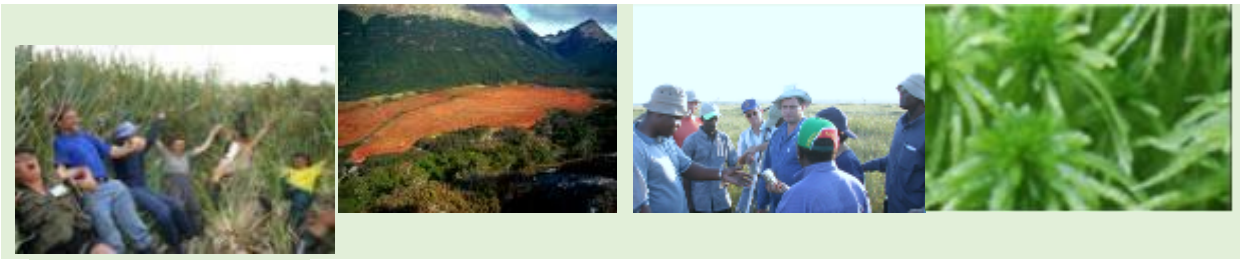


IMCG Bulletin: December 2017 / January 2018

INTERNATIONAL MIRE CONSERVATION GROUP

www.imcg.net

Word from the Secretary-General

Dear mire friends

Again a thick double issue of the Bulletin, covering the months December 2017 and January 2018 and summarizing what has recently been happening on the peatland conservation front all over the world. The first Bulletin of the new year: a new year with new challenges for peatland conservation.

Important and urgent in this Bulletin is the information about the **2018 IMCG Field Symposium and General Assembly** August 20 - September 1 in the Netherlands. Please register fast, at the latest at the end of March, because places are limited and final accommodation bookings have to be made soon.

As the bulletin has again become extensive, I have included a table with contents, so that you can rapidly find the main categories of news. At the end, as always, a list with relevant recent peatland literature.

Keep sharing your ideas and experiences by sending news, photographs, papers and other contributions for the next Bulletin by March 10, 2018 to Hans Joosten at joosten@uni-greifswald.de.

Contents of this Bulletin

IMCG issues

2018 IMCG Field Symposium/General Assembly/key information
Arrival: Monday August 20, Amsterdam, departure: Saturday, September 1, Amsterdam.
IMCG Congress and General Assembly: 22 August: NIOZ research Centre, Island of Texel
Field excursions: Tuesday 21 (Island of Texel) and August 23-31. Number of participants: 50 max.
Costs: 900 Euro/ for IMCG members, 980 Euro for non-IMCG members, including accommodation, transport within the Netherlands, lunch packages, diners, excursion guide and abstracts book.
Registration is open, please fill out the registration form
Keep an eye on the website: http://www.imcg.net/pages/events/imcg-2018.php

IMCG General Assembly 22 August 2018, NIOZ research Centre, Island of Texel, Netherlands
On the IMCG General Assembly 2018 in the Netherlands only a limited number of IMCG members can be present, and only limited time will be available. Therefore we will arrange the discussions and decisions largely by internet and email, like we have done with earlier General Assemblies. This Newsletter contains the preliminary agenda for this Assembly (that will be available on our website as well) and in the beginning of July 20018 we will produce a Bulletin containing the documents for the Assembly and all information on how the voting per email or snailmail will be done. We will furthermore open a special place on the website where discussion papers can be made available. Therefore: provide the IMCG secretariat with additional agenda points and submit your background papers, concrete proposals, draft resolutions, contributions for discussion, nominations for the IMCG Main Board and for Honorary Life membership, etc. until 30 June 2018. Send the material in as soon as possible to joosten@uni-greifswald.de– the sooner the better – so that we can arrange the democratic procedures in a smooth way.

The preliminary agenda of the IMCG General Assembly is as follows:
1. Opening and Welcome
2. Minutes of the General Assembly of August 28, 2016 in the Cameron Highlands, Malaysia
3. Biennial report (2016 – 2018) on the state of affairs in the IMCG and on its policy
4. Balance sheet and the statement of profit and loss
5. Election of the Main Board
6. Conference resolutions
7. Next venues
8. Nomination of Honorary Life Members
9. Any Other Business

Nominations for the IMCG Main Board
On our General Assembly in the Netherlands we have to elect a completely new IMCG Main Board, as all 15 current members have fulfilled three terms and according to the Constitution (art. 9.7) have to step down (but may be eligible for immediate re-appointment). The Main Board will then elect from among its members the Executive Committee, consisting of a chair, a secretary-general and a treasurer and two additional EC members. In order to guarantee an effective democratic election process involving all members, nominations have to be submitted to the Secretariat before 30 June 2018, so that ballots can be sent out in time to allow email and postal voting. Please send your nomination (incl. a short description of your backgrounds, geographic focus, gender and age, and your activities in, and vision on mire conservation) to the Secretariat as soon as possible: joosten@uni-greifswald.de.

IMCG Resolutions
The IMCG General Assembly 2018 may again adopt resolutions. To streamline the procedure, IMCG members are requested to submit their draft resolution timely, i.e. as soon as possible, to the IMCG secretariat. This will enable to circulate the draft resolutions among the Main Board, and to put the drafts on our website so that everybody can send reactions (to the IMCG Secretariat). Draft resolutions should identify the apparatus and bodies to which the resolution has to be directed or sent. Examples (phrasing and content) of resolutions can be found on the IMCG website: www.imcg.net/pages/publications/resolutions.php .

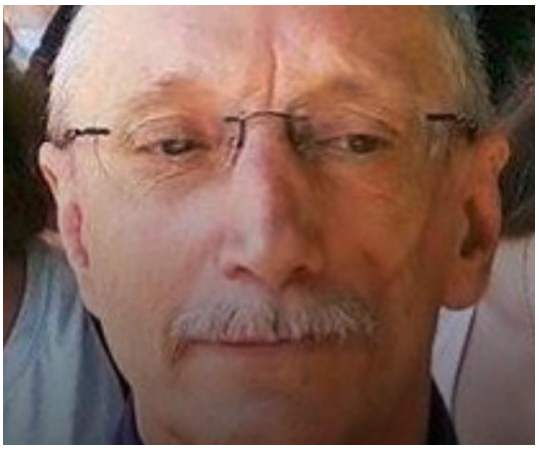
Mires and Peat

Our scientific journal Mires and Peat is flourishing with an increasing number of high-quality papers! Find the journal online at http://mires-and-peat.net/. Send your new manuscripts to Editor-in-Chief Olivia Bragg: o.m.bragg@dundee.ac.uk

Iaroslav Movchan (1957-2017)

In the evening of 18 September 2017, our Ukrainian IMCG member Iaroslav Movchan suddenly passed away after a life full of environmental devotion and scientific creativity. Iaroslav was born on 11 August 1957 in Lviv region. He graduated with a degree in biology from Chernivtsi National University, where he also earned his PhD (Kandidat Nauk) with the thesis "Analysis of stability of steppe phytocoenoses in connection with their structure". From 1983 to 1992 he worked in the Kholodnyi Institute of Botany of the Academy of Sciences of the USSR and from 1992 to 1993 as Executive Director of the National Ecological Centre of Ukraine.

From 1993 to 1999, Iaroslav was Deputy Minister of Environmental Protection and Nuclear Safety of Ukraine, where he was responsible for the study and mitigation of the consequences of the Chernobyl accident. In this function, he participated in the IMCG Field Symposia and General Assemblies in Norway (1994) and Japan (1996), where he impressed with strategic thinking in this important period when IMCG was evolving from a Western-European science-orientated organisation to a global power house of policy action. In 1999-2000, he was consultant on environmental and land issues of the Secretariat of the Verkhovna Rada (Supreme Council), the parliament of Ukraine, and headed the Laboratory of System Developments of the Ukrainian Research Institute on Environment and Natural Resources under the National Security and Defense Council. From 2000 to 2006, he headed the Department of Protection, Use and Rehabilitation of Natural Resources of the Ministry of Ecology and Natural Resources of Ukraine, coordinated international environmental programs and scientific events, and headed the National Ecological Centre.



With its active participation, Ukraine joined the majority of environmental conventions and agreements and developed laws and programmes in the field of environmental protection, in particular, with regard to the formation of a national econet. Since 2007, he headed the Environmental Safety Laboratory of the Educational and Research Centre of the National Aviation University and continued scientific activities. In 2009, he defended his doctoral thesis (Doktor Nauk) “Preservation of biotic diversity of Ukraine (methodology, theory, practice)”.

Iaroslav was (co-)author of ten book monographs and over 200 scientific articles, certificates, and patents. He was the lead author of the Ukraine chapter of the 2017 IMCG book ‘Mires and peatlands of Europe – Status, distribution and conservation’. During the preparation of this book, Iaroslav was always one of the first to react on editorial discussions (often during the night), and supported the editing process with unwearying energy and pragmatic decisions. Finally, he was also the last author to receive the hardcopy, after it had been on a four month mail odyssey through Europe…

For his outstanding achievements, he was awarded both nationally and internationally, e.g. with the Honorary Diploma of the Ukrainian Minister of the Environment, the State Prize of Ukraine in the field of science and technology, and the Gold Medal of the Governor-General of Canada.

The sudden premature death of Iaroslav Movchan is an irreparable loss for his relatives, friends, colleagues, and all Ukrainian society. We all have to continue without him, but with his motto always in mind:

Людський світ - недосконалий, але ми можемо це поліпшити! Жити - цікаво!:

The human world is not perfect, but we can improve it! Life is interesting! (https://twitter.com/naturalistiar?lang=en)

- http://eco.com.ua/content/19092017-pishov-iz-zhittya-vidomiy-prirodoohoronec-profesor-yaroslav-ivanovich-movchan
- http://sstc.com.ua/en/enterprise-news/4002-in-the-evening-of-18-september-2017,-yaroslav-movchan-passed-away
- http://necu.org.ua/people/movchan/

Papers

Spring mires in the Russian tundra; fed by melting ice?

Ab Grootjans, Shane Grundy and Hans Joosten (a.p.grootjans@rug.nl)

During the IMCG field excursion to the tundra areas in Northern Russia (July 2017) we regularly discussed how permafrost or temporal ice bodies could influence mire formation and mire patterning. This contribution presents some thoughts we developed during the excursion when we encountered spring mires that appeared to be fed by melt water from the mountains.

In temperate and also in tropical areas spring mires are very often fed by artesian groundwater that discharges at places with geological faults. This groundwater is usually rich in dissolved minerals and the temperature of the water is compared to air temperature relatively high during winter and low during summer.

During the first days of the excursion we visited tundra areas in Yugyd-va National Park, situated in the northeast of Komi Republic at the foothills of the Ural Mountains near the city of Inta. Figure 1 shows an impression of some spring mires with well-developed, mainly *Sphagnum* dominated vegetation close to the Zhelannoye Tourist Facility. Some snow patches on the mountain tops could still be seen, but most snow had already melted. The mountain slopes were practically unvegetated and consist of bare rock with often much colluvium (stones and loam deposits on the flanks). The tundra vegetation and the spring mires were below these mountain slopes.

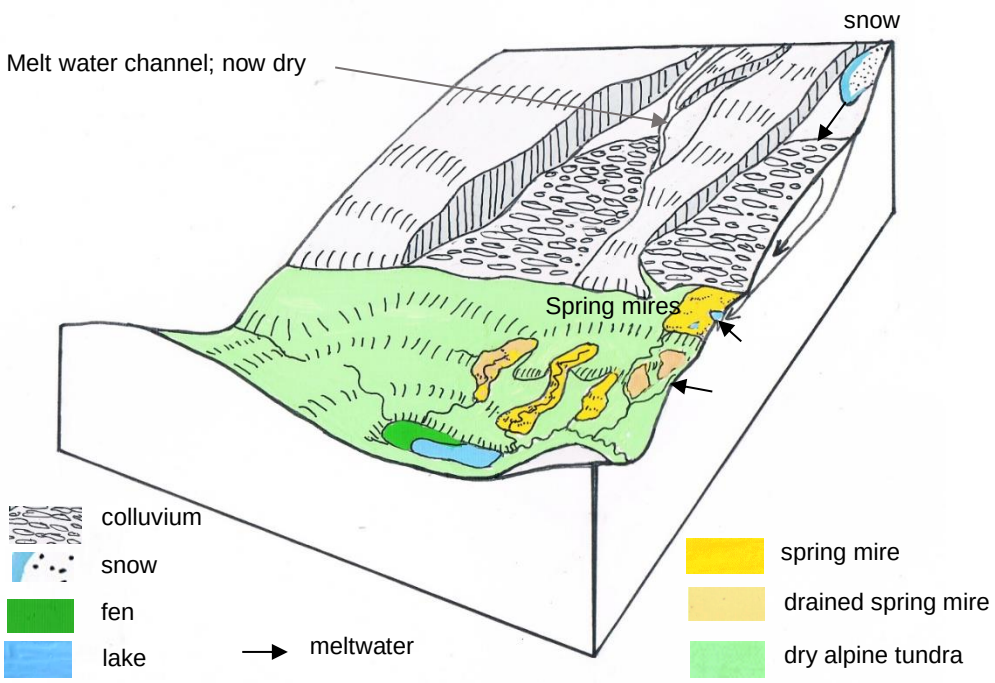
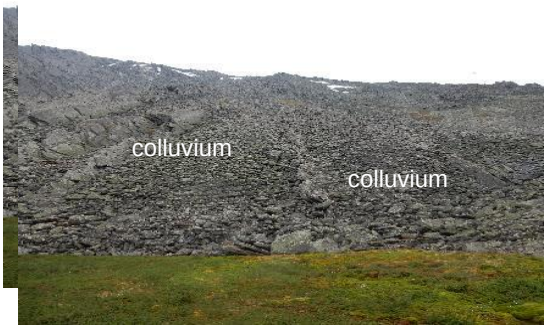


Figure 1. Two well-developed spring mires dominated by Sphagnum *(Fig 2; bottom left) situated at the mountain slope. Left and right of these systems dried-out spring vegetation with low* Sphagnum *cover and much* Betula nana *was found.*

Figure 2 shows the colluvium and the springs feeding the mire vegetation. The central spring mires have a *Sphagnum* dominated vegetation (upper right), while the bottom left picture shows a dry well with sand deposited by earlier water flow. So, apparently, in early summer with much melt water, the zone of groundwater discharge is expanding and temporary spring systems emerge (figure 2, bottom right) with water flow sufficiently rapid to deposit fine sand on the (partly dried out) spring vegetation. In late summer only the central springs still receive enough meltwater to sustain a living mire (figure 2, bottom right).

Measurements revealed temperatures close to zero degrees in the springs at the base of the colluvium (Fig. 3B), indicating that the water had been in contact with ice very recently. Further downslope the stream water is warmed up, until it reaches the small lake. The outflow of the lake water was quite warm (17.3 ˚C) after several very warm days previous to our excursion. The EC values of 10-22 µS/cm showed that all spring water is very poor in minerals and most likely originates from rain water or melted ice or snow.



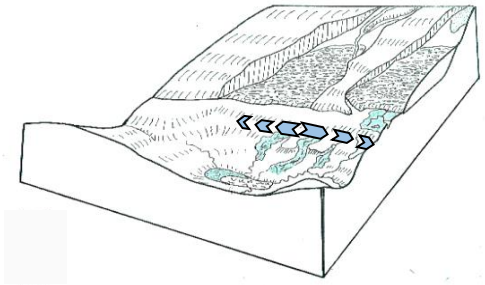


Figure 2. Spring system at the slope of a mountain ridge in the northern Urals, near the town of Inta, with Sphagnum *dominated vegetation, which appears to be continuously fed by meltwater from the mountain slope (upper right). The photo at the bottom left shows a dry spring system dominated by* Betula nana *and with much sand deposited by temporarily fast flowing spring water. This indicates that in springtime most of the slope receives spring water, but in summer the flow of water is concentrated to the more central parts. The arrows indicate that the zone with active springs expands during periods with increasing groundwater discharge.*

Shamaan Mountain reveals a secret

On 26th July we visited Shaman Mountain, a kind of holy place for indigenous people. The mountain stands alone and has an almost all-side symmetrical form: it looks more or less the same from all directions. No snow was left at the top; all had melted. We know that colluvium can act as a groundwater aquifer, but the stones at Shaman Mountain are quite large and the water would rush through it in a matter of hours/ days. So, where does all the water in the erosive streams come from?

We think that the water is provided by ice in the colluvium. When melted, this provides a source of water that is slowly released. So the fast running streams that emerge from the mountain do not originate from snow melt but from melting ice in the colluvium. In springtime the springs apparently produce much more water since very erosive streams are present at the base of the mountain. This flood pulse could be the result of rapid snow melt.

Permafrost in bogs and fens

We visited ice-underlain palsa mires with a bog-like vegetation ('peat plateau mires') surrounded by fens fed by iron-rich groundwater (figure 6). The groundwater originated from a well that formed a shallow cupula of 10-20 cm high from which the groundwater dispersed in all directions. The peat in the elevated peat plateau mires was 20 -150 cm thick. In one such palsa we found an ice lens at a depth of 20-30 cm from the surface, which directed very cold water (apparently from melted frozen rainwater, temperature <1˚C, EC 6-12 µS/cm) to the fens. Underneath the spring, ice was present at a depth of ca. 70 cm and a 15 cm thick sand layer underneath the peat layer apparently supplied the well with water. This groundwater was relatively rich in minerals (EC 205-287 µS/cm) and the temperature of the spring water was relatively high (ca. 12˚C, at air temperature >25˚C).

The groundwater probably originated from the colluvium at the mountain slope, but the iron-rich water shows that it has passed mineral soil layers where it had dissolved iron and probably also calcium and other minerals.

The ideas presented here are of course only hypotheses that need further investigation, both with respect to water composition and spatial distribution of ice lenses and the depth of permafrost.

A

B

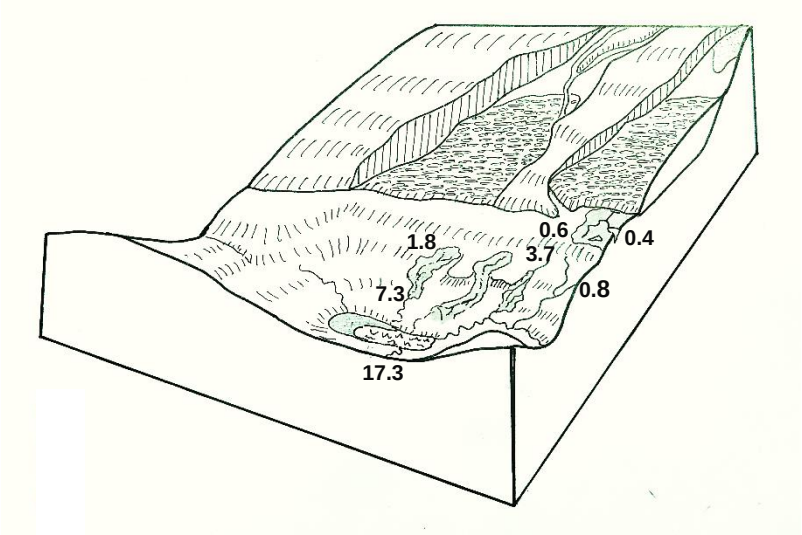


Figure 3. Water temperatures on 24-7-2017 are close to zero degrees in the springs at the base of the colluvium, indicating recent contact with ice. Further downslope the water is warmed up and reaches 17.3 ˚C at the outflow of the small lake.

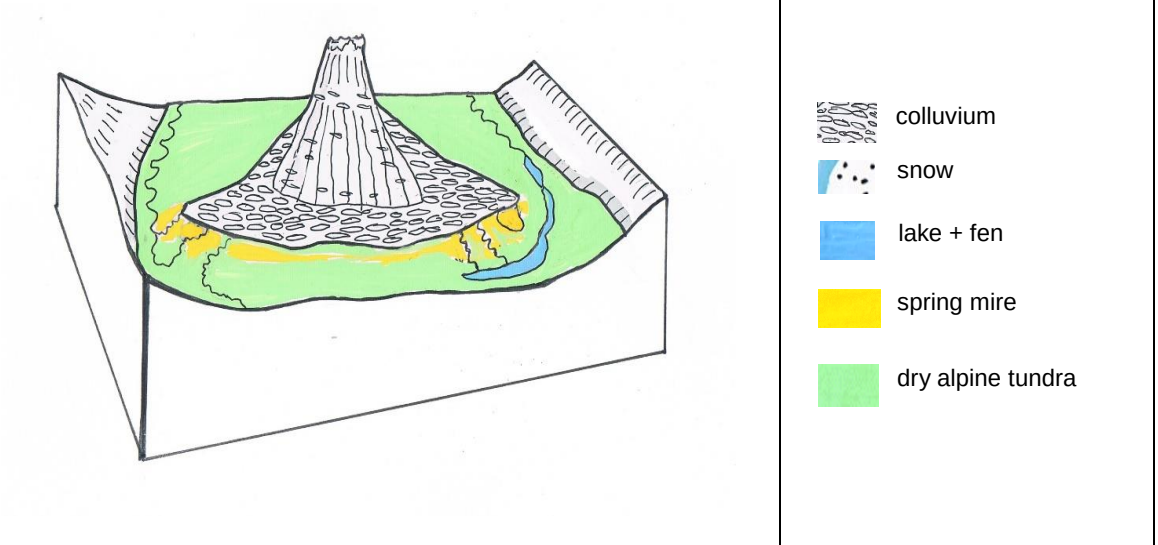


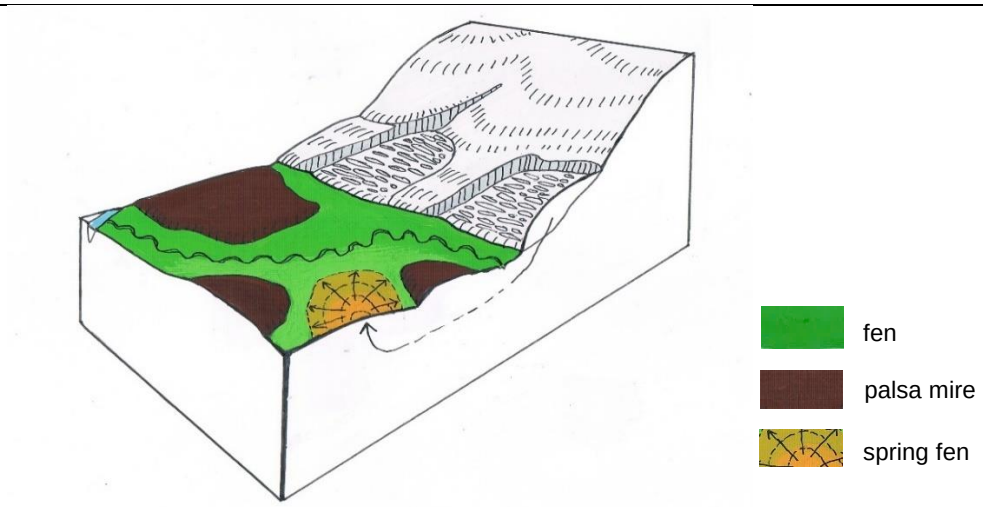
Figure 4. Impression of Shaman Mountain showing the symmetrical features of the mountain, the springs and spring vegetation (yellow). The spring vegetation shows clear signs of desiccation; very little Sphagnum *cover and much* Betula nana*.*

Figure 5. Spring system at the slope of Shaman Mountain. Very erosive streams are present at both sides of the mountain. The south facing (right) side of the mountain has the most erosive stream, which flows in a straight line to the small lake. The bottom left photo shows patches of spring vegetation with Sphagnum *and* Betula nana.

Discharging iron-rich spring water along peat plateau palsas. Photo: Hans Joosten.

A

B



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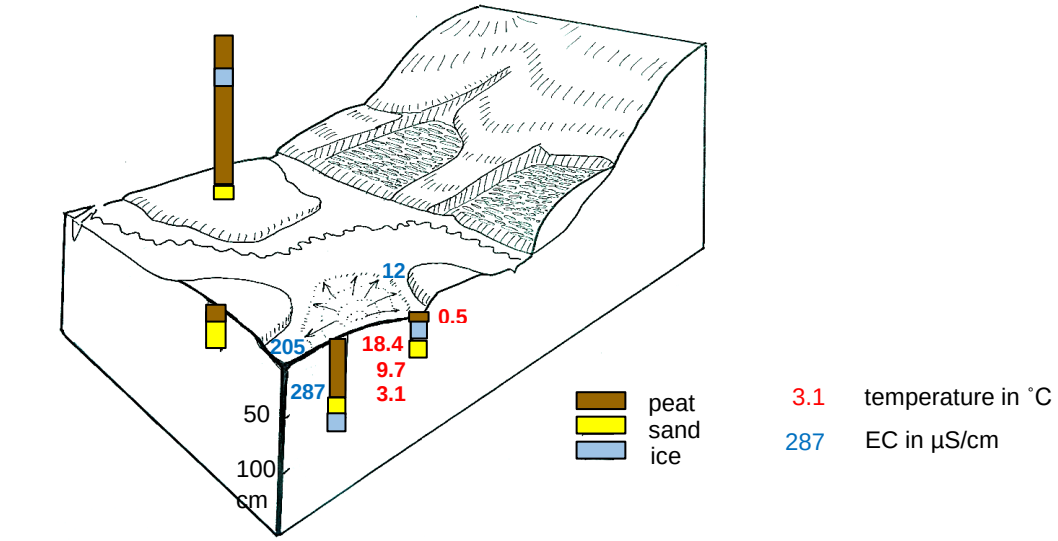


Figure 6. (A) The shiny blue colours of iron precipitation at the surface of a concentric, slightly domed spring fen. The water flows away from the main spring over the surface in all directions (B). The organic layer of the spring fen is only 60 cm thick. Underneath the peat a shallow sandy layer rests on top of an ice lens. The iron rich groundwater has rather high EC values and also the temperatures in the top layers are fairly high.

European Parliament forbids palm oil but allows "biofuels" from drained peat at home

Hans Joosten: joosten@uni-greifswald.de

On 17 January 2018 the European Parliament took decisions on the proposal for a renewed Renewable Energy Directive. The amendments cover 127 pages and address various issues with a bearing on peatland conservation. Most important new points are:

(1) The necessity to reach net-zero emission by 2050 and the goal of a fossil-free and low-carbon economy.

(2) The consideration of safeguards to prevent negative impact on biodiversity, soil or the climate.

(3) The refrainment from extensive imports of indigenous renewable resources from third countries.

(4) The decision that 'biomass' does not include peat.
(5) The decision that land sector emissions do not exceed removals.
(6) The restriction of biomass fuels produced from food or feed crops and the decision to fade out palm oil in biofuels and bioliquids completely by 2021.
(7) The ban on the production of feedstock for biofuels, bioliquids and biomass fuels on drained peatland and the prescription that feedstock should be produced while protecting soil quality and soil organic carbon.
(8) The decision that biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from land that was peatland in January 2008, "unless verifiable evidence is provided that the cultivation and harvesting of raw material does not involve drainage of previously undrained soil."

Points (1) to (4) clearly set the path to go. Point (5) will increasingly become more difficult if drained peatlands are not rewetted and forests have to produce harvestable biomass. Point (8) allows producing "biofuels" from drained peatland, although these are several times more harmful to the climate than burning coal (Couwenberg 2007: Biomass energy crops on peatlands: on emissions and perversions. http://www.imcg.net/media/newsletter/nl0703.pdf). Furthermore, the part "unless verifiable evidence is provided that …" describes exactly the opposite from what is meant (see Joosten 2009: Burning peat or burning fingers? Peatland in the new EU Renewable Energy Directive. http://www.imcg.net/media/newsletter/nl0901.pdf). Point (8) furthermore fully contradicts point (7), which forbids producing "biofuels" from drained peatland and prescribes to protect soil organic carbon, which is impossible on drained peatland. Point (6) decides to fade out palm oil completely by 2021. A far going step as the EU is currently the world's second-biggest importer of palm oil, behind only India. Whereas indeed palm oil from peatland leads to disproportionally large carbon emissions, it is another thing to address the palm oil issue in such undifferentiated way. The protests from the major palm oil producing countries Indonesia and Malaysia are massive. Malaysia even accuses the EU of 'crop-apartheid'. The European Parliament seems to forget that the EU produces more greenhouse gas emissions from drained peatland than Malaysia and again (see the "unless" provision of Article 26 – paragraph 4) refuses to remove the beam from its own eye. An effective way to lose credibility…

The decision of the European Parliament is not yet the final word: it sets out the position of the EU Parliament in coming negotiations on the issue. The amendments will now go to the European Commission and the Council of Ministers of the EU member states before they become law.

Newly planted oil palm on peat in Sabah, Malaysia. Photo: Hans Joosten.

Find below the most important changes (in *italics*) compared to the original text and to the proposal of the Commission.

New (parts of) the recitals are:

- (2) Promoting renewable forms of energy is one of the goals of the Union energy policy *in accordance with Article 194(1) of the Treaty on the Functioning of the European Union (TFEU)*. The increased use of energy from renewable sources, together with energy savings and increased energy efficiency, constitutes the essential part of the package of measures needed to reduce greenhouse gas emissions and comply *with the Union's commitment under* the 2015 Paris Agreement on Climate Change *following the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21) (the 'Paris Agreement')*, and the *necessity to reach net-zero emission domestically by 2050 at the latest*. It also has *a fundamental* part to play in promoting the security of energy supply, *sustainable energy at affordable prices*, technological development and innovation *as well as technological and industrial leadership while* providing *environmental, social and health benefits as well as major* opportunities for employment and regional development, especially in rural and isolated areas, *in* regions with low population density and *in territories undergoing partial deindustrialisation.*"
- "*(8a) The Member States should consider the extent to which the use of different types of energy sources is compatible with the target of limiting warming to 1,5°C above pre-industrial levels, and compatible with the goal of a fossil-free economy and at the same time a low-carbon economy. The Commission should assess the contribution to those goals of different types of renewable energy sources based on the payback period and results compared to fossil fuels and to consider proposing a maximum allowable payback period as a sustainability criterion, in particular for ligno-cellulosic biomass.*"
- "*(16c) With regard to the use of biotic energy sources, Member States should introduce safeguards in order to protect biodiversity and prevent the depletion or loss of ecosystems and any diversion from existing uses that would have a negative indirect or direct impact on biodiversity, soil or the overall greenhouse gas balance.*"
- "*(16d) Member States should promote and prefer use of indigenous renewable resources, to the extent possible, and avoid distortive situations resulting in extensive import of resources from third countries. A life cycle approach should be considered and promoted in this respect.*"
- "*(25a) The resolution of the European Parliament of 4 April 2017 on palm oil and deforestation of rainforests called 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.*"
- "(62) *Where pasture or agricultural land previously destined for food and feed production is diverted to biofuel production, it will continue to be necessary to satisfy the non-fuel demand by intensifying current production or bringing non-agricultural land into production elsewhere. The latter constitutes indirect land-use change and when it involves the conversion of land with high carbon stock it can lead to significant greenhouse gas emissions.* The European Strategy for a low-carbon mobility of July 2016 pointed out that food-based biofuels have a limited role in decarbonising the transport sector and should be gradually phased out and replaced by advanced biofuels. To prepare for the transition towards advanced biofuels and minimise the overall indirect land-use change impacts, it is appropriate to reduce the amount of biofuels and bioliquids produced from food and feed crops that can be counted towards the Union target set out in this Directive *while distinguishing crop-based biofuels with high greenhouse gas efficiency and a low risk of indirect land use change*. *The deployment of advanced biofuels and electric mobility should be accelerated.*"
- "(73) Agricultural feedstock for the production of biofuels, bioliquids and biomass fuels should not be produced on peatland *or wetland where this would involve drainage of soil* as the cultivation of feedstock on peatland *or wetland* would result in significant carbon stock loss if the land was further drained for that purpose."
- "*(74a) Agricultural feedstock for the production of biofuels, bioliquids and biomass fuels should be produced using practices that are consistent with the protection of soil quality and soil organic carbon.*"

After the recitals the articles of the directive follow. Relevant for peatlands are:

- Article 2 – paragraph 2 – point c: "'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture **–** including vegetal and animal substances, forestry and related industries including fisheries and aquaculture *but excluding peat and material embedded in*

geological formations and/or transformed to fossil, **–** as well as the biodegradable fraction of waste, including industrial**,** *commercial* and municipal waste of biological origin**,** *and bacteria*;"

- Article 7 – paragraph 1 – subparagraph 4: "For the calculation of a Member State's gross final consumption of energy from renewable energy sources, the contribution from biofuels and bioliquids, as well as from biomass fuels consumed in transport, if produced from food or feed crops, shall be no more than *the contribution from those to the gross* final consumption of energy *from renewable energy sources in 2017 in that Member State, with a maximum of 7 % of gross final consumption* in road and rail transport**.** *The contribution from biofuels and bioliquids produced from palm oil* shall be *0 % from 2021*. Member States may set a lower limit and may distinguish between different types of biofuels, bioliquids and biomass fuels produced from food and feed crops, for instance by setting a lower limit for the contribution from food or feed crop based biofuels produced from oil crops, taking into account indirect land use change *and other unintended sustainability impacts*."

Lacking consistency and credibility in the draft EU Renewable Energy Directive: German maize from drained peatland accepted, Indonesian palm oil from drained peatland forbidden as biofuel… Photo: Hans Joosten.

- Article 26 – paragraph 1 – subparagraph 2 a: "*Biofuels, bioliquids and biomass fuels produced from waste and residues from agricultural land shall be taken into account for the purposes referred to in points (a), (b) and (c) of this paragraph only if measures have been taken by the operators to minimise negative impacts on soil quality and soil carbon. Information about those measures shall be reported pursuant to Article 27(3).*"
- Article 26 – paragraph 2 – point a a: "*(aa) highly biodiverse forest and other wooded land which is species-rich and not degraded, or has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;*"
- Article 26 – paragraph 2 – point c – point ii: "(ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded *or* (was "and" HJ) has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the harvesting of the raw material is necessary to preserve its status as highly biodiverse grassland."

- Article 26 – paragraph 4: "4. Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008*, unless verifiable evidence is provided that the cultivation and harvesting of raw material does not involve drainage of previously undrained soil*."
  Here the text proposed by the Commission had been: "4. Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008."
- Article 26 – paragraph 5: "5. Biofuels, bioliquids and biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall meet the following requirements to minimise the risk of using unsustainable forest biomass production:
  - the country in which forest biomass was harvested has national and/or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring that: …iii) areas *designated, by international or national law or by the relevant competent authority, to promote the maintenance of biodiversity or for nature* conservation *purposes*, including ***in*** wetlands and peatlands, are protected; iv) harvesting *is carried out considering maintenance of* soil quality and biodiversity *with the aim of minimising negative impacts*; …
  - b) when evidence referred to in the first subparagraph is not available, the biofuels, bioliquids and biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 if *additional information of legality and forest* management *practices are provided at the supply base* level to ensure that: …iii) areas *designated, by international or national law or by the relevant competent authority, to promote the maintenance of biodiversity or for nature* conservation *purposes*, including *in* wetlands *and peatlands*, are protected; iv) harvesting *is carried out considering maintenance of* soil quality and biodiversity*; including surrounding areas provided that they are affected by the harvesting activities*; …"
- Article 26 – paragraph 6 – subparagraph 1 – point ii: "(ii) has submitted a Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC), covering emissions and removals from agriculture, forestry and land use which ensures that either changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC, or there are national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, *and that land sector emissions do not exceed removals,* applicable in the area of harvest, to conserve and enhance carbon stocks and sinks;
- Article 27 – paragraph 3 – subparagraph 2: "The obligations laid down in this paragraph shall apply whether the biofuels, bioliquids, and biomass fuels are produced within the Union or imported. *Information on geographic origin of biofuels, bioliquids and biomass fuels shall be made available to consumers.*"

- http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P8-TA-2018-0009+0+DOC+PDF+V0//EN
- http://facesofpalmoil.org/malaysian-oil-palm-smallholders-protest-europes-crop-apartheid/
- https://news.mongabay.com/2018/01/biofuel-boost-threatens-even-greater-deforestation-in-indonesia-malaysia-study/
- https://www.theguardian.com/environment/2018/feb/23/britain-and-europe-must-ban-palm-oil-in-biofuel-to-save-forests-eu-parliament-told?CMP=Share_AndroidApp_Tweet

Peatland news

Global

Biofuel bomb is decimating nature

Malaysia and Indonesia are massive producers of palm oil, much of which is exported overseas. Oil palm is not only the biggest direct driver of deforestation and peat-swamp destruction in these nations but is a growing forest-killer elsewhere in the tropics -- often in mega-diversity areas such as New Guinea, Equatorial Africa, and Latin America.

New oil palm plantation carved out in tropical forest in Gabon. Photo: Hans Joosten.

Those investing in oil palm love to find unoccupied, intact forests for their plantations. They don't have to worry about local residents kicking up a fuss about losing their land, and the valuable timber in the forest can be used to help offset the costs of plantation production. No wonder that vast areas of native forests are being mowed down or burned for oil palm plantations. As one example, in Terengganu state in Peninsular Malaysia, the government is about to allow a native forest reserve of 4,500 hectares to be destroyed for oil palm plantations. The Malaysian Nature Society says that from 2010 to 2015 more than 200,000 hectares of native forest has been cleared in Peninsular Malaysia, mostly for oil palm and exotic-rubber plantations.

And now a new report by the respected Rainforest Foundation Norway suggests that oil palm could become a far bigger driver of deforestation in places like Indonesia and Malaysia. This is because the global demand for oil palm is expected to grow six-fold by the year 2030, thanks to its rising use to create transport fuel, which is being spurred in part by alarming policy changes in China, Indonesia, and the aviation sector. And this is despite clear evidence that oil palm is one of the worst feed-stocks for producing biodiesel because of the exceptionally high environmental costs -- to biodiversity and our climate -- as well as to local landowners displaced by the big plantation companies. It's for this reason that the European Union is planning to completely phase out imports of oil palm from Indonesia and Malaysia for biofuel production, as of 2021 -- a move that is causing both producer nations to howl in protest.

http://alert-conservation.org/issues-research-highlights/2018/1/30/biofuel-bomb-is-decimating-nature

Study predicts a significantly drier world at 2ºC

Over a quarter of the world's land could become significantly drier if global warming reaches 2ºC – according to new research. The change would cause an increased threat of drought and wildfires. But limiting global warming to under 1.5ºC would dramatically reduce the fraction of the Earth's surface that undergoes such changes. The research team studied projections from 27 global climate models to identify the areas of the world where aridity will substantially change when compared to the year-to-year variations they experience now, as global warming reaches 1.5ºC and 2ºC above pre-industrial levels. The areas of the world which would most benefit from keeping warming below 1.5ºC are parts of South East Asia, Southern Europe, Southern Africa, Central America and Southern Australia.

- https://www.uea.ac.uk/about/-/study-predicts-a-significantly-drier-world-at-2-c
- https://www.nature.com/articles/s41558-017-0034-4

Wetlands not culprit behind rising methane concentrations

Wetlands are the largest natural global source of methane emissions, but are they responsible for increasing global concentrations of this greenhouse gas in the atmosphere? Probably not, according to a major study published in *Environmental Research Letters (ERL)*. "The sudden renewed growth in atmospheric methane concentrations since 2007 has taken scientists by surprise, and no direct source of emissions or change in the removal of methane from the atmosphere has been identified," according to Benjamin Poulter of NASA's Goddard Space Flight Center. "Individual lines of evidence related to emissions from oil and gas activities, and emissions from biomass burning have mostly been disproved because the methane concentration increase is related to a depletion of carbon-13, suggesting a microbial source."

To determine whether this pointed to wetlands, a team of more than 30 researchers from the US, Canada, Japan, the UK, Germany, France, China and Australia used a combination of satellite and ground-based mapping together with an ensemble of biogeochemical models. After analyzing all the results gathered as part of one of the most comprehensive studies so far, the researchers concluded that wetlands do not appear to be the main source driving the renewed atmospheric growth of methane concentrations from 2007 to 2012.

This is not to say that wetland emissions are constant – the scientists found that wetlands continue to dominate the interannual variability of atmospheric concentrations. And they did discover evidence for a longer term increase in methane emissions from wetland areas at higher latitudes, but this increase was offset by a decrease in atmospheric methane over the tropics, giving no overall change globally.

- Global wetland contribution to 2000–2012 atmospheric methane growth rate dynamics Benjamin Poulter *et al* 2017 *Environ. Res. Lett. 12* 094013
  http://environmentalresearchweb.org/cws/article/news/70681

Denmark Lille Vildmose. Photo: Hans Joosten.

Global Landscapes Forum

On Dec 19-20 2017, the Global Landscapes Forum brought together 1000 attendees from 103 countries in the World Conference Center in Bonn. In total, 21,610,513 people were reached across social media and fully 51,000 people tuned in live from 114 different countries. Various events paid attention to peatlands, including a well-attended meeting organized by UN Environment and the Greifswald Mire Centre, which presented the Global Peatlands Initiative Smoke on water. A live stream of the meeting can be seen under: http://events.globallandscapesforum.org/agenda/bonn-2017/day-1/discussion-forums-3-parallel/global-peatlands-initiative/ (1.41 h.)

Peatland side-event at the Global Landscapes Forum. From left Tobias Salathe (Ramsar Convention), Hans Joosten (Greifswald Mire Centre, IMCG), Annawati van Paddenburg (Global Green Growth Institute), Alue Dohong (Indonesian Peatland Restoration Agency), Lera Miles (World Conservation Monitoring Centre), Franziska Tanneberger (Greifswald Mire Centre), Frank Martin Seifert (European Space Agency) and Catalina Santamaria (Convention on Biological Diversity).

The release of 'Smoke on Water - Countering global threats from peatland loss and degradation' by the Global Peatlands Initiative is an important step to map out threats and provide insights on potential options and solutions to countering peatland destruction. The main message of the report is that while we may not know everything there is to know about, we know enough to take action now to preserve them. The report serves as:

- An urgent call for decision makers to acknowledge the importance of peatlands and protect these critical ecosystems while preventing the carbon stored by them from being released into the atmosphere.
- A call to all actors to identify where peatlands are found and halt actions that drive their degradation.
- An inspiration for stakeholders to take note and pursue solutions and innovations presented in the report.
- An invitation to join the Global Peatlands Initiative and help chart a way forward for concerted climate action – for the climate, people and planet.
- https://news.globallandscapesforum.org/25839/why-care-about-peatlands/
- https://news.globallandscapesforum.org/25739/report-urges-swift-action-peatland-restoration-reduce-global-emissions/
- https://news.globallandscapesforum.org/viewpoint/restoring-peatlands-scale-builds-inclusive-green-growth/
- http://www.un-redd.org/single-post/2017/12/27/Our-precious-peatlands-Why-do-they-matter
- https://www.youtube.com/watch?v=f5O-cp53Uc4&index=4&list=PL8FXDnWRzz0LZoFFsR9sUePoryxSVsFa5
- https://news.globallandscapesforum.org/25318/qa-expert-daniel-murdiyarso-pinpoint-peatland-concerns-global-landscape-forum/
- http://www.globallandscapesforum.org/corporate-news/putting-rubber-boots-instead-draining-swamp/

Our precious peatlands: Why do they matter?

"When I came to Bali Indonesia in 2007, there was hardly any talk of peatlands. Discussions revolved around forests," shared Executive Director of UN Environment Erik Solheim. He emphasised that despite their importance, peatland ecosystems have been ignored for over a decade in climate change discussions.

We have misused and taken these precious ecosystems for granted, often seeing them as unproductive or hostile lands that need to be drained for human use when desired. As a result, peatlands continue to face imminent and existential threats from rapid agricultural expansion, human development and uncontrollable wild fires. All of which pose additional environmental and health challenges. While peatlands are under pressure from a range of human activities, drainage is the immediate and most wide-ranging global threat to the integrity of these ecosystems. If we are to remain within the 2-degree target, it is imperative to conserve these valuable assets to support climate action at international, national and regional levels. Otherwise, the efforts demonstrated by the Parties to the UNFCCC to reduce their share of carbon emissions through their Nationally Determined Contributions (NDCs) and Adaptation Plans, would be in vain.

Further emphasising this fact during the proceedings of the meeting, Solheim stated that: "It is absolutely essential to conserve peatlands, because if we destroy them, whatever measures we take to curb emissions will be without meaning." http://www.un-redd.org/single-post/2017/12/27/Our-precious-peatlands-Why-do-they-matter

Peatlands Conservation Evidence synopsis is now available

The Peatlands Conservation Evidence synopsis with global evidence for the effects of interventions to conserve peatland vegetation is now available online. You can play with the interactive, hyperlinked version on the website at https://www.conservationevidence.com/data/index/?synopsis_id[]=33. The same information (except for the scores) is also available in the synopsis pdf, which you can download from https://www.conservationevidence.com/synopsis/index.

Further reads and views:

- http://www.dw.com/en/peatlands-neglected-piece-of-the-climate-puzzle/a-41890864
- http://www.mp3jum.com/mp3/peatlands-rewetting

Africa

Republic of Congo & Democratic Republic of Congo

Largest Transboundary Ramsar Site in in the world established in the Congo River Basin

The Governments of the Republic of Congo and the Democratic Republic of Congo (DRC) have agreed to collaborate in the management of three exceptional Ramsar Sites as a "Transboundary Ramsar Site" on both banks of the Congo River. It is the second African Transboundary Ramsar Site and the largest yet established. It covers over 129,000 km^2 of some of the world's richest ecosystems, including over 60,000 km^2 in each country.

The Congo Basin is one of the most important wetlands in Africa and one of the largest freshwater bodies in the world. Its peatlands act as a huge carbon sinks which plays an essential role in global climate regulation.

The "Complexe Transfrontalier Lac Télé - Grands Affluents - Lac Tumba" covers:

- the Grands affluents and Lac Télé/Likouala-aux-herbes Ramsar Sites in Congo, and
- the Ngiri-Tumba-Maindombe Site in DRC.

The creation of the Transboundary Ramsar Site expresses the two Governments' intent to work together to preserve this exceptional area. This is in accordance with Article 5 of the Ramsar Convention on Wetlands, which states: "The Contracting Parties shall consult with each other about implementing obligations arising from the Convention especially in the case of a wetland extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties. They shall at the same time endeavour to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna."

https://www.ramsar.org/news/largest-transboundary-ramsar-site-in-in-the-world-established-in-the-congo-river-basin

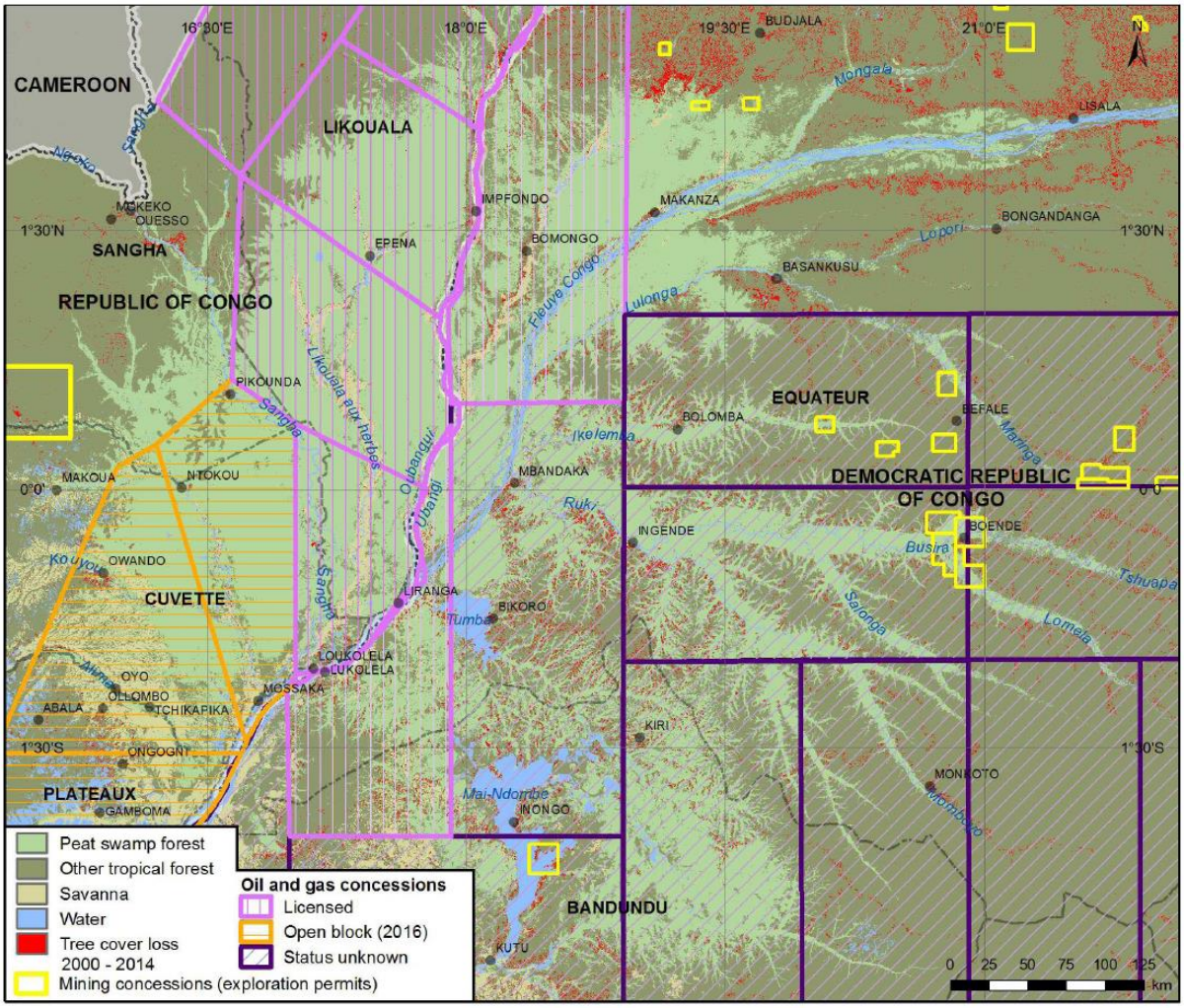
Carbon, biodiversity and land-use in the Central Congo Basin Peatlands

In January 2017, scientists announced new discoveries showing that the Central Congo Basin Peatlands form the largest area of peat swamp forest in the tropics. Estimates of soil organic carbon stocks in the Republic of Congo and Democratic Republic of Congo have radically increased as a result, to some 30 Gt. Degradation of these peat carbon stocks could have serious impacts on climate. Most of the area is covered by oil and gas concessions (for exploration and/or extraction), with smaller areas also covered by timber concessions and concessions for oil palm development or agricultural use. There is an associated risk of forest degradation, including from road development and woodfuel harvest.

Concerns have been raised that the pattern of peatland drainage for oil palm plantations seen in Southeast Asia could also develop in the Central Congo Basin. While remote sensing provides good information about recent tree cover change in the area, less is understood about the potential scale of future land-use change and related risks.

A Transboundary Ramsar Site was declared in June 2017, covering much of the Central Congo Basin Peatlands. The peat swamp forest ecosystem is in good condition due to its relative inaccessibility, and this new designation could provide a basis for its conservation and wise use consistent with the Ramsar Convention on wetlands. Further effective action to conserve and sustainably manage these peat swamp forests will also contribute to achieving the Sustainable Development Goals (as well as related national objectives).:

Read the full report under: http://www.unredd.net/documents/global-programme-191/multiple-benefits/studies-reports-and-publications-1364/16501-carbon-biodiversity-and-land-use-in-the-central-congo-basin-peatlands-high-res-en.html



Mining permits and oil and gas concessions in peat swamp forest of the Cuvette Centrale (Republic of Congo, Democratic Republic of Congo). From Miles et al. 2017: Carbon, biodiversity and land-use in the Central Congo Basin Peatlands.

Asia

Outrage and conspiracy claims as Indonesia and Malaysia react to EU ban on palm oil in biofuels

Officials in Indonesia and Malaysia, the world's biggest producers of palm oil, have lambasted the European Parliament's decision to phase out the commodity from motor fuels over the next three years due to environmental concerns. The move will have serious ramifications for Indonesia and Malaysia, who together produce nearly 90 percent of the world's palm oil. Indonesian Trade Minister Enggartiasto Lukita said on 18 January that the vote was misguided and unfair, given that Jakarta had taken steps to address the environmental impact of the palm oil industry. Enggartiasto urged the European Union to open a dialogue with the Indonesian government over its concerns about the impacts of the palm oil industry on the environment. The Malaysian Plantation Industries and Commodities Minister Mah Siew Keong accused the European Parliament of engaging in protectionism to benefit the European oilseed industry — an argument frequently deployed by palm oil lobbyists who see a conspiracy to undermine palm oil in favour of vegetable oils produced in Europe and North America. Indonesia's Enggartiasto expressed similar views, adding that other types of vegetable oils used in biofuels also required clearing sizeable plots of land — one of the key environmental sustainability concerns that has long dogged palm oil. The Indonesian Palm Oil Producers Association (GAPKI) claims palm oil uses five times less land than vegetable oils like soy for the same yield, and that any deforestation as a result of clearing land for new plantations is legally permitted.

Eep Saefulloh, a researcher with Sawit Watch, an NGO that monitors the palm oil industry in Indonesia, criticized the industry talking points that the deforestation caused was legally sanctioned. "If we're talking about large palm oil plantations, of course they cause deforestation," he said. While he acknowledged that

steps have been taken to improve sustainability in the industry, such as the implementation of various certification schemes such as the Roundtable on Sustainable Palm Oil (RSPO), he said the challenge was in how to apply those standards in practice, with some companies still clearing lands beyond those designated for plantations. "We can see that everywhere," Eep said. "The latest development is in Papua. We all know that Papua is our last frontier for our rainforests and it is also threatened by palm oil expansion."
https://news.mongabay.com/2018/01/outrage-and-conspiracy-claims-as-indonesia-malaysia-react-to-eu-ban-on-palm-oil-in-biofuels/

The role of peatland in the various palm oil standards

Tree standards are currently operational in the palm oil section to ensure sustainability in palm oil cultivation and supply chains: the Indonesian Sustainable Palm Oil (ISPO), the Malaysian Palm Oil (MSPO), and the Roundtable on Sustainable Palm Oil (RSPO) Standard.

RSPO encourages members to make voluntary commitments to avoid peatlands but does not prohibit planting on peat. ISPO allows planting on peat but only under specified conditions: peat may not be developed where >70% of the concession is >3 m deep. Where peatlands are developed for oil palm, ISPO requires adverse impacts be avoided and water levels maintained at specified levels. RSPO requires implementation of Best Management Practices (BMPs) for peatland management (see IMCG Bulletin October-November 2017). MPOB has developed guidelines for best practices on peatland, as state law allows planting on peatland that has been gazetted for agriculture use.

https://www.sustainablepalmoil.org/wp-content/uploads/sites/2/2015/09/Efeca_PO-Standards-Comparison.pdf

Smallholder harvest ready for collection, Sabah, Malaysia. Photo: Hans Joosten.

Biofuel boost threatens further deforestation in Indonesia and Malaysia

Global demand for biofuels containing palm oil will grow sixfold by 2030, a new report warns. Biofuel policies in place or proposed by Indonesia and China, as well as the aviation industry, could push their consumption alone to 45.6 million tons by 2030, according to the report commissioned by Rainforest Foundation Norway.

Indonesia, the world's biggest producer of palm oil, is currently pushing for increased domestic consumption of biodiesel that contains the vegetable oil. The policy calls for a minimum bio, or palm oil, content of 30% in all diesel sold in the country by 2020, up from the current requirement of 20%. This target is one of the most ambitious biodiesel-blending targets in the world. If achieved, Indonesia's annual biodiesel consumption would rise to 18.6 million tons. China, meanwhile, has begun discussions with Indonesia and Malaysia, the world's second-biggest palm oil producer, to boost its own blending target to a minimum of 5% palm oil in biodiesel.

That would increase China's palm-based biodiesel consumption to 9 million tons a year. Another key driver of the demand for palm-based biofuels will come from the aviation industry. The UN's International Civil Aviation Authority (ICAO) has proposed increasing the use of biofuels for passenger planes, aiming for half of jet fuel to come from biofuels by 2050. This scenario could potentially require 18 million tons of palm-based aviation fuel by 2030.

Assuming that Indonesia, China and the aviation industry achieve their stated biofuel policies, demand for palm oil for use in biofuels by 2030 could be more than six times higher than today — amounting to 67 million tons. This would account for half of global demand for palm oil, and would exceed the current global production of the commodity, at around 65 million tons annually. In Indonesia and Malaysia, which produce 85% of the world's palm oil, this would translate into a sharp escalation of already alarming levels of deforestation. (In Indonesia alone, 40% of the deforestation that occurred between 1998 and 2008 can be attributed to palm oil production, according to a 2013 technical study funded by the European Commission.

Barring a massive increase in the average palm oil yields, meeting the global demand would result in the loss of 45,000 km^2 of forests by 2030. A loss of forests that size would result in 7 billion tons of carbon dioxide emissions over the next two decades. "It's well understood that the palm oil industry in Southeast Asia is endemically linked to deforestation and peat drainage, but biofuel mandates adopted in the name of climate change mitigation continue to drive palm oil demand higher and higher," report author Chris Malins said.

https://news.mongabay.com/2018/01/biofuel-boost-threatens-even-greater-deforestation-in-indonesia-malaysia-study/

Deforestation for new oil palm plantation development in Sabah, Malaysia. Photo: Hans Joosten.

Indonesia

Indonesia's heroic fight for peatland protection in 2017: a review

Indonesia has made a heroic effort to reduce peatland fires and emissions over 2017. The following is an excerpt of a report of Hans Nicholas Jong for Mongabay.

In the wake of massive land fires in 2015 that blanketed much of the region in a choking haze for months, President Joko "Jokowi" Widodo rolled out various measures to protect the carbon-rich peat forests that are the most vulnerable to these nearly annual blazes. In 2016, the president established an agency, called the BRG, to spearhead nationwide efforts to restore degraded peat forests; announced a moratorium on the

draining of peat swamps, which leaves them highly combustible; and issued his signature piece of anti-haze regulation, which calls for, among other things, companies to conserve peat areas within their concessions.
The 2016 regulation was followed in 2017 by a string of implementing regulations issued by the Ministry of Environment and Forestry, containing detailed instructions on how companies should comply.
But at the same time, legislators are pushing for wholesale amendments to legislation on the palm oil industry, something which critics say would constitute a favorable deal for large corporations and a means for vested interests to undermine the peat protection measures put in place by President Jokowi. Critics point out that an article in the bill states explicitly that plantations may be developed in peat areas, thereby undermining attempts to keep companies from further destroying these important ecosystems.
Legislators have made the bill a priority for passage this year, saying it will help farmers and make Indonesia's palm oil industry more globally competitive. The bill's backers in parliament accuse Western stakeholders of carrying out a smear campaign to boost their own soybean and rapeseed oil industries. Indonesia currently produces more than half of the world's supply of palm oil, which is the dominant vegetable oil commodity in use today, found in products ranging from toothpaste to dairy creamer to biodiesel. "Indonesia is currently actively campaigning for sustainable palm oil to the outside world," says Maryo Saputra, campaign division head of the NGO Sawit Watch. "But when this bill is passed, all of those efforts will be for nothing because the bill says that you can plant oil palm trees on peat soil."

Manually building dams in a peatland drainage canal in Central Kalimatan, Indonesia. Photo: Hans Joosten.

The pushback against the peat-protection regulations have come not just from parliament, but also industry groups and government officials, who say it will hurt investor confidence in Indonesia. In particular, they oppose the requirement to cease planting in deep peat and conserve those areas, on the grounds that it would hurt the pulp and paper industry, especially in Sumatra Island's Riau province, home to 14,000 km^2 of industrial timber plantations.
Last June, a labor union in Riau, one of the regions hardest hit by the annual fires, filed a legal challenge against the requirement, which is stipulated under an environment ministry regulation. In October, the country's highest court deemed the regulation unconstitutional, arguing that it would create legal uncertainty and give rise to further problems if it continued to be enforced. The government, however, says the ruling will not hamper its efforts to conserve peat areas. The core defenses, including protected-area status for at least 30

percent of peat domes — landscapes where the peat is so deep that the center is topographically higher than the edges — are already enshrined in the 2016 presidential regulation.

Another measure that has been hotly contested is a requirement for companies to revise their work plans, which explain where they intend to operate in the coming years and must be approved by the state. The revised plans will allow the environment ministry to identify parts of existing concessions that it has already mapped out for conservation, and which the companies will be required to rewet to prevent fires.

PT Riau Andalan Pulp and Paper (RAPP), a subsidiary of Indonesia's second-largest pulp and paper firm, fought back against the ministry's order to submit new work plans, arguing that doing so would severely affect its production and force it to lay off thousands of workers. The company insisted it should be allowed to operate in the areas the ministry deemed off-limits until the expiration of its existing work plans in 2019. That prompted the ministry to void those work plans. In November, RAPP filed suit with a court in Jakarta, seeking to repeal the ministry's order nullifying its work plans. But in December the court ruled against RAPP, and the company subsequently said it would comply with the ministry's order to submit new work plans.

"Throughout 2017, environmental protection, especially on peat zones which are essential, has been challenged by systemic efforts to defy the laws and policies by corporates," the Indonesian Forum for the Environment (Walhi), the country's largest environmental pressure group, said in a press statement.

The government's efforts to protect peat areas, and hence mitigate the inevitable fires that accompany the annual clearing of land for new oil palm and pulp plantations, met with little success at first. The fires began in earnest in July, flaring up in provinces with no history of land and forest fires, such as East Nusa Tenggara and Aceh. That month, the number of recorded hotspots was 49 percent higher than in July of 2016, according to data from the Ministry of Environment and Forestry. The government responded to the issue by declaring a state of emergency in five provinces: Riau, Jambi, South Sumatra, West Kalimantan and South Kalimantan. By the end of the year, there were fewer than 2,500 hotspots on record — a drop of 89 percent from the figure in 2015, according to data from the Coordinating Ministry for the Economy. The total area affected by fires also declined 95 percent to 1,250 km^2 during the same period. While more rains certainly helped reduce the number of hotspots, ultimately it was the efforts by various stakeholders to mitigate the fires that proved most effective, said Darmin Nasution, the coordinating minister for the economy. One of those mitigation efforts was the rewetting of dried-out peat swamps, coordinated by the BRG. Throughout 2017, the agency managed to rewet 2,000 km^2 in six provinces: Jambi, Riau, South Sumatra, West Kalimantan, Central Kalimantan and South Kalimantan. That was still only half of its target of 4,000 square kilometers.

But the government isn't stopping there. In December, it announced an ambitious plan to halve the number of hotspots by 49 percent by 2019, compared to business-as-usual levels. The government aims to meet the target by ensuring 121,000 km^2.

The rollout of the plan comes as Indonesia's weather agency, the BMKG, predicts drier-than-usual conditions in parts of the country starting in May 2018, as a result of the La Niña weather system.

https://news.mongabay.com/2018/01/indonesia-in-2017-a-fighting-chance-for-peat-protection-but-an-infrastructure-beatdown-for-indigenous-communities/

Court rules in government's favour in case of pulp company RAPP

An Indonesian administrative court on December 21 rejected a petition by a major Indonesian pulp and paper company that challenged a government decision to void the firm's 10-year business plan. Riau Andalan Pulp and Paper (RAPP), the operational unit of Singapore-based pulpwood company Asia Pacific Resources International (APRIL), said thereon it would adjust the plan, which governs its daily operations, to meet Ministry of Environment and Forestry (MoEF) directives. The dispute between RAPP and the MoEF involved differences about the pace at which plantation companies shift off flammable peatlands. RAPP has large areas of peatlands within its Sumatra concessions. The ministry had accused the company of failing to comply with new peatland protection laws, which aim to prevent haze and encourage plantation firms to move their operations to non-peatlands through land swop deals. APRIL had called on the ministry to agree to a more measured move off peatlands to avoid major business disruption and job losses. The ministry disagreed and wanted RAPP to revise its 10-year work plan, which all plantation companies must submit for ministerial approval. Failure to comply means a company must halt operations.

In a statement after the verdict, the company said: "RAPP intends to adjust the company's general working plan (RKU), as per directives from the Ministry of Environment and Forestry (MoEF). The newly revised (plan)

will significantly impact our business activities. Nevertheless, we will comply with the directives from the MoEF."

RAPP was also challenging the ministry's reliance on a 2017 law that decreed plantation firms must quickly switch to non-peatlands via land swops. The Supreme Court had in October struck down the ministerial regulation, saying it was ambiguous and could cause legal uncertainty. In its statement, the firm said: "We will continue to work to meet our commitment to conserve 1ha for every hectare planted (one-for-one goal), which currently stands at 83 per cent - or 419,000ha - of forest under conservation and restoration."

The company's concessions under the work plan cover a large area of fast-growing pulpwood trees such as acacia in Riau province. More than half of this area is planted on peatlands.

Dr Bambang Hendroyono, secretary-general of MoEF, told The Straits Times the ministry gave RAPP 14 working days from Dec 8 to revise its work plan. "We have set a target to have all work plans that are peatland ecosystem-based completed within this year. That is the ideal deadline," he said. "We are facing dry weather ahead, and in 2018, we have the Asian Games. We don't want to see any more fire, haze then."

He said plantation companies, overall, did well in the recent prevention measures, adding: "But they have to reflect those in their respective work plans. Show us your plans for each year in your 10-year work plan. "Now only about 40 per cent of the total 85 plantation companies have completed their work plans. If the APRIL group, which consists of more than 30 companies, complete their work plan, we will have 80 per cent of the 85 companies having completed their work plan."

Environment and Forestry Minister Siti Nurbaya said the government might audit RAPP and APRIL in the next few months in a bid to get a clearer picture of their businesses and operations on the ground.

- http://www.straitstimes.com/asia/se-asia/pulpwood-firm-april-takes-jakarta-to-court-over-peatland
- http://www.straitstimes.com/asia/se-asia/jakarta-court-rules-in-governments-favour-in-case-involving-pulp-company-april
- http://www.straitstimes.com/asia/se-asia/pulpwood-firm-loses-appeal-on-work-plan
- http://jakartaglobe.id/politics-tv/court-rejects-rapps-plea-revoke-govt-reprimand-letter/
- https://news.mongabay.com/2017/12/paper-giant-rapp-bows-to-peat-protection-order-after-indonesia-court-defeat/

New regulations on peatland protection may exact huge toll on economy, according to UI study

Indonesia's tougher peatland protection regulation is estimated to cost billions of dollars and hurt a specific province's regional revenue, a study from the University of Indonesia's Institute for Economics and Social Research, or LPEM-UI, shows. According to Riyanto, a senior researcher at LPEM-UI, the implementation of Government Regulation (PP) No. 57 of 2016, which amended Government Regulation No. 71 of 2014 on the protection and management of peatland ecosystems, is estimated to lead to a loss of Rp 76 trillion ($5.32 billion) from a decline in production of pulp and paper, palm oil, job loss and weaker economic activities in regions highly dependent on the two commodities. "This regulation will have an impact on the macro economy. It may also deteriorate the investment climate as it has social impacts including layoffs that will increase unemployment."

Riyanto said LPEM-UI estimated that Indonesia would lose up to 16.8 million m^3 of timber production due to the relocation of 58.5% of the nation's industrial forests. The economic value of all industrial forests is estimated at Rp 48.5 trillion. Riau, which has a vast area of peatland and is home to industrial forests and plantation areas, may see its regional gross domestic product decline by Rp 16.15 trillion per year and a loss of income for the local community, penciled at Rp 4.9 trillion per year from salaries, wages or various income that may be lost from a decline of business activities from the pulp and paper industry. A slower growth in the pulp and paper industry is estimated to cause a loss of 134,000 of jobs over the course of five years since the revised regulation was implemented in 2016. In Riau province, the loss of that many jobs may cause more than half a million people to live in poverty. "There will be some serious social problems if this is not carefully anticipated," he said. Riyanto criticized the government for disregarding innovations in peatland management, which can still both preserve, but also utilize the land for commercial purpose. About 40 percent of the nation's industrial forests currently sit on peatlands, which will be deemed protected areas under the regulation.

- http://jakartaglobe.id/business/new-regulations-peatland-protection-may-exact-huge-economic-toll-economy-ui-study/
- https://www.ecodaily.org/featured/indonesia-jokowi-policies-takes-huge-economic-toll-ui-study-finds/
- http://en.industry.co.id/read/2847/alex-noerdin-asked-for-reversed-peatland-for-community-harm

New study on economic losses from Indonesia's peat protection policies criticised

Critics say the LPEM study, which estimated that various peat protection policies could lead to $5.7 billion in economic losses, fails to account for the massive disruptions to economic activity, public health and climate change as a result of fires on peatlands and the attendant toxic haze and carbon dioxide emissions.

One of the main criticisms is that the study fails to take into account economic losses from unsustainable practices in peat-based plantations, such as the large-scale drainage of peat soil, which leaves the land highly prone to fires. The World Bank estimated that the fires that year cost the country $16 billion in losses just from the disruption to economic activity. "We all agree that the losses are much greater than the economic benefit that comes from burning peatlands," said Iwan Gunawan, a senior national resources manager at the World Bank, during a recent discussion in Jakarta. "Even with a conservative figure, it's clear that the losses are massive." The World Bank estimate doesn't account for losses incurred by other countries affected by the haze. Schools in Malaysia were ordered shut during the worst of the phenomenon, while air quality in Singapore hit such hazardous levels that residents were advised to avoid outdoor activity. "We haven't calculated the losses to Singapore as well as the losses from children who become disadvantaged [due to school closures]," Iwan said. A 2016 study by Harvard and Columbia universities estimated there would be more than 100,000 premature deaths caused by the 2015 haze, using air pollution readings and satellite data to come up with the number. A separate study published in *Atmospheric Chemistry and Physics* found that emissions from burning peatlands contained potent carcinogens and over 90 different gases, some of them highly toxic, including formaldehyde, acrolein, benzene, carbon monoxide and nitrogen dioxide. Other costs overlooked in the LPEM study include land conflicts caused by economic development in peat forests, and loss of local livelihoods, according to Suraya Afiff, an anthropologist at the University of Indonesia. "For tenurial conflicts, there are 1,600 conflicts that have yet to be resolved by the Ministry of Environment and Forestry," she said. "But this cost is never calculated. And then there are lots of economic benefits from peatlands that are gone when the peat zones are given up as concessions." By failing to make a full accounting, the study risks sabotaging the public discourse on how best to manage Indonesia's remaining peatlands, said Sonny Mumbunan, an economist with the University of Indonesia's Research Center for Climate Change.

- https://news.mongabay.com/2018/01/study-on-economic-loss-from-indonesias-peat-policies-criticized/
- http://www.eco-business.com/news/new-study-on-economic-losses-from-indonesias-peat-protection-policies-criticised/

The enormous productivity of oil palm: every second week a new leaf with a new bunch of fruits. Photo: Hans Joosten.

RSPO certification reduces deforestation in Indonesia — but not by much

New research demonstrates that sustainability certification through the Roundtable on Sustainable Palm Oil does cut down on deforestation in Indonesia's palm oil industry. But the new study, published in the *Proceedings of the National Academy of Sciences*, also says that RSPO standards don't appear to be saving a very large area of forest. "Even if we're saying there's a significant effect on forests, the amount of forests protected is tiny," Kimberly Carlson, a land systems scientist at the University of Hawaii and the lead author of the study, said in an interview.

Concerns about the amount of forest cleared for plantations have plagued the palm oil industry for decades. This led to the inception of the RSPO in 2004. But a lingering question has been whether RSPO certification standards diminish deforestation rates. Around 20% of the world's production palm oil in 2015 was certified, and more than half of that comes from Indonesia, according to the RSPO website. To find some answers, Carlson and her colleagues' analysis combined data on the boundaries of RSPO-certified and uncertified plantations with satellite imagery showing tree cover loss and fires in Sumatra and Kalimantan from 2001 through 2015. During that period, the team calculated that only about 21 km^2 of Indonesia's forest was saved from being cut down thanks to RSPO certification. They also found that, even though certified plantations were less likely to have fires or to have had forest cleared from carbon-rich peatlands, certification didn't limit these issues in a statistically significant way. Most of the certified plantations that the researchers looked at were developed — perhaps at the expense of forest — before the RSPO existed. Currently, RSPO standards prohibit clearing of primary and high-conservation value forest, but not all deforestation, which has led to criticism of the organization. But increasing how strict the standards are could also exclude small-scale producers who might not have the means to bring their operations up to code, the authors write. "[High] stringency means that whatever certified product that you purchase is probably going to be very 'sustainable,'" Carlson said. "But if you make the standard more stringent and have a more 'sustainable' certified product, you're likely to exclude producers for whom it's just too costly to become certified." That would leave them with even less incentive to protect standing forest, so the thinking goes. Still, Carlson said that the desire to get deforestation-free products into the hands of consumers exists, even if the RSPO doesn't do that yet.

Carlson, K. M., Heilmayr, R., Gibbs, H. K., Noojipady, P., Burns, D. N., Morton, D. C., … Kremen, C. (2017). Effect of oil palm sustainability certification on deforestation and fire in Indonesia. *Proceedings of the National Academy of Sciences*.
http://doi.org/10.1073/pnas.1704728114

https://news.mongabay.com/2017/12/study-rspo-certification-prunes-deforestation-in-indonesia-but-not-by-much/

Global tropical peatland centre to be established in Indonesia

The Indonesian government is working with peat experts to establish a global centre for tropical peatlands in the city of Bogor, just south of the capital Jakarta. The details about the proposed institution will be discussed next year, said Nazir Foead, the head of Indonesia's peatland restoration agency (BRG). Nazir said it was only appropriate for a global-scale tropical peatland center to be located in Indonesia, given that the country is home to 36% of the world's tropical peatlands, more than any other country. Indonesia has a mixed record when it comes to managing and protecting its peat forests. Vast swaths of peatland have been lost in recent decades after being drained and cleared for industrial-scale plantations. This has led to recurring forest fires, with one of the worst episodes occurring in 2015. In the wake of that disaster, the Indonesian government put in place a series of policies to protect peatlands across the country, as well as intensified its efforts to monitor and extinguish land fires. As a result, fire incidents have decreased in intensity, according to data from the Ministry of Environment and Forestry. Nazir said other countries could learn from what Indonesia was doing to protect its peatlands, adding that the planned research center would facilitate that learning process. "We have a lot of experience and research in peat restoration and protection. Our peat policies are good and robust," he said. "Countries in Europe and South Africa are very interested in seeing what we've been doing and it is our moral responsibility to share our knowledge with them." Haris Gunawan, deputy of research at the BRG, said Indonesia's past mistakes in managing its peatlands and the subsequent lessons learned had placed the country in a unique position to share knowledge about best practices when it came to tropical peatlands. "We have a before-and-after situation," he said. "So we have to think about establishing a tropical peat centre which has all kinds of information, such as technology, science, innovation and practices that we've done before and after forest fires."

- https://news.mongabay.com/2017/12/global-tropical-peatland-center-to-be-established-in-indonesia/
- https://www.djgblogger.com/global-tropical-peatland-center-to-be-established-in-indonesia/

Indonesia looking to halve forest fires in ambitious new plan

Indonesia plans to reduce by almost half the number of fire hotspots in the country by 2019 as part of an effort to tackle the longstanding problem, the government has announced. The new plan, recently revealed by the Coordinating Economic Ministry, involves two approaches that the government will be looking to implement. The first is ensuring that the 24,000 km^2 of degraded peat areas slated to be restored by Indonesia's peatland restoration agency (BRG) are not burned while the second is boosting prevention efforts in 731 villages in Sumatra and Kalimantan, which are prone to fires. Through the plan, the government is targeting to protect up to 121,000 km^2 of land from fire. Should this be achieved, it would reduce the number of hotspots in the country by 49 percent compared to business-as-usual levels.

In its elaboration of the plan, which would involve multiple government agencies and require at least Rp.39 trillion ($2.73 billion) in funding, the government has specified five action points that include providing economic incentives and disincentives, empowering villagers and forest communities to prevent and tackle fires, and improving water management in peat forests. The government's plan comes as the country's Meteorology, Climatology and Geophysics Agency has forecasted that Indonesia will be expecting drier conditions in parts of the country starting in May 2018, as a result of the La Niña weather system.

http://indonesiaexpat.biz/home-2/indonesia-looking-halve-forest-fires/

BRG: Public must be vanguard of peatland protection

"The peatland restoration project is not simply about wetting peatlands and replanting in order to repair broken ecosystems. It also is about empowering communities to live on peatland," BRG chief Nazir Foead said on Dec. 28. According to Myrna A. Safitri, who is BRG's education deputy for socialization, participation and partnership, the BRG in 2017 worked together with 75 villages and subdistricts in seven provinces targeted for peatland restoration. "The combined size of all the villages and subdistricts is 1,180,441 hectares, with 878,326 ha being peatland managed by local communities. Out of all those peatlands, some 267,111 hectares have been targeted for peatland restoration. The BRG is carrying out its Villages Care for Peatland program, which has become the vanguard of peatland ecosystem maintenance."

The BRG's activities over 2017 also involved efforts to revitalize the public's sources of income. Alue Dohong, the BRG's deputy for construction, operations and maintenance, reported that 101 community groups had been trained to maintain lands without burning them. These groups have also been trained to develop local commodities, develop freshwater fisheries, implement farming systems and cultivate honeybees. The number of people burning peatland is currently on the decline. Through this project to revitalize public sources of income, the BRG has helped to raise public awareness on peatland ecosystem preservation.

Throughout 2017, the BRG has also facilitated the development of infrastructure for peatland wetting in the form of wells and canals in six provinces: Jambi, Riau, South Sumatra, West Kalimantan, Central Kalimantan and South Kalimantan. The total area of affected peatland is around 200 thousand ha, some 103,476 ha of which are wettened peatland managed by the BRG, with the other 98,978 ha being managed by BRG's partners. Some 60 % of the BRG's project areas, or about 62,126 ha, are in Central Kalimantan. The wells drilled by BRG number around 5,900, while the number of canals built together with the public number 1,849.

Other accomplishments in 2017 include the Peatland Ecosystem Restoration Plan (RREG) for seven targeted provinces as well as mapping the government's peatland hydrological area (KHG) map. To further support the monitoring of peatland ecosystems, the BRG installed 40 water level observation devices, of which the data can be accessed in real time. To better supervise peatland areas, the BRG has also established a series of guidelines. In 2018, the BRG will supervise companies as they carry out peatland restoration activities. As many as 1.4 million ha in targeted peatland restoration areas are in forest and farm concession areas. All of the BRG's restoration activities are comprehensive and inclusive in nature in that they involve all stakeholders. The BRG doesn't simply wet the peatland, but it strives to make the public the vanguard of peatland management and efforts to prevent peatland fires.

http://www.thejakartapost.com/adv/2017/12/30/brg-public-must-be-vanguard-of-peatland-protection.html

Indonesian palm and pulp companies commit to peatland restoration

More than a hundred palm oil and pulp companies in Indonesia have pledged to restore 14,000 km^2 of peat forest, in response to government measures to prevent a repeat of the disastrous fires of 2015. Eighty of the companies are palm oil planters and 45 are pulp and paper firms, according to the Ministry of Environment and

Forestry. Of these, 49 palm oil companies and 31 pulp companies have had their plans approved by the ministry. Karliansyah, the ministry's head of environmental pollution and damage control, thanked the pulp companies in particular for cooperating with the ministry since late last year to finalize restoration plans for peatlands that lie inside their leases. Those companies have agreed to block the canals initially dug to drain the peatlands in preparation for planting, and to rehabilitate nearly 5,200 km^2 of degraded peatlands. Together with the palm oil companies, they plan to restore at least 14,000 km^2 of their concessions that fall within protected areas by 2026.

Indonesia's weather agency is predicting drier-than-usual conditions in parts of the country starting in May, as a result of the La Niña weather system, which raises the risk of fires breaking out and sustaining. Key to preventing this is blocking the drainage canals and allowing the soil to retain water once again. The goal is to ensure that the peat layer stays moist down to a government-mandated 40 centimeters below the surface, Karliansyah said. "I see some companies have managed to do that. Around 70 percent have met the standard. So the risk [of fires] can be reduced," he said.

This private sector-led initiative is part of the wider peat protection policy rolled out by President Joko "Jokowi" Widodo with the idea that rehabilitating peatlands by wetting peat soil and planting peat-friendly crops will make them less prone to fires. In 2016, the president issued his signature piece of anti-haze regulation, which calls for, among other things, companies to conserve peat areas within their concessions. Under this regulation, pulp and paper companies can see their crops through to the end of the current harvest cycle, at which point they must restore the peatlands by blocking drainage canals, maintaining the water level and planting native vegetation. Plantation companies will be allowed to keep operating in peat areas until their permits expire, at which point they must commence their restoration plans.

https://news.mongabay.com/2018/02/indonesian-palm-pulp-companies-commit-to-peatland-restoration/

Indonesia prepares to adopt standardized peat-mapping technology

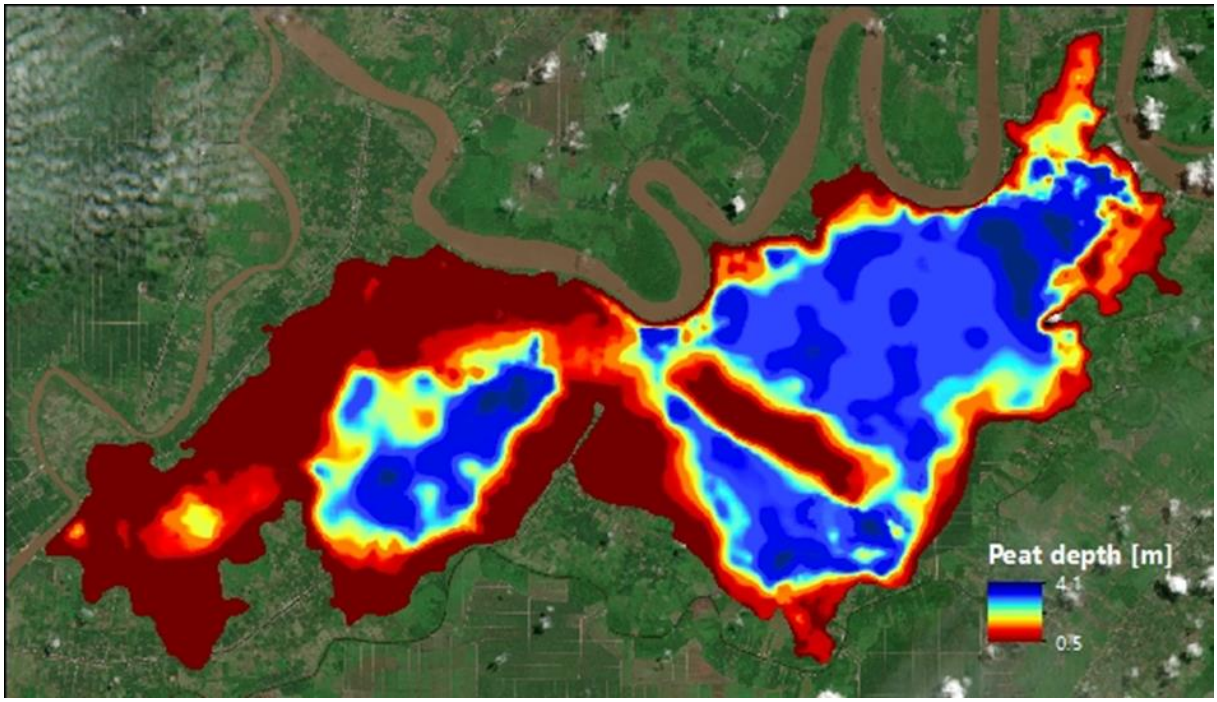
Indonesia lacks a comprehensive and detailed map of peatlands that it needs to undergird its policy of restoring degraded peatland and preventing the recurrence of annual fires across these ecosystems. Peatlands are fast being drained and razed to make way for monoculture crops, primarily oil palms. "That's why peat maps need to be updated with the latest condition," said Wiwin Ambarwulan, head of research at Indonesia's Geospatial Information Agency, or BIG. To that end, the presidentially appointed Peatland Restoration Agency (BRG) in 2016 announced a competition, the Indonesian Peat Prize, to find a fast, cost-effective and accurate mapping method for the country's peat forests. The technology that ultimately wins out will be adopted by the government as the standard for future peat mapping in the country, Wiwin said.

Currently, two peat maps among several in existence are the most commonly used: one produced by the NGO Wetlands International in 2004, and the other by the Ministry of Agriculture in 2011. In a 2013 report, the Dutch consultancy Deltares concluded that neither of these maps was suitable for spatial planning or policymaking, as both consistently underestimated the extent of the peatland and thickness of the peat layers. The Ministry of Environment and Forestry also published a peat hydrological area map in 2017, which divides peat zones into two categories: protection or production. The map uses data from various official maps, including that of the Ministry of Agriculture and one from the Ministry of Public Works. But at a scale of 1:250,000, the Ministry of Environment and Forestry's map is not detailed for use in effective spatial planning and policymaking tasks, which require maps with a finer resolution of 1:50,000.

https://news.mongabay.com/2018/01/indonesia-prepares-to-adopt-standardized-peat-mapping-technology/

International Peat Mapping Team wins Indonesian Peat Prize

A team of scientists from Indonesia and Germany has won the competition to come up with a fast, accurate and cost-effective way to map Indonesia's vast tropical peatlands. The winner of the $1 million Indonesian Peat Prize, funded by the David and Lucile Packard Foundation, was announced Feb. 2 to coincide with World Wetlands Day. "The BIG is pleased and excited that the prize has produced the best method for mapping peatland that combines accuracy, affordability and timeliness to support the BIG's work in mapping and providing geospatial data and information," agency chief Hasanuddin Zainal Abidin said at the announcement in Jakarta. The winner, the International Peat Mapping Team (IPMT), boasts members from Germany's Remote Sensing Solutions GmbH (RSS), Indonesia's state-funded Agency for the Assessment and Application of Technology (BPPT), Greifswald University/Greifswald Mire Centre and Sriwijaya University in South Sumatra.



The winning map of the International Peat Mapping Team. © RSS GmbH (2018)

The IPMT proposal combines satellite-based technologies and airborne lidar with on-the-ground measurements. The team started off with German radar technology, called WorldDEM, that uses satellite imagery to model terrain at a 12-meter resolution, as well as imagery from the Sentinel series of Earth-observation satellites. The team then used lidar to calibrate and verify the results from WorldDEM. Finally, to accurately estimate peat thickness, the team used on-the-ground measurements.

It was the team's decision to combine the various methods that was hailed by the judges. Supiandi Sabiham, co-chair of the competition's scientific advisory board, said the combination of these methods gave the IPMT the edge over the other finalists. "While the cost [of the winning method] is relatively higher, its accuracy is better," he told reporters after the announcement. "That's why we agreed to declare the team as the winner."

While the IPMT now has up to two years to fully flesh out the method as the official mapping standard, the BIG wants to start adopting aspects of it immediately, citing the pressing need for a comprehensive and detailed map of the country's peatlands. Also the Peatland Restoration Agency (BRG) hopes to use the method immediately to create a more detailed map, at a scale of 1:2,500, for use in planning physical peat restoration efforts on the ground. The BRG also believes that the IPMT's technology can be adopted by other countries with tropical peatlands, such as the Democratic Republic of the Congo (DRC) and the neighboring Republic of the Congo (ROC), where scientists recently discovered the world's largest contiguous span of tropical peatland, at 145,500 km^2.

- https://news.mongabay.com/2018/02/scientists-from-indonesia-germany-and-the-netherlands-win-indonesian-peat-prize/
- http://indonesianpeatprize.com/team/international-peat-mapping-team/

Europe

SER Europe Conference in Reykjavík, Iceland.

9-13 September 2018 the Society of Ecological Restoration Europe will hold its 2018 conference in Reykjavík, Iceland with the theme 'Restoration in the Era of Climate Change'. Key issues to be addressed will be: Future changes and restoration goals; Ecological restoration to mitigate climate change; Synergies between key goals: climate mitigation - land reclamation - biodiversity conservation - ecosystem resilience - multiple ecosystem services; Climate change driven restoration efforts leading to a narrow focus on carbon sequestration. With ample attention to peatland restoration! More information: https://sere2018.org.

Iceland: the land of hot springs and drained peatlands. Photo: Hans Joosten.

Setting course for EU peatland policies

"Setting the course for EU policies on peatland climate mitigation" was discussed at a workshop 6th December 2017 in Brussels. Jointly organised within the projects CAOS - climate smart agriculture on organic soils (Thünen Institute) and CINDERELLA (Greifswald University, partner in the GMC) it was another step to better integrate peat soils into the EU policy framework. With representatives from farmers associations, NGOs, research, European Commission (both DG Agriculture and DG Environment), business sector and national administration there were diverging positions. Some participants stressed the importance of peatland utilisation for food production and sovereignty. The GMC representatives pointed out effects and perspectives of EU policies on peatlands, underlined that greenhouse gas emission reduction is currently insufficiently addressed, and promoted alternative paludiculture crops like cattail for building materials.

Germany

Climate strategy for the agricultural sector

Jan Peters & Wendelin Wichtmann (jan.peters@succow-stiftung.de)

Right at the beginning of the new year (10th of January) the mainstream national German farmers association Deutsche Bauernverband (DBV) launched its climate strategy. The paper also considers peatlands: On the one hand, rewetting of drained agriculturally used peatlands for climate protection reasons is regarded as an intervention that strongly conflicts with existing ownership and production conditions. Rewetting for nature conservation purposes is considered inacceptable. But on the other hand the strategy says that „economic use alternatives“ with adapted water management must be found, but that these alternatives are still under development and in a pilot stage. The strategy calls for more research to develop strategies to continue economic use of land after rewetting. The strategy notes that it is necessary that agricultural policy recognizes paludicultures as a type of agriculture to ensure economic viability. Incentive programs, utilisation and marketing strategies, and that markets must be developed for products from wet peatlands such as sedges, cattail and mosses. In pilot and demonstration projects, practical procedures for managing wet areas should be developed and disseminated through education and training. In any case, research is required to develop strategies for making intensive agricultural use compatible with rewetting, for instance by adapted water management. So the Bauernverband seems to be on the right way, although they do not yet appear to be very convinced about the role of peatlands in the climate discussion. We still need further projects and actions to win farmers as active partners for climate change mitigation and adaptation by peatland rewetting and paludiculture. More information: www.bauernverband.de/klimastrategie-2018.

Winterly agricultural peatlands in Germany waiting for being rolled in spring. Photo: Hans Joosten.

Poland

Coal mining threatens the Vulnerable aquatic warbler *Acrocephalus paludicola*

Grzegorz Grzywaczewski & Ignacy Kitowski (grzegorz.grzywaczewski@up.lublin.pl)

The aquatic warbler *Acrocephalus paludicola*, categorized as Vulnerable on the IUCN Red List, is a species particularly affected by hydrological changes, including to wetland habitats. The global population of this species decreased in the 20th century by >90%, and there are currently only 10,200 – 13,800 singing males,

breeding in an area of 1,000 km^2 (BirdLife International, 2008, International Species Action Plan for the Aquatic Warbler *Acrocephalus paludicola*. Updated version, 2010). A new threat to the aquatic warbler has now arisen: potential coal mining within a few kilometers of Bubnów Marsh in Polesie National Park, Poland. Bubnów Marsh, close to the Polish–Ukrainian–Belarus border, is one of the largest calcareous fen mires in Europe. It is a significant wetland area that survived drainage during the communist era. The mire is protected by the Ramsar Convention on Wetlands, is an Important Bird and Biodiversity Area, a Cross-border Biosphere Reserve (Polesie Zachodnie) and a Natura 2000 area. In 2014 389 singing males of the aquatic warbler were found in the marsh (G. Grzywaczewski, 2015, Annales UMCS section EE, 33, 1–12), representing 3–4% of the global population.

The Chief Geologist in Poland has approved a concession for a company that is planning construction of coal mine near Bubnów Marsh. In May 2017, during proceedings of the scientific council of Polesie National Park, a representative of the company that carried out the exploratory drilling presented the prospects for future coal mining in the vicinity of the marsh. The company plans to mine coal for c. 10 years (Wspólnota Łęczyńska, 4 October 2016, http://24wspolnota.pl/+wlj8n). Local councils and government representatives are involved in lobbying in favour of the construction of the new mine (authors, pers. obs.).

An alternative source of income in this area could be ecotourism. Polesie National Park was visited by c. 44,000 tourists in 2016 (Tourist Register of Polesie National Park, unpubl. data), and Urszulin Commune, which includes the Park, receives grants from the European Union budget for the promotion and development of tourist infrastructure. Coal mining will have a negative impact on this valuable wetland ecosystem, potentially resulting in the loss of habitats and rare species, including the aquatic warbler. Mining could also result in the reduction of tourism and a loss of income that would help improve the development of tourism and recreation.

Bagno Bubnow, Poland. Photo: Susanne Bärisch & Francois Griffault. Insert: Exploratory drilling in the vicinity of the mire. Photo: Grzegorz Grzywaczewski.

Switzerland

30 years Rothenthurm referendum

On December 6, 2017 it was 30 years ago that the people of Switzerland – provoked by plans to construct a large military exercise area in the Rothenthurm peatland - voted with large majority to include peatland conservation in the constitution of this federal state. Since this Rothenthurm Referendum the federal constitution includes the famous Art. 24sexies Abs. 5: “Mires and mire landscapes of exceptional beauty and of national importance are objects of protection. In these areas no constructions nor changes in soil conditions of whatever form may be carried out. Excluded are facilities that serve the maintenance of the purpose of protection and hitherto existing agricultural use.”

In spite of this unique protection situation, 80% of the remaining bogs are still in suboptimal condition and unwanted shrub encroachment is taking place in 70% of the remaining fen peatlands. This all against the background that these remnants only constitute 10% of the original mire area of Switzerland. The jubilee day was used to evaluate and discuss history and future of mire conservation by bringing together initiators of the referendum and young conservationists. Indeed: in Rothenthurm, where it all began...

- https://www.bk.admin.ch/ch/d/pore/vi/vis159t.html
- https://www.pronatura.ch/de/30-jahre-rothenthurm-initiative-den-meisten-schweizer-mooren-geht-es-immer-schlechter

The Rothenturm mire landscape were it all began… Photo: Hans Joosten.

United Kingdom

Will peat use be taxed or banned?

The Government has made strong statements on peat reduction in its new 25-year environment plan, published in January. After years of Government silence on peat use, Defra secretary of state Michael Gove has decided to make a stance by threatening "further measures" should moves to peat alternatives not accelerate.

A *Green Future: Our 25 Year Plan to Improve the Environment* states: "In 2011 we introduced a voluntary target for amateur gardeners to phase out the use of peat by 2020 and a final voluntary phase-out target of 2030 for professional growers of fruit, vegetables and plants. If by 2020 we have not seen sufficient movement to peat alternatives, we will look at introducing further measures."

Growing Media Association (GMA) chair Steve Harper says the industry must now step up and show that with its Responsible Sourcing Scheme for Growing Media it can help users differentiate between more and less responsibly sourced material." Defra says it will also continue to jointly fund research with the industry to overcome the barriers to peat replacement in commercial horticulture to report in 2020, and will continue to support the industry as it puts the Responsible Sourcing Scheme into practice.

The industry achieved the Government target to reduce the use of growing media and soil improvers by 40% by 2005. But it missed the target of 90% reduction by 2010 and peat reduction has moved forward slowly in recent years as the topic has become less heated, costs issues have come more into play and green-waste alternatives have come under fire for being unreliable. In 2010, the GMA said it "welcomes the new proposed Government target for amateur growing-media products to be peat-free by 2020. While a very challenging target, the industry believes, with the right support from Government, it can be achieved." The GMA added that the Government was right to give commercial growers more leeway because of quality and price issues for commercial users "in a highly competitive international market".

The figures show progress slowed after 2010, however. Retail peat use in 2014 was 1,391,865 m^3, up from 1,267,522 m^3 in 2013. Professional peat used was 717,992 m^3 in 2014, up from 695,239 m^3 in 2013. Overall retail use rose from 3,592,202 m^3 to 3,823,439 m^3. Overall professional use increased from 1,037,336 m^3 to 1,101,807 m^3. Alternatives use rose too as the market grew.

Friends of the Earth senior nature campaigner Paul de Zylva is critical of the slow progress. "The long-awaited environment plan is full of ambition but short on detail and action," he says. "Ministers say they recognise the importance of our peatland for wildlife, climate action and holding back flood waters, but they have wasted the past decade hoping the horticultural sector would take voluntary action to end peat use and to give customers proper choice of quality alternatives. Ministers now say they'll wait another two years before deciding what else to do. That's more like a plan for inaction."

The 25-year plan has certainly pushed peat back up the agenda. Under the subtitle "Restoring our vulnerable peatlands and ending peat use in horticultural products by 2030", the strategy links peat use with halting degradation of soils, which is another of Gove's big policy issues. "Most peat soils support ecosystems that are sensitive to human activities including drainage, grazing, liming and afforestation. This makes them susceptible to degradation if poorly managed." The report says conventional agriculture is wrecking drained peatland soil and "we will develop new sustainable management measures to make sure that the topsoil is retained".

The strategy points out that over the past 200 years 84% of fertile peat topsoil in East Anglia has gone and the rest could erode in 30-60 years, resulting in the loss of "our largest terrestrial carbon store". Organic or peat soils make up 11% of England's total land area, more than 70% of which are drained or in poor condition. Funding for peatland projects over three years will become available in April 2018, the result of a £10m peatland grant scheme launched in July 2017.

https://www.hortweek.com/will-peat-use-taxed-banned/ornamentals/article/1454343

Blanket bog restoration improves agricultural productivity

Guy Freeman recently delivered the initial findings of his PhD research to the Exmoor Mires Partnership. Guy's research focused on examining the impact of mire restoration works on the agricultural value of the moor; a piece of work critical to restoration work since the landowners understandably want to know what restoration works may mean in terms of productivity and livestock welfare. Guy is in the process of revising his final thesis, and presented initial findings to the partnership in late 2017. In summary, research found:

- Dense purple moor grass which dominates drained mires is avoided by livestock.
- Plants associated with blanket bog tend to have a higher value to grazing animals in the late summer and autumn when purple moor-grass has died back.
- Due to the range of species associated with restored mire sites, restoration may extend the grazing season.
- Drainage of mires fails to increase agricultural productivity, while also damaging the hydroecological function of these sites; a processes which restoration works seek to reverse in the long term.
- Tick and liver fluke abundance was not found to increase as a result of restoration.

The research adds support to restoration work, and is being communicated back to partnership members and landowners to further the understanding of agricultural management on Exmoor blanket bog sites.

http://www.iucn-uk-peatlandprogramme.org/sites/www.iucn-uk-peatlandprogramme.org/files/Exmoor%20Mires%20Newsletter%20Issue%2011.pdf

Burns Bog Ecological Conservancy Area, Delta, British Columbia, Canada. Photo: Burns Bog Conservation Society

North-America

Canada

The Burns Bog Conservation Society celebrates another successful year of protecting Burns Bog

Cherry Tam (Cherry@burnsbog.org)

Burns Bog, located in Delta, British Columbia, is the largest raised peat bog and the largest undeveloped urban wilderness on the west coast of North America. The Burns Bog Conservation Society has been in the battle to save Burns Bog since 1988. It protects and advocates for the Bog by offering education programs and hosting community events. The Society has been educating students about Burns Bog and the importance of peatlands ever since it conducted its first field trip for a group of students in 1992. Its science-based education programs are designed to inspire ecologically-minded leaders of the future. The Society conducts tours for members of the public. People from all over the world come to learn about Burns Bog. All these people become advocates for the Bog. One of the Society's members takes their German relatives for a walk in the Delta Nature Reserve at Burns Bog every time they visit! It is one of Canada's most precious and unique ecosystems.

In 2017, the Society educated 2541 students on interactive nature walks at the Delta Nature Reserve, "brought" the Bog indoors to 338 students through in-class workshops, and encouraged 137 kids to be active and learning outside at summer day camps. Additionally, 89 people learned about peatlands and conservation on the Society's tours this year. All these education programs encourage discussion and provoke reflection about peatlands, their benefits, and the threats that they face today.

As the Burns Bog Conservation Society looks toward celebrating 30 years of protecting Burns Bog in 2018, it will be co-hosting a Peatlands Conference with Kwantlen Polytechnic University in October in Delta, British Columbia. Please visit the Society's website at www.burnsbog.org for more information.

Students on an interactive nature walk at the Delta Nature Reserve at Burns Bog, British Columbia. Photo: Burns Bog Conservation Society

Burns Bog Conservation Society Petitions Federal Government

Eliza Olson (eliza@burnsbog.org)

The Burns Bog Conservation Society has launched a petition on November 16, 2017 asking the Federal Government to enforce the *Species at Risk Act* legislation on boglands owned by MK Delta Lands Group and the Beedie Group (Pineland Peat). MK Delta Lands Groups want to build an industrial park on 155 acres (62 ha) of land located on the edge of Burns Bog (Lot 4). MK Delta's lands were left out of the deal in 2004 when four levels of government came together to buy 5,000 acres of Burns Bog for conservation. The original plan was to buy 5,500 acres of Burns Bog, but owners refused to sell 500 acres to the governments. These pieces are on the edge or "lagg" of Burns Bog and were - with the exception of the Pineland Peat area - at that time deemed important but not essential to the survival of Burns Bog. (I doubt any self-proclaimed expert on peatlands would say anything like that based on the tremendous knowledge gained about peatlands since 1999.)

For years everyone thought that the Species At Risk Act (S.A.R.A.) was only enforceable on federal lands. This all changed with the Federal government stopping development on land in La Prairie, Quebec, where the Western Chorus frog (*Pseudacris triseriata*) was at risk.

There is more than one endangered species living on MK Delta Land Group's land and Pineland Peat. And it's time they are protected. Some of the wildlife at risk on these lands include the Red-listed Dim Skipper Butterfly, the Red-listed Pacific Water Shrew and the Black-Crowned Night Heron. Some of the Blue-listed species include: the Barn owl, the Green Heron and the Black Swift. The Velvet-leafed blueberry, the Cloudberry and the Crowberry are at their southern-most limits of their habitat in Burns Bog.

Any Canadian citizen can sign the petition. It doesn't stop organizations from sending letters of support to our Member of Parliament, the Hon. Carla Qualtrough, Carla.Qualtrough@pqrl.gc.ca. Please send copies of your letters to the Burns Bog Conservation Society at info@burnsbog.org

http://www.burnsbog.org/sign-the-petition-to-save-endangered-wildlife-in-your-backyard/

Planned industrial park in Burns Bog, Canada.

Central- and South-America

Chile

Regulation of *Sphagnum magellanicum* harvest in Chile (Decreto N°25)

Marvin Gabriel (marvin.gabriel@miresofchile.cl)

Sphagnum magellanicum basically grows in Chile in peatlands of the regions of Los Lagos (ca. 40-44°S), Aysén (ca. 44-49°S) and Magallanes (ca. 49-56°S). In the region of Los Lagos it was (unsustainably) harvested in the last 20-30 years and becomes increasingly depleted these days. Therefore, the *Sphagnum* harvest is expanding into the region of Aysén, where still vast areas of pristine peatlands exist. In Magallanes, *Sphagnum* harvest has also existed since many years, but, like in Aysén, vast pristine peatland complexes still exist.

Boosted by international demand, *Sphagnum magellanicum* harvest in Chile is gradually increasing (0.9 tons in the year 2000; 4.4 tons in 2014; source: Instituto Forestal 2015). Unfortunately, the collection is often accompanied by hydrological interventions (drainage). The international market also gives incentives to harvest long fibres of up to 40 cm, in order to obtain higher prices, even though an extraction in this depth lies far beyond the capacity of the *Sphagnum magellanicum* plant to regenerate (cf. Diaz & Silva 2012). In Chile few studies exist on the growth and regeneration rates of *Sphagnum*. One study from Los Lagos indicates average growth rates of 2-5 cm per year (Diaz et al. 2012), whereas a study from the region of Magallanes indicates 3-5 mm per year (Dominguez 2014). Many areas which were formerly dominated by *Sphagnum* became colonized by vascular plants, because of successive harvest activities disregarding the moss's regeneration time.

Until present, the increase of *Sphagnum* harvest seemed to be a great threat for the peatlands in future. So it comes not too early that the Ministry of Agriculture finally presented a regulation: The "Decreto N°25", passed on the 23th January 2018. The most important aspects are:

- Sphagnum must not be harvested deeper than 15 cm; leaving at least 5 cm of fibre above the water level.
- Drainage is prohibited.
- The harvest must be done manually, without machinery.
- 30% of the *Sphagnum* covered area must be spared from harvest.
- Regeneration time must be maintained until harvesting a site again: In the Region of Los Lagos 12 years, in Aysén and Magallanes 85 years.
- Areas where *Sphagnum* will be harvested must be declared (coordinates, size, map as shapefile), as well as harvest plan presented (duration, tools, etc.).

Sphagnum magellanicum *dominated bog in Puerto Aysén, region of Aysén, with typical red colour. Photo: Carolina Rodríguez.*

Truck transporting bags with Sphagnum magellanicum *on a ferry from Caleta Tortel to Puerto Natales. Photo: Carolina Rodríguez.*

All these points are important requirements for a sustainable use of Chile's *Sphagnum* peatlands. It is very pleasant that the required regeneration time for the region of Aysén, where studies on the growth rate of Sphagnum are absent, was treated according to the figures of the region of Magallanes (where it grows slowly) and not of the region of Los Lagos (where it grows more rapidly). Further, the prohibition of machinery will avoid a possible industrialisation.

As control mechanisms in Chile do not work well, it is unsure, if in reality the new regulations will achieve a sustainable use of Patagonian peatlands. But it is an huge step forward and emphasises the importance of peatlands, in a country whose people know little about the values and functions of these ecosystems.

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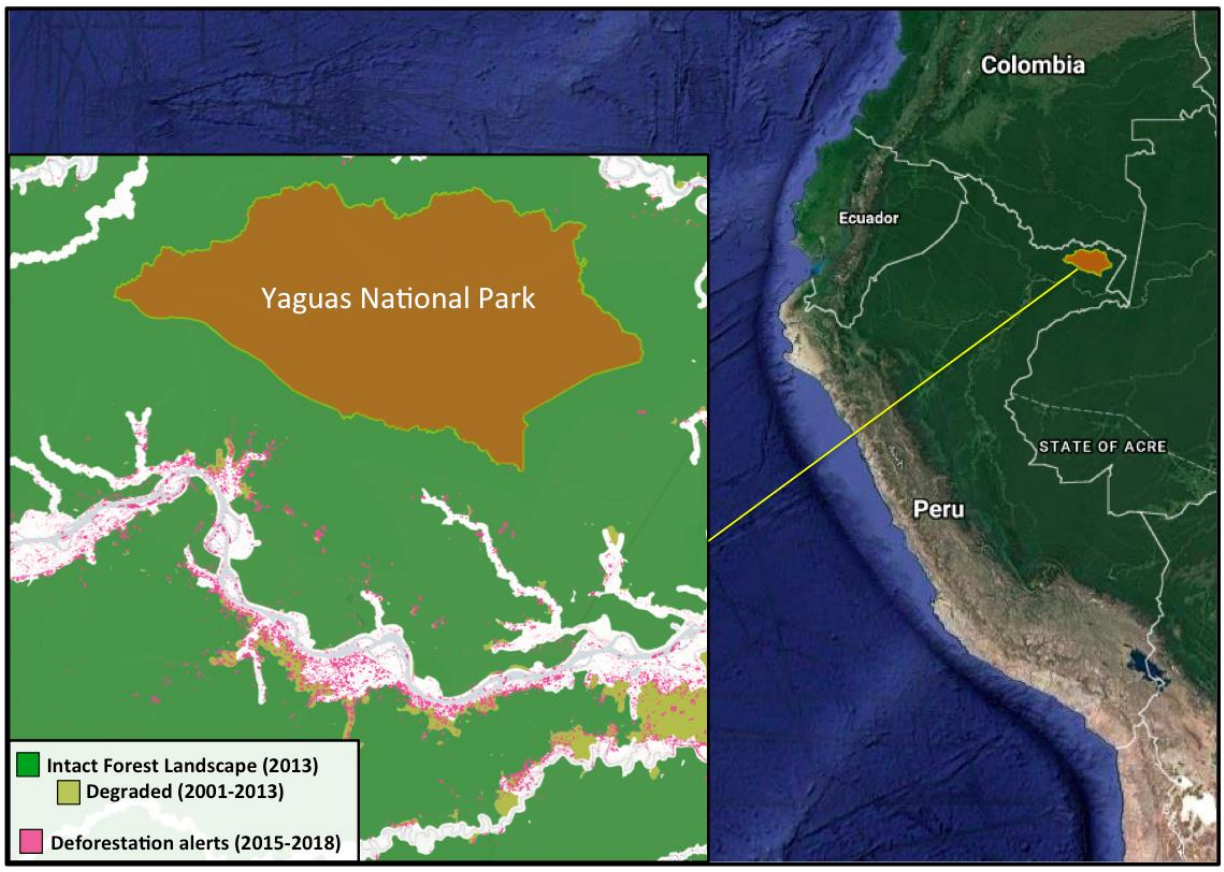
Peru

Peru declares a huge area with extensive peatlands in the Amazon to new national park

Starting from January 11th, 2018, 868,927 hectares of forest in Peru's Loreto Region will be protected through the creation of Yaguas National Park, comprising a mega-diverse ecosystem that was until then protected as a "reserved area." For 30 years, the communities that live around Yaguas have worked toward national park status for the highly biodiverse area, which they consider sacred.



Data source: GLAD/UMD, accessed through Global Forest Watch

As deforestation has expanded and approached from the south, Yagua has remained relatively intact. Stakeholders hope its upgrade to a national park will help keep it that way. Liz Chicaje Churay, the leader of the Bora community and representative of the Federation of Native Communities in the Ampiyacu (Fecona) River basin, expressed her satisfaction about the establishment of the newly protected area. “With the creation of Yaguas National Park, our culture, our forests, and our life proposal are being respected. Yaguas represents a sacred territory, a source of life that our ancestors defended.”

Yaguas is also home to between 3,000 and 3,500 species of plants, 110 species of amphibians, 100 species of reptiles, 500 species of birds, and 160 species of mammals. Among the animals that roam Yuguas’ forests and rivers are manatees, river dolphins, giant otters and wooly monkeys. “As a Peruvian conservationist, I am proud that with creation of Yaguas National Park, Peru continues on the path of creating one of the most amazing park systems in the world,” said Andes Amazon Fund Director Enrique Ortiz. “This park is as large as Yellowstone National Park and probably 10 times as diverse.” During surveys, scientists also discovered a large archipelago made up of peat bogs, which holds a large store of carbon, making Yagua one of Peru’s biggest carbon stocks found within a protected area.

https://news.mongabay.com/2018/01/peru-declares-a-huge-new-national-park-in-the-amazon/

Yaguas National Park comprises 870,000 hectares of Amazon rainforest. Photo by Álvaro del Campo

Peatland conservation relevant papers December - January 2017

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

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