IMCG Bulletin: February 2015

INTERNATIONAL MIRE CONSERVATION GROUP

www.imcg.net

Word from the Chair

Dear mire friends

This February issue of the IMCG Bulletin is a bit later than usual. This is because I had the privilege of spending some time infield in the past two weeks with, among others, Ab Grootjans (from the Netherlands) and students, on the eastern seaboard of South Africa. It was truly a typical IMCG networking event: researchers from the Netherlands, South Africa and Sudan meeting infield to support students from Germany, Egypt and South Africa.

It is important that the IMCG members continue to build networks and maintain partnerships with individuals, organisations and organs of state to promote the conservation of mires across the world on a local and regional level. We would therefore like to introduce our Main Board members to you in the coming months so that you can get to know us a bit better. We hope this will stimulate greater feedback through our networks to our members. Read more in this issue about World Wetland celebrations in New Zealand and South Africa, and about peatland restoration in France.

The IMCG network is only as strong as its members are active. We are keen to learn more about mire news in your district, country or region! Contributions for the IMCG Bulletin can be sent by 25 March 2015 to Piet-Louis Grundling - peatland@mweb.co.za.

Mires and Peat

Olivia Bragg (o.m.bragg@dundee.ac.uk)

New articles in *Mires and Peat*

Mires and Peat is the open-access peer reviewed journal of IMCG and the International Peat Society (IPS). Find it online at http://mires-and-peat.net/ and in the *Thomson Master Journal List* (*Web of Science*).

One new article will appear in Volume 16 in March:
Characteristics of Eastern Canadian cultivated Sphagnum and potential use as a substitute for perlite and vermiculite in peat-based horticultural substrates (M. Aubé, M. Quenum and L.L. Ranasinghe)
This is the 40th article that has appeared in a period of 24 months, which means that we continue to maintain the publication rate that is required to qualify our very special journal for its place in *Web of Science* and the now very close objective of an Impact Factor. Please help us to keep it there, by sending your next manuscript on any topic relating to mires, peatlands and peat to o.m.bragg@dundee.ac.uk, for:

- friendly editorial management by eminent peatland specialists (O.M. Bragg, R.S. Clymo, S.N.P. Glatzel, P.M. Jones, J.O. Rieley);
- minimal publication delays (average turnaround time from submission to publication is currently less than 230 days); and
- free global exposure of your work in an ISI journal.

News from our regions

Oceania

Bev Clarkson (Clarksonb@landcareresearch.co.nz)

New Zealand black swan stamp marks World Wetlands Day 2015

New Zealanders interested in enhancing and protecting wetlands are being urged to buy the latest Fish & Game habitat stamp that was launched to mark World Wetlands Day. This year, the stamp features the black swan (*Cygnus attratus*; Maori name wani) which can be hunted as a game bird.

The Game Bird Habitat Stamp programme was set up to raise funds – from the sale of the game bird hunting licences, stamp collection and related products – for projects aimed at protecting and enhancing wetlands and game bird and other wildlife habitat.

The black swan was a native bird that has been found in Maori middens (archaeological deposits). When Europeans arrived they were extinct but were re-introduced by acclimatisation societies in the 1860s. Scientists believe the black swan also re-introduced itself from Australia and now it is recognised as a New Zealand native species. As such, Fish & Game manage this widespread game bird for long-term sustainability.

http://pacific.scoop.co.nz/2015/02/nz-black-swan-stamp-marks-world-wetland-day/

South Africa

Marvin Gabriel (gabriema@hu-berlin.de)

World Wetland Day in Manguzi (South Africa): awareness raising in rural South Africa

The small town Manguzi is situated in the north-eastern part of the Maputaland Coastal Plain, KwaZulu-Natal Province, a landscape which accounts for 60% of the South African peatlands. To the local communities, these peatlands render a lot of benefits, like the provision of fresh drinking water, water and organic soil for cultivation and the harvesting of wetland vegetation for traditional building materials. However, despite their values, the peatlands face a lot of pressure through water abstraction, by evapotranspiration of *Eucalyptus* plantations and unsustainable cultivation practices, which include deep drainage of the organic soils. Therefore, celebrating World Wetland Day on the 2nd of February was the perfect occasion to engage with the public in Manguzi town and raise concerns about the loss of peatland ecosystem functions and the degradation that threatens them.

The event was organised by *Isibusiso eSihle Science Discovery Centre* in cooperation with *AllWet-RES* (Alliance for Wetlands Research and Restoration), which is a German-South African Research initiative about South African wetlands. *Isibusiso eSihle Science Discovery Centre* does environmental education work for schools in the surroundings of Manguzi. The group got additional support by local geographer Thandeka Tembe and wetland scientist Carolina Rodríguez (Humboldt University of Berlin).

A stand was installed in the busy centre of the town, where the passers-by had the chance to broaden their knowledge on peatlands by interacting with the team of experts. Approximately 500 persons (at least 30% of them smallholder farmers) were informed about the special characteristics that make peatlands precious and how they contribute to local welfare. Therefore, several exhibits and experiments were used to show the particular qualities of peat soils, like their high water storing capacity, which was demonstrated by squeezing low decomposed radicels peat (like a sponge).

In addition, a flyer with information about the wetlands around Manguzi and their multiple values was distributed. Furthermore, there was a quiz about wetlands. For correct answers, participants got a package of maize or beans for planting, which were kindly sponsored by the South African Department of Agriculture. As most of the locals also do home gardening, these little prizes convinced many to participate. Moreover, the questions were used to introduce discussion topics on farming in wetlands and the related problems. Other topics included alternatives to farming in wetlands, like the creation of nutrient rich compost from organic kitchen-waste to enhance the nutrient poor sandy soil common to this region.

In total, about 200 flyers in isiZulu language where handed out, more than 100 people participated in the wetland quiz, and many more talks were held during the World Wetland Day. This was a little step in the right direction and one hopes that these fragile and precious ecosystems will be treated with all the respect and cautiousness they need to survive in this increasingly human-shaped world. Due to the success of this activity, similar actions are planned for the future.

People gathering around the Usuku Lomhlaba Lwamadobo *(World Wetland Day) exhibition*

Local geographer Thandeka Tembe hosting a wetland quiz

Great interest of local smallholders, who are mostly women

Sihle Bukhosini (right) from the Isibusiso eSihle Science Discovery Centre *demonstrating different soil characteristics with peat and sand samples*

Sihle Bukhosini (right) discussing peatland stratigraphy and slow peat growth

France

Emilie Calvar (emilie.calvar@cen-franchecomte.org)

60 bogs from the Jura Mountains of Franche-Comté to be rehabilitated
Officially launched in September 2014, the Jura peatlands Life program mobilizes significant resources to rehabilitate the overall functioning of 25% of the peatlands of Franche-Comté Jura Mountains, in France.

Key stakeholders
Peatlands in the Jura Mountains still reflect today the traces of past human activities: drainage, modification of rivers, peat extraction, forest plantations. These impacts cause disturbances particularly to the hydrological functioning, which result in drying out of peatlands, scrub encroachment, loss of biodiversity and carbon release. Restoration actions have been performed for several years. However, given the number of affected bogs and the extent of the proposed works on the whole massif, seeking additional funds to the usual means (Natura 2000 contracts in particular) became a necessity.

In order to protect this natural treasure from disappearance, six local structures partnered to submit a restoration program to the European commission under the Life fund: *Conservatoire d'espaces naturels de Franche-Comté, Syndicat mixte des milieux aquatiques du Haut-Doubs, Parc naturel régional du Haut-Jura, Association des amis de la Réserve naturelle du lac de Remoray, Syndicat mixte d'aménagement du Dessoubre et de valorisation du bassin versant and DREAL Franche-Comté.*

Expected outcomes
Over a period of six years, significant work will be conducted on 600 ha of peatlands: 16 km of drains and 12 km of stream will be restored, and 7 ha of peat extraction are to be rehabilitated. Awareness-raising and

communication activities will also be held for schoolchildren and the public to generate local interaction (peatlands festival, film, events, development of trails, etc.).

The budget of €8 million are allocated to:
- €5.6 million (67%) of the overall budget invested in subcontracted in particular for ecological engineering;
- €1.9 million (24%) to support the 25 workers' salaries;
- €450,000 (6%) for equipment, infrastructures, etc;
- €240,000 (3%) for land purchase or compensation.

The 1st functional restoration work of the Jura peatlands Life program

Last fall, the peatland "Sur les Seignes" at Frambouhans and Les Ecorces has benefited from the first functional restoration made for the Jura peatlands Life program. Having been an industrial peat extraction site from 1968 to 1984, it was highly degraded: extraction pits where the typical peatland vegetation had difficulty re-establishing, desiccated areas, an asphalt platform built on a part of the bog, etc. In 2003, a first phase of work carried out by the *Conservatoire d'espaces naturels* on a part of the site had allowed the recommencement of productive peat vegetation where the soil was left bare for 20 years.

Further work has therefore been commissioned under the Life program. The goal is to keep an optimal quantity of water for the peatland functioning by creating lockers/tanks. These "individual basins", once filled with water, allow the regrowth of suitable vegetation. Several constructions have been made on 0.5 hectares of peatland:

- creation of 2 peat barricades (17 m in total) and 3 wooden fences (135 m in total);
- cutting birches on 2000 m²;
- stripping of deteriorated peat;
- creating pools.

The work was carried out from October 13 to December 3, 2014 by the ecological engineering company Jura Natura Services, under the project management of *Conservatoire d'espaces naturels* and for an amount of € 50 274. The removal of the asphalt platform will be made at the end of Life program, once all the work on local peatlands has been completed.

Mire at Bellefontaine - photo by Anne-Sophie Vincent

Works on "Sur les seignes" mire at Frambouhans and Les Ecorces - photo by Olivier Billant

News from all over

Hans Joosten (joosten@uni-greifswald.de)

New animated film "Peatland rewetting, ecosystem restoration & paludiculture"

The Dutch environmental organization, Landschap Noord-Holland, has launched an animated film about peatland rewetting and the opportunities for ecosystem restoration and paludiculture. Their intention is to raise awareness about the negative effects of peatland drainage and inspire land managers to choose sustainable solutions, e.g. paludiculture. They hope it will be an inspiration for the various stakeholders involved in these restoration processes.

View it (with English subtitles) on view it on YouTube

15th International PEAT Congress 2016, Malaysia

The Malaysian Peat Society in partnership with the International Peat Society will be hosting the 15th International Peat Congress 2016 (IPC 2016) on 15–19 August 2016 in Kuching, Sarawak, Malaysia. The theme of the congress is 'Peatlands in Harmony– Agriculture, Industry & Nature'. Presentations will relate to an integrated global perspective for the responsible use of peatlands and the preservation of their unique dynamics and natural biodiversity. The Congress will also provide for researchers, academics and practitioners, an ideal platform to congregate, share information and discuss their scientific results and experiences, with particular reference to peat and peatlands in tropics.

For more information please visit the website

Riau and Jambi prepare forest and peatland fire prevention

Riau and Jambi are preparing efforts to prevent forest and peatland fires that have caused annual disasters in the provinces. Riau Governor Arsyadjuliandi Rachman has issued on February 16th 2015 Gubernatorial Decree No. 5/2015 which is aimed at freeing the province from the disasters that have been taking place over the past 17 years, and immediately handed tasks to the 12 regents and mayors in Riau.

Action plans include the designation of peatland as a protected area, canal blocking to maintain the wetness of peat land, document evaluation and environmental licensing for plantation and forestry companies in preventing and mitigating forest and land fires, law enforcement against companies disobeying audits and the establishment and provision of incentives for fire-aware communities in fire-prone areas. Meanwhile, some 350,000 hectares of peatlands (=50% of the total peatlands) in Jambi have been reportedly damaged mostly because of conversion into plantations or industrial forests and by the annual forest fires.

Read more at: http://www.thejakartapost.com/news/2015/02/17/riau-jambi-prepare-forest-land-fire-prevention.html#sthash.fZGFpumN.dpuf

What Nature Does for Britain

A book has been published which illustrates society's need for nature and includes important local research on North Yorkshire's peatlands. The book by Tony Juniper, What Nature Does for Britain, takes a journey through the country looking at how nature is vital for society's health, wealth and security. It looks at how the protection of natural habitats can provide a cleaner, cheaper water supply, how healthy soils help purify water, reduce flooding and store carbon and how food production in the UK is fundamentally dependent on a thriving natural world.

Yorkshire Water was consulted by the author in his research over its work in supporting peatland restoration through the Yorkshire Peat Partnership, which is led by the Yorkshire Wildlife Trust. Andrew Walker, Yorkshire Water's catchment strategy manager said: "The work we do, whether that's restoring internationally important peatlands, or trying to reduce agricultural pollutants in the lowlands is largely invisible. This book recognises our approach in trying to tackle the causes of water pollution." Rob Stoneman, chief executive of Yorkshire Wildlife Trusts, said: "What Nature Does for Britain provides great material for politicians, town planners, health workers and even the Treasury to justify taking into account the true value of wildlife and natural ecosystems. Tony Juniper illustrates the folly of short-term gain strategies which damage the natural world."

Draft Ramsar resolution on peatlands

The Ramsar Convention is preparing a Draft Resolution XII.11 "Peatlands, climate change and wise use: Implications for the Ramsar Convention" to be adopted on the 12th Meeting of the Conference of the Parties to the Convention on Wetlands in Punta del Este, Uruguay, 1-9 June 2015. Find the text under http://www.ramsar.org/sites/default/files/documents/library/cop12_dr11_peatlands_e.pdf and support your national delegation to get a good resolution through!

IUCN Briefing Notes on different aspects of Peatlands

Written and prepared by Richard Lindsay, Richard Birnie and Jack Clough. These briefing notes are aimed at policy makers, practitioners and academics to help explain the ecological processes that underpin peatland function. Understanding the ecology of peatlands is essential when investigating the impacts of human activity on peatlands, interpreting research findings and planning the recovery of damaged peatlands. These briefs have been produced following a major process of review and comment building on an original document: *Lindsay, R. 2010 'Peatbogs and Carbon: a Critical Synthesis' University of East London. Published by RSPB, Sandy*. To view the document online please click here.

These briefings are a modified version to the hard copies handed out at the Conference in Inverness October 2014 since suggestions made to the authors at the Conference are now incorporated which has improved the readability of the documents.

Please check back regularly for updates and new additions. We have also collated all briefings into one downloadable PDF for convenience, please see below.
1 Definitions final - 5th November 2014.pdf556.52 KB
2 Biodiversity final - 5th November 2014.pdf842.99 KB
3 Drainage final - 5th November 2014.pdf870.98 KB
4 Forestry final - 5th November 2014.pdf682.72 KB
5 Domestic Peat Cutting - 5th November 2014.pdf560.2 KB
6 Commercial peat extraction - 5th November 2014.pdf450.59 KB
7 Grazing and trampling final - 5th November 2014.pdf556.06 KB
8 Burning final - 5th November 2014.pdf494.06 KB
9 Erosion final - 5th November 2014.pdf754.38 KB
10 Climate change final - 5th November 2014.pdf466.11 KB
1-10 Peatland Briefings - 5th November 2014.pdf3.46 MB

Peatland conservation relevant papers

Collected by Hans Joosten. If you want to share papers, please send the title and URL to Hans at joosten@uni-greifswald.de

Collected by Hans Joosten: joosten@uni-greifswald.de

1. Reconstructing human impact on peatland development during the past 200 years in CE Europe through biotic proxies and X-ray tomography: http://www.sciencedirect.com/science/article/pii/S104061821400514X
2. Low impact of dry conditions on the CO_2 exchange of a Northern-Norwegian blanket bog: http://iopscience.iop.org/1748-9326/10/2/025004
3. Variations in CO_2 exchange for dairy farms with year-round rotational grazing on drained peatlands: http://www.sciencedirect.com/science/article/pii/S0167880914005635
4. High vapour pressure deficit constrains GPP and the light response of NEE at a Southern Hemisphere bog: http://www.sciencedirect.com/science/article/pii/S0168192315000027
5. Subsidence rates of drained agricultural peatlands in New Zealand and the relationship with time since drainage: https://www.crops.org/publications/jeq/abstracts/43/4/1442
6. Year-round growing conditions explains large CO_2 sink strength in a New Zealand raised peat bog: http://www.sciencedirect.com/science/article/pii/S016819231400063X
7. Impact of papyrus wetland encroachment on spatial and temporal variabilities of stream flow and sediment export from wet tropical catchments: http://www.sciencedirect.com/science/article/pii/S0048969714017501
8. Optimal habitat conditions for the globally threatened Aquatic Warbler *Acrocephalus paludicola* in eastern Poland and their implications for fen management: http://onlinelibrary.wiley.com/doi/10.1111/ibi.12247/abstract
9. Moorrevitalisierung im Erzgebirge / Revitalizace rašelinišť v Krušných horách: https://moorevital.sachsen.de/files/Brosch%C3%BCre.pdf
10. Increase in carbon accumulation in a boreal peatland following a period of wetter climate and long-term decrease in nitrogen deposition: http://onlinelibrary.wiley.com/doi/10.1111/nph.13311/abstract?campaign=wolearlyview

11. The role of palaeoecological records in assessing ecosystem services: http://www.sciencedirect.com/science/article/pii/S0277379114005095
12. Disappearing Arctic tundra ponds: Fine-scale analysis of surface hydrology in drained thaw lake basins over a 65 year period (1948-2013): http://onlinelibrary.wiley.com/doi/10.1002/2014JG002778/abstract?campaign=wolacceptedarticle
13. Flood adaptive traits and processes: an overview: http://onlinelibrary.wiley.com/doi/10.1111/nph.13209/abstract?campaign=woletoc
14. Montane bias in lowland Amazonian peatlands: Plant assembly on heterogeneous landscapes and potential significance to palynological inference: http://www.sciencedirect.com/science/article/pii/S0031018215000474
15. Long-term hydrological dynamics and fire history over the last 2000 years in CE Europe reconstructed from a high-resolution peat archive: http://www.sciencedirect.com/science/article/pii/S0277379115000438
16. Multi-omics of permafrost, active layer and thermokarst bog soil microbiomes: http://www.nature.com/nature/journal/vaop/ncurrent/full/nature14238.html?WT.ec_id=NATURE-20150305
17. Can boreal peatlands with pools be net sinks for CO2?: http://iopscience.iop.org/1748-9326/10/3/035002

Please send your contribution to the IMCG Bulletin by the 25th of each month: peatland@mweb.co.za