Developing Core Common Outcomes for Tropical Peatland Research and Management
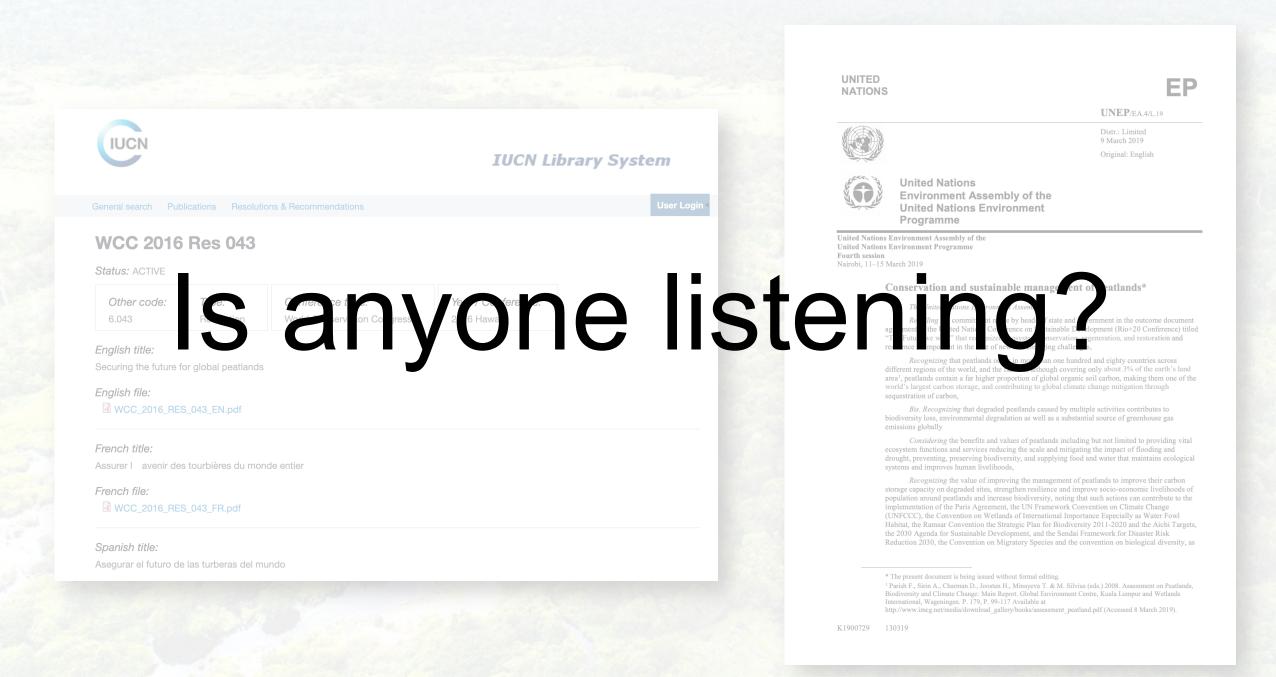
Is anyone listening?

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

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

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_2O			
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

Discussion

Questions for Dianna, Fraziska or Mark