%)**
Countries with < 10 % of their original mire area left.				
Albania	0.1	<0.1	99	<1
Armenia	0.3	0.1	95	?
Austria	3	4	90	4
Belgium	1	3	99	<1

Bulgaria	0.1	<0.1	90	<1
Czech Rep.	0.3	<0.1	95	<1
Denmark	10	20	99	<1
France	1	0.2	99	<1
Germany	15	4	99	<1
United Kingdom	18	8	90	5
Greece	2	1	99	<1
Hungary	5	5	99	<1
Italy	1	0.4	99	?
Moldavia	0.1	0.3	90	?
Netherlands	15	50	99	<1
Portugal	0.2	0.2	99	<1

Slovakia	0.1	<0.1	95	?
Spain	0.5	0.1	99	<1
Switzerland	2	6	90	8
Yugoslavia	1	0.4	99	<1
Countries with > 10 % or their original mire area left				
Belarus	30	14	55	13
Ireland	14	17	85	2
Iceland		10	10	20?
Estonia	10	22	70	17
Finland	120	35	80	7
Georgia	1	1	70	20

Latvia	7	11	30	11
Lithuania	5	8	60	16
Norway	30	9	30	3
Poland	13	5	85	1
Rumania	4	2	50	10
Eur. Russia	120	3	50	4
Karelia	55	32	15	3
Sweden	67	16	35	4
Ukraine	12	2	80	1
TOTAL	**554**	**6**	**62**	**5**

Some comments

Within the group of countries, that have lost more than 90 % of their former mire area, the small countries, Denmark and the Netherlands have done an amazing job in destroying mires, both in a relative and in an absolute sense. From this group, only Austria, Britain and Switzerland managed to protect a substantial (but nevertheless small!) part of their original mire area (4 - 8 %). In Britain, this is largely caused by the concentrated protection of the Flow Country, in Austria and Switzerland the protected sites are smaller and more widely dispersed (and the protection status differs...).

Only Iceland, Latvia, Karelia and Sweden have still more than half of their original mire area left. The data for Finland are striking, because it has managed to destroy 80% of its formerly huge mire area. The fact that Rumania still has 50% of its mires is explained by the presence of large fluvial mires in the Dabube Delta. The 50% of Russia is a rough estimate, because detailed data were not available. The high protection status in Georgia is due to the recently established Rioni Delta National Park in Kolchis.

The data indicate that, in Europe, more than 60% of the mires have been destroyed and are no longer peat accumulating landscapes. Possibly 10 - 20% of the original mire area does not exist anymore even as peatland soils.

Peat accumulating mires are primarily still found in the northern parts of Europe, where accumulation rates are relatively low. Destroyed mires are especially found in the other parts of Europe, in some of which (continental regions!) peat oxidation may be extremely rapid.

From a carbon balance point of view, this must imply that European peatlands are strong net carbon emittors, certainly on the longer run (if you take the temporarily increased biomass in peatlands recently drained for forestry into account).

References

Heathwaite, A.L. and Kh. Göttlich (eds.), 1993. *Mires - Process, Exploitation and Conservation*. John Wiley & Sons, Chichester.

Ivanov, K.E., 1981. *Water movement in mirelands*. Academic Press, London.

Lappalainen, E. (ed.), 1996. *Global peat resources*. International Peat Society, Jyskä.

Leenders, K.A.H.W., 1989. *Verdwenen venen. Een onderzoek naar de ligging en exploitatie van thans verdwenen venen in het gebied tussen Antwerpen, Turnhout, Geertruidenberg en Willemstad* 1250 - 1750. Gemeentekrediet, Brussel.

Moore, P.D., 1975. *Origin of blanket mires*. Nature 256: 267 - 269.

Törnqvist, T.E. & J.H.J. Joosten, 1988. On the origin and development of a Subatlantic "man-made" mire in Galicia (northwest Spain). *Proceedings 8th International Peat Congress* Leningrad 1: 214 - 224.

Peat and the art of energy tax evasion

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Lately, the peat industry and associated organisations are increasingly propagating that "peat is a biomass and a renewable resource".

Leading members of the International Peat Society (IPS), who until recently stated the opposite, appear to be converted to the new belief. In 1994, the Russian IPS-executive board member Savelyev concluded in the IPS-Bulletin: "the reproduction ability of peat reserves has significace predominantly from the geological point of view rather than from the nearest industrial perspective." In the latest Bulletin (1997), his Finnish board member collegue Muhonen states: "peat, as biomass and bioenergy, [should] be included in the European Union plans ... in connection with all other renewable energy sources, biomass, biofuels and bioenergy and in actions to increase their use." In Telma of December 1996, the Belarussian peat expert Lishtvan wrote that "although peat is regenerating, it can not be considered a renewable resource". Great was therefore my suprise when I heard this IPS-vice-president disseminated the "peat is biomass"-story in Minsk only five months later.

Either some revolutionary developments have been going on in peat science recently, or there must be more down-to-earth reasons for these changes...

Energy taxes

The latter is true. The European Union is preparing a new directive on the taxation of energy. This directive will enable member states to apply lower taxation rates or even abstain from taxing energy that has been produced by renewable energy sources, including solar, wind, biomass and geothermal energy. Coal, gas and oil are considered to be fossil fuels. In the past, EU also classified peat as a fossil fuel. In the present background papers, however, peat is not classified yet. Acting now could therefore bring interesting fiscal advantages that would stimulate the use of peat for energy.

The recent expansion of the EU led to new members for which peat is a major source of energy, including Finland (6% of energy consumption covered by peat) and Sweden (1%), next to the old EU-peat-burner Ireland (12%). Especially Finnish peat extractors are now taking the lead in lobbying the EU to classify peat as a biomass and a renewable resource.

Arguments

All kinds of arguments are used to support the case, based on the similarity of peat to biomass (especially wood), or on the differences to (other) fossil fuels. These arguments vary from sheer nonsense and scale manipulations to interesting reflections. In the following, I will give comments on *statements and arguments* (which I think to be wrong from recent publications and discussion texts.

Similarities...

"Peatlands are renewable plant communities."

Peatlands are not plant communities, but "lands covered with peat". Also mires are not plant communities, but "ecosystems" (of which plant communities are an important part).

"Peat is biomass."

In science, biomass (bios = life) is defined as the mass of living organisms, populations or communities, or "living weight" (Odum 1971). Peat (in mires) is only biomass, if mires are not ecosystems but organisms (cf. Joosten 1993). In that case, peat extraction is killing the largest and oldest organisms that live on Earth. Most scientists, however, would not consider mires to be organisms, and therefore would not think of peat as biomass. Similarly, they do not classify litter in forests as biomass. Furthermore, much peat is extracted from peatlands that ceased to be living mires (tens of) years ago. So, even if mires were organisms, in such peatlands peat is only "**former** biomass" or "organic rock".

"Peat is organic matter derived from vegetation."

Indeed, peat originates from dead plant material and thus consists largely of organic matter. Peat shares these characteristics with *e.g.* coal, brown coal, oil and natural gas. Organic matter, however, is not identical to biomass.

"Peat has almost the same chemical and physical properties as wood."

In every good handbook on peat, one can read that important chemical and physical differences exist between wood and peat. As far as is relevant for energy production, the chemical properties of peat sit right between those of wood and of browncoal (e.g. Göttlich 1990 p. 117, 249). For horticultural use, wood requires intensive physical and chemical processing to get properties that are somewhat similar to those of peat (cf. Intertoresa 1995).

"The acrotelm of a mire which creates new peat material is comparable with the cambium of a tree in which the formation of new wood material takes place."

The cambium of a tree is the zone in which cells bud off new cells toward both the inside (cells that become xylem tissue) and the outside (cells that become phloem). In the acrotelm, in addition to production (which is in only one main direction: upward!), important decomposition and mineralisation processes also occur. The only feature both have in common is a positive balance of organic matter - the first, however, primarily on an organism level, the other on an ecosystem level.

Peat is stored, partly decomposed biomass analogous to that contained in the wood of trees.

Peat is not biomass. Wood in trees is (normally) not partly decomposed.

"CO_2-emissions from peat and wood combustion are equal in size and CO_2-emissions from peat harvesting are even smaller than those from energy wood harvesting."

1. The amount of CO_2-emissions from combustion or extraction is no criterion for classifying something as a biomass or a renewable resource.

2. Comparisons between CO_2-emissions are meaningless without mentioning the time-scales and the boundaries of the systems under discussion. Calculations mostly do not take into account emissions from post-extraction peat oxidation in the drained peatlands etc. etc. I have not yet seen a study that compares both energy sources in an adequate way with respect to their CO_2-emissions.

"Increased use of bioenergy requires that the use of fuel peat is developed further, as the use of peat allows wood-based fuels and residues to be combusted as side fuels in power plants."

A substance that enables a renewable biomass product to be used as a fuel, does not automatically become a renewable biomass itself. Wood residues burn with all fuels, not only with renewable ones...

Differences...

"Because peatlands are located on the surface of the earth, they are actively participating in photosynthesis in distinction from coal, oil and natural gas which are located inside the earth's crust and the development of which has ceased millions of years ago."

1. There is no causal ("because"), but only a conditional relationship between "photosynthesis" and "being on the surface of the earth".

2. Not all peatlands are actively accumulating peat. The larger part of the peatlands in Europe, for example, are no longer peat accumulating systems (see this Newsletter). Active peat accumulation only takes place in **mires**, ecosystems in which the vegetation produces organic material that is not completely mineralized as a result of "permanent" water saturation of the substrate.

"The accumulation of peat can be modelled and predicted as well as the growth of biomass, which is not the case for fossil fuels."

Accumulation of organic material in mires in the past and its subsequent metamorphosis have resulted in the present-day deposits of peat, brown coal and coal. As in the past, a part of the present-day mire vegetation and peat will change into brown coal and coal deposits. This can be modelled and predicted, because the conservation and transformation processes (tectonics and sedimentation)

have not fundamentally changed in the past 1.3 billion years. There is no reason to suppose that these processes will change in the future. Any possible change will be caused by human activities, e.g. a diminished accumulation of peat at the surface of the Earth, as a result of continuing anthropogenic destruction of mires...

Scale manipulations...

a. "Peat extraction is sustainable as long as the amount of annually extracted peat is lower than the amount of peat annually accumulating."

b. "If nature's carbon reserves, such as forests and boglands, bind more carbon dioxide while growing than is released when they are combusted, we stay on the road of sustainable devlopment."

c. "As long as boglands and woods are net binders of carbon dioxide, the energy obtained from them should not be burdened by such carbon dioxide and energy taxation that are based on emissions." (My underlinings)

These statements are tricky ones, because they are very suggestive. But they are wrong: they manipulate with scales, both in space, function and time! Let me give some examples to explain.

1. **The spatial and functional scope**: In various countries (e.g. Netherlands, Estonia, Finland, Russia), the amount of annually extracted and combusted peat is less than the amount of peat annually accumulating. But next to actual peat extraction, enormous peat losses occur in cutover, forested, and agricultural peatlands. The peatland carbon balance of all these countries shows net C-emissions! Comparing the whole of the gain with only part of the losses is either bad book-keeping or fraud.

Why should national peat accumulation only compensate for losses caused by peat combustion? Why not for the whole peatland exploitation? Now and in the past? Or for all national carbon emissions: why shouldn't a Canadian car driver point at the living mires in his country to compensate for his carbon-emissions? Or Brazil demand boreal peat accumulation in exchange for tropical biodiversity conservation?

National (or even global) peat accumulation is not the "property" of peat extractors and combustors, and can therefore not be claimed for compensating their carbon emissions.

2. **The temporal scope**: If I buy a virgin bog and start to slowly extract peat at the edge, it may take a long time before my annual peat extraction volume exceeds the annual accumulation of peat in my bog. But, unless peat is actively regenerating on the cut-over sites, this "sustainable" peat extraction will come to an end. If you are eventually destroying the bakery, it has no use talking about sustainability, even if at the start more cookies are produced than consumed.

"Compared to trees, the combustion of which is regarded as carbon dioxide neutral, the planned utilisation of peat as a fuel linked to appropriate afteruse of peatlands (forestation or restoration) in countries with sufficient pristine peatland resources could be carbon dioxide negative (i.e. on a global or regional basis peatlands should continue to function as net carbon sinks)."

A similar scale manipulation, but even more unmitigated swindle. According to this statement, peat combustion may be a carbon sink ("utilisation as a fuel could be carbon negative"), provided that some conditions are fulfilled. The net carbon sink does, of course, not result from combustion. Also the "appropriate afteruse" will not change the balance into a sink, because neither restoration nor afforestation of the site will be able to compensate for the carbon losses of the burned peat within the next millenia. The net carbon sink must directly be attributed to the "remaining pristine mires"! These were also carbon sinks before "the planned utilisation of peat as a fuel". With strict preservation, the carbon sink rate of these mires will remain constant. Additional peat combustion will result in the net carbon sink effect becoming smaller (and not larger as insinuated!). And what's more: pristine mires are threatened by peat extraction...

"Peat can be a renewable natural resource in some countries with adequate peat resources to support sustainable utilisation whilst continuing to contribute to atmospheric carbon dioxide reduction."

1. Peat does not contribute to atmospheric carbon dioxide reduction, peat **accumulation** (as a process) does! With respect to carbon economy, peat is only a form of carbon storage. So, actually the statement should be rephrased thus: "Mires can provide renewable natural resources..." etc.

2. The statement (cf. the former one) claims (in its correctly rephrased form) that mires can both provide a renewable resource (peat)

and contribute to atmospheric carbon dioxide reduction. Indeed they can. One and the same entity of peat, however, can only fulfill one of these options: it can not serve God *and* Mammon. So either you use the peat as a resource, or you leave it in the mire to act as carbon storage.

"Future expansion of the [European] Union, through the accession of Finland, Sweden, Norway and Austria, will greatly increase the peatland area and reduce the proportion utilised for peat production from 3 % at present to less than 1 %, resulting in a more favourable balance between carbon capture and emission".

Again a nice example of scale-manipulation, dating from just before the recent expansion of the EU. The actual carbon economy did not change at all with the redrawing of the political borders. And if we look at the EU-scale (which is nonsense, of course) we must conclude that the new member states merely make the EU peatland-C-accumulation rate more negative.

Renewability...

"The concept 'ecological renewability of resources' must be clearly separated from the concept 'sustainable utilisation of the resources'."

Sustainable utilisation of resources is directly linked to the renewability of these resources. Only renewable or indestructable resources can be used sustainably.

"One must clearly separate the concept of 'ecological renewability' from the concept of 'energy-economic renewability of peat deposits'."

1. If I understand it correctly, this statement implies that when something is ecologically renewable, the economic renewability is not relevant any more for classifying it as a renewable resource. This disregards the "resource" part of the "renewable resource" concept. Renewable resources are economic concepts, not ecological.

2. In assessing renewability, one must take both ecological and socio-economic criteria into account. Ecological scales are determined (objectively) by the functional scales of the ecosystem under consideration. Socio-economic scales are both determined (objective), e.g. by the prevailing turn-over rates of economic processes, and chosen (subjectively, e.g. depreciation terms).

Natural production processes cannot be described meaningfully for short periods, because of their large inter-annual variability (e.g. dry/wet years). Employing renewability calculations over very long time periods is only tolerable, if

- the harm done in the intervening period is negligible,

- the production system actually will be fully restored and the resource renewed,

- no major negative effects can occur if renewal and restoration, for one reason or another, fail to succeed.

As these conditions are not fulfilled, the only meaningful timescale to determine renewability is decennia up to (maybe) some centuries.

3. Almost all energy peat in use is older than some thousands of years (= older than western civilisation). This strongly humified and compact peat (with a high caloric value) has originated under climatic and biogeographical conditions, und subsequent accumulation and decomposition processes that were somewhat different from the present. Furthermore, the older peat deposits have experienced other physical and chemical processes (related to pressure and duration) than the younger peat layers.

4. Horticultural peat is won from younger peat deposits. As this peat either is part of the "acrotelm" or structurally similar to the acrotelm (large hydrological storage coefficient), a subsequent re-establishment of peat accumulating vegetation is hampered or made impossible by the removal of these peat layers.

5. Research indicates that "renewable" (rotation) culture of young peat (e.g. for horticulture), similar to forestry, is possible ecologically (Joosten 1995). Such techniques, however, have not been practised yet and at present no research is being done in this direction. The mere fact that sustainability in some respects may be reached, does not make the present-day activities sustainable.

"The use of peatlands for agriculture, forestry, municipal construction or energy can be regarded as sustainable in the case that annual accumulation of new peat material in the pristine deposits exceeds destructive use of existing deposits within the limits of a certain land area. This is the case also in the use of

wood, which can be regarded sustainable only if the use of wood does not exceed its annual growth."

Renewability of resources is dependent on systems that produce these resources. Peat is produced in mires by vegetation under specific hydrological conditions. Use of peat (and peatlands) is only sustainable if peat "consumption" (oxidation) is not exceeding peat "production" (accumulation), **and if** the peat producing systems (mires) are not negatively influenced in their productivity.

When trees are cut, the "forest"-climax (= succession tendency) of the area is mostly maintained. After cutting and removal, trees, forests and wood re-establish spontaneously (although often with a lower quality). Peat extraction in mires, however, not only leads to a removal of the peat, but mostly also to the destruction of the capacity for re-establishment of mire vegetation, to (often irreversible) damage to the hydrologic conditions necessary for the preservation of organic material, and therefore to the destruction of potential subsequent peat accumulation. This is illustrated by the fact that there is no evidence of large-scale re-establishment of peat-accumulation in large-scale cut-over bogs. Peat extraction is therefore not only extracting peat, but is, until now, increasingly destroying the peat producing ecosystems without subsequent replacement (Joosten 1995).

a. "The carbon balances of wood and peat meet the principles of sustainable development: utilised wood and peat is replaced by new forests and new boglands, which bind carbon dioxide in a more effective way than old forests or boglands."

b. "Because actively-growing young bogs are better at fixing atmospheric CO_2, consideration should be given to the stripping away of "old" bogs and restoring the active carbon sink of vigourously regenerating peat areas."

New forests and young living bogs may indeed bind carbon dioxide more rapidly (in $kg.ha^{-1}.y^{-1}$) than their "older" counterparts. The amount of totally stored carbon (in $kg.ha^{-1}$), however, is much lower in the younger systems. The carbon dioxide issue is not a function of annual carbon binding, but of long-term carbon storage. If you "strip away" old bogs, you create an additional carbon source that cannot be compensated for by the sink of the new young bogs (if you succeed in restoring them at all!).

"Determination of the sustainable utilisation of peatlands must take into account the rate of exploitation and the annual accumulation of new peat substance. Also the possibility to restore the cut-over land area or to use it in production of other biomass like wood and corn should be taken into account."

Mires not only produce organic material, like forests and cornfields, but also store and conserve it over time periods that are 10-100 times longer than forests and 1000-10000 times longer than cornfields do. Annual production of organic material is largely irrelevant to the global carbon balance when compared with long-term storage. The recent increase of atmospheric CO_2 is not caused by a decrease in plant production, but by a release of long-term stored organic material. The biomass and litter carbon of a forest or a cornfield established on a cut-over peatland can only compensate for the peat carbon losses to a (very) small extent.

"Renewed peat accumulation in old peat excavation pits is evidence that peat is renewable and that mires can be used sustainably by peat extraction."

1. The fact that, on a very small scale, renewed peat accumulation can be observed after minor peat extraction is no proof for the existence of economically viable sustainable peat exploitation techniques.

2. Sustainability and renewability have to be tested separately for the various functions of a system. Mires regulate climatic, atmospheric, hydrological, pedological, ecological and genetic conditions (regulation functions), provide space and a substrate for e.g. recreation and nature protection (carrier functions), provide many other resources, ranging from oxygen, water and food to raw materials and genetic materials (production functions), and provide opportunities for reflection, spiritual enrichment, cognitive development, and aesthetic experience (information functions). Limiting the assessment of sustainability and renewability to the function "accumulation of energy peat" is like limiting the functions of tropical rainforests to providing firewood.

a. "Because the extent of peat resources differs from country to country, no general rule for determination of the sustainable utilisation of peatlands can be given. This must be done taking into account national peat resources, their rate of exploitation and the annual accumulation of new peat substance."

b."The acceptability of the use of peatlands for different social purposes varies from country to country and should be decided by the country concerned on the basis of specific national programs."

Sustainable use of peatlands must be judged on a specific spatial scale. Equating this spatial scale to the national one, does not take the distribution of peat, peatlands and mire types sufficiently into account, as national boundaries often do not have any ecological meaning. Restricting full responsibility and decision authority to the national level is furthermore inconsistent with

- the existence of an **International** Peat Society and an **International** Mire Conservation Group

- a focussing on a **European** Union

- a concern for **global** problems.

The present global problems demand that criteria are set at an international level, which may overrule (or at least constrain) national or regional criteria for goal setting.

Conclusions

The arguments presented to classify peat as a biomass and a renewable resource are insinuative, inconsistent and scientifically wrong. Deliberate use of such "pseudo-science" to influence EU energy taxation policy is not a contribution to a factual discussion, but a cynical attempt to evade taxes.

Peat may in future become a renewable resource for some applications (cf. Joosten 1995). In practise, peat is not renewed at all at this moment. The failing restoration of peat producing ecosystems is the major bottle-neck for the renewal of the peat resource.

The fact that mires are still growing and expanding in some (and even large) parts of the world, is no reason for calling peat extraction elsewhere "sustainable". Mires fulfill a variety of functions for society. Claiming peat accumulation in pristine mires as compensation for peat extraction, is arrogating common property for private use. As with forestry, there should be a spatial and operational link between exploitation and renewal of resources.

The claim of renewable peat exploitation will therefore only be valid, if peat extractors produce their own peat. As first steps towards that goal, they should

limit their extraction activities to already strongly degenerated peatlands with low conservational and environmental value,

- stimulate research in the restoration of efficient **peat accumulation** processes after industrial extraction,

- develop techniques for rotation peat cultivation,

- identify the maximum area of peatlands necessary for establishing such sustainable peat production system. This area should be a function of an actual "reasonable" peat demand and "realistic" reproduction rates.

Any future increase in demand (and supply) should be covered by increased production on the existing production areas, not by increasing the production area.

Although existing initiatives for "wetland restoration" can be welcomed, peat extractors still have a hell of a way to go before they can deservedly call themselves "peat producers". Up until then, peat cannot seriously be treated as a "renewable resource".

One of the environmental functions of mires is the sequestring of carbon dioxide. The EU Energy Taxation Directive is aiming at a conversion of fossil to renewable energy **in order to decrease carbon dioxide concentrations in the atmosphere**. Classifying peat as a renewable energy resource will, under the present conditions, increase the threat on mires, leading to a decrease of their carbon dioxide sink function, and will therefore result in the opposite of what the Directive is aiming at.

Furthermore, it will lead to a further destruction of ecosystem types, that are priority habitats under the EU-Habitat-Directive.

References

Gõttlich, K. (Ed.), 1990. Moor- und Torfkunde. 3d Edition. Schweizerbart, Stuttgart.

Intertoresa, 1995. Produktinformation toresa: Die echte Alternative. Intertoresa AG, Oftringen.

Joosten, H., 1993. Denken wie ein Hochmoor: Hydrologische Selbstregulation von Hochmooren und deren bedeutung für Wiedervernässung und Restauration. Telma 23: 95 - 115.

Joosten, J.H.J., 1995. Time to regenerate: long-term perspectives of raised bog regeneration with special emphasis on palaeoecological studies. In: B.D. Wheeler, S.C. Shaw, W.J. Fojt & R.A. Robertson (eds.): Restoration of temperate wetlands. Wiley, Chichester, 379 - 404.

Lishtvan, I.I.**,** 1996. Chemische Torfsubstanzen und Torfprodukte - Erfahrungen aus Weissrussland. Telma 26: 163 - 170.

Muhonen, E., 1997. Peat as a renewable bioenergy in the EU, too. IPS-Bulletin 28: 42 - 43.

Odum, E.P., 1971. Fundamentals of ecology. 3d Edition. Saunders, Philadelphia.

Savelyev, V.M., 1994. Activities of the Russian National Committee of the IPS. IPS-Bulletin 25: 55 - 58.

"The new statutes of the IPS urge and demand us to distribute factual information on the ecology of peatlands and on the economic and environmental impacts of the use of peatlands."

Raimo Sopo, Secretary-General of IPS, IPS-Bulletin 28, 1997.

Wetlands International project proposal: watch this space!.

Wetlands International and the Ramsar Bureau have put together a draft project proposal for submission in October to a number of possible funding agencies. The project is called *Peatland Conservation and Management in Central and Eastern Europe* and is designed to assist a range of countries in central and eastern Europe to establish mire conservation strategies.

Although the project clearly has much which is of potential interest to IMCG members, the project proposers have suggested that IMCG should have a more direct involvement as an "Expert Group" (along the lines of Wetlands International's Expert Groups for a number of other subject areas). This would involve the IMCG in providing expertise in drawing together information about mire systems in the various countries involved ñ Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, Czech republic, Slovak Republic, Hungary, Romania and Moldovia.

A workshop, would then be organised to debate the best ways of developing a range of practical conservation programmes, appropriate for each country. These programmes would bring together ideas of sustainability, habitat protection, conservation management and local involvement.

It is likely that funding would enable IMCG to employ a co-ordinator who would have responsibility for drawing together the expertise in IMCG, and for organising the meetings and workshops required to debate and reach agreement on the various issues. Obviously we would need to establish such issues as the most appropriate location for such a post, responsibility for supervision, and a range of other administrative details. This means that there is all the more urgency for IMCG to determine its formal structure

and establish the necessary infrastructure as soon as possible. Not only does this project proposal offer a great deal for the conservation of mires in central and eastern Europe; it also gives IMCG the opportunity to demonstrate the value of its combined expertise across the whole subject area of mire conservation. Please be ready to make your contribution ñ at this stage, in commenting on the project proposal details.

The project co-ordinator for Wetlands International is Henk Zingstra, who is currently sending the latest draft to all Wetlands International delegates in the countries involved for their comments. If you wish to receive a copy of the draft project text (copies will be sent to Working Group and Decision-Making Group Members in any case), please contact Richard Lindsay.

The project bid will go forward to the funding agencies in October. The proposed start-date is May 1998, and the project will run for 2 years.

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