



Developing Core Common Outcomes for Tropical Peatland Research and Management





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WCC 2016 Res 043

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Title:

Resolution

Conference title:

Wetland Conservation Congress

Year of Conference:

2016

Location:

Hawaii

English title:

Securing the future for global peatlands

English file:

[WCC_2016_RES_043_EN.pdf](#)

French title:

Assurer l'avenir des tourbières du monde entier

French file:

[WCC_2016_RES_043_FR.pdf](#)

Spanish title:

Asegurar el futuro de las turberas del mundo

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Environment Assembly of the
United Nations Environment
Programme

United Nations Environment Assembly of the
United Nations Environment Programme
Fourth session
Nairobi, 11–15 March 2019

Conservation and sustainable management of peatlands*

The United Nations Environment Assembly, recalling its commitment to the Sustainable Development Goals adopted by heads of state and government in the outcome document of the United Nations Conference on Sustainable Development (Rio+20 Conference) titled "The Future We Want" that recognizes ecosystem conservation, regeneration, and restoration and resilience as important in the face of new and emerging challenges,

Recognizing that peatlands occur in more than one hundred and eighty countries across different regions of the world, and the fact that although covering only about 3% of the earth's land area¹, peatlands contain a far higher proportion of global organic soil carbon, making them one of the world's largest carbon storage, and contributing to global climate change mitigation through sequestration of carbon,

Bis. Recognizing that degraded peatlands caused by multiple activities contributes to biodiversity loss, environmental degradation as well as a substantial source of greenhouse gas emissions globally

Considering the benefits and values of peatlands including but not limited to providing vital ecosystem functions and services reducing the scale and mitigating the impact of flooding and drought, preventing, preserving biodiversity, and supplying food and water that maintains ecological systems and improves human livelihoods,

Recognizing the value of improving the management of peatlands to improve their carbon storage capacity on degraded sites, strengthen resilience and improve socio-economic livelihoods of population around peatlands and increase biodiversity, noting that such actions can contribute to the implementation of the Paris Agreement, the UN Framework Convention on Climate Change (UNFCCC), the Convention on Wetlands of International Importance Especially as Water Fowl Habitat, the Ramsar Convention the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets, the 2030 Agenda for Sustainable Development, and the Sendai Framework for Disaster Risk Reduction 2030, the Convention on Migratory Species and the convention on biological diversity, as

* The present document is being issued without formal editing.

¹ Parish F., Sirin A., Charman D., Joosten H., Minayeva T. & M. Silvius (eds.) 2008. Assessment on Peatlands, Biodiversity and Climate Change: Main Report. Global Environment Centre, Kuala Lumpur and Wetlands International, Wageningen. P. 179, P. 99-117 Available at http://www.imcg.net/media/download_gallery/books/assessment_peatland.pdf (Accessed 8 March 2019).

High priority countries meeting 4 criteria	Countries meeting 3 criteria	Countries meeting 2 criteria	Other peatland countries
		Chile	Spain (Grenada)
Finland	Canada	Congo	Liechtenstein
Indonesia		Dem. Republic of Congo	Iraq
Ireland			Slovakia
Malaysia	Germany		Andorra
Norway			Dominican Republic
			Lesotho
			Jamaica
Sweden			Bangladesh
			Haiti
			Lao PD Republic
			France

Good news

The majority of countries **had** measures to:

- Assess the distribution and state of peatlands
- Protect peatlands (e.g. designated sites and prohibited activities)
- Restore degraded peatlands
- Sustainably manage peatlands (e.g. sustainable agriculture)
- Engage and support peatland communities

Shortcomings

However, the majority of countries **did not have:**

- A moratorium on peat extraction (only four did)
- Policies/strategies to measure and report emissions from peatlands
- Market based mechanisms to help fund peatland restoration
- Strategies to help share experience and expertise on peatland conservation, restoration and improved management

Policy challenges

The main challenge was resources (especially for restoration). Other common challenges included:

- Limited knowledge or understanding of peatland extent or issues
- Co-ordination challenges between semi-autonomous states/provinces who take different approaches
- Low visibility of peatland issues at national policy-making levels
- Resistance from certain stakeholders, especially private peatland owners, and those with competing uses

The evidence challenge

We're all measuring different things in different ways and reporting our findings differently: the ultimate #fieldworkfail



Agata Staniewicz
fieldworkfail.com
Accidentally glued myself to a crocodile while attaching a radio transmitter. #fieldworkfail



Mark Reed
fieldworkfail.com
My worst #fieldworkfail ended up with me running around a Ugandan forest almost naked after standing on an ant nest to measure a tree.

Pre-workshop survey

Workshop

Post-workshop voting

Subsequent steps

What outcomes (variables) should be measured in tropical peatland research and monitoring?



Scoping: are there missing sets (domains) within which we might group outcomes e.g. accumulation/loss?

Are there missing outcomes that should be measured with each set e.g. accumulation rates, oxidative loss?

What are the most important (core) outcomes that should be measured e.g. is it more important to measure above-ground litter decomposition rates, or litter types or both?

What are the best ways to measure each outcome e.g. flux towers versus closed chambers or vegetation proxies?

How should the data be reported e.g. units, contextual data?



Outcome measures:	How important is it to collect data on each outcome measure if we want to evaluate policies and practices that aim to deliver:		
	Climate change mitigation (1-9)	Water quality and/or flood risk mitigation (1-9)	Biodiversity (1-9)
Outcome set: Accumulation/loss			
Rate of peat accumulation			
Peat build up behind dams			
Peatland extent			
Peat decomposition			
Dust losses			
Biomass removal			
Carbon content of the peat			
Litter decay rates			
Peat decay rates			
Bare peat extent			
Area or recently burnt peat			
Net Primary Productivity (NPP)			
Above ground carbon stock			
Net Ecosystem Production (NEP)			
Net Ecosystem Biomass Production (NEBP)			
Outcome set: GHG flux			
Dissolved Organic Carbon			
CO ₂			
CH ₄			
N ₂ O			
Vegetation – as a proxy for GHG flux			
Water table – as a proxy for GHG flux			
Net Ecosystem Exchange			
Microbial communities			
Ebullition of GHGs			
Gross Primary Productivity			
Ecosystem respiration			
Particulate Organic Carbon			
Dissolved Inorganic Carbon			
Net C flux			
Methane age			
Outcome set: water quality			
Dissolved Organic Carbon			
Water colour			
Particulate Organic Carbon			
Nutrient content – direct (N and P)			
pH			
Elemental concentrations			
Outcome set: peatland condition			
Bulk density			
Carbon content			
Vegetation cover			
Degree of humification			
Floristic composition			
Peatland shape and extent			
Bare peat extent			
Extent of rewetting			
Water repellancy			
Peat decomposition rates			
Peatland surface oscillation			
Outcome set: fire damage			
Times since burning			
Fire extent			
Air pollution			
Vegetation/peat loss			
Depth of burn			
Fire intensity			

You can help

Return completed questionnaires to me or one of the IUCN team by the end of today

Developing Core Common Outcomes for Peatland Research and Monitoring

Important information before you start – please sign

If you prefer to complete this survey by email (or run out of time part way through), please contact mark.reed@newcastle.ac.uk this week, and he will send you this survey to complete in your own time.

Information you should know before deciding if you will sign below to indicate that you consent to proceed with the survey:

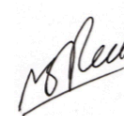
- This research is funded by NERC (via their Valuing Nature Programme) and ESRC, in collaboration with IUCN, Defra and the United Nations
- The research is being led by Prof Mark Reed in collaboration with Dr Dylan Young and Dr Gav Stewart from Newcastle University and the VNP Peatland Tipping Points project. For more information, visit: <https://www.peatlandtippingpoints.com/>. Prof Reed is Research Lead for IUCN UK Peatland Programme and CEO of Fast Track Impact Ltd.
- The research has is covered under ethics permission from the Newcastle University granted to the Peatland Tipping Points project
- Your participation in this research is voluntary and have the right to withdraw from the research at any point, and to ask for your data to be destroyed.
- We will not store personal information about you, in line with GDPR, and will not ask for your name, so the data you provide will remain fully confidential
- Data will be stored long-term in the UK Data Archive. For full data management plan contact mark.reed@newcastle.ac.uk
- Analysed data will be used in a manuscript that will be submitted to *Conservation Biology* in 2020, led by Dr Stewart

I have read and understood the information above and consent to the data I provide being used in these ways:

Signature: _____ Date: _____

Name: _____

Thanks in advance for your help and time!



Mark Reed
Professor of Socio-Technical Innovation, Newcastle University

Discussion

Questions for Dianna, Fraziska or Mark

