

IMCG Bulletin: April 2017

Word from the Secretary-General



www.imcg.net

Dear mire friends

Busy weeks for mire conservation! Find in this bulletin the latest news, including reports on the May 2017 events in Bonn (Germany) at the climate convention, where the IMCG European Mires Book was launched, and in Djakarta (Indonesia). These events took place under the umbrella of the Global Peatlands Initiative (GPI), the new global peatland conservation network with major global players, in which – self-evidently – IMCG is active. Importantly GPI has started to interlink tropical countries with extensive peatlands, including the Republic of Congo, the Democratic Republic of Congo, Peru, and Indonesia. The peatlands in the Congos are largely pristine and unknown and have recently drawn global attention by the inventory work of the UK-Congolese research team of Simon Lewis and Greta Dargie (see IMCG Bulletin of December 2016). Also our knowledge of the western Amazonian peatlands of Peru is substantially progressing, but these peatlands already suffer treats from commercial agriculture linked to the development of new transport infrastructure (see the contribution of Kathy Roucoux in the IMCG Bulletin of March 2017, and the new paper of Kristell Hergoualc'h et al. referred to under no. 49 of the papers listed at the end of this bulletin). It is paramount that – as a global priority - we prevent the peatlands of the Congo and Amazon basins from following the same pathway as those of Indonesia. The triangular (south-south-north) exchange GPI is pursuing is an important strategy in this respect.



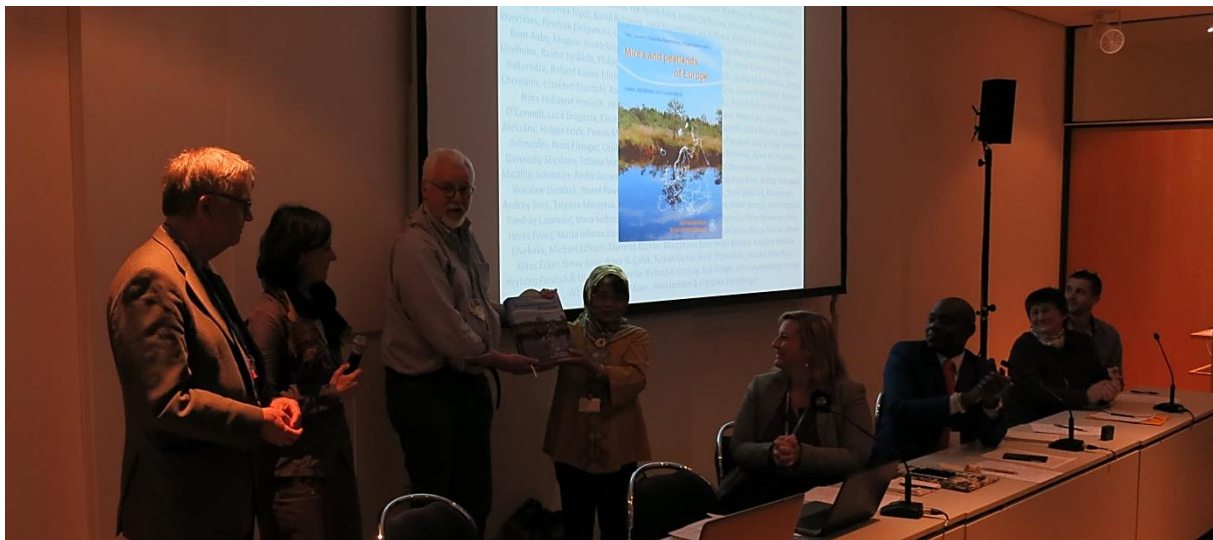
Peatland conservation and restoration activities in Indonesia are again prominent in this Bulletin, because the problems in Indonesia are incomparably large and the counteractions currently impressively immense. Indonesia deserves all our support to persist in its aims to rewet and restore 2.8 million hectares of degraded peatlands. This does not only require political and financial assistance, but also mental support from developed nations, who have to take responsibility

for the enormous peatland destruction they have allowed in their own countries. As such, the conservation and restoration activities in other parts of the world have global importance. So keep on going, wherever you are! Keep on sharing your ideas and experiences with your fellow-IMCGers by sending news and discussion items, relevant photographs and other contributions for the next Bulletin by May, 31, 2017 to Hans Joosten at joosten@uni-greifswald.de.

IMCG News

Launch IMCG European Mires Book on May 9, 2017 in Bonn!

The book [Mires and peatlands of Europe](#) came hot off the press when it was launched at the side event of the [Global Peatland Initiative \(GPI\)](#) at the UN Climate Change Conference in Bonn, 9th May 2017. The side event provided an opportunity for governments, institutions, stakeholders and partners to exchange on advancing efforts to protect peatlands and was jointly organised by UN Environment, FAO, the Ramsar Convention, Wetlands International and Greifswald Mire Centre. The three editors of the IMCG book - Hans Joosten, Franziska Tanneberger and Asbjørn Moen - handed over the first copy of the book to Nur Masripatin, Director General for Climate Change of the Ministry of Environment and Forestry of Indonesia, highlighting major lessons from Europe how to deal wisely with peatlands to avoid further degradation. This feeds perfectly into the vision of enhanced south-south-north exchange under the GPI, discussed during an interactive panel discussion chaired by Hans Joosten. Especially 'newcomers' in the peatland community like panel member Joseph Badevokila, national focal point to the UNFCCC of the Republic of Congo, were delighted by the vast experience and knowledge among the partners of the GPI. The side event paved the way to the upcoming negotiations in the land use sector under the UNFCCC and the [Global Landscape Forum: Peatlands matter](#) in Jakarta on 18th May.



Asbjørn Moen, Franziska Tanneberger and Hans Joosten (from left to right) handing over the IMCG European Mires Book to Nur Masripatin. Further on the picture: Dianna Kopansky (UNEP), Joseph Badevokila (Republic of Congo), Tatiana Minayeva (Wetlands International), and Julian Fox (FAO). On the screen; the cover of the book and the names of all 134 authors! (Photo: Jan Peters, Greifswald Mire Centre).

Mires and Peat

Find the journal online at <http://mires-and-peat.net/>. In April 2017 Mires and Peat has published the following articles:

- Growing *Sphagnum*: Foreword. [S. Glatzel & L. Rochefort] Volume 20: Article 0. http://mires-and-peat.net/media/map20/map_20_00.pdf
- Swift recovery of *Sphagnum* carpet and carbon sequestration after shallow *Sphagnum* biomass harvesting. [N. Silvan, K. Jokinen, J. Näkilä & R. Tahvonnen] Volume 20: Article 1. http://mires-and-peat.net/media/map20/map_20_01.pdf
- Greenhouse gas balance of an establishing *Sphagnum* culture on a former bog grassland in Germany. [A. Günther, G. Jurasinski, K. Albrecht, G. Gaudig, M. Krebs & S. Glatzel]. Volume 20: Article 2. http://mires-and-peat.net/media/map20/map_20_02.pdf
- Establishing *Sphagnum* cultures on bog grassland, cut-over bogs, and floating mats: procedures, costs and area potential in Germany. [S. Wichmann, A. Prager & G. Gaudig] Volume 20: Article 3. http://mires-and-peat.net/media/map20/map_20_03.pdf

Send your new manuscripts on any topic relating to mires, peatlands and peat to the Editor-in-Chief Olivia Bragg: o.m.bragg@dundee.ac.uk

News from the regions

Global



The panel during the side event of the Global Peatland Initiative during the UNFCCC in Bonn, May 9, 2017. From left to right: Dianna Kopansky (UN Environment), Ruth Irlen (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Germany), Nur Masripatin (Ministry of Environment and Forestry, Indonesia), Joseph Badevokila (Ministère du Développement Durable, de l'Economie Forestière et de l'Environnement, Republic of Congo), Tatiana Minayeva (Wetlands International), and Julian Fox (FAO). (Photo: Jan Peters, Greifswald Mire Centre).

Re-discovering the magnificent carbon storage potential of wetlands and Peatlands

Side event on 11 May 2017 at the Bonn Climate Change Conference, presented by the Center for International Forestry Research (CIFOR), the European Space Agency (ESA) and the Friedrich Schiller University Jena (FSU Jena). This event focused on the carbon storage potential of tropical wetlands and peatlands, and highlighted tools for the identification and location of such areas to assist climate policy making. Daniel Murdiyarso, CIFOR, moderated the event. Rosa Maria Roman-Cuesta, CIFOR and Wageningen University and Research (WUR), presented a new global wetlands map with high spatial detail and a multisource approach, including satellite, climatic and topographic data. She noted that while numerous efforts have been made in the past to assess the extent of global wetlands, estimates in modelled area simulations varied four-fold. Simon Lewis, Leeds University, shared findings from recent research which suggests the Cuvette Centrale complex in the Congo Basin is the most extensive peatland complex in the tropics. While covering 5.4% of the Democratic Republic of Congo and Republic of Congo, he said this area stores as much carbon as all the vegetation in these two countries combined. Lewis underscored “pressures on the horizon,” as about 20% of peatland of the Cuvette Centrale complex is already covered in allocations for logging permits.

Frank Martin Seifert, ESA, highlighted the European Union’s Copernicus Programme, which, among other activities in the areas of environment and civil security, is helping to monitor and map peatlands from space. Noting the Programme’s free and open access data policy, he highlighted how ESA’s work in this area will support the Global Peatlands Initiative (GPI) including by improving mapping of degraded and cultivated peatlands and deriving standardized methods and best practices used for the assessment of peatland. Stressing that “peatlands matter for the climate,” Dianna Kopansky, UN Environment, highlighted the work of the GPI,

launched at the 22nd Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC), which aims to ensure reductions of greenhouse gas emissions by increasing knowledge of peatlands. She highlighted that the initiative has started rapid response assessments which use existing science to identify global hotspots and policy responses. Louis Verchot, International Centre for Tropical Agriculture (CIAT), highlighted good scientific progress in this area over the last decade, but stressed the need for much more work to be done. Among ways the UNFCCC process could assist, he identified: improving reporting through national greenhouse gas inventories; facilitating financial flows specifically to peatland emission abatement; and facilitating information exchange and sharing of experience through Technical Expert Meetings and in-session workshops. In the ensuing discussion, participants raised, among other issues: difficulties of doing before-after analyses; the importance of spreading knowledge about peatlands; the importance of enabling communities to meet their livelihood aspirations, but the challenge of identifying ways that peatlands can be used in a commercially responsible way; work being done on the “wise use of wetlands;” the need to additionally focus on the Arctic, highlands, and arid and semi-arid zones; difficulties in obtaining funding to allow scientists to do the necessary research on the ground; and the need for the GPI to reach out to environmental agreements beyond the UNFCCC. <http://enb.iisd.org/climate/sb46/enbots/#event-4>



From left to right (starting from catch box): Daniel Murdiyarto, CIFOR; Rosa Maria Roman-Cuesta, CIFOR and WUR; Simon Lewis, Leeds University; Dianna Kopansky, UNEP; Louis Verchot, CIAT; and Frank Martin Seifert, ESA. (Photo: ENBOTS: Earth Negotiations Bulletin on the Side)

UNEP: Indonesia becomes global model for peatland restoration:

Indonesia is the world's model for restoring peatlands, according to the United Nations Environment Programme (UNEP). Taking into account the importance of tropical peat protection and restoration, UNEP had launched the Global Peatland Initiatives (GPI) along with member countries that have peatlands, such as the Republic of Congo, Peru, and Indonesia at the 2016 United Nations Climate Change Conference of the Parties in Morocco. "The GPI is a foundation that allows Indonesia to serve as an example in the efforts to restore peatlands and lowland landscapes where peat domes are located," Tim Christophersen, UNEP's Senior Programme Officer, Forests and Climate Change, stated on May 15 in Jakarta. Christophersen made the statement at the second meeting of GPI partners that was attended by the representatives of the three countries, UN agencies, donors, universities, as well as civil societies, including IMCG. The meeting aimed at updating global peatland-related databases and compiling sustainable peatland management experiences and peat restoration strategies.

Indonesia is considered to be the most compliant country for the Paris COP21, as it has become the first nation to conduct massive peat restoration activities and is committed to reducing greenhouse gas emissions with one gigaton. On the same occasion, Head of the Peat Restoration Agency Nazir Foad expected that the GPI would open great opportunities for the agency to share its experiences and take a cue from other countries on the protection and recovery of peat ecosystems appropriately, effectively, and efficiently. "We are the most progressive country in terms of the policies to manage peatland areas. Other countries will be looking at Indonesia on how we are implementing conservation policies and arrangement points under the supervision of the UNEP," he noted. According to the UNEP, peatland-related issues stem from the limitations and lack of

knowledge of the importance of peat ecosystems to protect the global climate. Consequently, peatlands, which are a vulnerable ecosystem with rich biodiversity, tend to be converted into cultivated concession areas through massive peat drainage. Such land use policy is certainly inappropriate. Hence, the governments of several countries having large peatlands need to adopt firm measures to protect these areas, as it is also in line with the Paris Agreement.

<http://www.antaranews.com/en/news/110937/indonesia-becomes-global-model-for-peatland-restoration-unesp>



Global Peatlands Initiative during its field visit to Riau, 16 April 2017. Behind the banner from left to right: Emma Goodyer (IUCN-UK), Gerald Schmilewski (IPS), Johan Kieft (UNEP), Hugo Komba Nzungila (Democratic Republic of Congo), Nazier Foead (BRG), Ahmad Hijazi (Secretary of Riau Province), Tim Christophersen (UNEP), Georges Claver Boudzanga (Republic of Congo), Dianna Kopansky (UNEP), Alberto Paniagua (Peru), Pierre Taty (Republic of Congo), Maria Nuutinen (FAO) (Photo: Hans Joosten).

Global Landscapes Forum: Peatlands Matter 18 May 2017 Jakarta

Peatlands hold the world's largest terrestrial organic carbon stocks, but often these landscapes are situated in areas where competing interests of conservation and development must be carefully negotiated. This thematic one-day event brought 350 stakeholders from government and civil society together to identify landscape-level solutions and accelerate measurable action on the ground in negotiating conflicting land use demands in these vital biomes. Plenary discussions highlighted grassroots perspectives and priorities for peatlands use and restoration in Indonesia, as well as sharing lessons and best practices from peatlands management around the world. Science discussion forums covered the links and best practices for [peatland fires, haze and health](#), the rediscovered carbon stocks in tropical peatlands; and people in peat, with the objective of bringing the human element to the table. [Landscape Labs](#) explored how technology- from drones to interactive maps- is being used to monitor the world's peatlands.

A survey of the State of the World's Wetlands

Knowledge about the status and trends of the world's remaining wetlands is very patchy and limited. To improve this knowledge, and to better inform wetland policy and decision-making, the Society of Wetland Scientists (SWS Ramsar Section), the World Wetland Network (WWN), and the Wildfowl & Wetlands Trust (WWT) are conducting a simple worldwide questionnaire survey to gather better knowledge on the state of wetlands. Go to www.worldwetnet.org/about-us/world-wetlands-survey-2017. For further information and assistance: contact Chris Rostron of the World Wetland Network at Chris.Rostron@wwt.co.uk.

Africa

Algeria

Algeria launches its National Strategy for Ecosystem Management of Wetlands 2015-2030

Algeria hosts 2,375 wetlands, including 50 Ramsar Sites of International Importance (some with peatland), composed of 2,056 wetlands of natural origin and 319 of artificial origin according to the [Directorate General of Forestry \(DGF\)](#). Since the ratification of the Ramsar Convention by Algeria in 1984, the DGF has carried out multiple activities, including inventories and management plans, for better management and valorization of these sites. Most recently, the DGF has developed the National Wetlands Strategy 2015-2030 through a National Multi-sectoral Wetlands Committee set up by Ministerial Decree of 20 March 2012 (JO n°47).



This strategy is an instrument for accompanying all sectors for the sustainable management of wetlands, contributing to the fight against desertification, as well as adaptation to climate change, mitigation of its effects, and protection of the country's water resources. It also aims to preserve the country's wetlands and to enhance their resilience to climate change through an ecosystem-based management, enabling them to continue providing ecological goods and services. The National Strategy was also prepared in response to Algeria's international commitments under international conventions, such as the Ramsar Convention on Wetlands, the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC).

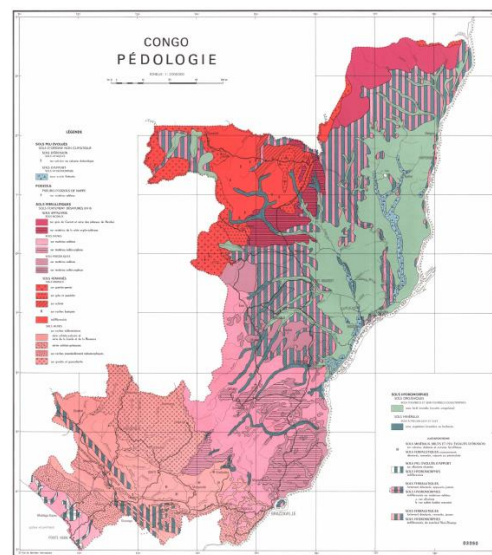
The different axes of the strategy are also correlated with the targets of the MedWet Framework for Action 2016-2030 in the areas of the inclusion in the Ramsar List, the development and implementation of pilot restoration projects in degraded wetlands, and the integration of good practices for water management and wetland conservation into national land use plans and policies in order to avoid further damage to wetland functions and values. [Full text of the National Wetlands Strategy 2015-2030](#) (in French language).

Republic of Congo/Democratic Republic of Congo (DRC)

Preserving precious peat in the Congo Basin

The republic of Congo and the Democratic Republic of Congo (DRC) have long been known for the biodiversity and carbon storage capacity of their vast forests. Scientists recently discovered what they call 'the world's largest tropical peatland' in a remote part of the Congo Basin. The 145,000 km² area, larger than the size of England, known as the 'Cuvette Centrale', straddles the DRC's border with the Republic of Congo. For the UNFCCC REDD process (Reducing Emissions from Deforestation and Forest Degradation), countries need to know what carbon pools and stocks they hold. The 'new' peat needs to be added to the existing forest carbon stocks. The recent inventory of large quantities of peat has now ranked the DRC and Congo among the world's leading tropical peatland countries, just behind Indonesia. The Congo Basin is considered to be the world's next frontier for agricultural expansion globally. Hence the carbon pool areas, including peatlands, must be very well-

protected, with support from international donors and partners.



1958 ORSTOM map of the distribution of organic soils (green-blue) in Republic of Congo.

Asia

IOI committed to protect Indonesia's forests and peatlands

28 Apr 2017: The IOI Group, one of the largest palm oil traders in the world, just made a significant commitment to protect Indonesia's forests and peatlands. The IOI Group was suspended from the Roundtable on Sustainable Palm Oil (RSPO) for alleged violations of sourcing standards. In August 2016, IOI Group regained its certified status but multinationals like Unilever and Mondelez were reluctant to source palm oil products until IOI showed tangible improvements on the ground. This then prompted the group to work harder on its policies and practices and in the same month as the temporary suspension was lifted, the IOI Corporation launched its updated Sustainable Palm Oil Policy (SPOP) alongside a comprehensive Sustainability Implementation Plan (SIP). Now less than one year on, the company announced additional commitments, including independent verification of policy implementation as well as implementation of global best-practice peatland management in the Ketapang landscape, Indonesia. It has also committed to minimize and mitigate the impact of third-party suppliers on peatlands. Greenpeace International welcomed the latest IOI commitments. For several years, Greenpeace has been exposing how IOI has been linked to the destruction of valuable forest and peatland areas, exploitation of plantation workers including reports of child labour, and extensive fires on its land. And because IOI buys so much palm oil from hundreds of other growers and traders, it was linked to environmental and social problems happening on land controlled by those companies. "Today's announcement goes much further than anything IOI has promised before. The proof, as always, is in how well these promises are put into practice. We will be monitoring progress closely and won't hesitate to challenge IOI if we think it's not keeping its word."

- <http://www.foodingredientsfirst.com/news/ioi-sets-standard-for-palm-oil-industry-with-pledge-to-protect-rainforests.html>
- <http://www.candyindustry.com/articles/87713-greenpeace-suspends-campaign-against-palm-oil-supplier-ioi-group-amid-new-commitments-against-deforestation-exploitation>
- <https://www.edie.net/news/7/IOI-commits-to--best-practice--peatland-and-deforestation-plans/>

China



Peatland rewetting in Rouergai, China (Photo: Hans Joosten)

Sixteen new *Neidium* species described from Rouergai

In a recent book on the *Neidium* diatoms of Rouergai (Zouigé) wetlands in Sichuan Province, China, sixteen new *Neidium* species are described from this largest high mountain peatland ecosystem of the world. The book provides detailed descriptions for each species with light microscope and scanning electron microscope photographs and compares the species with other, similar species from other regions of the world. http://www.schweizerbart.de/publications/detail/isbn/9783443570545/Bibl_Diatomologica_Vol_63?af=featured

Indonesia

Felda violates policies by clearing peat forest in West Kalimantan

As reported by [Chain Reaction Research](#), new evidence has emerged that Malaysian-based Felda Global Ventures (FGV) continues to clear peat forest on its PT Temila Agro Abadi (PT TAA) plantation in West Kalimantan, Indonesia, thereby violating its own sustainability policy and RSPO's principles and criteria. FGV's deforestation poses material risk to its commercial and business relationships. The majority of FGV's customers, including Unilever, Wilmar, IOI, Musim Mas, Sime Darby, and KLK, have No Deforestation No Peat No Exploitation (NDPE) policies. Satellite imagery shows that the total cleared area since 2016 is 1,612 ha of mostly peat forest. Aidenvironment commissioned a drone fly-over on location April 12, 2017 of the PT TAA concession. You can view the video [here](#).

Indonesia seeks to extend moratorium by two years

Indonesia's environment and forestry ministry wants to extend a moratorium on issuing new licences to use primary forest and peatland by two years. The moratorium was established under the previous administration of President Susilo Bambang Yudhoyono in a bid to reduce gas emissions linked to fires caused by deforestation, with peatlands particularly vulnerable. The ministry requested the presidential office approve the extension of the moratorium, which is due to expire on May 20, said Yuyu Rahayu, acting director general of forestry at the ministry. If approved, this would be the third extension of the moratorium, which was first implemented in 2011.

- <http://af.reuters.com/article/commoditiesNews/idAFL4N1IC334>
- <http://www.channelnewsasia.com/news/asiapacific/indonesia-ministry-seeks-to-extend-forest-moratorium-by-two-years-8834584>

Peatland fires inflict trillions of Rupiah in losses

Peatland fires in three regencies in Jambi, Sumatra, in 2014 caused Rp 44.714 trillion (US\$3.4 billion) in losses. The Forestry School of the Bogor Institute of Agriculture (IPB) and the Indonesian Conservation Community (KKI) Warsi recently conducted the Peat Fire Impact Valuation study in West Tanjung Jabung, Tanjung Jabung and Muarojambi, and found that the fires had damaged 628,627 hectares of peatland in the three regencies, causing losses equal 15 times the provincial annual budget of Rp 3.5 trillion.

<https://www.aseanbreakingnews.com/2017/04/peatland-fires-inflict-trillions-of-rupiah-in-losses/>

Peatland Regulation terminates oil palm plantation permits

The permit for 1 million hectares of oil palm plantations all over Indonesia would be terminated on the government regulation No. 57 of 2016 on protection and management of peatland ecosystems. Regulation No. 57 requires a change in the function of one million hectares of oil palm plantations all over the country, Plantation Director General Bambang said on the sidelines of a Plantation Development Consultation and Coordinating Meeting in Pekanbaru, Riau Province, Sumatra on 27 April 2017. Bambang said the owners of the one million hectares of plantations are most likely holders of the Business Land Use Title (HGU). According to the Agriculture Ministry, the country currently has 11.9 million hectares of oil palm plantations before the peat land regulation was in force. "From the total of 11.9 million hectares, one million hectares would have to be abandoned by the owners as their HGU permit would not be renewed," Bambang told reporters. He said the regulation is aimed at protecting and maintaining the hydrological function of the peatland, but there is a risk in the conversion of the land. "Who is to watch the process of restoration? The risk is that when the land is not cultivated and abandoned, that the land is getting damaged as there is no one to watch over it."

Meanwhile, the Riau regional administration expressed concern with the regulation saying the regulation could result in a substantial decline in plantation production in the province. "The provincial administration does not reject the policy, but it would seek to create synergy that the impact would not be too serious to large

plantation companies as well to the regional income. The plantation sector, the oil palm plantation companies in particular have contributed up to 59 percent or around Rp86 trillion to the economy of Riau," a senior official of the regional administration said. Riau has 3 million hectares of oil palm plantations and 45 percent of the plantations are owned by smallholders, 41 percent by large companies and the rest are operated by plasma farmers. Crude palm oil (CPO) is one of the country's largest export commodities outside oil and gas. In 2016, the country's exports of palm oil and derivatives were valued at US\$18.6 billion and palm oil companies contributed 2.23 percent to the country's tax revenues. The sector provides jobs for 5.3 million Indonesian or a livelihood for 21.2 million people including their dependents.

<http://www.antarariau.com/berita/88960/oil-palm-plantation-permit-terminated-on-peat-land-regulation>



Collection of smallholder oil palm harvest in Riau. (Photo: Hans Joosten)

President Jokowi wins praise for peatland protection

Indonesia's President Joko 'Jokowi' Widodo praised a local initiative in Riau, Sumatra, to dam a canal in order to stop the drainage of a peat forest, signaling a good step toward tackling Sumatra's devastating forest fires. 'This canal dam, initiated by the community, is very good and must be made permanent. What's best is for peatland to be given to the community to be managed for sago. Community management is usually environmentally friendly, but if it's given to companies it is turned into monocultures like acacia and oil palm,' he said in Sungai Tohor village, Riau province on April 12, 2017. The location that Jokowi visited was the place where Greenpeace has been working with local communities to protect and restore peatlands from drainage and clearance by the plantation industry. When asked whether he would strengthen legal protection for peatlands, the President said, 'That's right, yesterday I instructed the minister. Peatlands cannot be underestimated. They must be protected because they constitute a special ecosystem and it's not only deep peat that must be protected, but all peat areas.'

- <https://www.aseanbreakingnews.com/2017/04/jokowi-wins-praise-for-peatland-protection/>
- <http://www.en.netralnews.com/news/currentnews/read/5605/the.world.s.response.is.very.positive.toward.indonesia.on.this>



Transport of pulpwood in Riau, Indonesia. (Photo: Hans Joosten)

FSC conditionally approves plan to end suspension of APP

13 April 2017: Ten years after the Forest Stewardship Council (FSC) cut off ties with Asia Pulp and Paper (APP), the sustainability certification body has conditionally approved a plan to re-engage with the Indonesian agribusiness giant. The move has been met by a mixture of optimism and concern from environmental groups, who cautiously welcomed the news but expressed reservations about elements of the plan including compensation for past damage, and the fact that APP continues to manage plantations on carbon-rich peatland. FSC dissociated from APP in October 2007 due to mounting evidence that it was involved in destructive forestry practices. APP has since rolled out several sustainability policies including a 2013 'Forest Conservation Policy' which promises an end to natural forest clearance across the company's supply chain; a US\$10 million a year pledge to protect and restore 1 million hectares of forest; and a roadmap towards improved sustainability by 2020. But it has also been mired in controversy in the years since FSC's dissociation, most notably the death of a local farmer at the hands of security guards hired by an APP subsidiary, concerns by green groups that its new mega-mill in South Sumatra will drive further forest destruction; and being heavily implicated in causing Indonesia's worst haze crisis on record in 2015 due to extensive fires on its concessions. After years of discussion and consultation with the company and various stakeholder groups, FSC's board of directors gave conditional approval to a roadmap for re-engaging with APP.

Bagus Kusuma, forest campaigner, said that Greenpeace views the conditional approval as "a good step forward", but that Greenpeace has reservations on various elements of the roadmap. Bagus: "Drainage-based Acacia plantations on peat should not be eligible for certification under any environmental, social or economic sustainability standard. Also Bas Tinhout, technical officer for climate-smart land use, Wetlands International—which has been involved in the consultations for the roadmap—declared that a major omission in the roadmap is the lack of adequate safeguards for peatlands. About 60 per cent of APP's plantations are on peat, which must be drained before Acacia—one of the main crops of the pulp and paper industry—can be planted. "Drainage-based Acacia plantations on peat should not be eligible for certification under any environmental, social or economic sustainability standard," according to Tinhout. Wetlands International, along with other NGOs, has previously released research showing that continuing plantation development on peat diminishes agricultural productivity. This is because of peatland subsidence—that is, when drained peat dries out and starts sinking—as well as flooding and social conflict. More sustainable ways of managing peatland include

planting species that can be grown on wet peat so that it does not need to be drained, or phasing out plantations on peat altogether.

<http://www.eco-business.com/news/fsc-conditionally-approves-plan-to-end-suspension-of-app/>



Peatland rewetting infrastructure on APP pulpwood plantation in Jambi, Sumatra. (Photo: Hans Joosten).

Surveillance technology for peatland rewetting

Indonesia aims to restore 2.5 million hectares of degraded peatland, out of which 1.4 million hectares are located in plantation and forest companies' concessions. Digital surveillance technology emerges as a solution to ensure companies' compliance in protecting peatland and preventing haze. Following the 2015 haze and fire crisis, the Government of Indonesia started to design a more stringent environmental governance to protect its peatlands. In March 2017, the Ministry of Environment and Forestry (MOEF) issued a series of technical policies requiring the plantation companies to install water logger systems to monitor peatland's water table level. To avoid fires, companies have to maintain the peatland's water table at 0.4 metres below the surface and to submit a regular report to the MOEF. A scientific collaboration between the Peatland Restoration Agency and the Government of Japan is aimed at producing a water logger that produces automatic reports using satellite technology in order to provide real-time digital monitoring data.

<http://www.eurasiareview.com/14042017-digital-peatland-governance-surveillance-technology-for-haze-free-region-analysis/>

30 thousand hectares peat in South Kalimantan immediately restored

The Peat Restoration Agency (BRG) will immediately restore 30,000 hectares of peatland in eight villages in three districts in South Kalimantan. This was announced by Deny Susanto, Head of Pena Hijau (Green Pen) South Kalimantan after a visit on Friday 29 April 2017 to the BRG office in Jakarta. According to BRG, 58,342 hectares of peatland in South Kalimantan are considered damaged and must be restored soon. Programs to be implemented include, among others, a peat cared village (DPG) program to intervene in village or urban village development within and around a hydrological peat unit (KHG), which is the target of peat restoration. The villages will be assisted to be developed in accordance with the potential of the peatlands around their environment. Not only to restore damaged peat, but also to improve the economy of the people, e.g. by developing the freshwater fisheries sector, and by developing the use of peat plants.

<http://www.antarakalsel.com/berita/45579/30-thousand-hectares-peat-in-south-kalimantan-immediately-restored>

Can communities and legislation stop Indonesian peatfires?

[New research](#) by CIFOR in Riau, Sumatra, shows that local elites often control and exploit peatland fires, siphoning off the majority of earned profits. This, combined with complex systems of patronage, lack of law enforcement, and few resources allocated centrally, means that the Indonesian government's attempts to address the problem of forest and peatland fires have been severely hampered over the past 18 years. The study suggests ways to help overcome this deadlock. One of them is to introduce local [laws](#) at both district and provincial levels to hold individuals and companies accountable. National laws are often poorly implemented and, up until now, other measures have been largely nonexistent. "We should not rely on national initiatives only," says Herry Purnomo, CIFOR researcher. "Legislation adopted at the local level is closer to the community and is much more likely to be enforced and have a positive impact on the ground." CIFOR's consultations on canal-blocking and crop planting are designed to show communities the kind of fire prevention and peatland restoration work that a new law could help fund and enforce. They are also an excellent opportunity for researchers to seek local views on how to stop fires and what measures would be helpful to include in the local laws. <http://www.cifor.org/library/6357/fire-economy-and-actor-network-of-forest-and-land-fires-in-indonesia/>

Government allocates Rp865 billion for peatland restoration

The Indonesian government has allocated Rp865 billion (58 million Euro) to enable the Peatland Restoration Board (BRG) in 2017 to continue the national peatland restoration program, particularly in seven priority provinces. This was announced by BRG Chief Nazier Foead on 16 May 2017 in Pekanbaru during the visit of the Global Peatlands Initiative to Riau. The fund will be used to restore peatland covering an area of 400,000 hectares in 2017 in the seven priority provinces of Riau, Jambi, South Sumatra, West Kalimantan, Central Kalimantan, South Kalimantan and Papua. Especially for Riau province, the board has allocated Rp100 billion for peatland restoration program in eight districts this year, he said. The eight districts are Dumai, Siak, Kepulauan Meranti, Bengkalis, Pelalawan, Indragiri Hilir, Rokan Hilir and Kampar. The BRG has set itself the target of restoring 30 percent of 2,492,527 hectares of peatland in 2016, 20 percent in 2017, 2018 and 2019 each, and 10 percent in 2020.

<http://www.antaranews.com/en/news/110953/govt-allocates-rp865-billion-for-peatland-restoration>



BRG Chief Nazier Foead at the Global Peatlands Initiative visit to Riau, 16 April 2017. (Photo: Hans Joosten).

Indonesia's plan to stop future forest and peatland fires: interview with CIFOR scientist Herry Purnomo

Q: What has been done by the Indonesian government to prevent a repeat of the devastating 2015 fires?

A: Well, quite a lot really, at least on paper. I worked on the government's strategy, the so-called 'grand design' to prevent forest and peatland fires nationwide. It's a massive three-year plan and the estimated cost is USD 3 billion. It's very comprehensive and calls for strong laws and regulations, empowering local communities, and giving them incentives not to burn the land. The plan also includes a strategy for blocking canals to stop peatlands from being drained and, of course, firefighting training and equipment.

Q: What is being done to restore and preserve peatlands?

A: The Peatland Restoration Agency BRG was established last year with a clear mandate from the Indonesian President to restore 2.4 million hectares of peatland in seven provinces – that's 1,333 hectares per day. This means bringing the peatland back to its original state so that it can't be used for pulpwood and oil palm purposes anymore. Now, the question is: Who is going to do this? About 80 percent of the peatland targeted for restoration lie in concession areas. The involved companies are not very happy with the government's plan, even though it has stated that it will pay for it. Companies are asking what's in it for them incentive-wise. There have been suggestions to offer alternative land in exchange for the peatlands, but it's not easy to find one million hectares in a particular area. Another potential challenge is that the local government may not wholeheartedly support peatland restoration if it hurts the local economy and local livelihoods.

Q: Can this land be bought and then protected?

A: That's possible, but you also need to think about the smallholders who rely on the land for their livelihoods. There are many people who work near or in these concession areas. So we need to think about how to provide alternative livelihoods for communities in these peatland areas. There are efforts underway to launch social forestry across 12.7 million hectares of land, as well as agrarian reforms that will provide nine million hectares of land, about half of which will come from non-forested land, to the communities. Now, a new problem emerges: How will you distribute this land? Landless farmers are usually less educated and don't speak up for their rights, so they often miss out on social programs. And in places like South Sumatra, you have young people who want to leave for urban cities, so they will just sell their land. I should point out that this is where NGOs can play a vital role and make sure people are being treated fairly.

Q: What about neighbouring countries like Singapore and Malaysia that were also affected by the haze? Are they doing anything to help Indonesia?

A: There were several community-based peatland projects executed in collaboration with Malaysia and Singapore. The Association of Southeast Asian Nations (ASEAN) is working on this issue through the 'ASEAN haze-free vision in 2020' program. But I think a more radical solution is needed at the ASEAN level. This should include investigating the flow of money from Malaysia and Singapore that is being used to invest in illegal mid-size palm oil plantations.

Q: Preventing fires, restoring peatlands and providing new livelihoods for people are all ambitious targets. Are you optimistic that they can be achieved?

A: These problems can certainly be improved upon, but perhaps not eliminated completely. Even if we have USD 3 billion for the new program, I think we can reduce fires by only 50 percent against business-as-usual levels targeted in the grand design for fire prevention. One thing is clear, however. We need to look at sustainable palm oil options and create a standard for environmentally-friendly products. Overall, we need strong incentives to spur local economies, as well as community empowerment and good peat management. We also have to make sure that law enforcement can do their job effectively and investigate local hotspots in a timely manner. It's not like the old days when we didn't have satellite data. Now, we know exactly where these fires are coming from.

For the full interview, see <http://blog.cifor.org/49545/fending-off-the-flames?fnl=en>

For more information on this topic, contact Herry Purnomo at h.purnomo@cgiar.org



Oil palm on peat in Riau. (Photo: Hans Joosten).

Malaysia

Below the latest figures of the area of peatland in Malaysia under palm oil. Source: <http://www.theborneopost.com/2017/05/14/mps-promotes-sustainable-use-of-peat-peatlands/>

MALAYSIA : Area under oil palm - 2016

Region	Hectarage (ha)	Percentage (%)
Malaysia	5,737,985	100.0
Pen. Malaysia	2,679,502	46.7
Sabah	1,551,714	27.1
Sarawak	1,506,769	26.3

Philippines

Philippine peatlands

The Department of Environment and Natural Resources (DENR) of Philippines is currently in search of peatland ecosystems, said Director Theresa Mundita S. Lim of the Biodiversity Management Bureau (BMB) of the DENR. According to the DENR, citing the 2016 *Atlas of Philippine Inland Wetlands and Classified Caves*, there are currently nine identified peatlands in the country. They are the Tan-ag Ilaya in Quezon Province, Sab-A in Leyte, San Teodoro and San Vicente Peatlands in Agusan del Sur; and the Agusan Marsh peatlands in Talacogon, Caimpugan, Novelle and Bayugan III, Kalingayan-Consuelo and Pag-Asa. The total area of identified peatlands is 17, 019.90 hectares. However, Lim said, there could be more peatlands in areas that have yet to be discovered. There are other lesser known and relatively disturbed smaller areas of peatlands in Mindoro, Samar and Quezon. The forests of Lanipao in both the Agusan Marsh and Leyte Sab-a Basin are some of peatlands that exhibit aesthetic beauty. According to Lim, land conversion is the most serious threat to peatlands. "There is not much awareness on peatlands, and, because of their unique characteristic, which allows only limited types of vegetation to grow, they are often mistaken as open areas, converted to agricultural land, but more often planted with the wrong crops. Thus, they are considered unproductive, then unsustainably altered for oil-palm plantations, or even developed as residential areas." One major underlying reason for all these is the lack of awareness about peatlands. The DENR-BMB's wants to raise awareness on the country's peatlands, particularly its unique characteristics. "We are assisting in identifying peatland areas in the Philippines, assessing and characterizing them and providing recommendations on the appropriate uses and management prescriptions," Lim said. She said that two confirmed and most prominent peatlands in the Philippines are in the heart of the Agusan Marsh and Leyte Sab-a. "There are reportedly peatlands in Liguasan Marsh [Maguindanao] and in Santa Teresita, Cagayan [province in Cagayan Valley], which remain to be better explored." However, identifying peatlands is difficult, and would require proper training by experts. Because there is no special program for peatland conservation, it being part of the regular activities of the DENR, there are also budgetary constraints. "Training field personnel will cost money. But we do not have budget for that," Joy Navorra, senior ecosystem management specialist at DENR, said. "The search for peatland ecosystems is being carried out by field employees of the DENR, but not all employees are equipped with the technical expertise." "Agusan Marsh is protected, but we need more awareness and protection mechanisms, as well as more awareness on the appropriate use of our peatlands," Lim said. Farmers in Agusan cultivate peatland areas, thinking they are suitable for rice or root crops with commercial value. However, farmers tend to burn agricultural waste, which could trigger peat fires. Partnering with local governments and communities, she said, will boost national government efforts to save peatlands while exploring options to optimize benefits from the ecosystem services they provide. "If revenue can be generated without destruction of the peatlands, then we expect that LGUs [local government units] and communities can better appreciate and be mobilized as our partners in peatland conservation," Lim said. <http://www.businessmirror.com.ph/saving-philippine-peatlands/>

Siberia

Peat fires in Siberia

Rising temperatures and strong winds are fuelling an increase in peatfires, with most fires expected in Transbaikal, Kemerovo region and Omsk along with the Republic of Buryatia. Peat fires in Buryatia are posing a serious threat, says Greenpeace, which claims the authorities are turning a blind eye. Alexey Yaroshenko, head of the forestry department at the campaigning group, said: 'Large wildfires in drained peat bogs are active again in the Kabansky district of Buryatia. The largest wildfire covers, according to preliminary information, about 500 hectares in a peat bog close to Bolshaya Rechka village. Smaller wildfires have been registered by systems of remote monitoring, also in the delta of Selenga River as well as on drained peat bogs close to Seleginsk.' With no rain due, and a hot summer in prospect, this will lead to worsening fires and 'create a life and health threat to people' and pose problems for transport.

<http://siberiantimes.com/other/others/news/large-wildfires-and-major-flooding-as-siberia-faces-a-spring-thats-both-dry-and-wet/>

Europe

European Union

EU Action Plan for nature, people and the economy

Following a thorough evaluation of the Birds and Habitats Directives, the European Commission has adopted the [Action Plan for nature, people and the economy](#) (download all linguistic versions [here](#)) to improve their implementation and boost their contribution towards reaching the EU's biodiversity targets for 2020. The Action Plan focuses on four priority areas and comprises 15 actions to be carried out between now and 2019. The Plan is complemented by [detailed factsheets](#) providing more information on each of the 15 actions. Measures will be taken at EU level, but Member States and stakeholders concerned will also need to act, with increased support and assistance from the European Commission. The EU Action Plan will be presented at a [conference](#) on the 6th June 2017 in Brussels.

MEPs call for embargo on imports of unsustainable palm oil and use in biofuel

To counter the impact of unsustainable palm oil production, such as deforestation and habitat degradation, particularly in South-East Asia, the EU should introduce a single certification scheme for palm oil entering the EU market and phase out the use of vegetable oils that drive deforestation by 2020, say Members of the European Parliament (MEPs) in a resolution voted on Tuesday, April 4, 2017. "We want an open debate with all players so we can make palm oil production sustainable, without cutting down forests and in compliance with dignified human rights conditions", said Kateřina Konečná (GUE/NGL, CZ) who drafted the resolution, which was approved by 640 votes to 18, with 28 abstentions. "This is Parliament's first resolution on this issue and it is up to the Commission how it acts upon it. But we cannot ignore the problem of deforestation, which threatens the Global Agreement on Climate Change COP21 and UN Sustainable Development Goals", she added. MEPs note that 46% of the palm oil imported by the EU is used to produce biofuels, requiring the use of about one million hectares of tropical soils. They call on the Commission to take measures to phase out the use of vegetable oils that drive deforestation, including palm oil, as a component of biofuels, preferably by 2020.

MEPs note that various voluntary certification schemes promote the sustainable cultivation of palm oil. However, their standards are open to criticism and are confusing for consumers, they say. They advocate a single certification scheme to guarantee that only sustainably produced palm oil enters the EU market. They also call on the EU to introduce sustainability criteria for palm oil and products containing palm oil entering the EU market. The Commission should improve the traceability of palm oil imported into the EU and should consider applying different customs duty schemes that reflect real costs more accurately until the single certification scheme takes effect. MEPs also stress that a large part of the global production of palm oil is in breach of fundamental human rights and adequate social standards. It frequently uses child labour, and there are many land conflicts between local and indigenous communities and palm oil concession holders.

<http://www.europarl.europa.eu/news/en/news-room/20170329IPR69057/meps-call-for-clampdown-on-imports-of-unsustainable-palm-oil-and-use-in-biofuel>

See text of adopted resolution under:

<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0098+0+DOC+XML+V0//EN&language=EN>

Indonesia and Malaysia accuse EU of protectionism

Indonesia and Malaysia, which produce more than 80% of the world's palm oil, are resisting proposals by European parliamentarians that could limit their access to the second biggest palm oil market after India. Government ministers from Malaysia and Indonesia, along with some regional palm oil producers, met in Jakarta on April 11 to plan a response to a resolution approved on April 4 by European parliament members concerning "palm oil and deforestation." The parliamentarians requested the EU to "introduce a single certification scheme for palm oil entering the EU market and phase out the use of vegetable oils that drive deforestation by 2020." Indonesia's Environment and Forestry Minister Siti Nurbaya Bakar called the EU proposals an "insult," while the foreign ministry accused the EU of "protectionism" and of ignoring the rights of millions of Indonesian farmers whose main source of income is from small oil palm plots. The growth in global demand for palm oil, which is used in a wide array of products from cosmetics and fuel to foods such as margarine and chocolate, has resulted in the massive clearing of forests over the last 30 years. Images of

orphaned baby elephants and orangutans rescued from cleared forests and plantations have spurred vigorous environmental activism and consumer awareness campaigns in recent years. Species such as the Sumatran elephant have been put on endangered lists, with the ensuing bad publicity forcing governments and palm oil companies to sign up for various national and international certification schemes to guarantee that palm oil products are not causing environmental damage. But members of the European parliament argue that a single certification scheme is needed. "MEPs note that various voluntary certification schemes promote the sustainable cultivation of palm oil," but "their standards are open to criticism and are confusing for consumers," said a European parliament press release issued on April 4. In response, Indonesia's Agriculture Minister Andi Amran Sulaiman told reporters in Jakarta that "we cannot let Europe dictate Indonesia's agriculture. We have our own standard called Indonesia Sustainable Palm Oil."

<http://asia.nikkei.com/Markets/Commodities/Asian-palm-oil-producers-slam-EU-moves-to-restrict-market-access>

Ireland

Solar power to be developed on Bord na Móna peatland

The two semi-State companies ESB and Bord na Móna have announced plans for a joint venture to develop solar power in Ireland. The companies said the project, which will involve 2,500 acres of peatland being covered in solar panels, will provide renewable energy for 150,000 homes from 2019 on. The companies have committed €10m between them for front-end pre-engineering assessments surrounding four bogland locations in counties Roscommon, Offaly and Kildare on which they aim to install solar panels. The solar panels will be located on Bord na Móna land that was previously used for peat extraction.

- <https://www.rte.ie/news/2017/0427/870663-bord-na-mona-esb-solar-power/>
- <https://player.fm/series/rt-morning-ireland/solar-power-to-be-developed-on-bord-na-mna-peatland>

United Kingdom

New £10m for upland peatland restoration in England

A new £10m fund to accelerate the large-scale restoration of the country's peatland habitats over the next three years can make a "huge difference", conservationists have said. Peatlands cover 11 per cent of England's landscape and provide habitats for birds such as the merlin, dunlin and golden plover. They also supply 70 per cent of England's drinking water, and they store more greenhouse gas than all of the country's woodlands and forests combined. The new funding that is due to be released to wildlife trusts and charity projects from May on over three years will be targeted at sites with the greatest potential for achieving greenhouse gas reductions through the re-wetting of mosses and the restoration of peatland habitats. Environment Minister Thérèse Coffey said: "Peatlands are an iconic aspect of the English landscape which are not only a haven for wildlife but also provide us with clean water and help reduce greenhouse emissions. "This funding will help restore thousands of hectares of this precious habitat to its natural state and is a key part of our ambition to be the first generation to leave the natural environment in a better state than we found it." Founded in 2009, The Yorkshire Peat Partnership is an umbrella organisation comprising of the Yorkshire Wildlife Trust, Yorkshire Dales National Park Authority, Natural England, North York Moors National Park Authority and the Environment Agency. It aims to restore and conserve upland peat landscapes across the Yorkshire Dales and North York Moors National Parks, the Nidderdale Area of Outstanding Natural Beauty and areas of the South Pennines. Within Yorkshire alone, there are nearly 70,000 hectares of upland peat soil, upon which more than four million metres of drainage channels have been dug. Rob Stoneman, chairman of the Partnership, chief executive of Yorkshire Wildlife Trust, and chairman of IUCN's UK Peatland Programme said: "It is crucial this natural capital is conserved, yet in the past we have seen great damage inflicted on this habitat, with over 80 per cent of UK peatlands recorded as degraded. This new fund will make a huge difference to restoring these damaged English peatlands back to a healthy, functioning state. This is excellent news for English peatlands - they are our largest area of semi-natural habitat and provide many important services, including drinking water provision, flood mitigation solutions, carbon storage and homes for rare wildlife."

- <http://www.yorkshirepost.co.uk/news/environment/new-10m-war-chest-to-deliver-upland-peat-revival-1-8499074>
- <http://www.farming.co.uk/news/article/13502>
- <http://www.lancashirewildlife.org.uk/?p=27789>
- <https://www.energylivenews.com/2017/04/24/peatland-restoration-secures-10m-to-cut-emissions/>

Hill farmers 'snubbed' by Defra's £10m plan to restore peatland

National Farmers Union uplands forum chairman Robin Milton has expressed his disappointment that Defra had decided to provide £10 million to restore peatland without proper consultation of the farming community. "If you are indulging in a re-wetting exercise that is directly impacting on reduced stocking, use of commons and sheep numbers on moors, you are going to have a direct effect on that farming and that social and cultural approach. You won't be maintaining farms in those areas." Mr Milton said he was disappointed that the people who were most affected by these plans – farmers and landowners – had not even been considered. "Farmers recognise the value and attributes of these landscapes better than anyone and it would seem reasonable to ensure they are properly recognised for their contribution to restoration projects where they can be facilitated appropriately." Grants will be available for three years from April 2018 as part of Defra's £100m of capital funding for direct investment in projects that support the natural environment.

<http://www.fwi.co.uk/livestock/hill-farmers-snubbed-defras-10m-plan-restore-peatland.htm>

Peatland restoration at Sandy Loch, Shetland Islands

Shetland Amenity Trust and local contractor Sean Mackenzie have recently been working on a peatland restoration project, funded by Scottish Water, at Sandy Loch. The loch provides drinking water for Lerwick and much of the Shetland Mainland but peat erosion in its catchment leads to brown discolouration of the water. This project tackled the bare peat at the north end of the loch. The eroding peat has been transformed into bog pools and re-planted with bog vegetation. The restoration will improve water quality and should mean less need for chemical water treatment. <https://www.shetlandamenity.org/peatland-restoration-at-sandy-loch>



Sandy Loch restoration before and after restoration

The Peatland Carbon Code

The Peatland Code is a voluntary standard for UK peatland projects wishing to market the climate benefit of restoration. The current version of the Peatland Code (version 1.1) and [associated documents](#) were published in March 2017 following an extensive development process. The Peatland Code development process began in September 2013 with [pilot restoration projects](#) established in south west England, the Lake District and Wales, alongside work with a series of projects under Scottish Government's Peatland Action programme. Following a [Defra funded and commissioned report](#) to develop peatland carbon metrics and financial modelling to enable quantification and valuation of the carbon impacts of peatland restoration Peatland Code version 1.0 was launched in November 2015. This initial version of the Peatland Code proved invaluable in introducing the concept of 'Payment for Ecosystem Services' and stimulated useful discussion within numerous stakeholder groups. Building upon these discussions and aligning with protocol for Greenhouse Gas project accounting led to the creation of Peatland Code version 1.1 in March 2017. It is to this version that the first Peatland Code projects will be validated/verified against.

- [Peatland Code v1.1.pdf](#)
- [Peatland Code Summary Leaflet.pdf](#)
- [Frequently Asked Questions.pdf](#)

England's rarest butterfly at risk after arsonists destroy one of its last two habitats

Arsonists have destroyed one of the only two remaining habitats for England's rarest butterfly. An area the size of several football pitches was hit at lowland bog Heysham Moss in Lancashire, which is home to Large Heath butterflies (*Coenonympha tullia*). The attack leaves only the Winmarleigh Moss colony and Lancashire Wildlife Trust said the attack on the Site of Special Scientific Interest was "heartbreaking".

<http://www.mirror.co.uk/news/uk-news/englands-rarest-butterfly-firing-line-10264089>

European Commission calls on the United Kingdom to protect blanket bog habitats

The Commission is urging the United Kingdom to stop burning blanket bog habitats within upland Natura 2000 sites in England and to take measures to restore the damaged habitats. Blanket bogs are considered to be priority habitats under the Habitats Directive (Council Directive 92/43/EEC) when they are active (i.e. non-degraded), and their conservation status in England is seriously declining. For a number of years, the UK authorities allowed the damaging practice of burning blanket bogs within the English Special Areas of Conservation (SACs), without the appropriate assessment required by the Habitats Directive. The Commission warned the United Kingdom of those breaches of the Habitats Directive in a letter of formal notice sent in April 2016. As the burning of blanket bog habitats within the protected sites still continues, a final warning is now sent. The UK has two months to provide a response; otherwise, the case may be referred to the Court of Justice of the EU. http://europa.eu/rapid/press-release_MEMO-17-1045_en.htm

See also: <http://www.iucn-uk-peatlandprogramme.org/resources/position-paper-burning-and-peatlands>

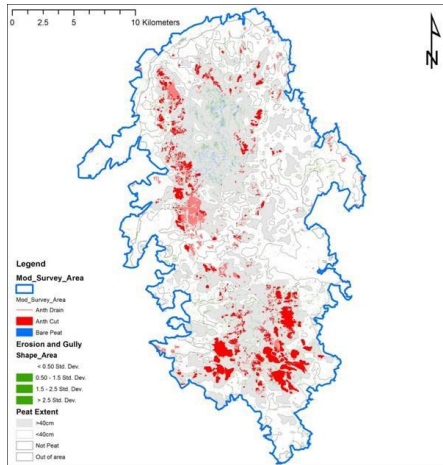
Partnership investment of > £1m protects unique moorland in the Peak District National Park

Protected moorland in the Peak District National Park is thriving once more thanks to specialist partnership conservation works worth £1.2 million. Three years of work by the [Moors for the Future Partnership](#), funded by [Natural England](#) through the EU Agri-Environment Programme, finished on Friday 31st March, to revive and safeguard Saddleworth moor (on the Pennine Way) in Greenfield, and Deer Hill Moss in Meltham. [Read more here](#)

Mapping Dartmoor

The [University of Exeter](#) (UoE) mires research team has produced a detailed GIS mapping resource of the peatlands on Dartmoor. Access the data by following this link: <https://maps.dartmoor.gov.uk/peatland.html>.

The UoE undertook a detailed analysis of various data sets to provide the GIS mapping of key features, that is, the extent of peatlands on Dartmoor, bare peat areas, gullies and erosion features, anthropogenic peat cutting areas, and previously unmapped Historic Environment features. Such features are known to affect ecological and hydrological processes operating in peatlands and it is therefore important to understand both their distribution and position in the landscape.



This detailed and accurate information regarding the presence of erosional and anthropogenic features across Dartmoor is an amazing resource, which will help to support and inform the ongoing management and conservation of Dartmoor's peatland landscape.

The work was commissioned by the [Dartmoor National Park Authority](#), with many thanks to the funders, Dartmoor National Park Authority, [South West Water](#), [Natural England](#), [Dartmoor Society](#) and [Dartmoor Preservation Trust](#) and the [Duchy of Cornwall](#).

North America

United States

Swamp School sponsors international wetland plant project

The U.S. Fish and Wildlife Service developed, and the U.S. Army Corps of Engineers (USACOE) now manages, a fairly comprehensive catalogue of known and suspected wetland plants in the U.S. Unfortunately, no such list like this exists, internationally. As wetland programs have evolved around the world, the need to identify hydrophytes has become more apparent. Using the same ratings as the USACOE, the Swamp School now hosts an international wetland plant database. The Swamp School is looking for volunteers, from around the world, to contribute to the database. [Learn more](#) about this initiative.

South America

Chile

Mires of Chile

Carolina Rodriguez: carolina.rodriquez@miresofchile.cl

Recently we started in Chile the initiative www.miresofchile.cl. As mires in this country have no protection by legislation and the continuous development of road infrastructure makes remote regions more accessible, these ecosystems face increasing risk of peat exploitation (see IMCG Bulletin October 2016). The webpage www.miresofchile.cl provides information about these beautiful and important ecosystems. Tourists, local communities, teachers and scientist, everyone who rely on the ecosystem functions of mires, shall find information there.

The main motivation is to have a platform counting the story of the origin of mires, why their existence is important for nature and human beings, what happens when they are exploited and which consequences their degradation has on the environment and therefore on local communities. In other words, we try to describe and illustrate the scientific background into common language. Next to the raise of awareness, we hope to give incentives for further projects, such as development of sustainable tourism, field environmental education projects and investigation.

A related initiative to draw further attention to the topic is "Education on wetland protection in Patagonia", a crowd-funding campaign for the organisation of workshops on mires and wetland protection for local communities in the two most distant and isolated schools of the Chilean Patagonia: the primary school of Villa O'Higgins (the most southerly town of the Region of Aysén at the end of the Carretera Austral) and the primary school of Puerto Williams (Capital of the Cape Horn Archipelago, southern of Tierra del Fuego in the Region Magallanes). We think it is crucial to educate people living next to mires and wetlands from a social and science based perspective, rather than from a short term productive one. We want to empower Patagonian future

generations to preserve their chances to benefit from a functioning mire and wetland system. You can support us in <https://www.gofundme.com/Education-on-wetland-protection-in-Patagonia>.

Another initiative we promote in www.miresofchile.cl is **HumedArte** (fusion of the Spanish words Humedal-wetland- and Arte-art). It is about small pieces of botanical jewellery including a tiny part of a wetland plant. They are aimed for national and international tourists and come with a small label with the species name in English, Spanish and Mapuzungún (language of Mapuche people, the largest indigenous community of Chile), containing very short information about the plant and a link to our homepage. On the homepage, the owner of the jewellery can find further information about his or her wetland plant, for example to which ecosystem it belongs, and why this ecosystem is important. Each piece of botanical jewellery costs 5 Euro+ shipping costs and can be purchased by contacting us through the website. The gains will be invested in the edition of a book about Education on Chilean mires.

We are very open to cooperate with scientists coming to research or educate on topics related to Chilean mires and wetland conservation, renaturation and local community empowerment for ecosystem protection. You can find us in www.miresofchile.cl.



Peru

Study of degradation of Pastaza Marañon peatlands

Located in Amazonia, the Pastaza Marañon Basin in Peru stores an amount of carbon in peat soil equivalent to more than 100 years of the country's anthropogenic emissions of greenhouse gases (GHG). However, these peatlands are only partially protected and showing clear signs of degradation. Kristell Hergoualc'h, a scientist at the [Center for International Forestry Research \(CIFOR\)](#), has been [studying Peruvian peatlands](#) as part of [CIFOR's Sustainable Wetlands Adaptation and Mitigation Program \(SWAMP\)](#). Hergoualc'h was part of a team of scientists who recently published [a pilot study](#) that mapped and characterized the degradation of palm swamp peatlands in the Peruvian Amazon. The study combined remote sensing data and carbon in biomass from inventories. "Providing solid and credible estimations of the impacts of degradation is an essential step in

planning and adopting conservation strategies,” says Hergoualc’h. “Peruvian peatlands should be considered as priorities in any national conservation program for climate change mitigation.”

Lowland peatlands are mostly forests hosting a high density of *Mauritia flexuosa* palms – locally known as *aguajes*. People consume the fruit of the aguaje palm and a weevil – called suri– that develops inside the dead trunk of the palms. These products are important sources of vitamins and proteins, especially for rural communities. Unfortunately, the harvest of the fruit has not been very sustainable. It has been extensively cultivated in the past decades by cutting down the entire palm instead of climbing it. The study found that out of 350,000 hectares, 73 % of the area of palm swamp forest on peat was degraded, resulting in a shift in forest composition; the forest becomes dominated by woody trees instead of palms.

Peru doesn’t have a regulatory framework for specifically protecting its peatlands. The country doesn’t have a soil map and has not adopted a definition for peat soil or peatlands. The term “peatland” appears in only one official document – The Wetlands National Strategy – where it is used to designate high-altitude peatlands in the Andes. There is thus a general need to bring awareness about what peatlands are and why they are important for Peru at the decision-making level in the national and regional governments, as well as in academia. The main lesson learned about peatlands worldwide is that they should not be drained. There are other sustainable options for livelihoods in these ecosystems, and these need to be defined and developed in tandem with the communities living within them.

For more information on this topic, contact Kristell Hergoualc’h at k.hergoualc'h@cgiar.org.

- <http://blog.cifor.org/49728/leveraging-peat-to-beat-the-heat?>
- <http://blog.cifor.org/21726/study-to-measure-carbon-in-perus-peatlands?fnl=en>



Mauritia flexuosa in Western Amazonia. (Photo: Hans Joosten).

Peruvian Congress of Wetlands and Bofedales Research

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On 3-4 February 2017 the First Peruvian Congress of Wetlands was organized by The Museum of Natural History, Scientific University of the South, Catholic University Sedes Sapientiae, and the Regional Conservation Area Wetlands of Ventanilla. Around 80 papers were presented including national and international master lectures, oral presentations and posters. Most presentations were about bofedales, a type of high Andean wetlands above 3,100 meters of altitude, that can be mires or peatlands. These ecosystems provide important services: water and fodder for livestock (including Andean camelids), carbon storage, erosion control, water

storage and regulation, etc. The recognition of these values has grown in recent years. The bofedales are threatened by: overgrazing, peat extraction, industries (mining, oil and energy) and construction (roads, dams). These threats directly destroy the bofedales or alter water availability and quality. Important presentations were the one of Patricio Crespo (Cuenca University, Ecuador) on “The identification of the influence of high Andean wetlands on generation and regulation of paramo flows through the use of geochemical tracers”, which emphasized the importance of conserving high Andean wetlands to maintain water production and regulation (Ecuador). Molly Polk (University of Texas Austin) reported on the fragmentation, attrition, isolation and decline of bofedales in Huascaran National Park (Peru), and suggested priority research lines.

A special forum “Bofedales: definition and classification in Peru” was part of the Congress. The Forum wanted to generate public awareness about the need for a clear definition, guidelines for identification and classification of these ecosystems to facilitate more accurate measures of management, restoration, conservation, or compensation. The forum was organized by the Research Group of Bofedales, a group of researchers of several specialties (ecology, hidrology, limonology, vegetation, geography, etc.) that have been working in different parts of the country. A publication about its conclusions is being prepared. It also was proposed to create an IMCG branch in Peru related with the Group. A Latin American network of research of mires and peatlands, including bofedales, would be highly desirable. If any IMCG member is interested in these initiatives or requires further information, please contact at mmaldonado@corbidi.org



The team of the Division of Vegetation Ecology in the posters section of the First Peruvian Congress of Wetlands. (Photo: Mónica Maldonado Fonkén).

Peatland conservation relevant papers April 2017

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

1. The Methuselah of plant diaspores: *Sphagnum* spores can survive in nature for centuries: <http://onlinelibrary.wiley.com/doi/10.1111/nph.14575/abstract>
2. Paleoenvironment change and its impact on carbon and nitrogen accumulation in the Zoige wetland, northeastern Qinghai–Tibetan Plateau over the past 14,000 years: <http://onlinelibrary.wiley.com/doi/10.1002/2016GC006718/abstract>

3. Biophysical drivers of seasonal variability in *Sphagnum* gross primary production in a northern temperate bog: <http://onlinelibrary.wiley.com/doi/10.1002/2016JG003711/abstract>
4. Holocene temperature and precipitation variability on the central Tibetan Plateau revealed by multiple palaeo-climatic proxy records from an alpine wetland sequence: <http://journals.sagepub.com/doi/abs/10.1177/0959683617702225>
5. The impact of avulsion on groundwater level and peat formation in delta floodbasins during the middle-Holocene transgression in the Rhine-Meuse delta, The Netherlands: <http://journals.sagepub.com/doi/abs/10.1177/0959683617702224>
6. What will become of Scotland's moors?: <http://www.nationalgeographic.com/magazine/2017/05/scotland-moors-highlands-conservation-land-management/>
7. Mid- to Late Holocene landscape changes in the Rioni delta area (Kolkheti lowlands, W Georgia): <http://www.sciencedirect.com/science/article/pii/S1040618216302907>
8. Latin American oil palm follows an unfamiliar route to avoid deforestation: <http://iop.msgfocus.com/c/11gs2gA5dS4s6sjiaqdbqrq3QMC>
9. Amount and stability of recent and aged plant residues in degrading peatland soils: <http://www.sciencedirect.com/science/article/pii/S0038071716303753>
10. Determining the causes for the dramatic recent fall of Lake Prespa (southwest Balkans): <http://www.tandfonline.com/doi/full/10.1080/02626667.2017.1309042>
11. Evaluating MODIS vegetation products using digital images for quantifying local peatland CO₂ gas fluxes: <https://ore.exeter.ac.uk/repository/handle/10871/26415>
12. Synergies and trade-offs between nature conservation and climate policy: Insights from the “Natural Capital Germany – TEEB DE” study: <http://www.sciencedirect.com/science/article/pii/S2212041616303862>
13. Biological Flora of the British Isles: *Phragmites australis*: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2745.12797/abstract>
14. Sedimentation of Holocene tufa influenced by the Neolithic man: An example from the Sąspowska Valley (southern Poland): <http://www.sciencedirect.com/science/article/pii/S1040618215302652>
15. Assessing environmental attributes and effects of climate change on *Sphagnum* peatland distributions in North America using single- and multi-species models: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0175978>
16. Predicting peatland carbon fluxes from non-destructive plant traits: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2435.12891/abstract>
17. Influence of Holocene permafrost aggradation and thaw on the paleoecology and carbon storage of a peatland complex in northwestern Canada: <http://journals.sagepub.com/doi/abs/10.1177/0959683617693899>
18. Fuel remains in archaeological contexts: Experimental and archaeological evidence for recognizing remains in hearths used by Iron Age farmers who lived in peatlands: <http://journals.sagepub.com/doi/abs/10.1177/0959683617702231>
19. Moorschutz in Deutschland – Optimierung des Moormanagements in Hinblick auf den Schutz der Biodiversität und der Ökosystemleistungen - Bewertungsinstrumente und Erhebung von Indikatoren: http://www.moorschutz-deutschland.de/fileadmin/user_upload/ghg/Home/01_Projekt_Moorschutz_in_Dtl/BfN-Skript_462_Moorschutz_internet.pdf
20. Top soil removal reduces water pollution from phosphorus and dissolved organic matter and lowers methane emissions from rewetted peatlands: <http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12931/full>
21. Habitat preference of female Corncrakes *Crex crex*: implications for the conservation of breeding sites in a secretive species: <http://www.tandfonline.com/doi/full/10.1080/00063657.2017.1318107>
22. Can we manage coastal ecosystems to sequester more blue carbon?: <http://onlinelibrary.wiley.com/doi/10.1002/fee.1484/abstract>
23. The jumbo carbon footprint of a shrimp: carbon losses from mangrove deforestation: <http://onlinelibrary.wiley.com/doi/10.1002/fee.1482/abstract>
24. Climatic controls on the global distribution, abundance, and species richness of mangrove forests: <http://onlinelibrary.wiley.com/doi/10.1002/ecm.1248/abstract>
25. An analysis of carbon dioxide and methane exchange at a post-extraction, unrestored peatland in Eastern Québec: http://www.gret-perg.ulaval.ca/uploads/tx_centrecherche/Rankin_MSc_2016_01.pdf
26. Évaluation de méthodes de lutte aux plantes envahissantes en tourbière : les cas de la quenouille et du roseau: http://www.gret-perg.ulaval.ca/uploads/tx_centrecherche/Messier_MSc_2017_01.pdf
27. Introducing global peat-specific temperature and pH calibrations based on brGDGT bacterial lipids: <http://www.sciencedirect.com/science/article/pii/S0016703717300522>

28. Management of the margins in cutover bogs: ecological conditions and effects of afforestation:
<http://link.springer.com/article/10.1007/s11273-016-9508-9>
29. Holocene climatic variability indicated by a multi-proxy record from southern Africa's highest wetland:
<http://journals.sagepub.com/doi/abs/10.1177/0959683616670467>
30. Hydrological changes in the Rzecin peatland (Puszcza Notecka, Poland) induced by anthropogenic factors: Implications for mire development and carbon sequestration:
<http://journals.sagepub.com/doi/abs/10.1177/0959683616670468>
31. Vegetation changes and associated climatic changes in the southern Altai Mountains within China during the Holocene: <http://journals.sagepub.com/doi/abs/10.1177/0959683616670469>
32. Evidence of temperature and precipitation change over the past 100 years in a high-resolution pollen record from the boreal forest of Central European Russia:
<http://journals.sagepub.com/doi/abs/10.1177/0959683616670472>
33. Holocene fen–bog transitions, current status in Finland and future perspectives:
<http://journals.sagepub.com/doi/abs/10.1177/0959683616670471>
34. Tephrostratigraphical investigation of lake sediments and a peat bog in Northeastern China since 20,000 years: <http://journals.sagepub.com/doi/abs/10.1177/0959683616670473>
35. Holocene vegetation dynamics on the Apakará summit of the neotropical Guayana Highlands and potential environmental drivers: <http://www.sciencedirect.com/science/article/pii/S0034666717300222>
36. Heightened fire probability in Indonesia in non-drought conditions: the effect of increasing temperatures:
<http://iopscience.iop.org/article/10.1088/1748-9326/aa6884/meta>
37. Coincident above- and below-ground autonomous monitoring to quantify co-variability in permafrost, soil and vegetation properties in Arctic Tundra: <http://onlinelibrary.wiley.com/doi/10.1002/2016JG003724/abstract>
38. Detrital input to spring-fed fen deposits – a problem or an opportunity in palaeoenvironmental studies? A Holocene palaeoclimatic reconstruction from central Europe:
<http://onlinelibrary.wiley.com/doi/10.1002/jqs.2926/abstract>
39. Swamp rabbits as indicators of wildlife habitat quality in bottomland hardwood forest ecosystems:
<http://www.sciencedirect.com/science/article/pii/S1470160X17301413>
40. Characterization of rainwater chemical composition after a Southeast Asia haze event: insight of transboundary pollutant transport during the northeast monsoon: <http://link.springer.com/article/10.1007/s11356-017-9131-1>
41. Causal mechanisms of soil organic matter decomposition: deconstructing salinity and flooding impacts in coastal wetlands: <http://onlinelibrary.wiley.com/doi/10.1002/ecy.1890/abstract>
42. Changes in dissolved organic matter quality in a peatland and forest headwater stream as a function of seasonality and hydrologic conditions: <http://www.hydrol-earth-syst-sci.net/21/2035/2017/>
43. Peatland management & rehabilitation in Southeast Asia: Moving from conflict to collaboration:
<http://www.siiiaonline.org/wp-content/uploads/2017/04/SIIA-Special-Report-Peatland-Management-Exec-Summary.pdf>
44. The interpretation of pollen assemblages from medieval and post-medieval cesspits: New results from northern Belgium: <http://www.sciencedirect.com/science/article/pii/S1040618215303189>
45. Aboriginal impacts on fire and vegetation on a Tasmanian island:
<http://onlinelibrary.wiley.com/doi/10.1111/jbi.12935/abstract>
46. Erosion of Northern Hemisphere blanket peatlands under 21st-century climate change:
<http://onlinelibrary.wiley.com/doi/10.1002/2017GL072590/abstract>
47. Water, climate and conflict: security risks on the increase?:
https://www.planetarysecurityinitiative.org/sites/default/files/2017-05/Briefing_Note_PSI_Water_climate_and_conflict.pdf
48. Peatlands and Climate Change: FAO infographic, now available in 6 languages:
<http://www.fao.org/documents/card/fr/c/19699299-8585-4f7c-9e6a-de1f1ed92be/>
49. Characterizing degradation of palm swamp peatlands from space and on the ground: An exploratory study in the Peruvian Amazon: <http://www.sciencedirect.com/science/article/pii/S0378112716307423>
50. Public views and values of peatland restoration in Scotland:
https://www.see.leeds.ac.uk/fileadmin/Documents/research/sri/peatlands/Public_views_and_values_on_Scottish_Peatland_-_survey_report.pdf