



## IMCG Bulletin: May 2014

### Word from the Chair



Dear mire friends

[www.imcg.net](http://www.imcg.net)

This month we have a somewhat shorter bulletin. Preparations for the Bi-annual General Assembly, 2014 Field Symposium, Congress and General Assembly to be held in Belarus from 13 to 27 July 2014 are well underway. We wish the organisers well with the final preparations in June!

**We have received a special request from Max Finlayson, the lead editor of The Wetland Encyclopaedia. Please read more below:**

The Wetland Encyclopaedia is being prepared for Springer Publishers and an author is required to provide a 1000–2000 word overview of **peat classification**. The encyclopaedia, being prepared by a team of editors led by Max Finlayson (Australia) and Nick Davidson (Ramsar Convention Secretariat), will comprise 4 volumes – wetland structure and function, management, methods, and global distribution. The article is part of a section on wetland classification and should comprise a clear overview of the current situation for peat classification with a small number of key references. It will sit beneath a more general essay article on wetland classification. All authors will have open access to the entire encyclopaedia. Please contact Max Finlayson on [mfinlayson@csu.edu.au](mailto:mfinlayson@csu.edu.au) to discuss your interest and a suitable timeline for delivery.

Contributions for the IMCG Bulletin can be sent to Piet-Louis Grundling - [peatland@mweb.co.za](mailto:peatland@mweb.co.za)

### Mires and Peat

We encourage our members to support Mires and Peat with your contributions. Contact Olivia Bragg, our editor, if you have enquiries ([o.m.bragg@dundee.ac.uk](mailto:o.m.bragg@dundee.ac.uk)).

#### **Volume 15 Special Volume: Mountain Peatlands (2014/15):**

We have received several contributions for this special volume. More articles can be accommodated. If you work in mountain mires then please add your planned article to the list, email your provisional title and projected submission date to Olivia Bragg ([o.m.bragg@dundee.ac.uk](mailto:o.m.bragg@dundee.ac.uk)) or Piet-Louis Grundling ([peatland@mweb.co.za](mailto:peatland@mweb.co.za)).

Articles in Mires and peat can be accessed at <http://www.mires-and-peat.net/>

## News received from IMCG Regions

### **Australasian news**

Bev Clarkson and Dave Campbell

#### **Maori-led restoration project**

An ambitious restoration project led by Waikato-Tainui, a Maori tribe living in the Waikato region, has recently received funding. Several islands (containing mires/ wetlands) along the Waikato River, the longest river in New Zealand, have been returned to Waikato-Tainui; they are, however, dominated by troublesome exotic species. The goal is to restore two islands (totalling 16 ha), one using traditional chemical methods for weed control,



the other using non-chemical approaches. Outcomes will include increased technical training, research capability, and understanding of Waikato-Tainui traditional practices, as well as two restored culturally significant islands.

<http://www.sciencelearn.org.nz/Contexts/Toku-Awa-Koiora/Sci-Media/Video/Maurea-Islands>

### **National Radio in the bog**

IMCG member Dave Campbell (Waikato University) was recently interviewed by Radio New Zealand on his team's carbon flux research in Kopuatai Bog. Kopuatai is New Zealand's largest raised bog (10 000 ha) and is designated as a Ramsar site. To hear (literally) Dave and the interviewer stomping around at Kopuatai bog (but gently!) and talking about the ecology, hydrology, and climate change as well as carbon storage, play the podcast:

<http://www.radionz.co.nz/national/programmes/ourchangingworld/audio/2596604/kopuatai-peat-bog-and-carbon-research>

## **News from all over**

### **Republic of the Congo**

The following is an edited version an article by Rebecca Morelle Science correspondent, BBC News

#### **A vast peatland has been discovered in a remote part of Congo-Brazzaville.**

The peat covers an area the size of England and Dr Simon Lewis, from the University of Leeds, said: "It's remarkable that there are parts of the planet that are still uncharted territory."



Satellite images initially hinted at the presence of the enormous tropical peatland, but an expedition, starting from Itanga village in April, confirmed it was there. The discovery team, from the University of Leeds, the Wildlife Conservation Society-Congo and Congo-Brazzaville's Marien Ngouabi University, had to contend with dwarf crocodiles, gorillas and elephants as they explored the area. The team estimates that the peatland covers between 100 000 and 200 000 km<sup>2</sup>, with the peat-layer reaching up to 7m in thickness.

While some peatlands around the world are under threat, particularly from drainage to make way for agriculture, the team thinks the Congo peatland is safe for now. Dr Lewis said: "Its remoteness naturally provides protection. And much of the area in the Republic of Congo is already a community reserve: it is managed by the Wildlife Conservation Society, the government and the local people. They have a management plan to manage the area and also increase their livelihoods and incomes."

*The peatland is covered in swamp forest*



*A peat sample from the investigated peatland. Note the fine structure*

### **National wetlands database and interactive mapping tool now complete**

To coincide with American Wetlands Month this May, the U.S. Fish and Wildlife Service is announcing the completion of the most comprehensive and detailed U.S. wetland data set ever produced. This [interactive mapping tool](#) will be an invaluable aid to landowners, developers, government planners and permitting authorities, conservation organizations and academic institutions in their collective efforts to ensure wetland conservation and inform economic development. Read more on the [U.S. Fish and Wildlife Services website](#).

### **Manitoba bans peat extraction in provincial parks**

As part of its Peatlands Stewardship Strategy, the Manitoba government will ban peat extraction in more than 80 wildlife management areas as well as in provincial parks. It will also require peat extraction companies to post security when they obtain production licences to ensure they restore or rehabilitate peatlands once harvested. The new measures are outlined in a bill introduced in the Manitoba legislature end of April 2014. Bill 61 (The Peatlands Stewardship and Related Amendments Act) would transfer responsibility for peat extraction to the Conservation and Water Stewardship Department from the Department of Mineral Resources.

Manitoba overhauled its peatland policies after the public raised concerns that a company had received a licence and intended to extract peat in Hecla/Grindstone Provincial Park. The government quashed the development and paid the company close to a half-million dollars in compensation. It also banned peat extraction in all provincial parks. That order will now be legislated.

The Wildlife Management Areas in which peat extraction will also be barred represent nearly five million acres of land. The only WMA in which production will be allowed is Moose Creek, north of Riverton, where extraction rights are already in place.

<http://www.winnipegfreepress.com/local/Province-bans-peat-harvesting-in-provincial-parks-257443821.html>

Find the full act under: <https://web2.gov.mb.ca/bills/40-3/pdf/b061.pdf>

See further on Manitoba's Peatlands Strategy:

[http://www.gov.mb.ca/conservation/peatlandsstewardshipstrategy/stewardship\\_strategy.html](http://www.gov.mb.ca/conservation/peatlandsstewardshipstrategy/stewardship_strategy.html)



<http://nationtalk.ca/story/province-to-introduce-first-of-its-kind-in-canada-boreal-peatlands-stewardship-bill/>

### **New Report highlights multiple benefits of peatland restoration around the world**

The latest publication from the IUCN UK Peatland Programme and CEM Thematic Group on Peatlands, 'Global Peatland Restoration – Demonstrating Success', launched on April 29<sup>th</sup> 2014 in Brussels, showcases successful restoration projects across the world. Case studies illustrate opportunities for restoration and sustainable management as well as innovative ways of engaging communities in conservation action.

Europe has a crucial part to play, not only in preserving and restoring its own peatlands but also in extending support and knowledge around the world. The EU 2020 Biodiversity Strategy advocates sustainable ecosystem management and the balancing of ecological, economic and social functions of peatlands and other valuable ecosystems. The UK is among the world-leaders in peatland restoration and through the IUCN UK Peatland Programme, a partnership of government and public organisations is working to safeguard healthy peatlands that can bring benefits to society.

Read more under: <http://www.iucn.org/?uNewsID=14740>

The full IUCN UK Peatland Programme Global Peatland Restoration - Demonstrating Success booklet is available online:

<http://www.iucn-uk-peatlandprogramme.org/sites/all/files/IUCNGlobalSuccessApril2014.pdf> .

### **ASEAN Peatland Management Strategy**

The ASEAN Peatland Management Strategy was reviewed and endorsed in September 2013. Consequently, a new document has been published in April 2014. Do have a look at the updated document, it is available on the ASEAN Peatlands website at

<http://www.aseanpeat.net/index.cfm?&menuid=54>.

### **Palm oil company director sentenced for destroying peat forest**

In a decision on Wednesday, May 7, 2014, a court in Meulaboh district sentenced Subianto Rusyid, the director of PT Kalista Alam, to ten months imprisonment and a 150 million rupiah (\$13,000) fine for his company's illegal destruction of a block of forest within the the Tripa peat swamp, an area off-limits to conversion within the Leuser Ecosystem. The court said Subianto was guilty of negligence in the highly-publicized case, which was widely seen as a test of Indonesia's commitment to enforcing a three-year-old moratorium on new plantation and logging concessions across some 14.5 million of hectares of previously unprotected rainforests and peatlands. Environmental groups blasted a "lenient" sentence imposed on the director.

Read more at <http://news.mongabay.com/2014/0509-tripa-punishment-subianto.html>

## **Upcoming Events**

Please visit the IMCG website ([www.imcg.net](http://www.imcg.net)) for announcements on a range of upcoming events  
<http://www.imcg.net/pages/events.php>





## Recent scientific publications: peatland conservation

Every month a wealth of scientific papers are published, many of which have relevance for peatland management and mire conservation. In this column we present the title and the URL of a selection of these papers. The selection does not aim at completeness and will inevitably be biased by the (wide...) interest of the compiler (Hans Joosten). If you want to share papers that you fear otherwise would be missed, please send title and URL to [joosten@uni-greifswald.de](mailto:joosten@uni-greifswald.de)

1. A decision tree based on spatial relationships for predicting hotspots in peatlands:  
<http://www.journal.uad.ac.id/index.php/TELKOMNIKA/article/view/2036>
2. Evidence for a non-monotonic relationship between ecosystem-scale peatland methane emissions and water table depth: <http://onlinelibrary.wiley.com/doi/10.1002/2013JG002576/abstract>
3. A satellite data driven biophysical modeling approach for estimating northern peatland and tundra CO<sub>2</sub> and CH<sub>4</sub> fluxes: <http://www.biogeosciences.net/11/1961/2014/bg-11-1961-2014.pdf>
4. On the applicability of unimodal and bimodal van Genuchten-Mualem based models to peat and other organic soils under evaporation conditions:  
<http://www.sciencedirect.com/science/article/pii/S0022169414003217>
5. Late Holocene climate change and human impact inferred from the pollen record, Haman area, southern Korea: <http://www.sciencedirect.com/science/article/pii/S1040618214002201>
6. Does oxygen exposure time control the extent of organic matter decomposition in peatlands?:  
<http://onlinelibrary.wiley.com/doi/10.1002/2013JG002573/abstract>
7. Impact of peatland drainage and restoration on esker groundwater resources: modeling future scenarios for management: <http://link.springer.com/article/10.1007%2Fs10040-014-1127-z#close>
8. Burned and unburned peat water repellency: Implications for peatland evaporation following wildfire: <http://www.sciencedirect.com/science/article/pii/S0022169414001930>
9. Properties, processes and ecological functions of floodplain, peatland, and paddy soils:  
<http://www.sciencedirect.com/science/article/pii/S0016706114001554>
10. Suitability of degraded peat for constructed wetlands — Hydraulic properties and nutrient flushing: <http://www.sciencedirect.com/science/article/pii/S0016706114000056>
11. Can treatment wetlands be constructed on drained peatlands for efficient purification of peat extraction runoff?: <http://www.sciencedirect.com/science/article/pii/S0016706113004369>
12. Estimating transient freshwater lens dynamics for atoll islands of the Maldives:  
<http://www.sciencedirect.com/science/article/pii/S0022169414003345>
13. Medium vs. short-term effects of herbivory by Eurasian beaver on aquatic vegetation:  
<http://www.sciencedirect.com/science/article/pii/S0304377014000175>
14. Evapotranspiration and crop coefficient of common reed at the surroundings of Lake Balaton, Hungary: <http://www.sciencedirect.com/science/article/pii/S0304377014000278>
15. Importance of seedling recruitment for regeneration and maintaining genetic diversity of *Cyperus papyrus* during drawdown in Lake Naivasha, Kenya:  
<http://www.sciencedirect.com/science/article/pii/S0304377014000370>
16. Evaluating approaches for estimating peat depth:  
<http://onlinelibrary.wiley.com/doi/10.1002/2013JG002411/abstract>
17. The effect of long-term water table manipulations on dissolved organic carbon dynamics in a poor fen peatland: <http://onlinelibrary.wiley.com/doi/10.1002/2013JG002527/abstract>
18. Organic matter transformation in the peat column at Marcell Experimental Forest: Humification and vertical stratification: <http://onlinelibrary.wiley.com/doi/10.1002/2013JG002492/abstract>



19. Meteorological and functional response partitioning to explain interannual variability of CO<sub>2</sub> exchange at an Irish Atlantic blanket bog:  
<http://www.sciencedirect.com/science/article/pii/S0168192314000264>
20. Management of reedbeds: mosaic reed cutting does not affect prey abundance and nest predation rate of reed passerine birds: [http://link.springer.com/article/10.1007/s11273-013-9325-3?wt\\_mc=alerts.TOCjournals](http://link.springer.com/article/10.1007/s11273-013-9325-3?wt_mc=alerts.TOCjournals)
21. Sedimentary environment changes of the Ningshao Plain since the later stage of the Late Pleistocene: Evidence from palynology and stable organic carbon isotopes:  
<http://www.sciencedirect.com/science/article/pii/S1040618213008434>
22. Linking forest cover, soil erosion and mire hydrology to late-Holocene human activity and climate in NW Spain: <http://hol.sagepub.com/content/24/6/714?etoc>
23. Ecological restoration of rich fens in Europe and North America: from trial and error to an evidence-based approach: <http://onlinelibrary.wiley.com/doi/10.1111/brv.12102/abstract>
24. Mapping wetlands in Indonesia using Landsat and PALSAR data-sets and derived topographical indices:  
<http://www.tandfonline.com/doi/abs/10.1080/10095020.2014.898560#.U32qlyjJ2P0>
25. Origin, composition, and transformation of dissolved organic matter in tropical peatlands:  
<http://www.sciencedirect.com/science/article/pii/S0016703714001768>
26. Canal blocking strategies for hydrological restoration of degraded tropical peatlands in Central Kalimantan, Indonesia: <http://www.sciencedirect.com/science/article/pii/S0341816213002531>
27. Natural regeneration in a degraded tropical peatland, Central Kalimantan, Indonesia: Implications for forest restoration: <http://www.sciencedirect.com/science/article/pii/S0378112714001959>
28. Classification of tropical lowland peats revisited: The case of Sarawak:  
<http://www.sciencedirect.com/science/article/pii/S0341816214000198>
29. Carbon storage and release in Indonesian peatlands since the last deglaciation:  
<http://www.sciencedirect.com/science/article/pii/S0277379114001656>
30. Altered plant-community composition and edaphic features associated with plowing in Southern Wisconsin fens: <http://alerts.springer.com/re?l=D0ln5r0b0l6gt0l9gl1h>
31. Modeling methane emissions from Amazon floodplain ecosystems:  
<http://alerts.springer.com/re?l=D0ln5r0b0l6gt0l9gl1w>
32. Comparison of flow direction algorithms in the application of the CTI for mapping wetlands in Minnesota: <http://alerts.springer.com/re?l=D0ln5r0b0l6gt0l9gl1z>
33. Quantifying tropical wetlands using field surveys, spatial statistics and remote sensing:  
<http://alerts.springer.com/re?l=D0ln5r0b0l6gt0l9gl2e>
34. Spatial variability of annual estimates of methane emissions in a *Phragmites australis* (Cav.) Trin. ex Steud. dominated restored coastal brackish fen: <http://alerts.springer.com/re?l=D0ln5r0b0l6gt0l9gl2n>
35. Carbon, nitrogen, phosphorus, and potassium stoichiometry in an ombrotrophic peatland reflects plant functional type: [http://link.springer.com/article/10.1007/s10021-014-9752-x?wt\\_mc=alerts.TOCjournals](http://link.springer.com/article/10.1007/s10021-014-9752-x?wt_mc=alerts.TOCjournals)
36. Re-flooding a historically drained wetland leads to rapid sediment phosphorus release:  
[http://link.springer.com/article/10.1007/s10021-014-9748-6?wt\\_mc=alerts.TOCjournals](http://link.springer.com/article/10.1007/s10021-014-9748-6?wt_mc=alerts.TOCjournals)
37. Late Pleniglacial and Late Glacial lake-mire transformations in south-eastern Poland reflected in aquatic and wetland vegetation changes:  
<http://www.sciencedirect.com/science/article/pii/S1040618214002663>
38. Human–environment interactions in an agricultural landscape: A 1400-yr sediment and pollen record from North Pare, NE Tanzania: <http://www.sciencedirect.com/science/article/pii/S0031018214001886>



39. Distribution and landscape controls of organic layer thickness and carbon within the Alaskan Yukon River Basin: <http://www.sciencedirect.com/science/article/pii/S0016706114001475>
40. Re-evaluation of late Holocene fire histories of three boreal bogs suggest a link between bog fire and climate: <http://onlinelibrary.wiley.com/doi/10.1111/bor.12086/abstract>
41. Biogeographic patterns of base-rich fen vegetation across Europe: <http://onlinelibrary.wiley.com/doi/10.1111/avsc.12065/abstract>
42. Holocene development of maritime ombrotrophic peatlands of the St. Lawrence North Shore in eastern Canada: <http://www.sciencedirect.com/science/article/pii/S0033589414000556>
43. Restoring ecosystem structure and functions. Results from Sphagnum peatlands degraded by forestry drainage: <http://urn.fi/URN:ISBN:978-951-39-5637-0>
44. Bridging the gap between applied ecological science and practical implementation in peatland restoration: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12258/pdf>

**Please send your contribution to the IMCG Bulletin by the 20<sup>th</sup> of each month:**  
[peatland@mweb.co.za](mailto:peatland@mweb.co.za)