IMCG Bulletin: October 2014

Word from the Chair

INTERNATIONAL MIRE CONSERVATION GROUP

www.imcg.net

Dear mire friends

My apologies for this late October issue. I finally managed to hand in my thesis about a week ago. Many thanks to the editorial team members, Bev Clarkson and Hans Joosten for managing the September issue.

Perhaps there is a reason why this issue is a bit late…..we need to share important news received early in November with all our members: **Mires and Peat is in the Web of Science!!!**

An email received from Thomson Reuters at 16:16 on Monday 03 November 2014 informs that **Mires and Peat** has been newly accepted for coverage in the Web of Science. This is the database from which Citation Indexes and 'Impact Factors' are generated. We finally qualified for an evaluation by attaining a publication rate of '15 articles per 9-month period' at the end of 2013, and have sustained it throughout 2014. Well done to everyone for rising to this challenge; especially to all the authors who have submitted their work and to editors and reviewers who have contributed to this amazing effort. But now, of course, we have to maintain it. There is just enough material on the books to keep going at this rate for the next six months, and the average turnaround time from submission to publication is longer than that. So we need your new manuscripts now, please!!

Obviously this achievement would not have been possible without the absolute dedication of Olivia Bragg, the Editor-in-Chief. Olivia, you have done us all proud and set the standard of dedication to the course of mire conservation on a global level. We appreciate you!!

As per usual, contributions for the IMCG Bulletin can be sent to Piet-Louis Grundling - peatland@mweb.co.za

Mires and Peat

The new articles for **November** are:

- Communities of larger fungi of ombrotrophic bogs in West Siberia (N.V. Filippova and M.N. Thormann) [Volume 14, Article 08]; and
- Peatlands in the Toledo Mountains (central Spain): characterisation and conservation status (J.A. López-Sáez, R. García-Río, F. Alba-Sánchez, E. García-Gómez and S. Pérez-Díaz) [Volume 15, Article 04].

For the next Special Volume of Mires and Peat, the proposed theme is **Peatland Management Strategies and Action Plans**. During the recent IMCG Biennial Symposium at Berezinski Biosphere Reserve, Belarus (for the programme of presentations, see http://www.imcg.net/media/2014/imcg_bulletin_1408.pdf) it became clear that there is renewed and lively international interest in such matters; in federal and newly independent states, countries and other administrative structures that are developing peatland management strategies for the first time; as well as within administrations whose existing strategies are now being implemented, augmented and updated – for example, in response to the new ecosystem services and carbon agendas. The purpose of this Special Volume will be to provide a concise global overview of current approaches, new developments and best practice; as a timely synthesis to inform policy development worldwide. So, wherever you are based, we need to include information on what is happening in your organisation, state, country and/or region. Please send your proposal(s), e.g. for manuscript(s) that you can author and/or co-ordinate, to the Editor-in-Chief o.m.bragg@dundee.ac.uk in the first instance. We are also looking for Guest Editors to help assemble this

important Special Volume, so if you have appropriate expertise and would like to be involved, please volunteer via the same route.

Mires and Peat is the open-access peer reviewed journal of IMCG and the International Peat Society (IPS). The editors are always ready to receive high-quality manuscripts on any topic relating to mires, peat and peatlands. See http://mires-and-peat.net/ for a more detailed description of the scope of this unique journal for peat and peatland researchers and practitioners, as well as for 117 (so far) freely downloadable published articles.

News from our regions

Oceania news

Bev Clarkson (Clarksonb@landcareresearch.co.nz)

Fonterra's Living Water Initiative

Fonterra (New Zealand's largest dairy company), in partnership with the Department of Conservation (DOC) has invested $20 million to improve the natural habitats of some key waterways around New Zealand over the next ten years.

Fonterra and DOC will work with local communities, Maori, farmers and volunteers to make a difference to the wetlands and water quality in five catchments in significant dairying regions:

- Kaipara Harbour (northern North Island)
- Firth of Thames (North Island – Auckland region; Ramsar site)
- Waikato Peat Lakes (North Island – Waikato region)
- Te Waihora-Lake Ellesmere (South Island – Canterbury region)
- Awarua-Waituna (southern South Island; Ramsar site)

Many of the catchments have significant mire systems that are under threat from dairy farm intensification and other land use changes. Restoration initiatives include planting native species alongside streams and rivers to improve water quality, managing pests and weeds, and improving habitats around farms to enhance native biodiversity. http://www.fonterralivingwater.com/index.html#Fonterra-Living-Water

Africa news

Lulu Pretorius (pretorius.lulu@gmail.com)

Maputaland to Marakele – A report on the ALLWET RES Summer School 2014 in South Africa

From 26 October until 9 of November the annual ALLWET RES Summer School took place in South Africa. The Alliance for Wetland Research under guidance of Jan Sliva is a partnership between South African and German Universities and NGO's supported by the German DAAD. There were altogether 42 participants in the summer school, including German and South African students, supervisors, professors, consultants, SANPARK staff members, and field assistants.

The first week started off with a road trip from the O.R. Tambo airport to Manguzi (KwaNgwanase) in north-eastern KZN. The first day was an introductory day, where the students were introduced to the cultural, social, and environmental aspects of northern Maputaland. They were exposed to agriculture in peatlands and the issues associated with these practices. Thereafter the group was treated to the very unique experience of exploring a Raffia Palm Peat Swamp Forest, which entailed crossing the Siyadla river on a raft built from the midribs of Raffia Palm leaves. We got a bit lost in the forest after learning about peat coring, and were afterwards told by a Zulu guide that we should be thankful that we didn't run into any hippos!

Raffia Palm Peat Swamp Forest

Students enjoying a braai (barbeque) under the African stars

For the next few days the students were divided into smaller groups to come up with rehabilitation and eco-friendly utilization measures for gardens in peatlands. The students visited the Vasi North peatland close to Ms Sihle Bukhosini's (siphesihlebukh@gmail.com) Isibusiso Esihle Science Discovery Centre.

This is a large interdune depression with 7 m deep peat and the students had to develop a wetland educational programme for school learners visiting the Science Centre. We were joined on Wednesday by Prof Johannes Kollman, director of the ALLWET programme from the Technische Universität of München, and he enjoyed the time with the students!

The results of the week's work were presented on Saturday by the various groups, where after they were taken to the breath-taking beautiful Kosi-Bay mouth.

Kosi Bay lakes

During the 1st week of November the group left for Marakele National Park in the interior in the Waterberg Mountains. We were joined there by Piet-Louis Grundling who led the second week of the summer school. We

had the privilege of having Prof Ab Grootjans from Groningen University, Prof Cornie van Huyssteen from the University of the Free State and various private consultants from the South African Wetland Society with us for this part of the summer school.

Examples of rehabilitation measures done by the students

arakele was the perfect choice for the second eek as it is the complete opposite of aputaland in terms of land use and vironmental issues. The first two days were ent in the Modikela hillslope seep which is ing threatened by severe erosion. On the first y the groups had to collect information on the aracteristics, possible ecoservices, and anagement of the seep area. It was a real eye-ener for the German students that we in uth Africa regard such dry areas as wetlands! the second day the groups had to do some nds-on rehabilitation of the eroded areas by cking rock lines, grass tufts and *Dichrostachys erea* branches. Everyone slept very well that night after the hard day's work!

One morning the group got up very early to be able to see the sunrise from the top of the mountain. We missed the sunrise....but for a very good reason – five lions on the edge the Matlabas Mire! This delayed the onset of our fieldwork for a bit while the South African National Park (SANparks) rangers secured the area. In the beginning some of the students were really nervous about being in the Matlabas with the lions around, but as it often is with fieldwork they soon forgot about it, and one of the groups even managed to work very close to the lions! We are happy to report that no Germans were eaten by the lions, thanks to the excellent SANparks staff!

Lions close to the Matlabas wetland where students were supposed to work

Note: Ab the Dutch lion was in the mire as well!

The two days in the Matlabas was very productive. The students were divided into teams to collect data on the peat characteristics, heat profiles within the peat, vegetation types, and pH and EC levels. They also had to observe, report, and give recommendations on the erosion in the mire. After two weeks of fieldwork in the South African sun all the students were quite exhausted. Africa is not for sissies! The group left on Saturday 8

November 2014 with a bit of sunburn, a few tick bites, and lots of memories and knowledge of the South African wetlands and mires.

The Matlabas Mire within the Waterberg Mountains

Peat Fires in Zululand, South Africa

Piet-Louis Grundling (peatland@mweb.co.za)

Peat fires are not unexpected in South African due to the unpredictable rainfall patterns and severity and extent of dry spell in the southern Africa. However, the occurrence of peat fires is exacerbated in areas where timber plantations are established on the perimeter of mires in high rainfall areas.

This is especially true for the Zululand region in northern KwaZulu-Natal Province along the Indian Ocean coast were *Eucalyptus* and *Pinus* commercial plantations on the primary Maputaland aquifer are drying out peatlands.

August 2014: Evidence of peat fires in Eucalyptus *plantations, Zululand, South Africa during the dry winter of 2014*

Isolating of peat fires exacerbating draining of the peat

Plantations planted in peatlands in Maputaland

Not only is the practice of planting of foreign timber on the edge or even in these peatlands and related wetlands contrary to FSC guidelines it's also unwise as the subsequent draining of the peat and related peat fires poses an economic threat to the plantations. The question then why do timber companies persist to plant close or in the wetlands? Lack of knowledge, capacity or even greed?

Its 16 years after the promulgation of South Africa's National Water Act in 1998 and still these companies (some even sponsoring wetland conservation programs of WWF) trading on the world stage can't get it right?

Hopefully some answers and proactive action will be forthcoming from a peatland and fire workshop to be hosted towards the end of November 2014 in Zululand.

News from Ramsar

Nick Davidson, Deputy Secretary General of the Ramsar Convention contract came to an end in October 2014. He filled this post for the past 14 years. According to Max Finlayson Nick's biggest and perhaps most influential activity was as part of the team that contributed across 5 years to the Millennium Ecosystem Assessment with the production of the wetland and water synthesis and the wider acceptance of the opportunities provided by ecosystem services. The IMCG wish Nick well with his future endeavors.

Peatland conservation relevant papers September 2014

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

1. On the relations between water regime, mass accretion and formation of ombrotrophic conditions in Sphagnum mires: http://mires-and-peat.net/pages/volumes/map14/map1407.php
2. An exploration of common reed (*Phragmites australis*) bioenergy potential in North America: http://mires-and-peat.net/pages/volumes/map13/map1312.php
3. Mud, muddle and models in the knowledge value-chain to action on tropical peatland conservation: http://link.springer.com/article/10.1007%2Fs11027-014-9576-1#page-1
4. Contrasting vulnerability of drained tropical and high-latitude peatlands to fluvial loss of stored carbon: http://onlinelibrary.wiley.com/doi/10.1002/2013GB004782/abstract
5. Carbon dioxide flux and net primary production of a boreal treed bog: responses to warming and water table manipulations: http://www.biogeosciences-discuss.net/11/12937/2014/bgd-11-12937-2014.html
6. Vegetation and microbial indicators of nutrient status: Testing their consistency and sufficiency in restored calcareous wetlands: http://www.sciencedirect.com/science/article/pii/S1470160X14003045#

7. Linkages between benthic microbial and freshwater insect communities in degraded peatland ditches: http://www.sciencedirect.com/science/article/pii/S1470160X14002842
8. Dynamics of methane ebullition from a peat monolith revealed from a dynamic flux chamber system: http://onlinelibrary.wiley.com/doi/10.1002/2014JG002654/abstract?campaign=woletoc
9. Precipitation and net ecosystem exchange are the most important drivers of DOC flux in upland boreal catchments: http://onlinelibrary.wiley.com/doi/10.1002/2014JG002705/abstract?campaign=woletoc
10. Distinguishing and mapping permanent and reversible paludified landscapes in Canadian black spruce forests: http://www.sciencedirect.com/science/article/pii/S0016706114003206
11. nfluence of source vegetation and redox conditions on lignin-based decomposition proxies in graminoid-dominated ombrotrophic peat (Penido Vello, NW Spain): http://www.sciencedirect.com/science/article/pii/S0016706114003449
12. Ebullitive methane emissions from oxygenated wetland streams: http://onlinelibrary.wiley.com/doi/10.1111/gcb.12614/abstract?campaign=woletoc
13. A method for calculating a land-use change carbon footprint (LUC-CFP) for agricultural commodities – applications to Brazilian beef and soy, Indonesian palm oil: http://onlinelibrary.wiley.com/doi/10.1111/gcb.12635/abstract?campaign=woletoc
14. An 8700 year paleoclimate reconstruction from the southern Maya lowlands: http://www.sciencedirect.com/science/article/pii/S0277379114003096
15. Effect of vegetation cover on the ground thermal regime of wooded and non-wooded palsas: http://onlinelibrary.wiley.com/doi/10.1002/ppp.1817/abstract?campaign=wolearlyview
16. Stoichiometry and temperature sensitivity of methanogenesis and CO2 production from saturated polygonal tundra in Barrow, Alaska: http://onlinelibrary.wiley.com/doi/10.1111/gcb.12762/abstract?campaign=wolacceptedarticle
17. Climatic variability, hydrologic anomaly, and methane emission can turn productive freshwater marshes into net carbon sources: http://onlinelibrary.wiley.com/doi/10.1111/gcb.12760/abstract?campaign=wolacceptedarticle
18. Bog burst in the eastern Netherlands triggered by the 2.8 kyr BP climate event: http://hol.sagepub.com/content/24/11/1465?etoc
19. Peatlands in eastern Australia? Sedimentology and age structure of Temperate Highland Peat Swamps on Sandstone (THPSS) in the Southern Highlands and Blue Mountains of NSW, Australia: http://hol.sagepub.com/content/24/11/1527?etoc
20. Carbon accumulation rates in two poor fens with different water regimes: Influence of anthropogenic impact and environmental change: http://hol.sagepub.com/content/24/11/1539?etoc
21. Larval burrow morphology and groundwater dependence in a mire-dwelling dragonfly, *Petalura gigantea* (Odonata: Petaluridae): http://www.tandfonline.com/doi/full/10.1080/13887890.2014.932312
22. Abiotic and biotic factors influencing the mobility of arsenic in groundwater of a through-flow island in the Okavango Delta, Botswana: http://www.sciencedirect.com/science/article/pii/S0022169413006793
23. Under the radar: mitigating enigmatic ecological impacts: http://www.sciencedirect.com/science/article/pii/S0169534714001980
24. Methane dynamics regulated by microbial community response to permafrost thaw: http://www.nature.com/nature/journal/v514/n7523/full/nature13798.html?WT.ec_id=NATURE-20141023
25. Recent 4000 years of climatic trends based on pollen records from lakes and a bog in Taiwan: http://www.sciencedirect.com/science/article/pii/S1040618214003140

26. The grain-size depositional process in wetlands of the Sanjiang Plain and its links with the East Asian monsoon variations during the Holocene: http://www.sciencedirect.com/science/article/pii/S1040618214005825
27. Characterizing trace and major elemental distribution in late Holocene in Sanjiang Plain, Northeast China: Paleoenvironmental implications: http://www.sciencedirect.com/science/article/pii/S1040618214000317#
28. Whooping crane demographic responses to winter drought focus conservation strategies: http://www.sciencedirect.com/science/article/pii/S0006320714003115
29. Effects of thermo-erosion gullying on hydrologic flow networks, discharge and soil loss: http://iopscience.iop.org/1748-9326/9/10/105010/pdf/1748-9326_9_10_105010.pdf
30. The impact of the permafrost carbon feedback on global climate: http://iopscience.iop.org/1748-9326/9/8/085003/article
31. Integration of trap- and root-derived nitrogen nutrition of carnivorous *Dionaea muscipula*: http://onlinelibrary.wiley.com/doi/10.1111/nph.13120/abstract?campaign=wolearlyview
32. Invited Review: Climate change impacts in polar-regions: lessons from Antarctic moss bank archives: http://onlinelibrary.wiley.com/doi/10.1111/gcb.12774/abstract?campaign=wolacceptedarticle
33. Siberian tundra ecosystem vegetation and carbon stocks four decades after wildfire: http://onlinelibrary.wiley.com/doi/10.1002/2014JG002730/abstract?campaign=wolacceptedarticle
34. Using dissolved organic matter age and composition to detect permafrost thaw in boreal watersheds of interior Alaska: http://onlinelibrary.wiley.com/doi/10.1002/2014JG002695/abstract?campaign=wolacceptedarticle
35. Fine spatial resolution mapping of soil organic matter quality in a Histosol profile: http://onlinelibrary.wiley.com/doi/10.1111/ejss.12182/abstract?campaign=wolearlyview
36. Cahier technique pour la gestion des habitats à Liparis de Loesel: http://www.pole-tourbieres.org/IMG/pdf/CTLiparis2014.pdf
37. Linking soil microbial communities to vascular plant abundance along a climate gradient: http://onlinelibrary.wiley.com/doi/10.1111/nph.13116/abstract
38. Heterotrophic respiration in drained tropical peat is greatly affected by temperature—a passive ecosystem cooling experiment: http://iopscience.iop.org/1748-9326/9/10/105013
39. Wetlands in Europe: Perspectives for restoration of a lost paradise: http://www.sciencedirect.com/science/article/pii/S0925857413001109
40. Carbon, nitrogen, and phosphorus accumulation in novel ecosystems: Shallow lakes in degraded fen areas: http://www.sciencedirect.com/science/article/pii/S092585741300462X
41. How helophytes influence the phosphorus cycle in degraded inundated peat soils – Implications for fen restoration: http://www.sciencedirect.com/science/article/pii/S0925857413004187
42. Environmental processes in Rano Aroi (Easter Island) peat geochemistry forced by climate variability during the last 70 kyr: http://www.sciencedirect.com/science/article/pii/S0031018214004805
43. Fine-scale dynamics and community stability in boreal peatlands: revisiting a fen and a bog in Sweden after 50 years: http://www.esajournals.org/doi/abs/10.1890/ES14-00202.1
44. Modelling regulating ecosystem services trade-offs across landscape scenarios in Třeboňsko Wetlands Biosphere Reserve, Czech Republic: http://www.sciencedirect.com/science/article/pii/S0304380014004694#
45. Assessing the potential supply of landscape services to support ecological restoration of degraded landscapes: A case study in the Austrian-Hungarian trans-boundary region of Lake Neusiedl: http://www.sciencedirect.com/science/article/pii/S0304380014003287

46. A Markov chain method for simulating bulk density profiles in boreal peatlands: http://www.sciencedirect.com/science/article/pii/S001670611400189X
47. The construction of a reliable absolute chronology for the last two millennia in an anthropogenically disturbed peat: http://www.sciencedirect.com/science/article/pii/S1871101414000971
48. Understanding long-term effects of topsoil removal in peatlands: overcoming thresholds for fen meadows restoration: http://onlinelibrary.wiley.com/doi/10.1111/avsc.12127/abstract
49. Characterization of properties and main processes related to the genesis and evolution of tropical mountain mires from Serra do Espinhaço Meridional, Minas Gerais, Brazil: http://www.sciencedirect.com/science/article/pii/S0016706114002134
50. Holocene vegetation and fire dynamics in central-eastern Brazil: Molecular records from the Pau de Fruta peatland: http://www.sciencedirect.com/science/article/pii/S0146638014002319
51. Peat landslides: http://www.sciencedirect.com/science/article/pii/B9780123964526000069
52. Vegetation and climate change over the past 800 years in the monsoon margin of northeastern China reconstructed from n-alkanes from the Great Hinggan Mountain ombrotrophic peat bog: http://www.sciencedirect.com/science/article/pii/S0146638014001880
53. Monte Carlo uncertainty calculation of 210Pb chronologies and accumulation rates of sediments and peat bogs: http://www.sciencedirect.com/science/article/pii/S1871101414000569
54. The effects of salinization on aerobic and anaerobic decomposition and mineralization in peat meadows: The roles of peat type and land use: http://www.sciencedirect.com/science/article/pii/S0301479714001893
55. A study of the effect of various curing techniques on the strength of stabilized peat: http://www.sciencedirect.com/science/article/pii/S2214391214000178
56. Computational smoldering combustion: Predicting the roles of moisture and inert contents in peat wildfires: http://www.sciencedirect.com/science/article/pii/S1540748914000510
57. Reprint of Spectral fluorescence variation of pollen and spores from recent peat-forming plants: http://www.sciencedirect.com/science/article/pii/S0166516214002213
58. The Holocene environmental changes in boreal fen peatland of northern Mongolia reconstructed from diatom assemblages: http://www.sciencedirect.com/science/article/pii/S1040618214003322
59. Fractionation of 137Cs and Pu in natural peatland: http://www.sciencedirect.com/science/article/pii/S0265931X14000654
60. Why granulated wood ash decreases N2O production in boreal acidic peat soil?: http://www.sciencedirect.com/science/article/pii/S0038071714003228
61. Tree biomass equations for tropical peat swamp forest ecosystems in Indonesia: http://www.sciencedirect.com/science/article/pii/S0378112714005209
62. Simulated climate change impact on summer dissolved organic carbon release from peat and surface vegetation: Implications for drinking water treatment: http://www.sciencedirect.com/science/article/pii/S0043135414006447
63. Reactivity and self-hardening of fly ash from the fluidized bed combustion of wood and peat: http://www.sciencedirect.com/science/article/pii/S001623611400595X
64. Determination of atmospheric nitrogen deposition to a semi-natural peat bog site in an intensively managed agricultural landscape: http://www.sciencedirect.com/science/article/pii/S1352231014006281
65. Screening for lipid depositor of Indonesian microalgae isolated from seashore and peat-land: http://www.sciencedirect.com/science/article/pii/S0360319914022447
66. Using palaeoecology to support blanket peatland management: http://www.sciencedirect.com/science/article/pii/S1470160X14004865

67. Contribution of organic matter molecular proxies to interpretation of the last 55 ka of the Lynch's Crater record (NE Australia): http://www.sciencedirect.com/science/article/pii/S0031018214003952
68. Agricultural abandonment in Mediterranean reclaimed peaty soils: long-term effects on soil chemical properties, arbuscular mycorrhizas and CO_2 flux: http://www.sciencedirect.com/science/article/pii/S0167880914004411
69. Analytical solution for enhanced recharge around a bedrock exposure caused by deep-aquifer dewatering through a variable thickness aquitard: http://www.sciencedirect.com/science/article/pii/S0309170814001675
70. Measurement matters in managing landscape carbon: http://www.sciencedirect.com/science/article/pii/S2212041614000783
71. The effects of long-term drainage and subsequent restoration on water table level and pore water chemistry in boreal peatlands: http://www.sciencedirect.com/science/article/pii/S0022169414006933
72. Multiproxy record of late Quaternary climate change and Middle Stone Age human occupation at Wonderkrater, South Africa: http://www.sciencedirect.com/science/article/pii/S0277379114002467
73. Climatic sensitivity of the CO2 flux in a cutaway boreal peatland cultivated with a perennial bioenergy crop (*Phalaris arundinaceae*, L.): Beyond diplotelmic modeling: http://www.sciencedirect.com/science/article/pii/S0168192314002020
74. Landscape analysis of nutrient-enriched margins (lagg) in ombrotrophic peatlands: http://www.sciencedirect.com/science/article/pii/S0048969714014454
75. Variations in permafrost temperature and stability of alpine meadows in the source area of the Datong River, Northeastern Qinghai-Tibet Plateau, China: http://onlinelibrary.wiley.com/doi/10.1002/ppp.1822/abstract?campaign=wolearlyview
76. Small wetlands are critical for safeguarding rare and threatened plant species: http://onlinelibrary.wiley.com/doi/10.1111/avsc.12144/abstract?campaign=wolearlyview
77. Peatland pines as a proxy for water table fluctuations: Disentangling tree growth, hydrology and possible human influence: http://www.sciencedirect.com/science/article/pii/S0048969714012352
78. Peatlands in the Toledo Mountains (central Spain): characterisation and conservation status: http://mires-and-peat.net/media/map15/map_15_04.pdf
79. Communities of larger fungi of ombrotrophic bogs in West Siberia: http://mires-and-peat.net/pages/volumes/map14/map1408.php

Please send your contribution to the IMCG Bulletin by the 20th of each month: peatland@mweb.co.za