



Zambezi wetlands, Zimbabwe. Photo: Hans Joosten.

IMCG Bulletin 2021-2: March – Apr. 2021

The international peatland news that matters



INTERNATIONAL MIRE
CONSERVATION GROUP

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IMCG issues

Word from the Secretary-General

Dear mire friends,

It has been too long ago that you received an IMCG Bulletin. It has been (and still is) a strange and difficult time. Whereas Covid-19 keeps on frustrating our normal functioning and has added an additional burden to all the work we already had to do, peatland relevant activities have increased enormously all over the world.

The result has been that I did not find the time to round-up the reports of all the things you were doing. Believe it or not: I have eight additional Bulletins waiting to be finalized and I hope to send them to you over the coming weeks (months). Indeed some of the issues will not be "news" anymore when you receive these bulletins. But they will contain information that may be useful, might inspire and will inform you.

Covid-19 has also long prevented us from meeting in person and from having genuine field symposia. Constraints will continue to accompany us, but we think time has come to start again on a small scale and with additional 'virtual' formats.

Most important in this Bulletin is therefore the information on the **IMCG Field Symposium, Congress and General Assembly in South Africa and the Kingdom of Eswatini in December 2021**. Please inform the organizers as soon as possible, if you are interested to participate in person, so that they can proceed with the complex organization. Keep sending news, photographs, papers and other contributions for the next Bulletin **by July 4, 2020** to Hans Joosten at joosten@uni-greifswald.de.

IMCG Field Symposium, Congress and General Assembly, 5 – 15 December 2021O

Our colleagues from Southern Africa are all geared up to host the 2021 IMCG Field Symposium with an online General Assembly in December 2021. The idea is to have a somewhat shorter than normal genuine field symposium in South Africa and the Kingdom of Eswatini from 5 to 13 December, followed by a scientific Conference (hybrid, i.e. in person and online) on 14 December and our IMCG General Assembly (only online) on 15 December 2021, both hosted by the University of Eswatini.

Date	Activity, Venue	Accommodation
05-Dec-21	Depart from O.R. Tambo Airport, Johannesburg, by bus at 12H00 to Kgaswane Nature Reserve	Rustenburg Kloof / Safari Lodge and Convention Centre?
06-Dec-21	Visit Watervalvlei Mire, Kgaswane Nature Reserve; Depart to Marico Biosphere	Molemane Eye Nature Reserve
07-Dec-21	Visit Molopo and Molemane Mires	Molemane Eye Nature Reserve
08-Dec-21	Visit Bokkraal Tuffa Mire; Depart to Marakele National Park, Thabazimbi	Marakele Env. Education Centre
09-Dec-21	Visit Matlabas Mire; Game drive	Marakele Env. Education Centre
10-Dec-21	Mire restoration workshop; Visit Tlope wetland restoration site	Marakele Env. Education Centre
11-Dec-21	Travel to Malolotja Nature Reserve, Kingdom of Eswatini; Visit Tevreden Pan Mire enroute	Malolotja Cabins
12-Dec-21	Visit Malolotja Mire	Malolotja Cabins
13-Dec-21	Visit Sebibe Mire and Hawane Ramsar site	Malolotja Cabins
14-Dec-21	University of Eswatini, Manzini: Symposium - In person and virtual	Malolotja Cabins
15-Dec-21	University of Eswatini, Manzini: General Assembly (Virtual) and Departure (start of optional field visits) to O.R. Tambo	Malolotja Cabins



Matlabas Mire. Photo: Piet.Louis Grundling

Additionally "virtual" excursions and field discussions on Southern African peatlands and their management problems will be offered in the format of digital "story maps", which will be available to all IMCG members, so that all IMCGers that cannot visit Southern Africa in person can join the complete package of "Field Symposium, Conference and General Assembly" in an adapted online format.

Preliminary Agenda of the IMCG General Assembly 14 December 2021

1. Opening and Welcome
2. Minutes of the General Assembly of August 31, 2018 in Utrecht, the Netherlands
3. Biennial report (2018–2021) on the state of affairs in the IMCG and the tasks of international mire conservation
4. Balance sheet and the statement of profit and loss
5. Election of the Main Board
6. Nomination of Honorary Life Members
7. Conference resolutions
8. Next venues
9. Any Other Business
10. Closing of the General Assembly

After these meetings, three post-symposium field trips will be offered from 15 to 22 December 2021.

Bulembu Geotrail (oldest rocks in the world?) and granite caves of Gobholo, Kingdom of Eswatini (Prof Heinz Beckedahl)

- | | |
|-----------|----------------------------------------------------------------|
| 15-Dec-21 | Depart at 13H00 for Malalotja Nature Reserve - do canopy trial |
| 16-Dec-21 | Visit Bulembu geotrail (take passports) |
| 17-Dec-21 | Visit Gobholo caves |
| 18-Dec-21 | Travel to Hlane National Park, via Ngwenya Iron Mine |
| 19-Dec-21 | Hlane National Park: Visit Hlane lead wood riparian forest |
| 20-Dec-21 | Depart to O.R. Tambo, South Africa |



Malahlapanga hot spring mire. Upperleft: 2009, upper right: 2019. Below: aerial view, note the individual peat domes. Photos: Ab Grootjans

Hot spring mires, Kruger National Park South Africa (Limited to 12) (Dr Piet-Louis Grundling)

- 15-Dec-21 Depart at 13H00 for Pretoriuskop Camp via Malelane Gate, South Africa
- 16-Dec-21 Visit Granitic mires of Pretoriuskop
- 17-Dec-21 Satara Camp
- 18-Dec-21 Shireni Bush Camp
- 19-Dec-21 Visit: Malahlapanga Hot Spring Mire
- 20-Dec-21 Visit: Mfayeni Hot Spring Mire
- 21-Dec-21 Baleni-Soutini: Ivory trail Camp (Spring mire and traditional salt works)
- 22-Dec-21 Return to O.R. Tambo

Swamp forest and coastal mires: Kosi Bay, Maputaland South Africa (Limited to 16) (Dr Lulu van Rooyen)

- 15-Dec-21 Depart at 13H00 for Tembe Elephant Park, South Africa
- 16-Dec-21 Visit the Muzi Chalk Peat Mire
- 17-Dec-21 Depart for Kosi Bay; visit Vazi Mire Fire en route
- 18-Dec-21 Visit Kosi Bay Estuary and peat gardens
- 19-Dec-21 Visit Kosi Bay and Raffia Swamp Forest
- 20-Dec-21 Visit Lake Sibayi and related mires and Sodwana Bay
- 21-Dec-21 Travel to O.R Tambo via Chrissiesmeer
- 22-Dec-21 Return to O.R. Tambo

The in person costs of the Field Symposium and Conference are €950 (all in, excl. your trip to and fro South-Africa), those of the post symposium tours €400 - 600 (implementation will depend on the level of interest). Please express your interest in participating in the genuine field symposium and post-symposium field trips as soon as possible, so that our colleagues can proceed with organization and bookings.

Please use <https://docs.google.com/forms/d/e/1FAIpQLSffYEjz63N6buBv6Y2O35tqvmq-HMOEyH-2oMJN7tVwN1kJYg/viewform> to register. The local organization can be reached under imcg2020sa@gmail.com

Mires and Peat

In March - April 2021 the following papers were published in Mires and Peat:

- Comment on 'An overview of the patterned fens of Great Sandy Region, far eastern Australia' by Fairfax & Lindsay (2019). [A.J. McDougall, S.M. Marshall & T. Espinoza] Volume 27: Article 09 <http://mires-and-peat.net/pages/volumes/map27/map2709.php>
- Ecohydrological analysis of a South African through-flow mire: Vankervelsvlei revisited. [S.R. Mandiola, A.T. Grundling, P.-L. Grundling, J. van der Plicht, B.C.W. van der Waal & A.P. Grootjans] Volume 27: Article 08 <http://mires-and-peat.net/pages/volumes/map27/map2708.php>

Find the journal online at <http://mires-and-peat.net/> Electronic submission is required using our dedicated electronic submission system. If you experience any problems please contact the Editor-in-Chief Olivia Bragg (o.m.bragg@dundee.ac.uk) who can offer alternative routes for electronic submission.

Papers

Peatland poetry from the past: The headgear of river gods in the works of Virgil and Ovid

Pim de Klerk (Greifswald Mire Centre/State Museum of Natural History Karlsruhe; pimdeklerk@email.de, www.pimdeklerk-palynology.eu)

The ancient Greek and Roman mythology did not only include the well-known major deities that ruled the world and influenced humankind (see Tripp 1970; Grant & Hazel 2005), but also many minor deities with only regional significance. Many rivers were envisaged to be ruled and protected by their own divine beings (Waser 1909). Countless texts refer to such deities, including those of Virgil (70-19 BCE) and Ovid (43 BCE-17 CE), two of the best-known Roman authors who wrote during the reign of emperor Augustus.

Virgil was born in northern Italy near Mantua and lived predominantly in the region of Naples (Büchner 1955; Howatson 1997). He was one of the poets in the entourage of the patron Maecenas (Büchner 1955; Howatson 1997; Fowler & Fowler 2000). Virgil's masterpiece - the epic 'Aeneid' - tells the adventures of a hero on his journey from fallen Troy to Italy where he became the ancestor of the Romans. Virgil wrote this epic during the last ten years of his life. He was already famous during his lifetime but became even legendary after his death: his grave near Naples became a kind of sanctuary for admirers and his birthday was celebrated annually (Howatson 1997). The famous opening of the Aeneid "*Arma verumque cano...*" ("*I sing about the feats of arms and the man...*") was frequently cited in Roman graffiti inscribed on walls of buildings (Hunink 2018; Weeber 2019) and witness of the popularity of Virgil in all layers of Roman society.

Ovid was born in the central Italian Apennine mountains but lived most of his life in Rome, belonged to the circle around the patron Messalla and knew Virgil from sight only (Howatson 1997). In 8 CE Augustus banned him to the west coast of the Black Sea for reasons that are not clear: Howatson (1997) and Kraus (1942) pose that Ovid may have been witness of an adulterous adventure of Julia, the granddaughter of Augustus who was banned also from Rome in 8 CE, but Kraus (1942) quotes various other theories too, and Hinds (2000) states that nothing more can be said apart from that Ovid was connected to some kind of scandal that involved the imperial family. The 'Metamorphoses' by Ovid contains numerous mythological stories from the beginnings of the world to the death of Julius Caesar in 44 BCE. 'The festivals' is a poetical depiction of the Roman calendar and provides the backgrounds of many public holidays. The 'Consolation for Livia' intended to comfort Livia, the wife of emperor

Augustus, on the dead of her son Nero Claudius Drusus. The work was actually not written by Ovid but falsely attributed to him (Skutsch 1900; Kraus 1942; Howatson 1997).

When Virgil had Aeneas arrive in Italy in the regions of the River Tiber, the hero was insecure what to do. In a dream Tiberinus, the god of the river, came to speak words of encouragement. The text states: *"The god of this place, old Tiberinus, appeared to him from the pleasant river between the leaves of the poplars (he was clad in a thin blue linen robe and his hair was covered with shade-bringing reed) ..."* (*"huic deus ipse loci fluvio Tiberinus amoeno populeas inter senior se attollere frondes visus (eum tenuis glauco velabat amictu carbasus et crinis umbrosa tegebat harundo) ..."*) ('Aeneid' VIII:31-34).

Ovid wrote in the *Metamorphoses* about the Achelous, the famous longest river of Greece that crossed the regions of Calydon. The river was so well-known that it was not only worshipped regionally but in entire ancient Greece (Waser 1909). Ovid did not even mention its name but referred to it as the Calydonian river that his audience will have identified immediately: *"... then the Calydonian stream – his disorderly hair garlanded with reed – replied..."* (*"... cum sic Calydonius amnis coepit inornatos redimitus harundine crines..."*) ('*Metamorphoses*' IX:1-3).

In 'The festivals' Ovid had written about the ritual to sacrifice people by drowning them in a river until Hercules replaced the living people with straw dummies. Ovid let the River Tiber talk about the background of this rite: *"The Tiber raised his reed-bearing head from the mid of the riverbed and said with a rough voice..."* (*"Thybris harundiferum medio caput extulit alveo raucaque dimovit talibus ora sonis..."*) ('The festivals' V:637/638).

In the spurious work 'Consolation for Livia' also the River Tiber plays a role: *"Even father Tiber shivered in his yellow waves and raised his cloudy head from the mid of the stream. Then he wiped with his great hand his hair - intertwined with willow, mosses and reed - from his deep-blue face..."* (*"Ipse pater flavis Tiberinus adhorruit undis, sustulit et medio nubilus amne caput. Tum salice implexum muscoque et arundine crinem caeruleum magna legit ab ore manu ..."*) ('Consolation for Livia' 221-224).



Two versions of the 'Dream of Aeneas' by Salvator Rosa, displaying the hero sleeping on his shield being spoken-to by the river god Tiberinus depicted with riverine plants on his head. Metropolitan Museum of Arts, New York. Left: etching, c. 1663-1664, accession number 17.50.17-85. Right: oil painting c. 1660-1665, accession number: 65.118;

The gods were depicted with reed, one of the most prominent riverine wetland plants, on their heads. In the 'Aeneid', Tiberinus had his hair covered with reed, which suggests that it may have been some ornamental headgear like a crown. In the text passage on the Achelous the reeds clearly were an ornamental addition to the head of the god. The text-passage from the 'Consolation for Livia' tells that the hair was intertwined with reed, which suggests that the plants were not ornamental but that plants had got entangled with the hair of the god. In 'The festivals', however, the notion "reed-bearing head" may possibly also depict that the hair actually was reed. Furthermore, the wetland trees/shrubs poplar and willow were related to the heads of the divine river gods, as well as unspecified mosses.

Evidently, the riverine vegetation was seen by Virgil and Ovid as a firm element of the river gods that underline the close connection of the deities with their landscape: in the same way as the rivers, the river deities were depicted to be fringed by wetland plants.

I am grateful to Immanuel Musäus for his help with the translations of the Latin quotes.

Texts from antiquity (note that only the consulted editions are mentioned, and that many reprints exist)

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Büchner, K. (1955): P. Vergilius Maro. First part in Ziegler, K. (ed.): *Paulys Realencyclopädie der classischen Altertumswissenschaft*. Zweite Reihe fünfzehnter Halbband. Valerius Fabrianus bis P. Vergilius Maro. Alfred Druckenmüller Verlag, Stuttgart: 1021-1264.

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Fowler, D.P. & Fowler, P.G. (2000): Virgil. In Hornblower, S. & Spawforth, T. (eds.): *Who's who in the classical world*. Oxford University Press, Oxford: 416-423.

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Howatson, M.C. (ed.) (1997): *The Oxford companion to classical literature*, second edition. Oxford University Press, Oxford / New York, 615 pp.

Hunink, V. (2018): *Glücklich ist dieser Ort! 1000 Graffiti aus Pompeji*. Reclam, Ditzingen, 370 pp.

Kraus, W. (1942): P. Ovidius Naso, der Dichter. In Kroll, W. & Mittelhaus, K. (eds.): *Paulys Realencyclopädie der classischen Altertumswissenschaft*. Sechsendreissigster Halbband Erstes Drittel. Orphische Dichtung bis Palatini. J.B. Metzlersche Verlagsbuchhandlung, Stuttgart: 1910-1986.

Skutsch, O. (1900): *Consolatio ad Liviam*. In Wissowa, G. (ed.): *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*. Siebenter Halbband. Claudius mons – Cornificius. J.B. Metzlerscher Verlag, Stuttgart: 933-947.

Tripp, E. (1970): *Crowell's handbook of classical mythology*. Crowell, New York, 631 pp.

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Peatland news

Global

Lowland peat bogs animation: <https://www.youtube.com/watch?v=aqNQrN7RSOo>

FINANCE OPTIONS FOR LIVELIHOODS FROM WET PEATLANDS

Renewable Resources from Wet and Rewetted Peatlands Conference RRR2021

Wednesday, 10 March 2021

11:30-12:30 (CET)

Online



IHS Markit to Launch Global Carbon Credit Meta-Registry

The [IHS Markit](#), a world leader in critical information, analytics and solutions, announced on March 9, 2021, its intention to launch the first global meta-registry of carbon credits. As part of this launch, the Carbon Meta-Registry Advisory Board has been formed to ensure the IHS Markit Meta-Registry delivers on its objectives and meets the wider industry needs. The Advisory Board at launch includes representatives from Global Carbon Council, Gold Standard, REDD.plus, UK Woodland Carbon Code and Verra, Conservation International, Environmental Defense Fund and the International Emissions Trading Association (IETA), Bank of America, Bluesource, CBL Markets, Chevron, Goldman Sachs, Hartree Partners, Microsoft and Temasek. The World Bank will participate on the Advisory Board as an observer. The Meta-Registry complements the World Bank's Climate Warehouse initiative to create a public infrastructure for tracking and reporting of carbon assets.

The IHS Markit Meta-Registry is designed to seamlessly connect independent carbon markets and registry systems around the world, reducing the risk that credits are counted or claimed twice in different markets or programs. The IHS Markit Meta-Registry will provide a global online ledger enabling access to information on projects and credits across jurisdictions, programs and standards. The IHS Markit Meta-Registry is expected to launch in early 2021 with initial member programs including Global Carbon Council, Gold Standard, UK Woodland Carbon Code, [UK Peatland Code](#) and Verra.

- [IHS Markit to Launch Global Carbon Credit Meta-Registry press release](#)
- [IHS Markit Carbon Meta-Registry Q&A](#)
- <https://www.iucn-uk-peatlandprogramme.org/news/ihs-markit-launch-global-carbon-credit-meta-registry>

Improved management of farmed peatlands could cut 500 million tons carbon dioxide

Substantial cuts in global greenhouse gas emissions could be achieved by raising water levels in agricultural peatlands, according to a new study in the journal *Nature*. Peatlands occupy just three per cent of the world's land surface area but store a similar amount of carbon to all terrestrial vegetation, as well as supporting unique

biodiversity. In their natural state, they can mitigate [climate change](#) by continuously removing CO₂ from the atmosphere and storing it securely under waterlogged conditions for thousands of years.

But many [peatland](#) areas have been substantially modified by human activity, including drainage for agriculture and forest plantations. This results in the release, from drained peatlands, of the equivalent of around 1.5 billion tons of carbon dioxide (CO₂) into the atmosphere each year—which equates to three per cent of all global greenhouse gas (GHG) emissions caused by human activities.

A team of scientists, led by the UK Centre for Ecology and Hydrology (UKCEH), estimated the potential reduction in emissions by restoring all global agricultural peatlands. However, because large populations rely on these areas for their livelihoods, it may not be realistic to expect all agricultural peatlands to be fully rewetted and returned to their natural condition in the near future.

The team therefore also analyzed the impact of halving current drainage depths in croplands and grasslands on peat—which cover over 250,000km² globally—and showed that this could still bring significant benefits for climate change mitigation. The study estimates this could cut emissions by around 500 million tons of CO₂ a year, which equates to 1 per cent of all global GHG emissions caused by human activities.

A large proportion of the global greenhouse gases from peatlands are produced in Europe and Southeast Asia, with the total land area of many countries including the UK now a net source, not a sink, of GHGs due to emissions from degraded peat. The study's authors say there is a growing recognition of the significance of peatlands for the global climate system, with efforts to curb emissions by conservation of undrained peatlands and rewetting of drained sites intensifying.



<https://carbonremoval.economist.com/peatland-rewetting/>

Professor Chris Evans of UKCEH, who led the research, says: "Widespread peatland degradation will need to be addressed if UK and other countries are to achieve their goal of net zero greenhouse gas emissions by 2050, as part of their contribution to the Paris climate agreement targets. "Concerns over the economic and social consequences of rewetting agricultural peatlands have prevented large-scale restoration, but our study shows the development of locally appropriate mitigation measures could still deliver substantial reductions in emissions." Professor Evans and his fellow authors recognize the practical challenges, for example controlling [water levels](#) and storage, as well as cultivating crops suited to the waterlogged conditions of peatlands, known as 'paludiculture'. Research into wetland-adapted crops is under way but does not yet provide commercially viable large-scale alternatives to conventional farming. However, the scientists point out there is plenty of scope to partially rewet agricultural peatlands without severely affecting production because many sites are over-drained—sometimes to over two meters—and often when no crop is present.

In addition to increased emissions, drainage of peatlands causes land subsidence and [soil compaction](#), which affects soil health and exposes low-lying areas to increasing flood risk. It also deprives rare wetland-adapted plants, insects and mammals of important habitats.

Professor Sue Page of the University of Leicester, a co-author of the study, says: "Our results present a challenge but also a great opportunity. Better water management in peatlands offers a potential 'win-win' - lower greenhouse gas emissions, improved soil health, extended agricultural lifetimes and reduced flood risk."

The scientists say potential reductions in greenhouse gases from halving the drainage depth in agricultural peatlands are likely to be greater than estimated, given they did not include changes in emissions of the GHG nitrous oxide (N₂O) which, like levels of CO₂, are also likely to be higher in deep-drained agricultural peatlands.

- <https://phys.org/news/2021-04-farmed-peatlands-million-tons-carbon.html>



Planting of Cattail (Typha latifolia) on agricultural peatland in NE Germany, one day before rewetting. Photo: Hans Joosten.

Proceedings RRR2021 online

From 9th-11th March 2021 the partners in the [Greifswald Mire Centre](#) organised the virtual 3rd conference on Renewable Resources from Wet and Rewetted Peatlands - RRR2021, which aimed at sharing and widening knowledge about paludiculture worldwide. We received great positive feedback from our participants and have now made the [key messages of the conference, the presentations and posters accessible online](#).

With more than [100 contributions](#) a wide range of topics was covered by peatland and paludiculture scientists and practitioners from 25 countries around the world. You may find videos from two passionate keynotes and the [special session on "Finance options for livelihoods from wet peatlands"](#) co-organised with FAO, UNEP, IUCN and WWF on the [YouTube channel](#) of the Greifswald Mire Centre. Also some other highlights are to be revisited: The [RRR2021 virtual excursions](#) take you to bogs and fens, to rewetted peatlands, pilot sites for Sphagnum or Typha cultivation, a heating plant and a Paludiculture Tiny house. You also may enjoy some breathtaking peatland pictures presented by Tina Cliffey in her [photography workshop](#). Concise information on the entire conference are given in the [proceedings](#).

New online training series for peatland researchers

A new online training series for peatland researchers (others are also welcome!) is being organised by the UNEP Global Peatlands Initiative's Research Working Group. The sessions are designed to build capacity across the peatland research community in research impact (9 sessions planned) and research skills (10 sessions planned). Sessions include:

- Introduction to research impact with time-saving tools
- How to write a policy brief
- Presenting with impact – using evidence to motivate change
- Building visibility and impact online
- Communicating complex research simply
- How to develop networks for global impact
- Sharing research findings and experiences in peatlands in developing countries
- Preparing field campaigns in peatland environments
- Data analysis and research design
- Social science methods for working with local peatland stakeholders
- Evidence synthesis and interpretation

The first workshop entitled “Increasing your research funding success” was held on the 17th of December and provided tips on how to write a more competitive research proposals, how to integrate impact aims into proposals, how to convince reviewers your research will make a difference and tools for co-producing impact.

Download the video from the training: <https://www.dropbox.com/s/ickuvql7xve037y/GPI%20funding%20webinar.mp4?dl=0>

Other sessions have been given on 30 April ('Fast track the impact of your research – Introduction to impact with time-saving tools') delivered by Mark Reed (SRUC) and 7 May ('Preparing field campaigns in peatland environments') by Tatiana Minayeva, Line Rochefort and Piet-Louis Grundling.

To find out about future sessions as they are advertised, check the Research Working Group webpage regularly: <http://www.globalpeatlands.org/global-peatlands-initiatives-research-working-group/>, follow <https://www.eventbrite.co.uk/o/fast-track-impact-12561796325> or join the Working Group by contacting julie.vanoffelen@un.org.



Okavango wet wilderness, Botswana. Photo: Hans Joosten.

Africa

Angola

The source of the Okavango wilderness: Angola's untapped territory teeming with biodiversity

Since 2015, a team of the [National Geographic Okavango Wilderness Project](#) has travelled thousands of kilometres on the Angolan rivers that make up one of the last intact wetlands in the world – a watershed area larger than England. Conducting biodiversity surveys and collections, the team has helped to build a better scientific picture of the region. On their first expedition, the team expected a normal river but what they found was a marshy area. While on expedition in 2015, the team discovered a peatland resource that is probably in excess of 35 to 40,000 km². Each year, 10 billion m³ of pristine water flow from Angola to support the lives of thousands of people and countless wildlife in Botswana's Okavango Delta. But the rivers that supply this water in Angola are not protected from commercial development, wildlife trafficking and deforestation. For the project, the goal is to work with local communities to protect this entire watershed area and help Angola reap the benefits of the water in a sustainable fashion.

- <https://www.euronews.com/travel/2021/04/07/the-source-of-the-okavango-wilderness-angola-s-untapped-territory-teeming-with-biodiversit>

Asia

<https://zoom.us/meeting/register/tJMIldO-hrTijEt1J9CYRrBPznAnEpTiiUig2>

Reducing haze and protecting peatlands in the digital age

At a virtual workshop early April 2021, 83 key stakeholders gathered with “Measurable Action for Haze-Free Sustainable Land Management in Southeast Asia” (MAHFSA) partners to explore and verify priorities for capacity-building and knowledge-product development on reducing haze and protecting peatlands across Southeast Asia. “Successful management requires the active participation of stakeholders,” said Vong Sok, head of the Environment Division of the [Association of Southeast Asian Nations](#) (ASEAN) secretariat in his opening remarks, “and we are mindful that building capacity cannot be done by governments alone.” He shared his hope that the workshop would result in a shared vision and innovative action to address the regional challenges presented by transboundary haze and peatland degradation. “Business-as-usual is no longer an ideal solution,” he said. “We need thinking that’s outside the box to promote more innovate solutions and open up more opportunities.” Global Environment Centre (GEC) Director Faizal Parish, presented the key findings of the Capacity Development Need and Gap Analysis (CDNGA), a study that explored the capacity-building gaps at national and regional levels

for peatland management and fire prevention in order to achieve and track progress towards the goals specified in the ASEAN Peatlands Management Strategy (APMS) and ASEAN Haze-Free Roadmap. He shared that the study showed all ASEAN member states had given medium to high priority to the ASEAN Programme on Sustainable Management of Peatland Ecosystems (APSMPE) and existing APMS targets. However, some challenges were identified in monitoring, assessment, and joint emergency responses. “This relates to institutional arrangements, and also to difficulties in certain member states to gather and share the full range of information required,” he said. Parish also shared preliminary feedback on top priorities, which included the implementation of an overall agreement on transboundary haze pollution, and sustainable management of peatlands and agricultural land as a means of land and forest fire prevention. “The most important aspect of fire management is fire prevention rather than firefighting,” he emphasized.

Gita Syahrani, head of secretariat for district government collaboration forum Lingkar Temu Kabupaten Lestari (LTKL), then facilitated a discussion on a broad range of issues, from questions on the relative importance of peatland mapping as opposed to the implementation of restoration and protection measures, to the observation that because resources such as human capital, money and time are limited, it is important to “seek the low-hanging-fruit strategies that have the biggest impacts.

Following this session, Center for International Forestry Research (CIFOR) scientists Michael Allen Brady (Team Leader for Value Chains, Finance and Investments) and Ahmad Dermawan (Value Chains, Finance and Investments scientist) presented key findings from the Knowledge Stocktake Analysis (KSTA) study.



Under this research initiative, they recorded all available knowledge products on sustainable peatland and haze management, and highlighted areas for improvement to enhance their availability and utilization within the region.

A cross-sectional analysis was then discussed, exploring MAHFSA’s priority topic areas including (1) peatland mapping assessment and monitoring; (2) fire mapping, monitoring and information system for fire monitoring; (3) policy development – mainstreaming peatlands into other sector policies; (4) sustainable peatland management; and (5) economics and resource allocation for the haze mitigation and peatland management.

[MAHFSA Regional Workshop and Consultation Meeting for Capacity Building and Knowledge Product Development - Concept note and agenda](https://forestsnews.cifor.org/71850/reducing-haze-and-protecting-peatlands-in-the-digital-age?fnl)

- <https://forestsnews.cifor.org/71850/reducing-haze-and-protecting-peatlands-in-the-digital-age?fnl>

'Rimba Collective' to deliver US\$1 billion for forest conservation in Southeast Asia

On April 8, Lestari Capital launched 'Rimba Collective', an initiative with the aim of delivering US\$1 billion to forest protection and restoration in Southeast Asia (SEA) over a 25-year duration. Rimba Collective which is backed by consumer goods giants PepsiCo, Nestle, and Procter and Gamble, and palm oil trader Wilmar International is poised to be one of the largest private sector-enabled forest conservation initiatives, aimed at protecting and restoring over 500,000 hectares of tropical forests. Lestari Capital co-founder Michal Zrust said the company targets to expand to more corporate partners and users when the initiative becomes operational at the end of 2021. “Rimba Collective complements the palm oil industry’s efforts to end deforestation by integrating and embedding funding for conservation across the supply chain. “The initiative creates a transformative and sustainable financial model for long-term forest conservation investments that

simultaneously support economic development and job creation for local communities,” he said during the virtual launch of the initiative. He said the initiative’s project portfolio would focus on Indonesia, before expanding to projects across Southeast Asia. Projects funded by Rimba Collective will be prioritised based on the potential to protect and restore large, continuous areas of natural ecosystems and critical habitats, such as primary rainforest, peatland and mangroves. “Other priorities include generating measurable ecosystem service benefits (such as carbon sequestration, water purification and soil health) and resilient livelihoods for local communities. All projects will undergo third-party verification,” Zrust said. By linking conservation funding directly with company operations, he said the initiative has the potential to be a game changer for forest protection and restoration. “It directly complements existing efforts by other groups to build more sustainable palm oil supply chains, and we are offering the opportunity for other major companies in agricultural commodity supply chains to participate,” he added.

Lestari Capital is an impact-focused enterprise that designs and builds innovative mechanisms to address the chronic under-funding of conservation and restoration initiatives, through integration with supply chain market demands.

- <https://www.theedgemarkets.com/article/rimba-collective-deliver-us1-bil-forest-conservation-southeast-asia>

Indonesia

Companies and officials break forest-clearing moratorium in Papua

A litany of loopholes and violations have undercut the Indonesian government’s forest protection policies, allowing oil palm companies to continue obtaining licenses to clear rainforests for plantations, according to a new [report](#) by Greenpeace, which analyses the licensing process in the easternmost province of Papua, the last frontier of intact tropical forest in Indonesia. Since 2000, the government has released almost 1 million hectares of forest areas for 37 plantations in Papua. Thirty of those plantations are for oil palm, according to [data](#) from the Ministry of Environment and Forestry.

The opening up of Papua’s forests is the glaring exception to what the Indonesian government touts as an overall decline in deforestation rates nationwide in recent years. To understand the phenomenon, Greenpeace researchers looked at why the policies credited by the government for slowing deforestation haven’t been able to stop the issuance of forest release decrees in Papua. The policies include a permanent ban on issuing new permits to clear primary forests and peatlands, better known as the forest and peat moratorium; and a moratorium on issuing new permits for oil palm plantations, known as the palm oil moratorium. The researchers found that plantation companies had been able to get their concessions exempted by simply claiming that the areas in question did not contain any peat or primary forest. There’s strong evidence that, in many cases, these claims were untrue, the report indicates.

Companies were able to get away with this by exploiting a loophole in the moratorium, it added. Under the moratorium, the Ministry of Environment and Forestry publishes a map that shows which areas are protected by the moratorium. This map is revised every six months. The shape-shifting nature of the exercise allows swaths of forest to be removed from the map, according to the report. It found that some of the primary forest and peat areas removed from the map are located inside oil palm concessions. After they were removed, the ministry issued forest release decrees that rezoned these areas for oil palm cultivation.

The report said this appeared to be “a common practice.” Thirty-two concessions have had parts of their areas rezoned through the issuance of forest release decrees since the forest and peat moratorium first came into force in May 2011. Fourteen of them contain areas previously included in the moratorium map as primary forest, which were subsequently removed from the map prior to the forest release decrees being granted. Seven concessions also contain areas previously marked as peat, which, similarly, were removed from the map before a forest release was granted.

The report said these changes in the moratorium map appeared to be by design, rather than a result of the correction of inaccuracies in the mapping of forest cover or peat. This is because in most cases, the changes were made only within the concessions concerned, exactly matching concession boundaries, while areas just outside the concession boundaries were not modified at all. In many cases, it was the companies themselves that

requested their concessions be removed from the moratorium map. Greenpeace Indonesia forest campaigner Arie Rompas said it's clear the environment ministry is accommodating companies' interests by removing their concessions from the moratorium map. "The moratorium should really pay attention to the landscape of primary forests and peat, but these changes were made because of companies' requests," he said at [the launch of the Greenpeace report](#). From 2013 to 2015, at least 11 plantation companies and one forestry company in Papua made such requests. According to the report, all these requests were followed by the removal of their concessions from the moratorium map, the latest being in April 2018. "The land cover maps produced every year by the Ministry of Environment and Forestry continue to show primary forest in cases where the ministry itself has removed the same land from the moratorium map," the Greenpeace report said.

"It appears that the effectiveness of the forest moratorium has been seriously compromised: the protection of forests and peatlands has on a number of occasions been removed at companies' request, with the involvement of officials from two government ministries," the report said. "This raises the question of whether corruption was involved in these cases to produce a result favorable to the companies concerned."

The constantly changing moratorium map is a part of a larger trend of irregularities in the licensing process in Papua, with the Greenpeace report finding the government routinely flouting its own regulations to issue forest release decrees.



The island of New Guinea is split between Indonesia and Papua New Guinea.

Nicodemus Wamafma, Greenpeace Indonesia forest campaigner for Papua, said the report's findings show how the government's flagship forest protection policies have failed Papua. "These show us that the government only claimed success of forest management on paper, but in practice, the government has failed to protect Papua's natural forests that have always been campaigned as the last frontier of natural forests and the hope of this country and the planet Earth," he said. The West Papua [license audit](#), conducted by the provincial government and the national anti-corruption agency, the KPK, found a litany of administrative and legal violations, such as the absence of HGU licenses before planting began, and the issuance of forest release decrees long after the deadline. Pending such an audit in Papua province, all companies that have received forest release decrees should halt their operations, Nicodemus said. "Second, revoke or reduce the size of plantation permits that still

have natural forest cover,” he said. “If the government say they want zero deforestation, then revoke or reduce the size of the permits.” He also called for law enforcement action against companies and officials proven to have violated forest release and permit issuance regulations. Lastly, Nicodemus said the government should give Indigenous peoples and the owners of ancestral lands in Papua the lead role in the management of land and forest. “Papua is not an empty land. The government shouldn’t see Papua only for its land, forest and natural resources,” he said. “On the island with 41 million hectares [of land], there are more than 250 tribes who live there.” In 2013 Indonesia’s Constitutional Court [ruled](#) that Indigenous forest would no longer be considered the property of the state, and the government followed up with pledges to recognize the land rights of Indigenous peoples. To date, however, [no legal recognition](#) of “customary forests,” known as *hutan adat* in Indonesian, has been granted in the Papua region. The government has, however, granted access to Indigenous peoples in Papua to manage their lands through other social forestry schemes, such as village forests, community forests, and community plantation forests. But these schemes only give communities temporary access to their lands, which are still owned by the state; if customary forest titles were granted, ownership of the forests would go to the communities. “[Papuans] have to have their rights recognized and given access [to their lands],” Nicodemus said, “so that Indigenous peoples can feel like they’re respected on their own lands.”

- <https://news.mongabay.com/2021/04/forest-peat-palm-oil-moratorium-papua-greenpeace-report/>
- <https://www.thejakartapost.com/paper/2021/04/12/licensing-loopholes-threaten-papuan-forests.html>
- <https://www.rnz.co.nz/international/pacific-news/440398/papua-deforestation-threatens-indonesia-s-climate-progress>

Peatland fires in Indonesia can be predicted by new evaluation approach

Indonesia’s peatland fires are better explained by a newly developed approach that considers climate-change impacts and helps predict hotspots of carbon emissions and air pollution from the burning of peat, according to scientists. A rain-related [index](#) used by the [Japan Meteorological Agency](#) has shown a stronger correlation with active peatland fires in Indonesia than the conventional benchmark based on [El Niño-Southern Oscillation](#) (ENSO) climate patterns over the past two decades. The finding, which focuses on groundwater levels as a key determinant of peat fires, will make it easier to respond to fire forecasts associated with extreme weather and climate change, according to a recent [study](#) funded by the [Ministry of Agriculture, Forestry and Fisheries](#) of Japan in collaboration with CIFOR and Indonesia’s [University of Palangka Raya](#) (UPR).

[Peatland fires](#) are a major contributor to greenhouse gas emissions, fine particulate matter and aerosols, exacerbating climate change and endangering human health. They can smolder for months and are linked to land management as well as other activity near human settlements. Farmers have traditionally used fire as a cheap way to [clear land](#) for agriculture in Indonesia, which has one of the world’s highest rates of deforestation and forest degradation. In 2016, the Indonesian government established the Peatland Restoration Agency (BRG) with the aim of restoring 2 million hectares of degraded peatlands.

Indonesia’s worst blazes in recent decades, starting with the [Great Fire of Borneo](#) (1982–1983), have been associated with strong ENSO episodes. Sea surface temperatures and winds in the equatorial Pacific Ocean fluctuate during these cycles and can affect global weather. They also influence tropical rainfall and can create the conditions for wildfires and other extreme events.

In 2019, peatland fires occurred without this ENSO correlation, prompting scientists to seek a new approach that considers the impact of recent climate change on fires in Indonesia. “Our [analysis](#) of Indonesian peat fires in 2019 showed that they are difficult to extinguish even with periods of heavy rain – it depends on the groundwater level,” said Hiroshi Hayasaka, a researcher at Hokkaido University’s [Arctic Research Center](#) in Japan and the study’s lead author. “In years when the rainfall is low, peat fires become very active.”

The three authors focused on tropical swamp forest areas near Palangka Raya, the capital of Central Kalimantan province, where a former [Mega Rice Project](#) constructed a 4,000-kilometer irrigation canal that drained the surrounding peatlands. As a result, greater volumes of combustible dry peat (low-grade coal) were exposed, causing recurrent fires in the area.

The Japanese rain-related [index](#) is known as OLR-MC (Outgoing Longwave Radiation – Maritime Continent) and measures the transport of heat and moisture in the atmosphere over Indonesia (from Kalimantan to West Papua). It was introduced to analyze the top six peatland fires in Kalimantan from 2002 to 2018, showing they

occurred in three stages: surface fire, shallow peatland fire and deep peatland fire. The scientists then proposed a prediction model for groundwater level, which is important for knowing the dry state of peat and is estimated from daily rainfall. Analysis showed that the groundwater depth for each fire stage ranged from about 300 millimeters to 500 millimeters. Peatland fires during the three stages depend on these values: When the groundwater level falls, the moisture content of the peat declines and it can be burned more easily.



Deforested, drained and burned former peat swamp forest in Kalimantan, Indonesia. Photo: Hans Joosten.

“The proposed model is very simple – all you need is daily rainfall estimates,” Hayasaka said. “In the case of Indonesia, it is essential to measure the groundwater level of each peatland and [take steps](#) to ensure that it doesn’t fall below 300 millimeters.” Active peatland fires in Indonesia — including those in 2019 when the El Niño conditions were neutral — are therefore explained by the groundwater level. In particular, it is important to predict the occurrence of deep peatland fires, which the proposed evaluation model was able to do, according to Aswin Usup from UPR, who supervised the study.

Satellite technology underpins this new approach. Rainfall data is provided by the Japan Aerospace Exploration Agency, the Japan Meteorological Agency and the [U.S. National Oceanic and Atmospheric Administration](#), while the Terra and Aqua satellites operated by NASA deliver data from an [imaging instrument](#) that detects tropical forest and peatland fires. “This rainfall-based evaluation approach fills a research need that links peatland fire prediction and groundwater levels,” says Daisuke Naito, a CIFOR scientist and co-author of the study. “The use of an OLR index will be very useful for analyzing future tropical fires related to both El Niño and climate change,” Hayasaka adds.

- <https://forestsnews.cifor.org/72196/peatland-fires-in-indonesia-can-be-predicted-by-new-evaluation-approach-study-finds?nl=en>

Indonesia aims to reduce fires even further

Indonesia has made significant strides in controlling forest and land fires and aims to reduce their incidence even further by all means possible, Indonesia's Minister for the Environment and Forestry said on Friday, April 9.

In a keynote address to a Temasek Shophouse Conversations event on climate action, Ms Siti Nurbaya Bakar referred to cloud seeding, as well as tools to monitor, report and verify activities on the ground, along with a

concerted, collaborative effort to prevent and reduce fires. "The reduction of forest and land fires has paved the way to augment sustainable livelihoods in the production of life essentials, as well as the sustainable management of peatlands," she said.

Peatlands are major stores of carbon. Indonesia has cleared and drained millions of hectares of peatlands for agriculture, creating highly flammable landscapes that, when burned, create toxic smog and huge amounts of carbon emissions. The government has in recent years set up an agency to start to restore the most vulnerable areas of peatlands and work with plantation companies but large areas are still badly degraded and the government recently extended and expanded the remit of the agency. Ms Siti noted that [forest and land fires have been significantly reduced](#) from 2,611,411ha in 2015 to 296,492ha in 2020. "We are determined to reduce the incidence even further in the years to come," she said.



Peatland rewetting in Riau, Sumatra, Indonesia. Photo: Hans Joosten.

Indonesia has also recorded significant drops in the loss of tropical primary rainforest, which fell to 272,000ha in 2020, the fourth annual drop in a row, according to an analysis released early April on the Global Forest Watch online platform of the World Resources Institute (WRI). Dr Arief Wijaya, climate and forests senior manager at WRI Indonesia, said a combination of government policies, wet weather and weaker demand for palm oil helped Indonesia reduce rainforest loss.

"There have been systematic violations of regulations, allowing new plantation concessions to continue to push into Indonesia's forest estate," said Mr Kiki Taufik, Greenpeace's global head of Indonesia Forest Campaign, adding that Greenpeace found clear violations in Papua Province. "But these same problems occur nationwide."

"We believe that forest and peatland protection policies introduced by the national government - such as the forest moratorium and the oil palm moratorium - have not yielded the reforms promised and are hamstrung by poor implementation and a lack of enforceability," he told The Straits Times.

"In fact, the government can take very little credit for Indonesia's recent fall in deforestation. Instead, it is market dynamics, including the demands of consumers responding to biodiversity loss, fires and human rights abuses for palm oil, that are largely responsible for the decrease." He said that with palm oil prices surging and plantation

groups holding massive uncleared forest land banks, what can be described as "planned deforestation" of the land inside those concessions, was poised to occur.

- <https://www.straitstimes.com/asia/se-asia/indonesia-aims-to-reduce-fires-even-further-use-all-means-environment-and-forestry>

Demand for pulp and paper firms may drive deforestation

Plans for expansion by the pulp and paper industry in Indonesia threaten to reverse a declining rate of deforestation for pulpwood plantations, according to a NGO analysis. An increasing number of producers and buyers of wood pulp and paper have adopted zero-deforestation commitments in recent years. This has contributed to a drop in forest-clearing for the industry in Indonesia, according to analysis of data from [Trase](#), a supply chain transparency initiative. Trase's new [Indonesia wood pulp supply chain map](#) can now track pulp exports back to the specific plantations that contributed most of the pulpwood. It shows the average deforestation rate from 2017-2019 fell by 85% compared to the three-year average for 2010-2012. But this decline might not last long, given that at least six new pulp mills [have recently started](#) operating, according to data from the Ministry of Industry, which points to an increase in demand for pulpwood and thus for new plantations to feed them. Two of the mills are already running at full capacity, three are slated to max out this year, and the sixth will ramp up to 85% capacity this year. Their combined output at full capacity will be 1 million tons of pulp per year. In 2019, Indonesia's total pulp production was 9 million tons, according to data from Trase. There's also [a plan](#) by China's largest pulp company, Nine Dragons Paper, to expand into Indonesia with a \$1 billion investment, according to Indonesia's Ministry of Industry, with a view to producing 6 million tons of pulp a year.



Pulpwood transport in Riau, Sumatra, Indonesia. Photo: Hans Joosten.

"It's time to stop the construction of new mills," said Timer Manurung, director of the environmental NGO Auriga. He said the industry had embarked on a spree of building new mills without considering where the wood to supply them would come from, and was as a result undermining its own sustainability pledges. "Where will they get their raw material from? They will [eventually have to] get it from the cutting down of natural forests. And as a result, their products won't be accepted by the market," Timer said. Christopher Barr, executive director of

the NGO [Woods & Wayside International](#), agreed that the industry's expansion raised concerns about its sustainability. "Indonesian producers have built some of the world's largest pulp mills, and these multi-billion dollar facilities place enormous pressures on the landscapes in which they are situated," he said. He cited in particular the clearing of carbon-rich peatland forests to develop pulpwood plantations, a practice that over decades has degraded this unique ecosystem and render it extremely flammable. The near-annual burning of these dried-out peatlands sends clouds of choking haze across Borneo and Sumatra, and into neighboring Southeast Asian countries. Peat fires have also contributed to Indonesia becoming one of the biggest greenhouse gas emitters in the world. With much of the forests in Sumatra and Borneo cleared for pulpwood, palm oil and mines, the anticipated expansion of the pulpwood industry would likely be in the relatively pristine forests of Indonesia's easternmost region, Papua. Many existing plantations were established on cleared and drained peatlands. In total, the pulpwood industry operates on 1.7 million hectares of peatlands across Indonesia, according to the Trase data set. The top two pulp producers, Sinar Mas and Royal Golden Eagle, which together accounted for 95% of Indonesia's pulp exports from 2015-2019, operate on 1.4 million hectares of peatlands. Although both have pledged to refrain from any further clearance of peatlands, and to stop buying raw materials from other companies clearing peat, Trase data show both conglomerates continue to source from plantations established on drained peat. To date, neither company has committed to phasing out its existing plantations on peatlands.



Endless pulpwood plantations on drained peatland in Jambi, Sumatra, Indonesia. Photo: Hans Joosten.

Asia Pulp and Paper and APRIL, the pulp and paper arms of Sinar Mas and Royal Golden Eagle respectively, said they only operated on peatlands that have been licensed and designated for cultivation by the government. APRIL said it has "a legal obligation to manage those concessions for commercial use" and does so "in the most responsible way possible." APRIL said it's striving to achieve net zero emissions from its land use activities by 2030, in line with its sustainability goals, called [APRIL2030](#). APP said it's also committed to no new development on peatland. Both companies cited their peat restoration initiatives as evidence of their commitments to manage peatlands in a sustainable manner, with APP saying "any existing plantations located on peat dome peaks will be retired and restored once their current cycle is completed." Besides future retirement and restoration plans, APP

said it's been restoring degraded peat in protected areas within the company and its suppliers' concessions. "To date, we have been able to restore close to 19,000 ha of degraded peatland in these areas," APP told Mongabay. This represents 3% of the total size of APP's peat concessions, which cover 600,000 hectares. APRIL touted its commitment to conserve and restore a fifth more peatland than it operates on, as well as its program to restore 150,693 hectares of peat forest on Riau's Kampar Peninsula.

"Although the sector has made significant progress towards reducing deforestation, pulp exports maintain a large environmental footprint due to past clearing and continued production on drained peatlands," Robert Heilmayr, an assistant professor of environmental and ecological economics at the University of California, Santa Barbara, said. Timer said it's important for the government to put an end to the pulpwood industry's operations on peatlands. "Don't let there to be new clearing of peatlands. And [think about] how to phase out from industrial plantations on peatlands," he said. "If there's still a push for expansion [of the industry], it will make Indonesia collapse."

- <https://news.mongabay.com/2021/03/indonesia-pulp-paper-new-investment-demand-deforestation/>

Peatland on fire again as burning season starts in Indonesia

Fires have flared up in at least 10 provinces in Indonesia, with some of the burning occurring in peatlands. The burning marks the start of the country's dry season and the attendant fires that are set to clear trees and shrubs for agriculture. One of the worst-affected regions is Riau, where fires have been detected in 10 of 12 districts, [burning](#) 657 hectares of land as of early March. The fires have also affected a number of protected areas in Riau, such as the Giam Siak Kecil-Bukit Batu bioserve. The bioserve is a 705,271-hectare area of peatland that's home to two wildlife reserves. It hosts critically endangered species such as Sumatran elephants and tigers. The burning there occurred in an area with a peat layer 2 meters, which had been dried out after a two-week spell without rain. This has made it difficult for firefighters to extinguish the fire, according to the Riau provincial conservation agency. Due to the nature of peat, where fires can spread underground and smolder for days, it's nearly impossible to extinguish the fires without rain, according to Azwar Maas, a soil and wetland scientist from Gadjah Mada University in Yogyakarta. Extinguishing a fire on "a hectare [of peat] needs around 500 tons of water," he said during a recent meeting with the country's disaster mitigation agency, BNPB. "So if the fires have already [spread] to 100 hectares [of area], I'm sorry to say but rain is the best therapy."

Another region where the fire season has already started is West Kalimantan province in Indonesian Borneo. By the end of February, fires were burning up peatlands outside Pontianak, the provincial capital, churning out toxic smog that [choked](#) the city for days. The city recorded levels of PM2.5, a fine particulate matter deemed harmful to human health, that [reached](#) "unhealthy" and "hazardous" concentrations during that time.

Authorities in Riau, the province perennially worst-hit by fires during the dry season, have highlighted the role of oil palm growers in the issue. On March 5, the provincial government [summoned](#) representatives of 100 oil palm companies, out of a total of 374 operating in the province, to get them to commit to tackling land and forest fires. Riau agricultural agency head Zulfadli said all companies should be more active in extinguishing fires. "We're afraid 2021 will be like 2019 [in terms of fires]," he [said](#). "Based on early data, there are already more than 300 fire spots." Unlike Sutarmidji in West Kalimantan, who said companies there often pay locals to set fires so that they're not blamed for the burning, Riau Deputy Governor Edy Natar Nasution said the private sector in his province helped in fighting fires. "Most companies actually work together with us in mitigating land and forest fires," he said. He suggested, instead, that some of the fires in Riau's Meranti Islands district, along Indonesia's maritime border with Malaysia, were likely set by drug traffickers to distract attention from their activities. "So my suspicion is that at a time when people were busy dealing with land and forest fires, drug dealers tried to divert the attention [away from them] by burning," Edy said. "We've conveyed this to the Riau police and actions were immediately taken by intensifying raids in drug [trading] spots."

This isn't the first time Indonesian officials have pointed to unlikely culprits behind the burning. In 2019, South Sumatra Governor Herman Deru was widely ridiculed after [telling local media](#) that the fires were likely started by [sunlight reflecting off car windshields](#) or by friction between tree branches. That same year, the president's chief of staff, Moeldoko, called on people affected by the haze to be patient and pray, [blaming the disaster](#) squarely on "God." The country's chief security minister, Wiranto, had a different take, [blaming](#)

[smallholders](#) for setting the fires. He then also claimed that there was a [political angle](#) to the arson, linking the burning to the elections that took place in April.

Even as fires continue to break out, officials say the burning season isn't expected to peak until the middle of the year. In anticipation of worsening fires, the Ministry of Environment and Forestry says it will carry out cloud seeding to induce rainfall in vulnerable areas. Officials [say](#) that cloud seeding is superior to conventional water bombing in mitigating forest fires because it can wet peatlands and fill canals and retention basins at a much lower cost. The ministry has credited this technology as one of the reasons for a decline in fire intensity in 2020 compared to the previous year. Fires last year burned 296,942 hectares of land, an 81% drop from the 1.65 million hectares burned in 2019. "In our joint analysis, it is estimated that this May will be a transition from rainy season to dry season," the forestry ministry's fire mitigation director, R. Basar Manullang, said in a [press statement](#). "Considering that condition, there's a need to do weather modification through cloud seeding in early March." He added the cloud-seeding efforts would be focused on regions entering the dry season earlier than others, including Riau and West Kalimantan.

Indonesian fire forensics expert Bambang Hero Saharjo from the Bogor Institute of Agriculture (IPB) said the [solution](#) to the burning should be preventive, such as discouraging slash-and-burn practices, rather than dependent on technology. "Sometimes we're proud of using heavy equipment, as if that's the solution," he said during the meeting with the BNPB. "But the core problem is on the ground. We know that when smoke blankets [the sky], airplanes and helicopters can't fly. They [have to] stay at the airport." Bambang said he had met representatives of communities in regions like Jambi and West Kalimantan who have managed to establish sustainable livelihoods without clearing land using fires, such as through cultivating honey. Another solution is to enforce anti-burning laws against all parties without exception, he said, noting that many companies fail to ensure that their concessions and surrounding areas are free of fire risk. Bambang cited a government-sanctioned audit in 2014, in which he was involved. The audit, of 17 companies operating in Riau, [showed](#) that none complied with environmental regulations, as they operated in areas of deep peat that should by law be protected, and did not have proper infrastructure and equipment in place to prevent and extinguish fires. But there's been little to no follow-up on the audit. "If we want to be done [with the annual fire season], we have to be truly committed," Bambang said. "No matter how big the company is, if it's guilty, it has to be [held to account]. Because that'll give an example to the public."

Since the 2015 fires, rated among the worst man-made disasters in the history of Indonesia, the Ministry of Environment and Forestry has been ramping up its law enforcement efforts by suing companies with burned concessions. The ministry has filed lawsuits against 28 companies to date and won judgments from them totaling 19.8 trillion rupiah (\$1.37 billion). However, the companies have only paid out 2.5% of that amount.

Grita Anindarini, program director at the Indonesian Center for Environmental Law (ICEL), said it's crucial for the government to collect on these penalties. "If the government is indeed serious in enforcing the law indiscriminately, and to give a positive impact on law enforcement, then the execution of verdicts that have been won and legally binding has to be prioritized," she said. "This is compounded by the urgent need to immediately restore the environment [that has been degraded by the burning]."

- <https://news.mongabay.com/2021/03/peatland-fire-burning-season-starts-indonesia/>

Deforestation in Indonesia hits record low, but experts fear a rebound

Indonesia's deforestation rate hit a historic low in 2020, with the government crediting its various policies prohibiting forest-clearing, and experts attributing the trend to more rains, falling oil palm prices, and an economic slowdown as a result of the COVID-19 pandemic. The country lost 115,459 hectares of forest cover in 2020. That's a 75% drop from 2019, according to the Ministry of Environment and Forestry. "In the past, we've often said that our deforestation [rate] was in the millions [of hectares]," said Belinda Arunarwati Margono, the ministry's director of forest resource monitoring. "But the 2020 deforestation rate is remarkable for us because this is the lowest deforestation figure that we've ever achieved." Government figures show the country also managed to maintain its total forest cover at slightly more than half (50.9%) of its total land area, at 95.6 million hectares. That's only behind Brazil and the Democratic Republic of Congo in terms of tropical forest area.

The forestry ministry, which started tracking annual deforestation rates in 1990, attributed the drop last year to the culmination of a number of policies aimed at protecting the country's forests. These include a permanent ban on issuing new permits to clear primary forests and peatlands; a moratorium on new oil palm plantation licenses; forest fire mitigation; a social forestry program; land rehabilitation; and increased enforcement against environmental violations. "This [drop in deforestation] shows that various efforts done by the Ministry Environment and Forestry lately have produced significant results," said Ruandha Agung Suhardiman, the ministry's director-general of planning. "Their impact on reducing deforestation is tremendous."



Ruandha Agung Suhardiman explaining Indonesian forest and peatland policy.

Arief Wijaya, senior manager of climate and forests at the World Resources Institute (WRI) Indonesia, agreed that these policies could have had a positive impact on the deforestation rate, adding that the government's efforts "should be appreciated." He also said other factors, such as the economy and the weather, may have contributed to the drop. For one thing, Arief said, 2020 was in fact [among the wettest years](#) in the past four decades, thanks to the La Niña weather system. "As a result, fires dropped to 296,000 hectares [731,400 acres of land] and deforestation [from fires] was only 1,100 hectares [2,700 acres]," he told Mongabay. He also pointed to the decrease in global oil palm prices since 2013, responsible for slowing the expansion of the industry. "Since 2013, the global oil palm prices tend to fluctuate and decline due to the decreasing demand for the vegetable oil, which might be caused by the trade war with the European Union which is looking to phase out [palm oil-based biodiesel from] Indonesia," he said. "Coupled with the COVID-19 pandemic last year, of course industries are slowing down."

[A recent study](#) has also attributed the slowing deforestation rate in Indonesia to declining oil palm plantation expansion and lower palm oil prices. According to the study, a price decline of 1% was associated with a 1.08% decrease in new plantations and a 0.68% decrease in forest loss. The trends showed deforestation peaking in 2016 and falling below pre-2004 levels in 2017-2019 following a slowdown in new plantations being established from its peak in 2012. Mufthi Fathul Barri, a researcher with Forest Watch Indonesia (FWI), said another factor that likely contributed to the decline in deforestation was the economic slump induced by measures imposed in response to the COVID-19 pandemic. "The disruption to economic activity can be seen from timber production

from natural forests, which declined,” he said. “In 2019, Indonesia produced timber from 8.4 million hectares of natural forests. In 2020, it was 6.6 million hectares.”



Young oil palm plantation on former peat swamp forest in South-Sumatra, Indonesia. Photo: Hans Joosten.

Arief said Indonesia should sustain its efforts to bring down the deforestation rate and not become complacent after recording a historic low. “Indonesia’s declining deforestation is a good trend that we have to maintain together, and even strengthen, because next year, El Niño might return,” he said, referring to the weather system that typically brings an intense and prolonged dry season — ideal conditions for forest fires to spread out of control. And with Indonesia’s COVID-19 vaccination drive underway, the anticipated economic recovery could jump-start forest-clearing activity, Arief added. “So the government’s commitments in maintaining deforestation rate this low have to be protected, as well as the zero-deforestation commitments by the private sector,” he said, adding it’s important not to sacrifice the environment for economic growth.

The forestry ministry’s Belinda said the government is not pursuing a zero-deforestation target as part of its climate pledge, or nationally determined contribution (NDC), under the Paris Agreement. “Because in our NDC, it’s been said that Indonesia still [has room for] deforestation,” she said. “It’s because Indonesia is still developing and of course we [try to] curb deforestation as much as possible.” Under Indonesia’s NDC, the government allows up to 325,000 hectares of deforestation per year to reach its emissions reduction goal while leaving room for economic development. That means that by the 2030 deadline for the Paris Agreement, Indonesia could potentially clear 3.25 million hectares of rainforest, an area larger than Belgium, and still call it a success.

Annisa Rahmawati, an environmental advocate at U.S.-based campaign organization Mighty Earth, called for a more ambitious deforestation and climate target by the Indonesian government. As global emissions continue to rise, with energy-related emissions already [rebounding back](#) to pre-COVID-19 levels amid a revival in economic activity, Annisa said even stopping deforestation outright might not be sufficient. “Even zero deforestation is no longer enough considering the current condition of our climate,” she told Mongabay. “Experts say our planet is already warming by 1.2°C, and soon we’ll reach 1.5°C. So we have to start reforesting in better ways than before.



Young oil palm plantation on peatland in South-Sumatra, Indonesia. Photo: Hans Joosten.

All forests have to be protected no matter their functions, coupled with conservation and restoration as massive as possible.”

In 2019, Indonesian officials [considered](#) boosting the country’s emissions reduction target to 45%, from the previous figure of 41% with international aid. But in 2020, the government [decided](#) not to go for the higher figure, saying it wants to focus instead on economic growth. Key to that focus is a slate of deregulation measures passed last year, in particular the revised mining law and the so-called omnibus law on job creation. Critics say these measures [roll back environmental protections](#) and could lead to greater deforestation. For instance, the omnibus law removes an article in the 1999 Forestry Law that requires at least 30% of each watershed and/or island area be maintained as forest area. The government’s recent ambition to establish millions of hectares of farmland across Indonesia under the “food estate” program has also prompted concerns over future deforestation. [A new study](#) by the NGO Madani shows that there are 1.57 million hectares of natural forests located in areas targeted by the government for conversion into farmland. Nearly nine-tenths of these forests are in the province of Papua, one of the most biodiverse regions on Earth and home to the majority of Indonesia’s remaining tropical rainforest. “Our last frontier of intact tropical forest in Papua is in the food estate program’s area of interest,” said Madani researcher Anggalia Putri. She noted that the food estate program is exempted from the moratorium on clearing primary forests and peatlands; 1 million hectares of the program’s area of interest in Papua is theoretically covered by the moratorium. In [an interview](#) with the BBC last year, President Joko Widodo said his priority was to boost economic growth, and that “maybe after that, then the environment [will be the priority], innovation and then human rights. Why not?” Arief said Indonesia could easily end up like Brazil if it’s not careful. “Don’t let us become like Brazil, where even its foreign donor, Norway, has [decided to stop its support](#) for the Amazon Fund because deforestation in the Amazon keeps rising,” Arief said. “What Indonesia has achieved has to be maintained because the potential for massive deforestation is still there.”

Arief said that now that it’s been proven that Indonesia can slash its deforestation rate significantly, the government should not be afraid to adopt a more ambitious climate pledge. “Maybe Indonesia can have bolder climate target, more than 41% [by 2030],” he said. “Because in order to limit global warming by 1.5 degrees, we have to achieve net-zero emissions by 2050.” And achieving this ambitious target doesn’t mean that Indonesia has to sacrifice its economy, according to Annisa. For instance, she said, the government can focus on restoring the millions of hectares of degraded peatlands and forests, something which will create jobs. “Restoration and conservation activities are one of the best job creators, where the involvement of local people is key to success,”

Annisa said. “Non-timber forest resources as well as ecosystem services are also abundant [in Indonesia], which can be managed sustainably without destroying forests.” She said there’s needs to be a change in mindset from the established perception that clearing forested land is the only way to get value out of it. “Massive exploitation and deforestation don’t lead to growth because no matter how much money we get [from it], when there’s a disaster [caused by the exploitation], the money will go away, and so we can’t develop,” Annisa said. “Because there’s no business on a dead planet.”

- <https://news.mongabay.com/2021/03/2021-deforestation-in-indonesia-hits-record-low-but-experts-fear-a-rebound/>
- <https://www.thejakartapost.com/news/2021/03/06/ministry-claims-success-for-lowest-deforestation-rate-in-5-years.html>

Podcast of Mongabay with Deputy Head of the National Peatland Restoration Agency, Budi Wardhana:

- <https://news.mongabay.com/2021/03/podcast-restoration-for-peats-sake/>

How an illegal logger’s switch to a greener job shows a way to save Indonesia’s forests:

- <https://www.channelnewsasia.com/news/cnainsider/illegal-logger-switch-save-indonesia-peat-forest-climate-finance-14346226>

Drone footage of a peatland fire in Riau province, Indonesia:

- <https://www.newsflare.com/video/414622/drone-footage-of-a-peatland-fire-in-riau-province-indonesia>

Malaysia

In Malaysia, the fate of a peat forest hinges on a powerful state official

Selangor, on the western coast of peninsular Malaysia is the country’s most populous and prosperous state as well as one of its most highly urbanized. Amid this sprawl, just 25 kilometers south of central Kuala Lumpur, lies the Kuala Langat North Forest Reserve (KLNFR), a rich peatland forest home to more than 2,000 Indigenous people as well as rare species like the *meranti bunga* hardwood tree, the Malayan sun bear and Langat red fighting fish. Gazetted as a customary forest reserve in 1927, the KLNFR area covered at least 7,000 hectares at the time. Despite this protected status, urban development projects have diminished the original forest cover by [90%](#). Now, the Selangor state government has put much of the remaining forest in the crosshairs.

In February 2020, the Selangor Forest Department placed notices in local newspapers announcing its intention to degazette 931 hectares of what remains of the KLNFR, to allow a “mixed development project.” Two companies had submitted proposals for the site: the state-run Menteri Besar Incorporation (MBI) along with a private real estate firm, Titian Jutaria.

The plan drew immediate criticism from local Indigenous people, environmental organizations and political figures, including Xavier Jayakumar, Malaysia’s minister for water, land and natural resources from 2018-2020, and currently a member of the national parliament. Petitions against the plan to strip protections for the forest have gathered more than 100,000 signatures.

While the full details of the planned development project remain unknown, the Selangor state government has defended the degazetting of the site. Amirudin Shari, the state’s chief minister, equivalent to a governor, said the development is needed to reduce and prevent [forest fires](#). Shari also said the reserve has been so degraded that it should no longer be defined and protected as virgin forest. A year later, despite a sustained protest campaign, Shari remains committed to the project. As chief minister, he also chairs the board of directors of MBI, the company pushing for the development project.

Due to Malaysia’s legal framework, even powerful figures in the federal government don’t have the authority to veto the Selangor state government’s decision to remove the forest’s protected status. Malaysia’s Constitution grants sweeping authority over land, agriculture, forestry and water to state governments and their chief ministers. This includes cases that concern Indigenous peoples’ land rights. A 2013 inquiry by Malaysia’s National Human Rights Commission (Suhakam) found that between 1990 and 2010, the amount of land gazetted as Indigenous (“Orang Asli” in Malaysian) reserves in Peninsular Malaysia increased by just 3.87 hectares. This patterns holds true in the Kuala Langkat forest, too. In 2017, the Department of Orang Asli Development (JAKOA), a federal agency, [applied to gazette](#) the KLNFR as an Orang Asli Settlement, but has been unable to overrule the state’s decision to open the land for development.

There are some bounds on state officials’ authority. For example, state regulations, including Selangor’s public inquiry rules of 2014, require that degazetting notices be published publicly, and that concerned stakeholders

be given the opportunity to voice their concerns in a town hall meeting. In the case of the Kuala Langat forest, the response to this public notice was vast and swift. Activists [reported collecting](#) more than 43,000 letters and signatures of objection within a month. In turn, the state government organized a town hall meeting held at a high-end resort, Amverton Cove, at 8 a.m. on Sept. 29, a Tuesday. The fact that it was held on a working day, with Indigenous community leaders given just [one day's notice](#), drew criticism. Yet despite these obstacles, around 100 Orang Asli and environmentalists made it to the meeting to express their objections.

State officials who wish to strip protections from forests are also bound by a provision in the 1984 National Forestry Act, which says they can degazette protected areas for economic purposes, but must compensate by extending protection to an equal area of forest elsewhere. Selangor officials [said in March 2020](#) that they had identified three suitable sites within the state that could be protected to compensation for the loss of land within the KLNFR. However, Ili Nadiyah Dzulfakar, a longtime activist and co-founder of KLIMA Action Malaysia (KAMY) and the Coalition for the Defense of the Kuala Langat Utara Forest Reserve (PHSKLU), notes that 404 hectares of land within the KLNFR were already promised to Temuan tribespeople in 1993, when the government evicted them to build a highway to Kuala Lumpur International Airport. Since then, they have received 6.5 million ringgit (\$1.6 million) in [compensation](#), but no land. "If the community is asked to agree to the degazettement in return for more land under a false promise, it's clear that the government is making victims of the Orang Asli," Dzulfakar said.

Despite widespread resistance to plans to raze the forest, activists say opposition is obstructed, largely due to the power and influence of the companies seeking the development: MBI and Titian Jutiara. Dzulfakar said state-owned MBI wields great influence over planning decisions, with its main undertaking being to boost state revenue by selling land to potential buyers. Titian Jutiara, meanwhile, is linked to Selangor's royal family. Though Malaysia is officially a constitutional monarchy, each state's royal family remains vastly influential at the state level. In addition, Malaysia upholds a de facto royal immunity system, [prohibiting censure against the monarchy](#). There are, however, crosscurrents within Selangor state's political leadership. In November 2020, the Selangor State Assembly unanimously passed a motion to offer official protection to gazetted forest reserves, with a large number of parliamentarians calling out the moral and legal responsibilities of MBI and the state government.

"We have to wait and see what the final verdict is, but it's still an uphill battle for us to inform and pressure chief minister Shari to withdraw the proposal by providing evidence-based assessments," Dzulfakar said.

The fate of the KLNFR, portfolio of land development and natural resources management lie squarely in the hands of Shari, who heads both the Selangor government and the MBI board. Tens of thousands of his constituents are now clamoring in support of the 8,000-year-old peat swamp forest, holding out hope for a legal victory in favor of environmental and Indigenous rights.

- <https://news.mongabay.com/2021/04/in-malaysia-the-fate-of-a-peat-forest-hinges-on-a-powerful-state-official/>

Selangor clearing another peat swamp forest without EIA, say groups

Work to clear and drain some 970ha of peat swamp forest in Sabak Bernam, Selangor, by the Selangor State Agricultural Development Corporation (PKPS) has started without an environmental impact assessment (EIA) report having been prepared, said green conservation groups. The Coalition for the Protection of Selangor's Forests, comprising the Global Environment Centre (GEC), Sahabat Alam Malaysia (SAM) and Treat Every Environment Special (TrEES), is urging the Selangor government to stop logging immediately as the area is an integral part of the North Selangor Peat Swamp Forest.

The Coalition noted that an EIA study is mandatory under the EIA Order 2015 for all projects proposing to clear and drain more than 20ha of peat swamp forest for agriculture or other uses. Nagarajan Rengasamy of GEC told The Malaysian Insight that the group's team detected clearing of the site on March 15. "We detected the clearing about a month ago but the site was definitely cleared much earlier before it was detected," he said, adding that GEC has a monitoring team that checks on the site once a month. The coalition learnt that PKPS earlier planned to develop the site for oil palm cultivation, but abandoned that proposal after confirming that national land use policies do not allow development of oil palm plantations on peatland. However, the project has now been repackaged as "Selangor Smart Agro Park (SSAP)" and will still involve a palm oil mill but will plant coconut palms to exploit a loophole in the national policy, the coalition said. Selangor Menteri Besar Amirudin Shari on March

26 launched the [Selangor Smart Agro Park](#) project, which he claimed would increase food security for the people. It argued that the proposed site is of global significance for the peatland biodiversity with a unique ecosystem that harbours many globally near threatened, vulnerable and endangered species. These include rare mammals such as panthers, sun bears and tapirs. The peat swamp forest is also a key habitat for hornbills and many other endangered bird species. The area has been designated as an Environmentally Sensitive Area (ESA) under the National Physical Plan 3 (2016-2020). “On top of that, the area is specified for protection under the Selangor



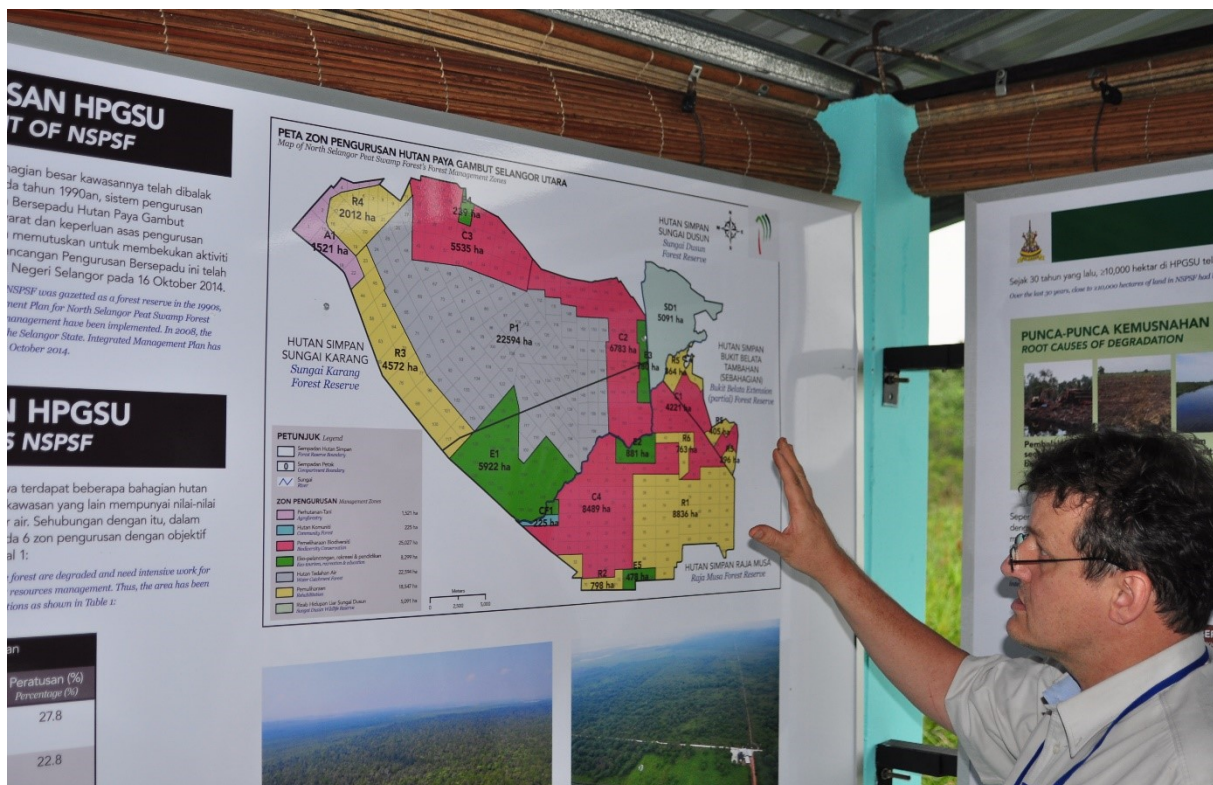
The Coalition for the Protection of Selangor’s Forests says the Selangor State Agricultural Development Corporation may drain nearly 1,000ha of peat swamp forest in Sabak Bernam. Facebook pic, April 8, 2021.

State Structure Plan 2035,” the coalition said. The peatland area is also critical for carbon storage with an average peat depth of six metres, storing more than three million tons of carbon. “In view of this, efforts should be initiated to secure national and international funding to protect the peatlands in order to meet Malaysia’s international obligations under the Paris Agreement as well as to address global climate change,” the coalition said. It warned that the drainage of the site will lead to peat subsidence that will also increase the flood risk along the Tanjung Malim-Sabak Bernam road and in the adjacent oil palm estates of PKPS. “It will also lead to a significant increase in peatland fire risks and degradation of the adjacent Sungai Karang Forest Reserve, another ESA,” the coalition said. It further reiterated that conversion of intact peat swamp forest into agriculture is not in line with the stated policy of the Malaysian government to conserve all remaining intact peat swamp forests. “It is also not in line with our National Action Plan on Peatland (2011-2020) or National Biodiversity Policy (2016-2025). Continuing the development of a palm oil mill and agriculture will further jeopardise the reputation of Malaysian palm oil and agricultural industries,” it said. It questioned why Amirudin was going back on his word after announcing last year that the same area would be gazetted as an extension to the Sungai Karang Forest Reserve to protect it for the long term. “Why is the state going back on its word?” the coalition asked. “We, therefore, call for an immediate halt to the development and clearance of the peat swamp forest area, pending a full review of the project and preparation of an EIA.” Amirudin in February last year said part of the peat swamp forest in Sabak Bernam would be gazetted so as to replace the [Kuala Langat \(North\) Forest Reserve](#) – another area the state wants to develop closer to Putrajaya and Cyberjaya.

- <https://www.themalaysianinsight.com/s/309385>
- <http://www.dailyexpress.com.my/news/169374/fast-disappearing-peat-swamp-forests/>

Fast disappearing peat swamp forests

Is there a possibility that Malaysia's peat swamp forests – which are among the nation's prized natural treasures that took thousands of years to form – may one day completely disappear from its map only to be devoured by rapid development? Such a situation may come to pass considering the rampant destruction of peat swamp forests that were previously gazetted as permanent forest reserves. Currently, only 0.317 percent of the 317,000 hectares of peat swamp forests that existed in 2018 remain intact. Based on Ministry of Energy and Natural Resources statistics (updated as of Nov 3, 2020), back in 1990, Malaysia was home to 1.030 million hectares of these "moist forests", all of which were gazetted as permanent forest reserves. This means that over the last three decades, the country lost over 700,000 hectares of peat swamps after they were degazetted to make way for development and agriculture. In the peninsula alone, based on Peninsular Malaysia Forestry Department statistics, only 250,000 hectares of peat swamp forests remained in 2019 in the 13.21 million hectare-large peninsula. Currently, peat swamp forests can only be found in Terengganu, Pahang, Johor and Selangor. Its dwindling size is the reason why environmental activists are up in arms about the Selangor government's proposal to degazette the North Kuala Langat Forest Reserve (NKLFR, see above)



Faizal Parish explaining peat swamp forest zonation in Selangor, Malaysia. Photo: Hans Joosten.

Among the international environmental conventions and agreements Malaysia has ratified are the Convention on Wetlands of International Importance (Ramsar), Convention on International Trade in Endangered Species of Wild Fauna and Flora, United Nations Framework Convention on Climate Change, Kyoto Protocol and the United Nations Forum on Forests. At the national level, Malaysia has formulated various policies and strategies to safeguard environmental interests such as the National Forestry Policy, National Biological Diversity Policy 2016-2025, National Climate Change Policy, National Wetland Policy and National Action Plan for Peatlands.

Physically, peat swamp forests may not look as luxuriant as other tropical forests and many people may not even be aware of the important role these wetlands play in sustaining human lives and the environment. To the uninformed, peat swamps have no economic value while its dark-coloured water (due to its high organic content) is only fit for breeding mosquitoes. In truth, these forests, if sustainably managed, are of high economic value to the local communities as they are a source of livelihood, fuel, fertiliser and food.

- <http://www.dailyexpress.com.my/news/169374/fast-disappearing-peat-swamp-forests/>

Philippines

Fire prevention pushed in Leyte Sab-a peatland forest

Concerned with incidents of peat fires, a non-government organization pushed on April 16 for stronger fire prevention, management, and post-fire restoration in the Leyte Sab-a peatland forest. Juvilyn Salazar, project officer of the International Institute of Rural Reconstruction (IIRR) Leyte Sab-a Peatland Forest Restoration Initiative, said the peatland has been experiencing a yearly incidence of fire since their project began in 2018. The IIRR is a non-profit organization that helps empower rural communities by making them self-sufficient.

“Fires are an annual occurrence and a majority of the cause originates from unsustainable practices on peatlands. We have invited experts in an online capacity-building to share their recommendations based on the best management practices on fire prevention and management in the Philippines and Indonesia,” Salazar told the Philippine News Agency (PNA). More than 200 participants from various local government units, national government agencies, students, and faculty members of various Southeast Asian universities and state colleges, and non-government organizations attended the virtual event on April 8. The construction of a drainage system since the 1970s has triggered fire incidents in the Leyte Sab-a peatland forest. From 2018 to 2020, the IIRR has documented four fire incidents. “The peat soil should be wet all the time. Once the water is drained, the peatland might trigger peat fire. In order to prevent and reduce peat fires, it is recommended to follow the concept of rewetting through canal blocking or drainage blocking,” he said in a phone interview.

The Leyte Sab-a peatland forest in the towns of Alangalang, Sta. Fe, and San Miguel in central Leyte is one of two major peatlands in the Philippines that play an important role in long-term climate change mitigation, given their role in moderating atmospheric carbon dioxide concentrations. “The forest has carbon storage. It plays an important role to counter global warming and climate change, promote diverse vegetation, and ensure a stable water supply,” Salazar said. About 1,160 hectares of the peatland have been categorized as alienable and disposable land, with 660 hectares distributed to farmers under the Comprehensive Agrarian Reform Program. Some 15 percent of the area has been cultivated, he added. The IIRR and Forest Foundation have been implementing the four-year Leyte Sab-a Peatland Forest Restoration Initiative since January 2018.

The PHP20 million project aims to produce legal and scientific studies, come up with a comprehensive map of the forest, and raise community and local leaders’ awareness of the importance of peatland forest. Leyte’s Sab-a Basin exhibits diverse vegetation characterized by the presence of wetland forest, boggy areas, sedge and grasslands, and diversity of endemic flora and fauna, with the presence of threatened animals and freshwater fish species, which are found mostly in the wetland forest ecotype. The basin absorbs and holds water during the rainy season and releases it slowly to maintain base flows in the outflow rivers, according to Forest Foundation. The Leyte Sab-a Basin peatland is a large catchment basin measuring 3,088 hectares, more than half of which has been reclaimed for agriculture. The remaining 1,740 hectares in the eastern half of the basin consist of small remnant areas of swamp forest and grass peat swamp.

- <https://www.pna.gov.ph/articles/1137018>

Russia

First wildfires registered around the world’s Pole of Cold in Yakutia

The air temperature in the Oymyakon district of Yakutia is still negative at nights, with daytime just about climbing over 1C. Snow is beginning to melt, but rivers are still locked in ice for at least a couple weeks more - which is completely normal for Oymyakon, the coldest permanently inhabited settlement on Earth. What is abnormal is the sight of a dozen wildfires burning a short distance north and south from this famous Pole of Cold. The first was registered as unusually early as 29 April by the settlement of Teryut, a short distance north from Oymyakon. Sentinel-2 satellite caught sight of frozen Indigirka River, snow-covered mountains, and ominous dark-orange dots scattered along the valleys. The second set of fires was recorded south of Oymyakon and even closer by distance (within 20km, or 12 miles) on 1 May.

Last summer was one of the worst in the history of Yakutia for the number of wildfires, with many registered above the Arctic circle. Russia’s largest and coldest region reported fires all around its territory, with a massive

blanket of smoke visible from space in the far north beside the Arctic Ocean. At the end of autumn 2020 a report in Tomponsky Vestnik newspaper made clear that one such fire was still burning outside the village of Udarnik - the area that suffered badly in summer wildfires. The video, filmed in November at -25°C showed pillars of smoke rising above a field outside the village, with worried residents commenting that summer fires had not stopped. Several months later we asked local journalists to check if the smoke was still visible in the same location - and it was, with the ground feeling 'like rubber' as they walked along a field. The video below was filmed at -30°C after months of extremely cold winter with air temperatures plummeting in December and January 2021 to as low as -60°C . This kind of fire - often in peat - is described as a 'zombie fire'. Such blazes can go on for weeks and months. In some situations they are next to impossible to extinguish.



1 May 2021 wildfire south of Oymyakon (Yakutia), the coldest settlement on Earth. Photo: Pierre Markuse

Siberia has a number of such fires - further south, but now they are present in the far north. 'This winter peat and charcoal underground fire outside Udarnik was caused by summer wildfires that didn't stop till late Autumn. It wasn't diminished by weeks of rain, which is typical for peat fires as they can go many metres down, creating extremely dangerous burning 'pockets' where a man or an animal would burn alive within minutes. Peat fires don't need oxygen from outside, and 'like' cold snowy winters because snow acts like a blanket that supports burning', said ex-forester Lyubov Vasilyeva, from the Tomponsky district of Yakutia. Lyubov, 62, believes that it was the collapse of the Soviet Union that started a long chain of events leading to the current zombie fires. 'There was a system of controlled burning of dry grass, with specialists - who had maps with peat bogs and coal deposits marked - supervising the process,' she said, recalling the past. 'It died in the early '90s, and nothing new was created, with people burning grass uncontrollably and without knowledge. 'This results in massive summer wildfires, with some of them turning into zombie fires', she said.

- <https://siberiantimes.com/other/others/news/ice-on-fire-first-wildfires-are-registered-around-the-worlds-pole-of-cold-in-yakutia/>
- <https://youtu.be/1sQvONODSmA>

Vietnam

Kien Giang looking to turn eco-tourism into key service sector

The Mekong Delta province of [Kien Giang](#) is planning to develop eco-tourism in the U Minh Thuong National Park into an important service sector through making the most appropriate use of the forest's potential. The National Park is located about 65km southwest of the provincial capital city of Rach Gia. Founded in 2002, the park is surrounded by a 60km-long embankment and covers 21,122 ha in U Minh Thuong district, including 8,053 ha in the core zone and 13,069 ha in the buffer zone. The park is in the core area of the [Kien Giang Biosphere Reserve](#), which was designated in 2006. Among forest ecosystems on acid sulphate soil in the Mekong Delta, only U Minh Thuong has the characteristics of a purely primeval forest. A survey in 1995 revealed that it boasts more than 8,000 ha of primeval forest. The park is also one of the two most important peatland areas in Vietnam, with the other being U Minh Ha in the neighbouring province of Ca Mau. The local cajuput forest ecosystem on peatland holds special importance, as it nurtures hundreds of wild animal species.



U Minh Thuong National Park. Photo: VNA

Thirty-two mammal species have been found in the park, including 10 species listed in Vietnam's Red Book on Endangered Species and the International Union for Conservation of Nature (IUCN) Red List, such as the hairy-nosed otter, fishing cat, Asian palm civet, Finlayson's squirrel, and Sunda pangolin. It is also the habitat of 188 bird species, including eight threatened globally, such as the spot-billed pelican, greater adjutant, black-headed ibis, sociable weaver, grey-headed fish eagle, and black eagle; 54 reptile and amphibian species, including eight in Vietnam's Red Book, such as the reticulated python, banded krait, and king cobra; together with 34 fish species. Moreover, it has the richest biodiversity in terms of plants in the Mekong Delta, harbouring more than 254 species. Seventy-two rare animal and plant species listed in Vietnam's Red Book (2007) and the IUCN Red List (2012) have been spotted in [U Minh Thuong National Park](#). Given the park's natural beauty and rich biodiversity and its function as a national standard sample of an alum-flooded *Melaleuca* forest ecosystem, the park has favourable conditions for developing eco-tourism services in connection with scientific study tours. The eco-tourism and environment education centre at the park has also combined environment education activities with tours visiting local communities, offering opportunities for tourists to join the daily activities of local people, thus understanding more about the locality's cultural identities and customs. Tours to the park contribute to

raising awareness about environmental protection, conserving cultural and historical relic sites, and promoting cultural exchanges. Its tourism products are expected to help exploit the biodiversity, forest landscapes, and environment found at U Minh Thuong National Park and its buffer zone, towards implementing the tourism development strategy and forestry development planning of Kien Giang province. The park's eco-tourism and environment education centre welcomed over 43,200 visitors last year.

- <https://en.vietnamplus.vn/kien-giang-looking-to-turn-ecotourism-into-key-service-sector/197076.vnp>

Australasia

New Zealand

Dairy industry's use of palm kernel expeller undermining Indonesia's climate action

The use of palm kernel expeller (PKE) by New Zealand's intensive dairying industry is linked to the destruction of peatland and rainforests, which is driving the climate crisis. [A new Greenpeace International report](#) has found evidence of systematic violations by the Indonesian Government regarding plantation and forest release permits in the Papua region.

New Zealand is the world's biggest importer of palm kernel expeller - a product of the palm industry used as supplementary feed for New Zealand's 6.5 million dairy cows. In 2018, another [Greenpeace investigation](#) found that Fonterra's key supplier of PKE, Wilmar International, has been linked with the mass destruction of rainforest in Papua, Indonesia. In 2020, Fonterra handed over its half of PKE-importing business Agrifeeds to Wilmar International. Greenpeace Aotearoa campaigner Amanda Larsson says the dairy industry's continued use of PKE is one of myriad ways that intensive dairying is fuelling the climate crisis. "Right now, dairying is New Zealand's biggest climate polluter. We've got methane from 6.5 million cows, nitrous oxide from cows and synthetic nitrogen fertiliser, and carbon from the coal used to process milk," says Larsson. "On top of all that, the dairy industry's use of PKE supports destructive players in the palm industry that have been linked to deforestation and peatland destruction. "This kind of deforestation and peatland destruction displaces Indigenous people and local communities, kills wildlife and causes fires that create a toxic haze and endanger millions of lives." The Greenpeace International report details land concessions marked for clearance in Papua that hold an estimated 71.2 million tonnes of forest carbon.

Greenpeace Aotearoa is calling on the Ardern Government to phase out imported feed like PKE, and support farmers to shift to regenerative organic farming. Larsson says, "Across Aotearoa, there are farmers who are switching to regenerative organic farming, which works with nature to rebuild soil, clean up waterways, bring back wildlife and store carbon as they grow great food. But the pressures of intensive dairying are constraining farmers' ability to take their farms in the direction many of them want to. The Government must level the playing field by supporting farmers to make the switch and putting in rules to incentive good practice. That means reducing cow numbers, working within the limits of the land, and nurturing the soil so there's less reliance on inputs like PKE."

- <https://www.scoop.co.nz/stories/WO2104/S00323/nz-dairy-industrys-use-of-palm-kernel-expeller-undermining-indonesias-climate-action.htm>
- <http://www.voxy.co.nz/national/5/386076>

Europe

European Union

Targets and recommendations for peatlands in the EU Biodiversity Strategy

Healthy peatlands can contribute as nature-based solutions to the achievement of the European Green Deal and to the EU Biodiversity Strategy 2030. Hence, they need to be sufficiently protected and restored. How to do this is described in the GMC's position paper [Protecting and Restoring Peatlands – Targets and Recommendations for Peatlands in the EU Biodiversity Strategy](#). It lists the co-benefits of restoration, a qualitative as well as a quantitative approach and principles to be included in the legislative proposal. As claimed by the European Commission the biodiversity strategy will put Europe on the path to ecological recovery by 2030. The strategy, which is not a legislative proposal, has been adopted already by the European Council and still needs to be endorsed by the European Parliament. Votes are foreseen for May and June 2021.

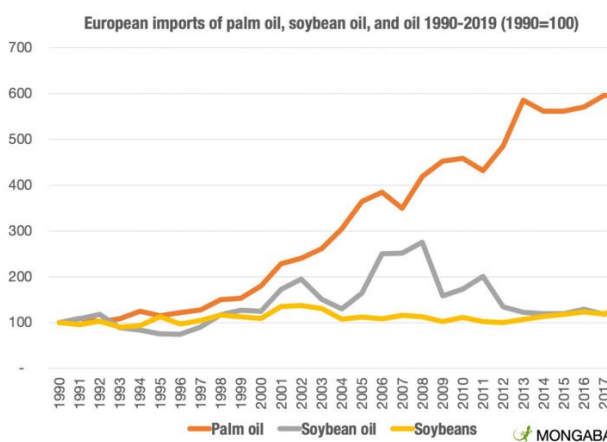
Also the environmental NGOs, including IMCG, organized in the European Habitat Forum have send an Open letter to the European Commission, the Presidency of the Council of the European Union, and the European Parliament's rapporteur on the Biodiversity Strategy for 2030, calling for the full implementation of the nature protection commitments in the Biodiversity Strategy, see:

- https://www.iucn.org/sites/dev/files/content/documents/2021_05_04_ehf_letter_pa_targets_final.pdf

Belgium

Belgium bans biofuels made from palm oil and soy

Belgium will ban biofuels made from soy and palm oil from 2022 onward as part of its effort to combat deforestation, said the European nation's Federal Minister of Environment and Climate Zakia Khattabi on Tuesday 13 April. "These fuels have little or no advantage over conventional fossil fuels from a climate point of view, but lead to deforestation, loss of biodiversity and even human rights violations," Khattabi said in a statement. Khattabi said consumption of palm oil-based biodiesel in Belgium increased tenfold between 2019 and 2020 to 231 million liters. "We know from studies that at least half of those palm oil plantations have been planted on land that has recently been deforested," she said. In making the move, Belgium joins Denmark, France, and the Netherlands as other European nations that have barred palm oil-based biodiesel due the crop's association with large-scale conversion of native forests and peatlands for industrial plantations, especially in Malaysia and Indonesia.



Soy-based biodiesel will be banned from the Belgian transport market in 2023. Soy has emerged as a significant driver of deforestation in the Amazon and Chaco forests in South America over the past 30 years.

- <https://news.mongabay.com/2021/04/belgium-bans-biofuels-made-from-palm-oil-soy/>

European imports of palm oil, soybean oil, and oil 1990-2019 (Index with 1990=100). Data from FAOSTAT.

Finland

Finnish government gives in on peat

The government of Prime Minister Sanna Marin (SDP) has reached an agreement on the framework for central government spending in the coming years after seven days of intense negotiations. The government decided to exceed the established framework for spending by about 900 million euros in 2022 and 500 million euros in 2023 and introduce tax increases. It will also introduce employment measures to grow the ranks of the employed by about 10,000, including by re-assigning employment services to municipalities. Peat is where it gave in to the demands of the Centre. Peat, which makes up around 5 percent of Finland's energy production, was one of the major sticking points of the negotiations. Peat is highly polluting, and in 2017 [generated](#) 10 percent of Finland's greenhouse gas emissions. The Centre Party, an agrarian party, had wanted to lower taxation on peat use, which is a no-go for the Greens, another governing party. Despite being more polluting than coal or natural gas, peat is claimed to be a renewable domestic energy source. It is also an [important source of income](#) for voters in rural areas, which make up the majority of the Center Party's base.

The tax-free limit on the energy use of the fossil fuel will be raised from 5,000 to 10,000 megawatt-hours until the end of the decade in a bid to alleviate the difficulties of peat producers affected by the surging prices of emission rights. The government will also devise a separate support package for peat producers, worth a total of 70 million euros, according to STT. Peat production is a source of income for many especially in regions with traditionally strong support for the Centre, such as Ostrobothnia and Central Finland. Helsingin Sanomat [reported](#) that the Green League surrendered to the demands on the condition that the government agrees on climate actions with an equivalent impact in its budget session next autumn.

- <https://www.helsinkitimes.fi/finland/finland-news/politics/19139-finnish-government-finds-common-ground-on-future-spending.html>
- <https://www.politico.eu/article/finland-government-sanna-marin-budget-compromise/>



Peat landscape in Finland. Photo: Hans Joosten.

Ministry unveils plan to phase out peat burning in Finland

A panel set up by the Ministry of Economic Affairs and Employment has proposed a blueprint for phasing out the use of peat as an energy source. The panel handed over its report to Minister of Economic Affairs Mika Lintilä (Cen) on Wednesday, March 31. According to the government programme, the energy use of peat must be at least halved by 2030 due to its high greenhouse gas emissions. The working group called for a one-off waiver package for companies in the sector. It also recommended partial state compensation paid to peat producers for unsold stock, the purchase of privately owned or leased peat production areas by the state forest agency Metsähallitus and the establishment of a panel to set compensation levels for disposing of peat production equipment, among other measures. Adjustment allowances should also be paid to entrepreneurs who halt peat production, and early retirement options for older entrepreneurs should also be clarified, the committee said.

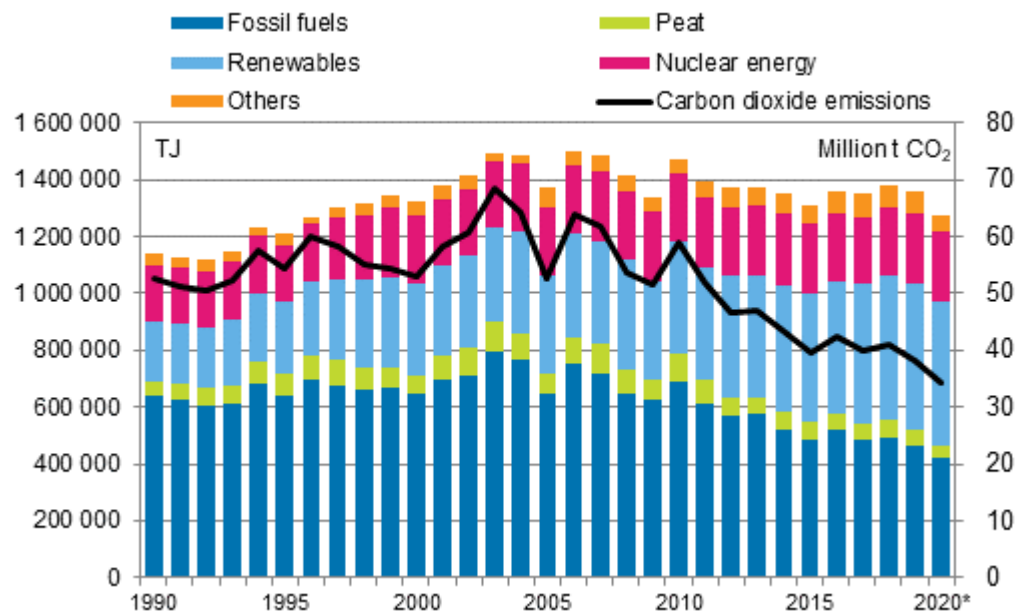
In December, the Bioenergy Association of Finland estimated that some 1,700 people were directly employed in peat production and transport, primarily in northern Finland. The working group also proposed support for the transition of peat companies to new businesses, which could be partly funded by the EU's Just Transition Mechanism (JTM).

As part of the government's emissions-cutting programme, the use of peat as energy is to be at least halved by 2030. Burning peat for electricity emits more carbon dioxide than coal. The centre-left cabinet has pledged that Finland will achieve carbon neutrality by 2035. It has predicted that the use of peat as an energy source will end in the 2030s due to the higher cost of the emissions allowance, although "it will remain in use to ensure security of supply". The cabinet has promised to overhaul the taxation of peat as part of a general energy tax reform.

Instead of incinerating peat, the government aims to increase its use in "innovative, high added-value products" in a manner that is "fair at the regional and social levels".

According to Statistics Finland, the use of peat as an energy source fell by nine percent in 2019 to just four percent of total energy consumption. In the first three quarters of last year, it fell by a further 25 percent to three percent of overall energy consumption. Meanwhile Finland's use of renewable energy rose to the EU's [second-highest level](#) last year, behind Sweden.

- https://yle.fi/uutiset/osasto/news/ministry_unveils_plan_to_phase_out_peat_burning_in_finland/11864714
- https://yle.fi/uutiset/osasto/news/greens_chair_peat_has_no_place_in_the_energy_production_of_the_future/11553915



Total energy consumption and carbon dioxide emissions 1990–2020*

Renewable energy surpassed fossil fuels and peat in total energy consumption in 2020

According to Statistics Finland's preliminary data, total consumption of energy in 2020 amounted to 1.28 million terajoules (TJ), which corresponded to a drop of six per cent compared with the previous year. The volume of

energy produced by incineration decreased clearly. By contrast, renewable production of hydro, wind and solar power increased. Carbon dioxide emissions from the energy use of fuels decreased by 10 per cent. Total electricity consumption fell to its lowest in 20 years.

The use of renewable energy sources decreased by one per cent in 2020, but their share of total energy consumption grew to 40 per cent. For the first time since the compilation of the energy statistics started, the consumption of renewable energy was higher than the consumption of fossil fuels and peat combined. The consumption of wood fuels fell by six per cent. The fall was fairly even in all wood fuel categories and was due to the warm weather and the contraction of output in the forest industry. The consumption of black liquor declined most, by seven per cent. Wood fuels covered 28 per cent of total energy consumption and they were the most used energy source in Finland.

The use of fossil fuels and peat went down by 10 per cent compared to 2019. Their share of total energy consumption decreased to 37 per cent. The drop was biggest for peat, the consumption of which fell by one quarter. The consumption of coal also decreased significantly, by 22 per cent. The ban on the use of hard coal for energy production, which will enter into force in 2029, is already beforehand affecting the decrease of coal consumption. Due to the effects of the corona virus, the consumption of transport fuels, which is usually quite stable, decreased, which was visible as a six per cent drop in the consumption of fossil oil.

- https://www.stat.fi/til/ehk/2020/04/ehk_2020_04_2021-04-16_tie_001_en.html



Peatland rewetting in Bavaria, Germany. Photo: Hans Joosten.

Germany

Climate Protection Act unconstitutional according to Federal Constitutional Court

The German Climate Protection Act of 2019 is in parts not compatible with fundamental rights. It lacks sufficient requirements for the reduction of emissions from 2031 onwards, the Federal Constitutional Court announced by decision of 24 March 2021. Constitutional complaints by several climate protection activists were thus partially successful. The legislature must now make improvements.

Since the law only provides for measures to reduce emissions until 2030, the dangers of climate change would be postponed to periods after that and thus at the expense of the younger generation, the judges said. Limiting an increase in the global average temperature to well below two degrees as planned, and if possible to 1.5 degrees, would then only be feasible with increasingly urgent and short-term measures. This would violate the liberties of the complainants, some of whom are very young.

- <https://www.tagesschau.de/inland/klimaschutzgesetz-bundesverfassungsgericht-101.html>

Germany improves peatland rewetting commitments in revised Climate Protection Act

The German government rapidly announced an amendment of the Climate Protection Law to implement the decision of the Federal Constitutional Court (see above). With respect to peatlands the amendment reads the following:

“For the land use, land use change and forestry (LULUCF) sector, emission reductions through the rewetting of peatland soils and the protection and restoration of the ability of forests to bind carbon dioxide and store carbon contribute in particular to achieving the target. For the rewetting of peatland soils, annual emission reductions of 5 million tonnes of CO₂ equivalent are to be achieved by 2030 through financial incentives for voluntary rewetting measures on the basis of the federal government's peatland protection strategy, which has yet to be adopted. Initial budget funds have already been made available with the 2021 budget, but must be significantly increased to achieve the target. Based on estimates made during the preparation of the Climate Protection Programme 2030, the financial requirements amount to approximately EUR 50 million for each of the years 2021 to 2023, approximately EUR 150 million for 2024 and approximately EUR 300 million annually from 2025 onwards, assuming investment costs for rewetting and farm conversion as well as compensation for economic losses. The increase in financial resources results from the long planning lead times for most rewetting projects. Overall, this results in a financing requirement of EUR 2100 million by 2030 in the peatlands sector.”

- <https://www.bmu.de/gesetz/entwurf-eines-ersten-gesetzes-zur-aenderung-des-bundes-klimaschutzgesetzes/>
- https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Glaeserne_Gesetze/19_Lp/ksg_aendg/Entwurf/ksg_aendg_bf.pdf

The path to more climate protection in Bavaria leads through peatland

The Bavarian Donaumoos is to be restored in order to promote climate protection and biodiversity and reduce flood hazards. Minister President Markus Söder, Environment Minister Thorsten Glauber and Agriculture Minister Michaela Kaniber presented the future of the peatland between Ingolstadt, Neuburg on the Danube and Pöttmes on May 4. The Bavarian Donaumoos was once 20,000 hectares in size, but has since shrunk to 14,000 hectares, whereas the thickness of the peat body decreases by one to three centimetres every year. According to calculations of the Weihenstephan University of Applied Sciences, this results in climate-damaging emissions amounting to 400,000 tonnes of CO₂ equivalents per year.

Five years ago, the scientist and "peatland pope" Michael Succow already said that "none of the many German peatlands today is still geared towards such drastic drainage" as the Bavarian Donaumoos.

Until 2004, peat was extracted on an industrial scale at individual sites in Bavaria. Since the 1980s, Bavarian nature conservation and forestry authorities have been carrying out restoration activities on partial areas in individual peatlands. At first, the main focus was on species protection. At that time, climate protection was not yet an issue. The Bavarian climate protection programme KLIP, first adopted in 2007, envisages reducing emissions from peatlands and preserving their function as CO₂ sinks. However, experts criticise that the financial and personnel resources are insufficient. Now a large-scale rewetting project has been announced: over the next ten years, the water level is to be raised on a total of 2,000 hectares. Funds amounting to 200 million euros will be made available for this purpose by the state government.

- <https://www.br.de/nachrichten/deutschland-welt/der-weg-zu-mehr-klimaschutz-in-bayern-fuehrt-ueber-die-moore,SWQOhL8>
- <https://www.nul-online.de/LBV-begruesst-Zusagen-fuer-spektakulaeres-Projekt-zum-Arten-und-Klimaschutz,QUIEPTY4NzY5NTcmTUIEPTEXMTE.html>



A current view of the Donaumoos, Bavaria, Germany. Photo: Hans Joosten.

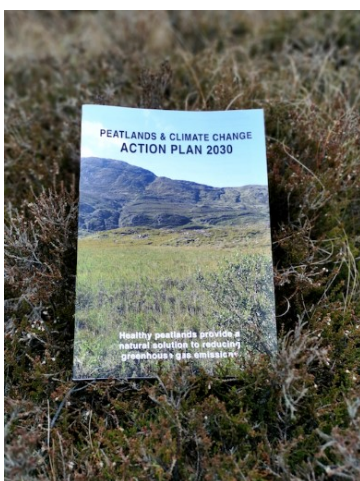
Holcim Deutschland launches net-zero CO₂ cement

Holcim Deutschland, part of Switzerland-based LafargeHolcim, has launched its new ECOPlanet Zero carbon neutral cement. The producer says that it will offset the product's CO₂ emissions through a peatland rewetting service provided by MoorFutures.

- <https://www.globalcement.com/news/item/12303-holcim-deutschland-launches-ecoplanet-zero-net-zero-co2-cement>

Ireland

Publication of Ireland's new Peatlands and Climate Change Action Plan 2030



The Irish Peatland Conservation Council (IPCC) celebrated this Earth Day, 22nd of April 2021, with the publication of its 7th Action Plan – Peatlands and Climate Change Action Plan 2030. The theme for Earth Day this year is 'Restore Our Earth'. Peatlands cover 3% of the land surface globally and are estimated to store 1,566 million tonnes of carbon in Ireland¹. In 2019 Ireland declared a climate and biodiversity emergency. The Irish Government have acknowledged that action needs to be taken to understand the causes and impacts of climate change. This action plan explains the unique role between peatlands and climate, restoration methods and costs, policies in place currently, threats, peatland values and so much more. It answers some frequently asked questions. How much carbon is sequestered in peatlands? What are the restoration costs? What state are peatlands in? What actions are needed?

The action plan identifies 12 actions to support peatlands in the fight against climate change for all of us and which will also guide the IPCCs 'Save the Bogs Campaign' as we enter the United Nations Decade of Ecosystem Restoration. These building blocks of peatland actions will also support government, local authorities, community groups and individuals to protect peatlands and guide policy makers in the right direction for the

future of our peatland habitat. As Ireland continues to address the challenges our biodiversity faces this action plan should be read in conjunction with the IPCCs 6th Action Plan 2020 – Halting the Loss of Peatland Biodiversity. Peatlands are essential carbon sinks and habitats for a unique and diverse range of biodiversity. 53% of the soil carbon is sequestered in raised and blanket bogs in Ireland which cover less than 20% of the land surface². Restoration of peatlands that have been drained or degraded is a long and complicated process. The more damaged a site is, the higher the costs and longer period for results but, in the end the results outweigh all as the savings in greenhouse gas emissions would be worth it. By restoring peatlands through rewetting, landowners can reduce carbon emissions with some sites becoming carbon sinks in the order of 0.4 to 1.04 t C ha⁻¹ yr⁻¹ such as drained only, domestic cutover bogs, nutrient-poor industrial cutaway and peatlands reclaimed to grassland. The IPCC wants to see the government commit to the protection of peatlands by developing a 20-year peatlands restoration and rehabilitation action plan with a budget of €1 billion to make our country climate resilient and carbon neutral (Action 1). The Council also identifies that the establishment of a carbon credit system for corporations and individuals could help to fund essential restoration and rehabilitation of peatlands in Ireland (Action 5). The IPCC call for peat extraction for the horticultural industry to stop and find a sustainable alternative (Action 8). We need to hold ourselves accountable and a new storyline in education regarding peatlands and climate change must be developed and implemented across all curricula, back to back with a strong public awareness campaign (Action 6).

You can both purchase a copy of the Peatlands and Climate Change Action Plan 2030 or download a digital copy on the website of the Irish Peatland Conservation Council www.ipcc.ie.

- <http://www.ipcc.ie/launch-of-irelands-new-peatlands-and-climate-change-action-plan-2030-celebrating-earth-day-2021/>
- <http://www.ipcc.ie/a-to-z-peatlands/irelands-peatland-conservation-action-plan/peatlands-climate-change-action-plan-2030/>

Bord na Móna publishes ‘statement of intent’ to ease farmer rewetting concerns

Bord na Móna (BNM) has at the end of April “confirmed its long-term commitment” to its neighbours and local communities in a ‘statement of intent’ that has been sent to farming organisations. The statement is aimed at easing farmer concern over the potential impact of the semi-state company’s major peatland restoration project. For months, farm organisations have called on BNM to provide “a written agreement” to farmers whose lands adjoin the identified bogs to assure them that boundary drains will continued to be maintained by the company now and into the future.

On the issue, BNM’s newly-published statement outlines the following: "As part of the initial pre-design assessments for the PCAS [Peatland Climate Action Scheme] scheme, a hydrological risk assessment is undertaken for each bog unit which, among other things, assesses the potential impact of the various rehabilitation measures which are proposed on the local drainage network and the potential risk of causing additional flooding of adjoining lands. "Bord na Móna’s intention is that, where any such additional flooding risks are identified, the proposed rehabilitation measures will be adjusted to minimise any such additional risks and such adjusted measures are identified in the hydrological assessment. "Like all landowners Bord na Móna has statutory obligations to manage our land bank into the future, including not to obstruct watercourses which flow through or past our lands and not to cause damage to neighbouring lands, and obligations in relation to illegal dumping under the Litter and Waste Management Acts. "In order to ensure that Bord na Móna can meet all of its obligations under statute and licences we have in place and intend to maintain a care and maintenance team who will be responsible, among other things for boundary management on the Bord na Móna landbank. “This Boundary Management process will include an ongoing programme of inspection of boundary drains. "Where an inspection identifies deterioration in the structural characteristics of a boundary drain, which is affecting water levels and/or drainage on adjoining lands, and which is emanating from Bord na Móna lands, appropriate maintenance measures will be taken at the next opportunity (bearing in mind statutory limitations on certain works at certain times of the year).”



Bord na Móna peatland rewetting in Mayo, Ireland. Photo: Hans Joosten.

Commenting on the publication of the statement, BNM head of land and habitats Ger Breen said the semi-state company “has always and will always” fulfil all of its obligations as “a land-owner and a good neighbour”. “We will do this through demonstration of exemplar design, stewardship and stakeholder engagement as we rehabilitate our peatlands. Bord na Móna is now a climate solutions company focused on doing what is best for our communities, the country and the climate. “Protecting and building a 100 million tonne carbon store is the job of many decades to come and we are in this for the long haul. “Over the past few months we have had a very positive and constructive engagement with farming and other organisations on a wide range of different issues. “This statement comprehensively addresses how we will address all the issues raised. It also demonstrates our commitment to community and climate action and underlines our firm intent to move this vital project forward in a fair and responsible way. “We will continue to engage with our neighbours as we now move forward to make good on these commitments.”

At the end of 2020, BNM launched its Peatland Climate Action Scheme to secure a store of over 100 million tonnes of carbon across 80,000ac of its bogs over the coming years. In January 2021 Bord na Móna confirmed that it would permanently cease harvesting peat on its lands to focus its renewable energy, recycling and peatland restoration business. Restoration work on the first 33,000ac of BNM bogs is due to commence this spring/summer.

- <https://www.independent.ie/business/farming/news/farming-news/bord-na-mona-publishes-statement-of-intent-to-ease-farmer-rewetting-concerns-40346423.html>

Proposal for protecting peatland has potential to be ‘extremely detrimental’

The Irish Natura And Hill Farmers Association (INHFA) has expressed concerns over the potential “detrimental” effects of a European Council proposal on the management of peat-based soils. Speaking at the Oireachtas Joint Committee on Agriculture and the Marine, INHFA president Colm O’Donnell said that the proposal for an amendment to GAEC 2 is “unprecedented”. According to the [European Commission](#), the main objective of the Good Agricultural and Environmental Conditions (GAEC 2) – appropriate protection of wetland and peatland – is the “protection of carbon-rich soils”. Under CAP, GAEC 2 will be applied to eligible agricultural land, as per the European Council proposal. The INHFA has previously called on the Minister for Agriculture to [intervene and](#)

[ensure the withdrawal of this European Council of Ministers' proposal](#). O'Donnell said: "In this new GAEC, which is proposed to protect wetlands and peatlands, there's the opposite effect – it would actually remove area from being an agricultural area, because of not having an agricultural activity on it. "The [European] Council's position on the drafting of an eligible hectare says that an agricultural area must consist of an agricultural area exercising an agricultural activity. "Clearly, this amendment to comply with that GAEC standard, is knocking the land out of being an eligible area. "This is unprecedented. This has never happened in the history of this state before in any of the CAP reforms."

INHFA's Henry O'Donnell added that the current amendment by the council "is extremely detrimental to our members on carbon-rich soils". "It means that their land, while there's mention that a derogation may be provided on a national level – and we're told by our own department that this is to protect our farmers – the reality is that potentially, agricultural activity on this land has to stop and that introduces much bigger questions. "Will this land still be available for an eco-scheme payment? Will farmers be able to avail of a Pillar II payment on this land? Very far from protecting this land and the people that farm it. "When you look at the bigger picture, in relation to the Biodiversity Strategy, and the area of carbon sequestration and storage, we can see that the objective here is to sterilise this land to use it for carbon sequestration to offset unsustainable activity everywhere else." The INHFA previously estimated that 50,000 farmers on peat soils "could lose payments" under this proposal.

- <https://www.agriland.ie/farming-news/proposal-for-protecting-peatland-has-potential-to-be-extremely-detrimental/>
- <https://www.farmersjournal.ie/concerns-raised-over-new-restrictions-on-peatlands-615497>

What does a peat-free future hold for the Midlands? (by Jamie Rohu)

In 2015, Bord na Móna reported in its Sustainability 2030 strategy that peat harvesting would cease by the end of this decade. In October 2018, it outlined plans for 430 job losses along with a revised production end date of 2025. Then, this January, the semi-state declared an immediate halt to all extractive operations.

Though not entirely unexpected, these announcements raised a number of important questions such as: How will Bord na Móna manage its 80,000 hectares of cutaway bogland? What will be the long term implications for employees who have lost their jobs? And, what will become of the many towns and villages in the Midlands, already blighted by rural decline and outward migration, now that production has come to an end? There are also other, less immediately apparent, ramifications arising from the bog closures. The impact on communities has largely been overlooked. From opticians supplying safety goggles to factory workers and garages repairing employees' vehicles, many local businesses will be negatively affected by the changes.

Ireland's vast peatlands, once covering upwards of 20% of the island, have historically been understood in a myriad of ways. Once considered wastelands, their economic and social value was realised with the setting up of the Turf Development Board in 1934 (succeeded by Bord na Móna in 1946). Industrial extraction of peat from raised bogs in the Midlands provided secure, well-paid full time and seasonal jobs in a traditionally underdeveloped part of the country. Further high quality skilled employment was created in the ESB power stations and Bord na Móna factories that used the peat.

The transformation of Bord na Móna has been underway for three decades. It opened Ireland's first wind farm at Bellacorick, Co Mayo in 1992. Today, it operates a successful waste collection and recycling business alongside four other wind farms. As this 'Brown to Green' strategy has been implemented, the plight of its workforce has come into sharp focus as environmental groups and [trade unions call for a 'just transition'](#) to support those affected by job losses. The concept of just transition came to the fore in 2018 following the closure of Bord na Móna's Littleton briquette factory in Co Tipperary where 69 jobs were lost at the plant and upwards of 50 from the surrounding bogs that supplied it.

Job loss is not unprecedented at Bord na Móna. In response to the oil crises in the 1970, it expanded operations in order to ensure a secure energy supply for the state. Having overreached and accrued significant debt as a result, efforts were undertaken from the late 1980s to rationalise the business, clear debt and improve productivity. The workforce was downsized and those affected were provided with redundancy pay-outs.

Severance packages, however, do not meet workers' needs in the long term. Instead, trade union movements have called for the creation of new roles in similar, albeit, environmentally sustainable enterprises. This is

happening to some extent. Those affected by job losses at the Littleton briquette factory, for example, were offered retraining, while Bord na Móna's recycling business AES partnered with Chinese firm Sabrina Integrated Services (SIS) to repurpose the factory into a plastics recycling plant, creating 40 new green jobs.

Similar employment efforts are underway in the Midlands as Bord na Móna is now obliged to stabilise its post-industrial peatlands in line with the State's increasing climate ambitions as peatlands are recognised for their ecosystem services such as the carbon sequestration and storage. A total of 300 short-term roles will be offered to production workers to meet legal requirements to protect our peatlands. However, long-term positions on the scale seen before are unlikely to arise.

And what of the bogs themselves, or what remains of them? Bord na Móna's peatlands are cutaway, some down to the underlying marl or mineral substrate. Not all cutaway bogs will recover as functioning wetlands, however, as physical changes as a result of peat production means that some sites cannot retain water. These spaces may be suitable for renewable energy projects, while some will simply 'scrub up' or become birch woodland, with wildfires a real and present danger in an ever warming climate.

The iconic Bord na Móna branding – translated as "The Turf Board" – may soon be consigned to history now that it is no longer "making peat". How the company will evolve and redefine itself in the minds of Irish society is yet another unknown in a story of transformative and oftentimes contested landscape use.

- <https://www.thejournal.ie/readme/burning-question-peat-5402220-Apr2021/>

Peat imports from Baltic states, Canada, Russia and UK loom as bog battle still unresolved April 02 2021

The urgent need for peat harvesting to resume – either by way of derogation or emergency legislation – was the key issue raised at the second meeting of a working group on horticulture peat, early April. With harvest season upon the sector, the working group – comprised of representatives from the Department of Housing, state agencies, industry stakeholders and environmental non-government organisations – was again warned of the repercussions for 17,000 rural-based jobs if a new law prohibiting the milling of peat on bogs over 30ha without planning permission and EPA licencing is not amended.

Speaking to the *Farming Independent* after the meeting John Neenan of Growing Media Ireland (GMI) – which represents most of the country's horticultural peat producers – said: "The Department officials appear to definitely rule out a derogation and are not over positive on emergency legislation. "As far as I am aware, there is no legislative proposal available from the members to deal with this at present. However, GMI is working with their legal advisers and hopefully will have proposals available shortly." Mr Neenan continued: "The main issue arising is the emergency facing the horticultural industry due to the non-availability of Irish peat moss and the absolute necessity of horticultural peat harvesting to resume in 2021. "Otherwise, supplies of peat moss will be imported from the Baltic States, Canada or Russia and growing media is already currently being imported from the UK. "The abrupt cessation of peat harvesting by Bord na Móna came as a bombshell to both growers and other growing media manufactures and has really exacerbated the situation. "Collectively, what the industry wants is a return to horticultural peat harvesting in 2021 – whether this is by way of emergency legislation or a temporary derogation (short term) and an amendment in the current legislation to allow peat harvesting continue, subject to an EPA licence, and based on a phased reduction on peat use in line with the development of responsibly sourced peat alternatives. "Harvesting should be carried out in a responsible way and in line with good practice and under an EPA licence. "If peat harvesting in Ireland is not allowed during the interim period of a 'Just Transition', the industry would like the Government's social, economic and environmental justification for the importation of peat and growing media," said Mr Neenan.

- <https://www.independent.ie/business/farming/tillage/peat-imports-from-baltic-states-canada-russia-and-uk-loom-as-bog-battle-still-unresolved-40267875.html>
- <https://www.independent.ie/business/farming/news/farming-news/bord-na-mona-under-fire-on-rewetting-harvesting-and-turf-cutting-40239628.html>



Sausage peat extraction site in Mayo, Ireland. Photo: Hans Joosten.

All you need to know about turf cutting (by Martin McHugh)

Turf cutting takes place in bogs, habitats which were formed over thousands of years in areas with poor drainage and high rainfall. The water clogged environment removes oxygen from the soil and prevents plant materials from being fully decomposed. The plant matter builds and builds over time (around 1mm per year) to create a carbon rich and soft soil that turf cutters have been using as fuel for thousands of years. The simplest way to think about a bog is like a giant sponge that holds water. This ability to hold water is integral to bogs and without it, they deteriorate along with their rare biodiversity. This is where turf cutting becomes problematic.

Pre the-1980s, small-scale turf producers cut by hand using a tool called a sleán. Akin to a specialised spade, it was used to slice the turf into rectangular 'sods' (a rectangular piece of turf anywhere between 15 and 60cm in length). A proficient turf cutter would have cut hundreds of sods in a day. In very small pockets of the country, this practice is still ongoing and is the least invasive on the bog as a habitat.

But the arrival of tractor driven machinery in the last few decades has enabled an incredible surge in turf production. Generally, machine cutting is carried out by local contractors and the bog owner has two choices, the 'sausage' or the 'hopper' machine. The sausage machine, which produces 'sausage turf', is a device that attaches to the back of a tractor. The machine looks like a large chainsaw with a blade that continually cuts and digs into the soft ground. The turf is then piped through an outlet that creates multiple strands of turf. Multiple strands create a line and depending on your geography, a line may have anywhere between 4 and 12 strands.

The sausage machine is extremely damaging from an environmental perspective. Its large blade cuts multiple drains under the surface of the bog, ruining its integrity and ability to hold water. But for the turf cutter, this can be a plus since your turf is now laying on ground that should start to dry out.

The other option is a hopper machine which produces 'hopper turf'. The hopper is a glorified 'Play-Dou' machine that is filled with turf by a digger. The hopper looks like a large trailer and, like the sausage machine, squeezes turf into lines.

The major difference between the sausage and the hopper machine is that the hopper can spread turf anywhere. The digger can dig out of the bog and the tractor (or machine on tracks) with hopper in tow can transport it to a drier area. Although still damaging to the environment, the hopper is more forgiving as it creates large, localised

holes that are 'repairable' if needed. It should be noted, however, that you can never fully repair a bog as it will take thousands of years to re-form. All you can do is patch it up and let nature take over.

You may have noticed that I made the important distinction between sausage and hopper turf. This is because sausage turf is cheaper to cut and gives a lower quality sod than the hopper. Another distinction to make is that of brown versus black turf. Black turf has a higher carbon content and gives off more heat. It has a higher premium and can be sold for a better price. Brown turf contains less carbon, but some people like it as it is easier to start a fire with brown turf. These topics are of great debate in turf cutting circles.

No matter what method of cutting utilised, turf has to be 'saved'. The term save or saving is used to describe a multi-step process in which turf is dried and stored. As noted, bogs are water clogged environments and newly cut turf is full of moisture and useless as a fuel. The drying process is very much weather dependant (this is why turf is cut during the summer), but turf is left to sit once cut for anywhere between two and eight weeks. Over this time, turf will form a hard skin and start to break up into sods and 'clods' (smaller pieces of turf generally less than 15cm).

Although the surface and sides of turf may be dry, the underside will still be wet and often stuck to the ground. This is why turf has to be turned. Usually conducted by hand, this is a very physically demanding process although machines are used in some parts of the country. Once both sides are dry, most people will then place the sods into triangular formations known as a stack. This process is called stacking or footing. Requiring a surprising amount of skill, this step enables further drying and removes the majority of the sod off the moist ground. Depending on the family, weather or bog, the turf is then either placed into larger stacks, put in bags or removed via tractor and trailer. It is then stored in a dry area until winter when it is burned.



Sausage peat stacked up in Kerry, Ireland. Photo: Hans Joosten.

The main benefit to cutting turf is that you can produce a lot of fuel relatively cheaply. However, the manual labour involved is immense. 'Going to the bog' for a day can be a novelty, but those in the know understand that saving turf can be a gruelling process and comes a lot of pride. Taking turf cutting away from rural Ireland will cause a lot of pain given that generations have often worked the same bogs. We always hear how turf cutting is

part of our culture and about people's 'right' to cut turf. However, I think we need to make a clear distinction between cutting turf by hand, which is culturally significant, and cutting turf with machines which is not. Like it or not, bogs are increasingly rare habitats. As carbon sinks, they need to be protected. We will see in the coming years if rural and urban Ireland can come to some form of consensus. But at the end of the day, the long-term benefits of protecting bogs outweighs the benefits of cutting turf

- <https://www.rte.ie/brainstorm/2021/0325/1206028-bogs-turf-cutting-culture-climate-change-ireland/>

Turf cutters to defy BNM order unless extra time given

Turf cutting contractors in the midlands and the west have said they will defy an order by Bord na Móna, and proceed with plans to supply winter heating fuel to 4,000 families, unless the company gives them ample time to phase out the practice over the next five years. At a meeting of local contractors and house holders who have been sold sod turf from the Bord na Móna-owned bogs near Ballivor on March 20, 2021, an appeal was made for additional time for a phasing-out approach for turf cutting licences to be taken by the company. This would allow for hundreds of house holders still using turf in stoves, solid fuel cookers and boilers to be allowed the opportunity to look at alternatives.

Junior Minister Robert Troy, who met some of the contractors and the householders at the bog, said he had asked Bord na Móna Chief Tom Donnellan to commence a process of communication with the local contractors and homeowners, so that the turbary rights for the bogs could be passed on to the locals who cut turf for their own domestic use only. Independent TD Michael Fitzmaurice said Bord na Móna has betrayed the locals by refusing to issue licences for the cutting of turf this year. He said up to 4,000 people across seven counties were getting turf from these bogs by agreement with Bord na Móna for years, but now they were walking away with little or no chance to prepare for change. "Everyone is talking about a 'just transition' since BNM started pushing their 'brown-to-green' agenda" Mr Fitzmaurice said, adding "but since they were handed over €100m, it is clear that all BNM and Tom Donnellan are interested in is turning their backs on the cultures and traditions from which the company originally grew".

Bord na Móna has denied that it is stopping people on these bogs from cutting turf, and has said it is wrong to suggest that they are doing so. In a statement, the company says that over 80% of people cutting turf on Bord na Móna bogs have turbary rights. A right of turbary in relation to bogs and peatland, in its simplest form, means the right to cut and carry away turf from a specific plot of peatland, and includes the right of preparing and storing on the peatland any turf that is cut from it. The extent of the right is limited to the fuel requirements of the dwelling house to which the turbary right is attached. It is not a right to cut and sell turf. Turbary Rights Holders, who comply with environmental and planning regulations, can continue to cut turf as they have always done, the company claims. Commercial Contractors or licensed turf cutters have not been issued with licenses to cut turf by Bord na Móna following a High Court Judgement in 2019.

- <https://www.rte.ie/news/regional/2021/0320/1205172-turf-bord-na-mona/>
- <https://www.westmeathindependent.ie/2021/04/12/right-to-cut-turf-must-be-protected-troy/>

Removing peat extraction from planning system could be legally challenged

The end of commercial peat extraction (and of its products such as Irish peat moss and briquettes) is unlikely to be postponed, says the legal expert and environmentalist whose court action was successful in ending extraction. Peat moss companies have said they are pursuing removal of peat from the planning process, and its transfer to control by the Environmental Protection Agency, which would allow the companies to return to harvesting. But Peter Sweetman, whose successful "substitute consent" case in the Supreme Court further protected peatland from extraction, has pointed out that while it is theoretically possible for peat extraction to be removed from the planning system, "it would be very tricky and very open to legal challenge".

Meanwhile, a working group established by the Government to examine use of peat moss in the horticultural industry had its first meeting in March 2021, under the chairmanship of Munoo Prasad, an independent consultant and researcher who has worked in the New Zealand Ministry of Agriculture, and in Bord na Móna. At the meeting, the Departments of Housing, Local Government and Heritage and the Environment, Climate and Communications indicated that they will look at any peat moss proposals put forward by industry. According to

Mr Sweetman, there is no basis for exempting peat extraction from a system of control. “If the controls aren’t in the planning system, they must be somewhere else.” “And transferring from one system to another is very tricky when it comes to extraction that is already illegal under the regime being replaced. “If it is a device to regularise past illegal peat extraction, this would amount to circumvention of Environmental Impact Assessment [EIA] and other rules, which the Court rejected in the first part of the first Derrybrien case [the case on retention permission]”.



Sausage peat stacked up in Kerry, Ireland. Photo: Hans Joosten.

Mr Sweetman said the EIA Directive 2011-92-EU includes provision for member states to, in exceptional cases, exempt a specific project in whole or in part from the provisions laid down in this Directive. But the member states must clear such an exemption with the EU Commission, and must consider whether another form of publicly transparent assessment would be appropriate. Mr Sweetman said active raised bogs are a priority habitat under the Habitats Directive 92/43/EEC under article 6.4 which states that the member state shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected, and shall inform the Commission of the compensatory measures, in cases where a plan or project must be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, even if there is a negative assessment of the implications for the site. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the commission, to other imperative reasons of overriding public interest, said Mr Sweetman.

- <https://www.irishexaminer.com/farming/arid-40247450.html>

Fitzmaurice accuses Bord na Móna of ‘betraying ordinary people’ on turf cutting

Independent TD Michael Fitzmaurice has accused Bord na Móna (BNM) of “betraying ordinary people” in what the TD has described as the semi-state company’s latest move “to prevent turf cutting” going ahead this harvest season. The deputy levelled criticism at BNM following the company’s move to outline the state-of-play for turf

cutting on BNM bogs in light of a 2019 High Court ruling that peat operations on bogs over 30ha now requires planning permission; and due to the company's decision to cease its peat extraction activities earlier this year. While BNM says "80%" of people who cut turf on its bogs can "continue to do so" as they have "turbary rights", the company also confirmed that it will not issue licences to commercial contractors, or other licensed turf cutters, that cut turf for people who have taken plots on their bogs for many years.

In a statement deputy Fitzmaurice claimed that the semi-state company is being "totally disingenuous". "BNM says 80% of people won't be affected as a result of having turbary rights – but the reality of the situation is that has nothing to do with it. "If you look at the bogs affected, up to 4,000 households in the midlands will be left high and dry by BNM's decision. These are loyal, ordinary people who take a plot of turf in order to heat their homes in the winter. "That is being ripped from their grasp. The timing of this looming announcement is yet another indicator of BNM's disdain for these ordinary people – many of whom are elderly – with the turf cutting season set to start in the next two weeks. "BNM's spin doctors are trying to make light of the number of people who will be impacted by this move. "Many of these people who take plots of turf depend on it as their only source of fuel to heat their homes. They cannot be left to hang out to dry, just because they don't have a turbary right. "Everyone is talking about a 'just transition' since BNM started pushing their 'brown-to-green' agenda. But since they were handed over €100m, it is clear that all BNM and Tom Donnellan are interested in is turning their backs on the cultures and traditions from which the company originally grew.

The Roscommon-Galway representative – who is also the chairman of the Turf Cutters and Contractors Association – called on Government "to step in" and prevent ordinary people from being left without fuel for their fire. "BNM is deciding to hide behind legal reasoning for this decision. I have spoken today with BNM personnel and have challenged them to provide me with this legal reasoning – as it is clearly stated that you do not require planning permission for bogs under 30ha – which most of the bogs in question at the moment are.

"The area where turf will be spread will represent just half a percent of BNM's total land mass. "I am calling for BNM officials to have a conversation with me publicly over the systems they have run in recent years, even though the same case law was in place then as now. "But people need to be prepared to stand up for their rights to cut turf. These people do not need to look deep into the past either for inspiration. People were prepared to stand up for their rights then, and now should be no different. "This Government must be willing to intervene and stand alongside these people, otherwise they will be abandoning them yet again," he concluded.

According to figures, obtained from Bord na Móna, an estimated 1,600 people have turbary rights to cut turf on BNM bogs, an estimated 300 people have licences to cut turf on BNM bogs, while approximately 20 private contractors are issued with licences from BNM to cut turf on its bogs. Turf cutting is carried out on less than 1% of BNM's total 200,000ac land bank.

When asked for clarity on turf cutting where people do not have turbary rights, and where a private contractor is brought in to cut the turf, a BNM spokesperson said such individuals would be considered "licensees" and that such "licensed turf cutting activity is prohibited by the High Court ruling". When asked whether turf cutting can continue on BNM bogs that are less than 30ha in scale, the spokesperson said that, based on legal advice, it is BNM's view that "all operational bogs are taken as one unit, not individual pieces of bogs – it is viewed as a single block".

In a statement BNM's outlined its full position: "Bord na Móna owns approximately 7% of Irish peatlands. In the past, nearly all of the formerly operational bogs were involved with milling peat, mainly for combustion in power stations. In recent years, turf cut on Bord na Móna lands accounted for just 5% of the turf supply in Ireland. "In 2019 the High Court ruled that peat extraction operations, on bogs over 30ha, requires planning permission. Following the company's decision to cease peat extraction, we are communicating to interested parties to confirm the current position and to specifically note that: "People with turbary rights on Bord na Móna lands account for over 80% of the people who have cut turf on our lands. "The company wishes to reassure people that anyone with a turbary right continues to enjoy the same property rights as before the High Court ruling. As before, it remains the responsibility of turbary rights holders to ensure that their activities are not in contravention of any current planning and/or environmental regulations. "Since the 2019 High Court ruling, Bord na Móna has not issued licences to commercial contractors or other licensed turf cutters. This remains the

situation. "Unauthorised turf cutting on Bord na Móna lands has always been and remains an illegal activity," the statement concluded.

- <https://www.independent.ie/business/farming/rural-life/fitzmaurice-accuses-bord-na-mona-of-betraying-ordinary-people-on-turf-cutting-40205687.html>

Seanad told that due to absence of peat from Irish sources, industry will have to import it

The midlands must not be allowed to become a "rust belt" like the American midwest following the closure of power plants in Longford, Offaly and the decision to end peat production, a Fine Gael Senator has said. [Michael Carrigy](#) also appealed to the Government to allow the production of sufficient peat for domestic use in the horticulture industry. He said that "in the absence of peat from Irish sources, the industry will have to import it". There have been separate warnings that two shiploads of substitute peat are already being imported every week. Mr Carrigy said in the Seanad that closure of the ESB power stations in [Lanesboro](#), Co Longford, and [Shannonbridge](#), Co Offaly, and the ending of peat production at Bord na Móna's Moundillon bog, had had a huge impact on families who had worked there in the past 50 years. He welcomed the "substantial funding" announced last year for several projects under the just transition fund on climate action.

Ireland has approximately 50% of all raised bogs remaining in the Atlantic region of northwest Europe and €108 million has been allocated for Bord na Móna's peatlands restoration project. This aims to protect the storage of 100 million tonnes of CO₂ and is set to create more than 300 jobs as part of Ireland's efforts to be carbon neutral by 2050.

- <https://www.irishtimes.com/news/environment/midlands-must-not-become-rust-belt-after-power-plant-closures-1.4498472>

Growing Media Ireland warns: Horticulture sector 'faces extinction' without 'urgent changes' to peat laws

Calls for "urgent amendments" to legislation to allow peat harvesting to resume on Irish bogs for horticulture purposes are mounting on midlands-based politicians. In a letter to cross-party TDs and senators, Growing Media Ireland (GMI) – an association of the major horticultural peat and growing media producers in Ireland – has warned that the country's horticulture industry "is in imminent danger of closure". In the correspondence, seen by the *Farming Independent*, GMI chairman John Neenan writes: "Our largely rural industry (which supports 17,600 job) is in danger of extinction without urgent amendments to the legislation. "There will no peat supplies after September this year, which will have serious consequences for food production and biosecurity. "We would be grateful if you would press for amendments to the current legislation which prohibits the harvesting of horticultural peat," he said.

In February, representatives of the horticultural industry – including mushroom, vegetable, nursery and horticulture peat representatives – attended a sitting of the Joint Oireachtas Committee on Agriculture. Stakeholders included: GMI, the Commercial Mushroom Producer Co-op Society, Kildare Growers and the IFA's National Horticulture Committee. In addition to emphasising the importance of the industry to rural economies, national food security and biosafety, the stakeholders stressed the need for amendments to legislation in order to allow peat harvesting for horticultural purposes to take place this year, while a 'just transition' is being worked out.

With no alternative to native peat available, the committee heard that companies are importing peat from the Baltics and Russia to fulfil contract commitments. Mr Neenan told the committee that this situation "flies in the face of the notion of reducing carbon footprint". "Biosecurity is also at risk where peat and peat substitutes are imported. And despite millions of euro being spent on research by their own industry and by Teagasc, there is currently no viable alternative to peat. "After September 2021 available stocks of Irish horticultural peat will be exhausted and that any peat needed by the sector thereafter will have to be imported. "Carbon emissions will arise from the transport of such imports, which goes against the stated reason for the abrupt cessation of harvesting."

The issues regarding peat harvesting hark back to a landmark High Court ruling in 2019 which declared that harvesting peat on bogs over 30ha requires planning permission from An Bord Pleanála and a licence from the Environmental Protection Agency. The process can take up to four years to complete. The ruling has significantly affected horticulture peat producers who harvest on their own bogs, plus those that relied on horticulture peat

harvested by Bord na Móna (BNM). As such, the supply shortage has been further compounded by BNM's sudden exit from peat production in January of this year.

- <https://www.independent.ie/business/farming/tillage/horticulture-sector-faces-extinction-without-urgent-changes-to-peat-laws-40179946.html>

Restoring peatlands would improve water quality, report finds

Restoring vast tracts of Irish bogs, including large commercial peatlands developed by Bord na Móna, will have a big impact in capturing carbon but also significantly improve water quality, according a report by the Water Forum (An Fóram Uisce). "Ireland's peatlands are of national and international importance and if managed better they could improve water quality, store carbon, reduce CO₂ emissions and improve biodiversity," concludes the report by the statutory body which advises the Government on enhancing water resources. Ireland's land area is comprised of 20 per cent peatland, while 82 per cent of these peatlands are considered "degraded", it says. Their impact on water is considerable, the report adds.

"Drainage of peatlands and removal of surface vegetation releases nutrients (phosphorous and nitrogen), ammonia, dissolved carbon, which gives the water a dark colour, and sediment into rivers and lakes and this reduces water quality and is a particular issue in drinking water source areas," the forum says. "Healthy peatlands help provide natural filtration processes to clean water and reduce the quantity of water entering rivers and lakes; they help regulate the global climate and mitigate climate change; they support unique flora and fauna; and provide multiple social and cultural services to society." In contrast, drained peatlands have reduced capacity to store carbon "as they are not growing, they release CO₂ contributing to climate change and can no longer support plant and animal biodiversity. They are also at greater risk of fire", the report says.

Better management through rewetting and restoration of peatlands – as being undertaken by Bord na Móna – can reverse these trends and restore the natural peatland functions, it finds. "Rewetting is not flooding. But blocking drains can restore the water balance within the peatland so that plants can grow and re-establish to provide and improve animal habitats in the bog and downstream rivers," the Water Forum says.

Industrial cutaway bogs, however, will need longer-term measures and more intensive restoration programmes to recover, it warns. In January, Bord na Móna confirmed it had ceased peat harvesting and its future was focussed on renewable energy, recycling, peatland restoration and provision of other low carbon goods and services. Changing the function of bogs and peatlands from their economic use associated with peat harvesting, afforestation and agriculture to use for recreation, tourism and heritage values is best achieved through local community engagement, said Dr [Tom Collins](#), chairman of the Water Forum.

Communities needed to be given the opportunity to lead the change in peatland transformation from being sites of labour and employment to sites of restoration, recreation and conservation, he said. "These shifts in values need to occur in order to support the development of sustainable peatlands that support ecosystem services for water, biodiversity and climate, and for local communities." Dr Collins added: "Generations of Irish children have written loving essays entitled A Day in the Bog. Now we are trying to ensure that future generations of our children can write the same essay with the same innocent trust that some things never change."

- <https://www.irishtimes.com/news/environment/restoring-peatlands-would-improve-water-quality-report-finds-1.4531459>
- https://thewaterforum.ie/app/uploads/2021/04/Peatlands_Synthesis-Report_Final_April2021.pdf
- https://thewaterforum.ie/app/uploads/2021/04/Peatlands_Full_Report_Final_March2021b.pdf

Half a million euro to clear rhododendron out of Connemara National Park

Minister of State for Heritage Malcom Noonan has announced a funding allocation of €500,000 to clear the invasive rhododendron species from Connemara National Park. The funding will be spent over the next two years to help eradicate rhododendron across 300 hectares of heath and blanket bog within the National Park, and will create employment opportunities in the National Park. Minister of State Noonan: "Rhododendron is an extremely invasive species. It is one of the biggest threats to peatlands in the west of Ireland and can colonise habitats, causing significant problems unless properly managed. He said he's "delighted" the National Parks and Wildlife Service are using the funding to alleviate "a significant pressure" on the habitat and support the natural ecological function of the Park.

- <https://www.thejournal.ie/half-a-million-to-clear-rhododendron-from-connemara-national-park-5408886-Apr2021/>



Rhododendron ponticum in its natural peatland habitat: the percolation bogs of Colchis, Georgia, at the east coast of the name-giving Black Sea (Pontos Euxeinus). Photo: Hans Joosten.

United Kingdom

Langholm Moor: The largest ever community buyout of land in southern Scotland has been completed.

[Agreement was reached with Buccleuch to sell the area to the Langholm Initiative last year](#) after a lengthy fundraising campaign. The £3.8m deal, involving 5,200 acres and six properties around Langholm, has now been legally completed which will allow plans to create a nature reserve. In May 2019, Buccleuch Estates [announced its decision to sell 25,000 acres of Langholm Moor and the Tarras Valley in its Borders Estate](#). Community interest in taking over the land quickly developed. Within a year a campaign was launched to purchase the area around Langholm with the John Muir Trust donating £100,000. The Scottish Land Fund followed up with £1m, the Carman Family Foundation £500,000 and [£1m came from South of Scotland Enterprise](#). A range of other donations allowed a revised purchase price of £3.8m to be agreed late last year. Transfer of ownership has now been officially completed allowing work on the creation of the nature reserve and other projects to begin.

- <https://www.bbc.com/news/uk-scotland-south-scotland-56536679>

New report reveals why peat extraction is an environmental disaster

We know that peat isn't necessary in horticulture or in our gardens. It has no place in bagged potting composts, nor in the plants that we buy at garden centres. But recent research from the RSPB has shown the true environmental cost of extracting peat. And it's shocking.

- Nearly 80% of the UK's peatlands have been destroyed or degraded.
- As they degrade, the stored carbon is released. This means they currently emit more greenhouse gases than all the HGVs on UK roads.
- These emissions also cancel any benefits of the new climate emergency forestry planting.

So what actions should we take? The report recommends the following:

1. Stop extracting peat for horticulture. We need government to ban commercial peat extraction, and provide financial support to get sites restored.

2. Stop draining peatlands for agriculture. Dried peatland destroys the wet conditions needed by moisture-loving peatland wildlife and releases carbon dioxide into the atmosphere. It also promotes further erosion of the peat.
 3. Stop burning peat for game. Again, it dries and destroys peatlands. Plus the burnt, degraded blanket bog is less able to slow the flow of water across the bog surface, coupled with erosion, this can lead to heavier floods after torrential rainfall.
 4. Stop planting trees on peatlands. Afforested bogs release nearly 1000 times as many greenhouse gases as near-natural bogs. The carbon stored (sequestered) in the timber crop does not counteract these losses
- The RSPB is pushing for a peatland restoration programme. This would also involve the rewetting of bogs to prevent further carbon loss. Another solution would be to grow sphagnum moss as a commercial crop, for use in the horticultural trade.

- <https://www.gardenorganic.org.uk/news/new-report-reveals-why-peat-extraction-environmental-disaster>
- Repairing nature's carbon store - Restoring our peatlands is vital in the fight for a safe climate:
- <https://storymaps.arcgis.com/stories/fe3455a345bf45ce9b72d70ae75f933b>



Danby Moor in the North York Moors, North Yorkshire. Photo: Ban Bloodsports on Yorkshire's Moors

Partial ban on grouse moor burning comes into effect on May 1, 2021

The new law prohibits grouse moors from setting fire to many areas of blanket bog, the deepest of peatland sites, for a practice used to encourage new growth of heather to feed game birds reared for shooting. When announcing the new law, the Government said it had [reached consensus](#) that grouse moor burning damages the important ecosystems and prevents them from being restored. Any grouse moor operator found to have performed illegal burning from today will face penalties including a criminal caution, injunction, prosecution or removal of lucrative land management subsidies. Luke Steele, Spokesperson for Ban Bloodsports on Yorkshire's Moors, said: "England's grouse moors are woefully under-regulated so we welcome the new legislation coming into effect today, which means that burning on deep peat will no longer be routinely allowed in many areas.

“Grouse moors are fanning the flames of climate change by setting fire to carbon-rich peatlands. Whilst the partial ban on burning is a step in the right direction, the Government must go the whole way by completely ending the destructive practice.”

Grouse moor burning increased by almost a third during the last season despite the incoming ban. 723 incidents of burning were recorded by BBYM in Yorkshire alone between October 2020 and April 2021, compared with 550 incidents during the previous season. The new legislation would prohibit the 81 of these burns performed on blanket bog, showing an urgent need for the legislation to be extended to protect all peatland sites. To address the environmental impact of burning and its contribution to carbon emissions the Climate Change Committee is [recommending that the Government introduces a complete ban](#). Luke Steele adds: “The Government risks falling behind science and public opinion if it does not completely ban burning on all peatlands. We’re calling for urgent action to ensure the burning season which closed in April is the last.”

- <https://stootheshoot.com/2021/05/01/partial-ban-on-grouse-moor-burning-comes-into-effect-today/>
- <https://www.theguardian.com/lifeandstyle/2021/may/01/its-become-them-and-us-battle-to-burn-englands-moorlands>

Ministers failing to meet targets to restore peatlands

According to the [updated](#) Scottish Government [Climate Change Plan](#), 6,000 hectares of degraded peatland were restored in both 2018-19 and 2019-20. This is well below the latest target set by ministers of restoring 20,000 hectares a year. In total 25,000 hectares of peatland have been rehabilitated since 2012. The Climate Change Plan earlier set a target of restoring a total of 50,000 hectares by 2020. According to the Climate Change Plan, degraded peatlands are responsible for the equivalent of six million tonnes of carbon dioxide being released into the atmosphere every year. This is roughly equivalent to the GHG emissions coming from the entire Scottish residential sector. Only four sectors – transport, business, agriculture and energy supply – were responsible for more GHG emissions than degraded peatland in 2018, according to the national [GHG inventory](#).

Professor of plant and soil science at the University of Aberdeen [Pete Smith](#) said peatland restoration had to be “dramatically scaled up”, but a lack of “contractors and trained people to do this work” was a problem. “What better way to stimulate the economy and also contribute to our net-zero targets, than to invest in a jobs-based, green recovery creating jobs for people working in rural communities to deliver these ambitious peatland restoration targets,” he added. A spokesperson for the [Royal Society for the Protection of Birds in Scotland](#), which is responsible for large peatland restoration projects, said: “We need to see more funding for restoration work, both from government and businesses, more land managers to take up the challenge and to grow contractor capacity and skills to carry out restoration work.” A Scottish Government spokesperson said: “We are committed to delivering the peatland restoration targets set out in our Climate Change Plan, which are- rightly designed to be stretching, given Scotland’s world leading statutory emissions reductions targets for the economy as a whole.” The Scottish Government introduced [legislation](#) in 2019, which commits Scotland to reducing its net carbon emissions by 75 per cent by 2030, and to be at net-zero emissions by 2045.

- <https://theferret.scot/less-one-third-peatland-restoration-targets-met/>

Climate-concerned gardeners demand UK ban on peat compost

The UK government must ban the sales of peat compost this year after its goal of a voluntary phase-out by 2020 proved an “abject failure”, according to a group of gardening experts, conservationists and scientists. The group say the UK as host of the UN climate summit talks this year should show leadership on the issue.

The Easter weekend is traditionally the biggest gardening weekend of the year, and the first coronavirus lockdown in 2020 is estimated to have created [3 million new gardeners](#). In a survey by the Wildlife Trusts, just one of the 20 leading garden retailers – Travis Perkins – said it would end peat compost sales in 2021. The trusts said there was no sign of the government’s long-awaited peat strategy. “In 2011, the government set voluntary targets to end sales of peat-based compost for domestic use by 2020. This has been an abject failure,” said [the letter to the environment secretary, George Eustice](#) signed by the TV gardeners Alan Titchmarsh, Kate Bradbury and James Wong, the conservationist Isabella Tree and dozens of others. “If the government wants to show global leadership on the climate crisis before it hosts the CoP26 climate conference, this is a vital step.”

Craig Bennett, the chief executive of the Wildlife Trusts, said: “Countless promises have been broken and targets missed, with the result that precious peatland habitats are still being unnecessarily destroyed in the name of gardening. The time for delay and excuses is over. The government can ensure these important carbon stores function as nature intended by banning peat sales now.” In November the gardener Monty Don called peat in compost “[environmental vandalism](#)” and joined the National Trust, the Royal Horticultural Society and other groups in calling for a ban. The government’s voluntary target for the horticulture sector was to end sales to gardeners by 2020 and to end professional use of peat – for example, in plant growing – by 2030.

A spokesperson for the Department for Environment, Food and Rural Affairs said: “We are committed to phasing out the use of peat in horticulture in England by 2030 and we urge all gardeners to play their part and only use peat-free products.” She said there had been a 25% decrease in peat sold from 2011 to 2019. More than 2m cubic metres of peat were used in 2019.

The Wildlife Trusts survey received responses from 11 of the 20 retailers contacted. Only two declared an end-date for peat sales: Travis Perkins in 2021 and Wickes by 2025. B&Q and the Blue Diamond group of garden centres said they were committed to phasing out peat but gave no date. Asda, Lidl and others said they had targets to reduce peat sales but not yet to end them. Wyvale Garden Centres, Morrisons and Sainsbury’s were among those that had not responded to the survey by the time of publication.

- <https://www.theguardian.com/environment/2021/apr/02/climate-concerned-gardeners-demand-uk-ban-on-peat-compost>
- <https://www.bbc.com/news/science-environment-56598452>
- <https://farmweek.com/wildlife-trusts-call-for-an-immediate-end-to-peat-sales/>

Co-op to ban peat-based compost from stores

The Co-op is to stop selling peat-based compost and begin rolling out specially-formulated, environmentally-friendly alternatives across its 1,100 UK stores and forecourts. Co-op – working with retailer Westland – invested £35million to develop a peat-free compost called New Horizon.

- <https://www.businessgreen.com/news/4029388/op-ban-peat-compost-stores-help-prune-emissions>
- <https://www.dailymail.co.uk/news/article-9436075/Now-op-goes-peat-free-Supermarket-chain-stops-selling-compost-peat.html>
- <https://www.talkingretail.com/news/industry-news/co-op-switches-to-selling-only-peat-free-compost-06-04-2021/>

Morrisons’ carbon neutral pledge ‘nearly impossible’ without reducing meat production, says expert

[Morrisons](#) says it will be the first supermarket giant to be completely supplied by carbon-neutral farms by 2030. The UK retailer says it plans to work with suppliers of meat, fruit, and vegetables to create a net-zero model. Morrisons is UK farming’s biggest customer and will work directly with its farmers to create affordable zero emission produce. The first to hit shelves will be zero emission eggs by 2022, with lamb, fruit, vegetables, pork and beef following before the end of 2025. Beef farming is the most challenging product to make greener as it currently generates 45 per cent of all UK agricultural carbon emissions for only five per cent of products sold. Almost half of this is due to methane produced by the cows. Morrisons is working closely with its farms to create a zero emission beef range by 2025 by using smaller cattle breeds, low-methane feed, methane reducing supplements (such as seaweed), and by planting trees.

The National Farmers Union has asked farmers to work towards a 2040 ‘net zero’ emissions goal, with other supermarkets working towards 2035. British farming’s biggest supermarket customer, Morrisons, will work alongside its 3,000 farmers and growers to achieve this target five years earlier, in 2030.

“The farm models will look at reducing carbon via rearing different animal breeds, low food-mile feedstuffs, renewable energy, and low emission housing, and cutting down fuel and fertilizer use. “They will also look to offset carbon emissions via planting grassland and clover, restoring peatland, improving soil health, planting trees, and, seeding hedgerows.”

However, an expert in agriculture and sustainability told [The Independent](#) the move is ‘nearly impossible’ unless Morrisons reduce its meat production – an incentive the retailer is yet to comment on. Dr. Hannah Ritchie, from the University of Oxford, told: “Given the carbon-intensity of meat and dairy, the amount of emissions to offset will still be substantial... It will require a lot of trees. “A more fundamental issue with this strategy is that more and more companies are pleading to offset their emissions in this way. It’s just not possible that every company

does this. "Offsetting is no substitution for carbon reduction or elimination. There are only so many trees you can grow..."

- <https://plantbasednews.org/news/environment/morrison-carbon-neutral-pledge-impossible-without-reducing-meat/>
- <https://www.in-cumbria.com/news/19199338.morrison-pledges-use-100-zero-emission-british-farms-2030/>
- <https://www.cambridge-news.co.uk/news/uk-world-news/morrison-announces-6-changes-every-20067131>

Offsetting by restoring peatland??? Isn't Morrison aware that a major part of its vegetable and dairy products directly come from drained peatlands? Every litre milk produced by cows on peatland meadows has – mainly because of drained peat soil emissions - the CO₂ equivalent of 2.4 litre of petrol. Cheese produced from this milk burdens the atmosphere with 50 kg of CO₂ for every kg of cheese produced.... Agricultural companies and organisations like to ignore these emissions, because for UNFCCC they are not reported under the sector 'Agriculture' but under the sector 'LULUCF' (Land Use, land Use Change and Forestry). But it is exactly agriculture on drained peatlands that causes the bulk of the emissions, i.e. more than the burping cows...

Famous Grouse preserves Scottish wilderness

Blended scotch whisky The Famous Grouse has partnered with the Royal Society for the Protection of Birds to restore a 300-hectare nature reserve in Scotland. The Edrington-owned whisky brand will fund a three-year project, which aims to restore the natural landscape of the region, and promote biodiversity through woodland expansion and peatland restoration. According to the RSPB, approximately half of all peatland habitats in Scotland are damaged to some degree, leading to it drying out over time and releasing carbon into the atmosphere. The re-profiling of the land during the project will help to restore the peatland to its natural condition, mitigating damage caused by over-grazing and draining.

- <https://www.thespiritsbusiness.com/2021/03/famous-grouse-initiative-preserves-scottish-wilderness/>

Johnnie Walker launches big sustainability push,

On 14 Apr, 2021, Johnnie Walker – the world's best-selling Scotch – launched its most ambitious sustainability drive to date. Johnnie Walker will be partnering with the RSPB Scotland (Royal Society for the Protection of Birds) to restore 88 hectares of heavily degraded peatland.

- <https://www.prnewswire.com/in/news-releases/johnnie-walker-keeps-walking-as-it-launches-its-biggest-ever-sustainability-push-880486557.html>

Brewdog plans to establish UK's biggest native woodland and restore peatland

BrewDog has revealed its plans to build an eco-hotel, distillery and outdoor centre, while establishing the biggest native woodland and peatland restoration project in the UK. In August of 2020 BrewDog became the world's first carbon negative beer business and has, so far, invested over £50m in reducing its environmental impact. The Ellon-based brewer purchased the Kinrara Estate in January this year. BrewDog's carbon footprint increased during 2020 as it increased home deliveries to ensure survival, as its many pubs and restaurants were forced to close. More than three million trees are planned to be planted, alongside restoring thousands of acres of degraded peatland to help return life to habitats, encourage biodiversity and store carbon.

- <https://www.insider.co.uk/news/brewdog-plans-establish-uks-biggest-23924083>
- <https://www.scotsman.com/news/brewdog-steps-up-reforestation-drive-with-purchase-of-cairngorms-estate-3201687>

Ambitious plans aim to create a 'Great North Bog'

Conservation plans are underway to create a 'Great North Bog' to restore thousands of acres of peatland stretching from the Peak District to the Scottish Borders. The area covers five national parks including the Peak District, Yorkshire Dales, North York Moors, the Lake District and Northumberland. The peatland restoration project is estimated to cost in excess of £200m over a 20-year lifespan and involves protecting and restoring 2,700sq miles of upland peat. The Great North Bog area is estimated to store more than 400m tonnes of carbon. Due to annual erosion and the drying-out of peatlands, an estimated 3.7m tonnes of carbon are released per year. This equates to approximately one per cent of the UK's annual carbon emission of 350m tonnes. The climate

change committee estimates the amount of healthy peatland required to help the UK achieve its carbon targets needs to be increased from the current 25% to 58% by 2035 and to 79% by 2050.

So far, there has not been any mention of compensation to sheep farmers and landowners who currently manage the peatlands included in the £200m scheme. Old Victorian drainage systems helped turn peatlands into more animal productive landscapes. Post-Second World War, as a result of greater mechanical engineering and the need for increased levels of home-grown food production, the upland regions were drained. During the 1950s and 1960s, government schemes paid landowners to drain moorland bogs for sheep grazing.

The UK is set to host the COP26 United Nations climate summit in Cornwall in November and the government is keen to back environmental projects. Environmentalist's claim restoring peat lands will help reduce flood risk, assist water filtration, aid biodiversity and will create a haven for wild flowers and wildlife as well as, aid tourism. National Parks UK is currently drawing up funding procedures for the project.

- <https://www.northernfarmer.co.uk/news/19220930.ambitious-plans-aim-create-great-north-bog/>

Scaled down plans for wind farm near Grantown to be submitted later in 2021

Revised plans for a wind farm near Grantown, Scotland, are expected to be lodged with Scottish Ministers towards the end of this year, the developers have said. Swedish state-owned energy giant Vattenfall has in its latest proposal for the Dava Moor site reduced the number of turbines from an initial 50 to 18. A Vattenfall spokesperson said: "As the project has developed, further landscape review work established that the site should be reduced in scale and set back from the Cairngorms National Park. "Turbines have been positioned to reduce impacts on the Strathdearn Hills and to protect the special landscape qualities of Dava Moor. "In early 2020 an indicative layout of up to 27 turbines at up to 180m blade tip height was subject to EIA Scoping engagement with consultees. "Further design reviews to address design advice from consultees, avoid significant landscape and visual effects on key receptors and minimise peatland disturbance have resulted in the latest proposed layout which comprises 18 turbines at up to 180m blade tip height..."The latest design has reduced the number of turbines and located them in an area at the north corner of the site, reducing visual impacts from public routes over Dava Moor, the Dava Way and the A939 corridor. "Appropriate mitigation measures to protect local wildlife are being developed through the EIA and opportunities for peatland restoration within the site are also being considered." Vattenfall has said that following further design work, completion of an Environmental Impact Assessment and a second public exhibition, they now intend to submit the wind farm application to the Scottish Ministers later in 2021.

- <https://www.strathspey-herald.co.uk/news/scaled-down-plans-for-wind-farm-near-grantown-to-be-submitted-233975/>

Scotland must continue to lead the world on climate change

Scotland's First Minister Nicola Sturgeon (Scottish National Party SNP) has set out her ambition to keep Scotland at the forefront of global efforts to tackle climate change. In Government, the SNP has introduced the most ambitious legal framework for emissions reduction in the world, with a target to reduce emissions by 75% by 2030, on the way to being a net zero nation by 2045 – 5 years ahead of the UK. If re-elected, an SNP Scottish Government would ramp up efforts to meet these targets, with among the key pledges: "Invest £250m to support the restoration of 250,000 hectares of Scottish peatland by 2030." Furthermore, Scottish Conservative leader Douglas Ross has proposed a new Nature Bill, including ... the ending of peat extraction for use in compost, increasing peatland restoration to 20,000 hectares annually by 2024.

- <https://www.snp.org/scotland-must-continue-to-lead-the-world-on-climate-change/>
- <https://www.scotsman.com/news/opinion/columnists/scottish-election-2021-our-natural-environment-needs-greater-protection-murdo-fraser-3190426>

Scotland launches latest round of peatland restoration funding

Farmers, landowners and land managers across Scotland can now access a £22 million fund to undertake peatland restoration projects. This is the next stage of the ten-year, £250 million package announced by the Scottish Government in February 2020. Peatland restoration is a key part of the Scottish Government's goal of achieving a net-zero Scotland by 2045 at the latest. As well as smaller projects, the 2021 funding round has been expanded also to welcome large-scale schemes over multiple years, allowing more flexible planning of projects

and providing longer-term confidence to those looking to invest in people and machinery to undertake works on the ground. Environment and Climate Change Secretary Roseanna Cunningham commented on the announcement: “I am delighted that for the first time we can now also invite multi-year projects that can overcome some of the barriers to significantly boosting rates of restoration, and look forward to this funding round injecting fresh impetus and energy as we lead the way in a green recovery from COVID-19. “This approach allows us to invest in projects at scale that will deliver the sort of largescale carbon sequestration we need to meet our climate change targets – and make significant improvements to our environment too.”

Peat soils cover almost a quarter of Scotland, about 1.7 million hectares, storing some 1.6 billion tonnes of carbon – the equivalent of an estimated 140 years of Scotland’s emissions. However, it is estimated that more than 80% of peatlands in Scotland are in poor condition and instead of capturing and storing carbon, they release it into the atmosphere. Applications, which are open to all landowners or land managers, can be made at any point up to midnight 30 September, through [the NatureScot website](#).

- <https://www.theicon.org.uk/scotland-launches-latest-round-of-peatland-restoration-funding/>

Dartmoor commoners want peatland conservation project to stop for re-evaluation

Dartmoor Commoners who farm the High Moor around Whitehorse Hill, one of Dartmoor’s highest points and the site of the unique Early Bronze Age burial cist excavated in 2011, have been upset by the actions of South West Water amongst the peat mires. South West Water is the major contractor currently carrying out peat restoration works for the South West Peatland Partnership which has been funded by DEFRA to restore 1599 hectares of degraded peatland on Bodmin Moor, Dartmoor and Exmoor. The Forest of Dartmoor Commoners’ Association and The Dartmoor Society strongly feel that the restoration actions of South West Water’s contractors on site have been negligent and careless and aside from causing flooding that the Commoners believe may further eroding away the remains of the Whitehorse Hill cist, believe that the intrusive intervention could cause unnecessary damage to additional archaeological remains yet to be discovered.

This area of Dartmoor is of international importance. The Whitehorse Hill cist was unique in that unusual environmental conditions had enabled the preservation of cremated human remains and other organic materials from the early Bronze Age, some 4,000 years ago, as well as other artefacts of daily life. Being the first such prehistoric burial to be excavated on Dartmoor in over 100 years also meant that for the first time modern scientific analytical techniques could be applied, giving a unique insight into the Bronze Age environment and culture on Dartmoor. We now know that the grave was that of (probably) a young woman, aged 15-25, buried about 1750-1600 BC, around August to September time, with the remains wrapped in a bear pelt and laid upon a bedding of mainly purple moor grass (*Molinia*). Jewellery in the form of bead necklaces was recovered, including an amber bead, along with a woven cattle hair bracelet, a sash woven from nettle yarn and two pairs of wooden studs.

As part of the peatland restoration programme, artificial ponds are being created and erosional gullies dammed by up to three tracked bucket excavators, digging up the peat and creating bunds around the edges to hold back water, thereby raising the water table to promote the growth of *Sphagnum* moss and peat formation, aiding carbon sequestration. Concern was that the rising waters could flood the burial cist and further erode the structure encasing it, possibly harming other potential archaeological remains in the area, and hindering safe passage for walkers and livestock through the mires. In response, the Mires Project Leader for South West Water, Morag Angus, stated that the works on the peat were a mistake and that they would be rectified, and that the pools excavated in the peat by the excavators were only a digger shovel deep.

The Commoners expressed their concerns that the dam should never have been built without consultation, had never been agreed to at any of the joint planning meetings, and that the discovery of the dam and the peatland restoration work in such close proximity to the burial cist had come as quite a shock to the Commoners. The Commoners pointed out that the damage done by the diggers was unacceptable, and that had they as farmers done similar damage, they would be heavily fined by Natural England. Criticism was also made of the depth of the pools, and that nothing had been said or agreed previously about the creation of so many pools. Of additional concern to the Commoners was the lack of an obvious archaeological presence for monitoring the digger work. Unfortunately, the response that ‘the project was too big to consult everyone’ and that the archaeology presence

had been a waste of resources on Exmoor as they 'had only found one item to date' failed to provide much reassurance, particularly being in close proximity to such a major recent archaeological discovery.

The Dartmoor Society also went on to visit Black Hill, one kilometre southwest of Whitehorse Hill, an area of similar vegetation and topography where 54 hectares have been earmarked for the next phase of groundworks. As a result of dissatisfaction with all the work on Whitehorse Hill, the Dartmoor Society have written to the Dartmoor Peatland Partnership requesting that the scheduled works be immediately paused 'in order to evaluate the effectiveness of the methodology and the attendant risks to public safety and hidden archaeology', including a study of the natural peat regeneration in the local vicinity. Most importantly, the Dartmoor Society feels that there has been a severe lack of proper communication from South West Water, which, coupled with a feeling of disregard for the knowledge and experience of the local people that actually know and understand the land that they inhabit and work on, has led to a major lack of confidence in the project.

- <https://themoorlander.co.uk/dartmoor-commoners-dissent-with-whitehorse-hill-peatland-conservation-project-dartmoor-society-calls-for-work-to-stop-for-re-evaluation/>

Urgent action needed as Cambridgeshire at 'high risk from climate change'

On Monday March 15, the Cambridgeshire and Peterborough Independent Commission on Climate Change released its first report, highlighting the need to take "urgent action," and outlining suggested policies to reduce emissions. The report said greenhouse gas emissions in the county are "high", approximately 25 per cent higher per person than the UK average. It also said, at this rate "we have only about six years remaining before we will have exhausted all of our 'allowed' share of emissions to 2050, if we are to play an equal part in delivering the UK's critical net-zero target". The report found the area is at a "high risk from the changing climate", and that many of the feared effects in the UK are "particularly severe" in our region. These include an increased risk of flooding, high summer temperatures, water shortages, and damage to the natural carbon stores in the deep peat of the Fens. The report said that by the end of the century nearly one in 10 homes and one in four agricultural and industrial production facilities could face river flooding. Communities, farms and industry in the areas of Wisbech, Whittlesey, Huntingdon, St Ives and the eastern edge of Peterborough "face the highest risk".

Commissioned by the Cambridgeshire and Peterborough Combined Authority, the report has made over 30 "initial recommendations" ahead of a more comprehensive report expected later this year.

It says that while the national government holds "many of the levers", decisions that can be taken in Cambridgeshire and Peterborough can plan a "very important role" in reducing the area's carbon emissions.

The report estimates an investment of around £700 million a year will be needed in the area throughout the 2020s, "some" of which will be public investment, but "much of it will be private".

Peatland in the Fens is a particular area that will need investment and focused policy, the report says, with uncertainty over the extent of its greenhouse gas emissions and how best to reduce them. While the county's emissions are already "high" compared with the national average, were peatland emissions to be included in the assessment the comparison would be even less favourable. Estimates are uncertain, but the report says including peatland could add a further 45 per cent to the area's total emissions. While the extent of the issue is uncertain, the report nevertheless said reducing peatland emissions will be "critical to success in reaching net zero overall". The report recommends the combined authority should establish and fund a Fenland Peat Committee, while also looking to attract investment and research to better assess emissions and to encourage new farming techniques.

- <https://www.cambridge-news.co.uk/news/local-news/urgent-action-needed-cambridgeshire-high-20169967>

RHS pledges to be peat-free by 2025

The [Royal Horticultural Society](#) (RHS) has announced plans to be peat-free by 2025, urging gardeners around the UK to do the same. Instead of using peat in its [plants](#), the RHS will begin trialling sphagnum moss from sphagnum farming, anaerobic digestate, forest co-products, and waste materials to achieve peat-free status. While the beautiful RHS [gardens](#) are currently 98% peat-free (with the exception of some rare and exotic plants), the horticultural charity will also stop selling plants in peat and ban it at its famous flower shows.

"Our work reveals that the UK's 30 million gardeners are increasingly aware of the environmental impact of their gardens and as part of that are seeking out sustainable alternatives including peat-free products," Alistair

Griffiths, Director of Science and Collections at the RHS, says. "However, the challenge for industry in finding a replacement for the two million cubic metres of peat used should not be underestimated and is why government support will be crucial in helping to protect this precious resource and ensure our plots are truly green."

Rebecca Pow, Environment Minister, explained that the move is "welcomed" and very "important". She added: "It is tremendous to see such innovative alternatives being trialled. Restoring and protecting peat is vital if we are to have thriving ecosystems and a healthy planet." Back in October last year, [Monty Don urged gardeners](#) to avoid purchasing plants grown in peat, explaining that garden centres who stock them are "actively choosing to do harm". Writing in his [Gardeners' World](#) magazine column, the presenter said: "If you don't care about this you are sticking your head in the sand, not least because it will affect the quality of life for your children and grandchildren. For gardeners, this means we have to consume less and think more about the connections... never buy peat in a potting compost."

- <https://www.countryliving.com/uk/homes-interiors/gardens/a35885041/rhs-peat-free/>
- <https://bromsgrovestandard.co.uk/news/eco-action-to-help-the-planet-avoid-peat-and-pesticides/>

Peat extraction plans for Nutberry Moss rejected by Dumfries and Galloway Council

Chemicals company [ICL](#) had applied to continue extracting peat, which it uses in the production of compost, from a site called Nutberry Moss, near Annan, until 2029. The proposal had been opposed by local residents, green groups and the Scottish Environment Protection Agency ([SEPA](#)) because peat plays an important role in combating climate change. A report by Dumfries and Galloway [Council](#) recommended that the application to extend peat extraction at Nutberry Moss be refused because it "would result in the release of further carbon emissions into the atmosphere and fail to limit the impacts of climate change". In a vote on 24 February, councillors on the planning committee unanimously agreed with the conclusions of the report and voted to reject the application. Environmental groups welcomed [Dumfries and Galloway Council](#)'s decision. They also argued that a strong position on the protection of peatlands is particularly important given that Glasgow will host a major United Nations summit on climate change – known as COP-26 – later this year. "At a time when the Scottish Government is investing £250 million over ten years in peatland restoration on the one hand, it makes no sense to allow continued destruction of peat bogs on the other hand."

- <https://theferret.scot/peat-extraction-plan-nutberry-moss-rejected-council/>



New regulations for blanket bog burning

In February 2021, the Government introduced new regulations banning the burning of certain types of vegetation on protected blanket bog peatland without a licence in England. On 18 March 2021, the House of Lords debated a motion criticising the new regulations as not adequately protecting peatland or reducing UK carbon emissions. This article summarises what the regulations do and what the reaction to them has been since they were announced.

In January 2021, George Eustice, the Secretary of State for Environment, Food and Rural Affairs, announced that [the Government would introduce new regulations](#) to prevent the burning of heather and other types of vegetation on protected blanket bog habitats. These regulations—the [Heather and Grass etc. Burning \(England\) Regulations 2021](#) (SI 2021/158)—were made on 15 February 2021 and laid before both Houses the following day.

Peatlands have been identified as both [an important store for carbon and a habitat for plant life and animals](#). In 2019, Natural England estimated that [England’s peatlands stored around 580 million tonnes of carbon](#). It has argued the preservation of peatlands in England was important to combat climate change and to help achieve the Government’s aim to reach net-zero carbon emissions by 2050. Specifically, Natural England has [identified “deep peat” sites as important areas of carbon storage](#). Areas of peatland classified as “blanket bogs” have been identified as particularly important stores of carbon.

Burning vegetation is [used in land management, including the management of upland peatlands](#). This includes creating and maintaining habitats suitable for [the supply of grouse for the grouse shooting industry](#). The Game and Wildlife Conservation Trust has argued rotational burning has several other benefits including [supporting livestock grazing and increasing biodiversity](#).

The burning of heather, rough grass, gorse, bracken and vaccinium species (such as bilberries) on peatland is already restricted under the [Heather and Grass etc. \(Burning\) Regulations 2007](#). Under these regulations, burning is only allowed during the burning season, which lasts from 1 October to 15 April in uplands and from 1 November to 31 March in other areas. [Licences are issued by Natural England for certain types of burning](#), including burning outside the burning season and burning an area larger than 10 hectares.

The independent advisory body the Climate Change Committee has [called for burning on peatland to be banned](#), arguing the practice leads to an increase in the UK’s carbon emissions. The Royal Society for the Protection of Birds has also [called for an end to the practice](#). However, the Countryside Alliance has argued [peatland burning is an important element of moorland management](#). It has argued the benefits include the prevention of wildfires. The regulations establish new restrictions on the burning of heather, rough grass and other specified vegetation intended to protect blanket bog sites. The [explanatory memorandum](#) provides the following summary of the regulations:

This instrument bans the burning, without a licence, of specified vegetation on peat over 40 centimetres in depth in a site of special scientific interest that is also a special area of conservation (and/or a special protection area). The purpose is to prevent further damage by burning to approximately 142,000 hectares of protected blanket bog habitat. This instrument is not intended to regulate accidental fires of the type and nature caused by military training. The sites referred to above are covered by the following legislation:

- [Sites of special scientific interest](#) are conservation sites protected under the Wildlife and Countryside Act 1981, as amended.
- [Special areas of conservation](#) are sites designated for the conservation of natural habitats and of wild fauna and flora. They are protected in England under the [Conservation of Habitats and Species Regulations 2017 \(as amended\)](#).
- Special protection areas are sites designated for the conservation of birds. These are also protected in England under the Conservation of Habitats and Species Regulations 2017 (as amended).

Restoring England’s peatlands is a priority for the Government. It will help achieve net zero carbon emissions by 2050 as well as protecting our valuable habitats, and the biodiversity those habitats support.

Reacting to the announcement that new legislation would be introduced, the Moorland Association, which represents the owners of moorland managed for grouse shooting, [voiced concerns about the impact of the new requirements](#). It said: Heather burning is a vital tool for moor owners and managers who are heavily involved in

peatland restoration and tackling climate change. They will be concerned over the impact new legislation and further restrictions may have on their important conservation work. However, it also said it welcomed the recognition by the Government that burning was an appropriate tool for land management. It said landowners wanted to work constructively with the Government.

Wildlife and Countryside Link, a coalition of environmental and conservation organisations, has argued [the regulations do not do enough to protect upland peat habitats from the impact of burning](#). It has argued the regulations would only protect 30 percent of England's upland peatland.

The [House of Lords Secondary Legislation Scrutiny Committee has drawn the instrument to the special attention of the House](#) on the grounds of its political or legal importance and because it gave rise to issues of public policy that would be of interest to Members. The committee raised the following concerns:

We are concerned that as key aspects of the Secretary of State's decision-making in relation to licences will be set out in guidance there is limited time available for the Department to consult on the new guidance before licensing applications can be made ahead of the start of the burning season on 1 October.

We also take the view that the Department should have been clearer about the size of the areas of peatland that will be affected by the ban on unlicensed burning, as the different metrics and reference points used in the explanatory memorandum are a source of confusion. Given the environmental significance of England's peatlands, and that the Department regards the instrument as a "crucial step in delivering the aims of the England Peat Strategy and to meet nature recovery and climate change mitigation and adaptation targets", the House may wish to examine these issues further.

- <https://lordslibrary.parliament.uk/peatland-burning-new-regulations-for-blanket-bog-habitats/>

Scottish Government accused of 'false solutions' to climate crisis

The [Scottish Government's](#) climate change plan contains "false solutions" to meet its net-zero targets, a leading environmental group has claimed. The [updated government plan](#) includes pledges to increase woodland cover across Scotland from 18 to 21 per cent, and to restore 40 per cent of Scotland's degraded [peatland](#) by 2032. There's also a commitment to achieve a quarter of carbon emissions reductions through [negative emissions technologies](#) (NETs) by 2032. The term net-zero refers to a position in which carbon emissions going into the atmosphere are balanced by their removal by carbon sinks.

But head of campaigns at [Friends of The Earth Scotland](#) (FoES), [Mary Church](#), told The Ferret the commitment to achieve carbon emissions reductions through "unproven" NETs was "really worrying". She also raised concerns over plans to sell Scottish woodland and peatland projects on the open carbon market. Church's comments follow a [report](#) by [Friends of the Earth International](#) (FOEI) published February 22, which accused global governments and corporations of relying on unrealistic "carbon unicorns" to limit warming. The report argued the current global focus on net-zero pledges, carbon markets, and NETs are "part of the strategy basket of those fighting to maintain the status quo" on carbon emissions. Church said that framing targets around net-zero avoids "the decision that needs to be made for a planned phase out of fossil fuels and a just transition to a renewable energy economy."

Currently the main carbon sinking methods in Scotland are through the planting of woodland and the restoration of degraded peatland. One way of funding these activities is through the sale of projects as carbon credits on the open carbon market. Theoretically, polluting companies 'offset' emissions they cannot remove from their businesses by buying these carbon credits, and funding projects which absorb the residual carbon emissions. But the FOEI report points out that any difference between the amount of carbon going into the atmosphere and that being removed by carbon sinks could lead to extra carbon dioxide in the air for "hundreds to thousands of years".

In its [updated climate plan](#), published in December 2020, the Scottish Government pledged to increase woodland cover across the country from 18 to 21 per cent and to restore 40 per cent of Scotland's degraded peatland by 2032. It is noted that private investment through the carbon market will be needed to achieve these targets. According to Church, however, there is "no evidence that existing carbon markets work, and even if they could, there is no time left to trade emissions" if warming is to be kept under 1.5 degrees, the level deemed acceptable by the [2015 Paris Agreement](#).



Peatland in Scotland. Photo: Hans Joosten.

The Scottish Government’s updated plan lays out for the first time the role that [negative emissions technologies](#) (NETs) will play in Scotland’s transition to net-zero. There are [concerns](#), though, that NETs would have to “scale up hundreds of times compared with today’s levels” to have a meaningful impact on emissions. Professor [Pete Smith](#), Science Director of the [Scottish Climate Change Centre of Expertise](#) at the [University of Aberdeen](#), said that while it made sense to “mop up difficult to abate emissions” using NETs, “plan A must be immediate and aggressive emissions reductions across all sectors of the economy”. Net-zero rhetoric and the role of carbon markets are both expected to feature heavily in the talks at the [UN’s COP26](#) climate conference, due to be [held in Glasgow](#) in November.

A Scottish Government spokesperson said: “We are proud to have the most ambitious legal framework for emissions reductions in the world. We have already halved emissions since 1990 and are committed to ending Scotland’s contribution to climate change in one generation. In no way does this amount to maintaining the status quo.

- <https://theferret.scot/green-scottish-government-false-solutions-climate/>

North-America

Canada

Coming together to protect the Northern Saskatchewan muskeg

Many residents of La Ronge, Saskatchewan and the surrounding area are concerned about a proposed peat moss mining project near their homes. In November 2018, Lambert Peat Moss Inc. made a proposal to the Saskatchewan government for peat extraction on four parcels of muskeg south of La Ronge, totalling up to 2619 hectares over an 80-year period. There has been some peat mining in Saskatchewan since the 1950s, but there is a growing awareness of its harmful environmental and sociocultural effects. A community engagement meeting held by Lambert in September 2020 caught the attention of Miriam Körner, a local author, artist, and

wilderness guide, who alerted other community members. A number of concerned residents formed the group For Peat's Sake: Protecting Northern Saskatchewan Muskegs and created a Facebook page of the same name that now has more than 1000 members.

Group members began to inform themselves and share information about the many valuable properties of muskegs. They reached out to other local residents and groups such as local trappers, Lac La Ronge Indian Band (LLRIB), and Métis Nation Saskatchewan, and organized a campaign of contacting government officials and the media, and a speakers' series and film presentations on their Facebook page. "The many layers of the muskeg, the rich composition of plant life and water, teaches interconnection of all life, people, animals, birds, plants ... what are we going to leave our great grandchildren?" Elder Eleanor Hegland offered her thoughts on the importance of muskeg at a community gathering and ceremony. She grew up and still lives on the muskeg, and taught culture and language in LLRIB schools for several years. She remembers as a young child digging in the muskeg and being taught by the elders not to destroy it, "because it cleans our water; it gives us life; to them the muskeg was sacred." She also noted that many plants that people have used for medicine for hundreds of years grow in muskeg, and said, "That's the thing, it's our pharmacy ... for a lot of people, the land provides."

Climate activists and others have identified many reasons to preserve muskeg intact. As Eric Reder of Wilderness Committee puts it, "I don't like to use war analogies, but mining peat is like releasing a climate change bomb." Environmental analyst Roger Harrabin explains, "A wet, pristine peat bog soaks up CO₂ and, unlike trees, has no limit to the amount of carbon it captures ... But a dry, degraded bog ... is a big source of CO₂ as the carbon in the bog oxidizes."

Lambert pledges to reclaim and restore the mined peatlands: "The Decommissioning and Restoration Plan will aim at re-establishing vegetation cover and restoring hydrology so that the sites will be on a trajectory that will lead to the return of peatland ecological functions and services." A close reading of this statement raises doubts. At the rate that peat accumulates (approximately 1mm per year) how long will it be before the peat recaptures the amount of carbon it stored prior to mining? Several lifetimes, at least.

Muskeg serves to mitigate both flood and drought conditions, as moss and peat soak up or release water. Wildfires have swept through boreal regions in the last several years, and bogs can act as fire breaks. However, mined fields, drained of water and stripped of vegetation, lose all of these beneficial properties. They burn readily – and once started, peat fires can burn underground for months and even years. If Lambert is permitted to go ahead with its plans, the La Ronge area could see an increased risk from forest fires, which alarms many local people in light of the 2015 wildfire season that resulted in the evacuation of 14,000 people. Ironically, a mined field in one of Lambert's properties in Québec was burned over in a wildfire in the summer of 2020.

The area that Lambert proposes to mine is home to woodland caribou, which have been in decline for decades and are listed as "threatened" under the federal *Species at Risk Act*. It will be important to consider the cumulative effects of peat mining and other land disturbances in the area, together with climate change, in order to understand the potential effects of Lambert's proposal on this population.

Many residents of the La Ronge area, Indigenous people and settlers alike, value the muskeg for much more than tax revenue for provincial coffers, employment for 25 people (which may be seasonal), and "offsets" for caribou habitat, which would involve restoration of areas outside of the disturbed area. In the video called "Standing Together to Protect Muskeg: *ta-kistîthihtamahk ikwata-manâcihtâyahk wâpâstâskamikwa*," Körner summarized a view that was common to many group members by saying, "The Western industrial view of land as a resource to be exploited clashes with the Indigenous view of land being sacred."

The project is currently in the environmental assessment process with the Saskatchewan government, but the group is advocating for a federal process. Some members have expressed the view that consultation is not a satisfactory way for corporations and government officials to engage with First Nations and Métis. They would prefer a more cooperative approach, with the aim of protecting the values that they assign to the land, not simply its use value.

- <https://watershedsentinel.ca/articles/for-peats-sake/>

Groups ask for pause to Ring of Fire work until plans in place for clean water and peatlands

A coalition of Indigenous and environmental organizations is calling on the Canadian and Ontario governments to impose an “immediate moratorium” on all mineral exploration or impact assessment work related to the Ring of Fire region. A dozen organizations, including the [Canadian Environmental Law Association](#) (CELA) and the Ojibwe Women's Water Council (OWWC), have [penned an open letter](#) to Prime Minister [Justin Trudeau](#), Environment and Climate Change Minister [Jonathan Wilkinson](#) and provincial leaders asking for the pause. Ontario's Ministry of Energy, Northern Development and Mines believes the Ring of Fire region in the province's north has [valuable deposits of several minerals](#), including chromite, which can be used to make stainless steel. Ontario Premier [Doug Ford](#) has labelled it a “[multibillion-dollar opportunity](#).”

Yet there have been [persistent questions](#) over its true potential and concerns over the risk that a rush into a mining boom will end up trampling Indigenous rights and damaging the sensitive local environment. Ancient peatlands, or muskeg, in the region cover over 325,000 square kilometres, representing roughly 26 gigatons of carbon. Environment and Climate Change Canada has said the wetlands in the region “include extensive, [globally significant peatlands](#).” The department has acknowledged that activities linked to construction “could have negative effects on wetlands.” “The muskeg itself currently is a carbon sink,” explained Kerrie Blaise, northern services legal counsel with CELA, in an interview on March, 1, 2021. “But once it's disturbed, its storage capabilities are removed and so then it becomes a carbon emitter. So it's a very sensitive type of ecosystem.”

The groups also said assessments of mining activity should not proceed until “access to clean water, housing, and health services have been secured for all upstream and downstream communities from the proposed Ring of Fire.” “Mining interests cannot continue to be prioritized over the health, lands, and natural laws of Indigenous communities,” reads the letter, dated Feb. 24. “Living up to the promise of reconciliation means action is required now to prevent further violations of Indigenous rights.”

- <https://www.nationalobserver.com/2021/03/02/news/pause-ring-of-fire-work-until-plans-place-clean-water-peatlands>

United States of America

Peatland restoration as a Natural Climate Solution in Minnesota

Wetland restoration is increasingly being considered as a climate change adaptation by conservation organizations globally. Peatlands store as much as 30% of the world's terrestrial carbon. The Nature Conservancy is developing natural climate solutions (NCS) as an approach to address climate change. Since peatlands are abundant in Minnesota, in the northern U.S., covering approximately 1,400,000 hectares, the TNC regional chapter is assessing the potential for peatland restoration as an NCS strategy. There are 2 to 3 million acres of wetlands classified as histosol soils, mucks with less organic matter than peat, that support other wetlands types. Most organic-soil wetlands in the southern half of Minnesota were drained for agriculture, while about 1/6 of northern peatlands were impacted by drainage for forestry, grazing or agriculture. Although most of the peatlands remain intact, recent research estimates annual loss of 38,000 Mg of carbon from oxidation from drainage. Carbon accumulation rates in Minnesota peatlands have been estimated to range from 0.5 Mg/ha/yr in northern peatlands to 3.0 Mg/ha/yr in southern Minnesota wetlands. Re-wetting of drained peatlands greatly reduces decomposition of organic matter, but can increase release of methane. Logistically it is easier to block shallower ditches surrounded by public lands than deep ditches near pastureland or roads. Therefore, a three-pronged peatland restoration strategy for is recommended: protect large standing stocks of carbon in peatlands, re-wet partially drained peatlands in the north and restore large southern “mucklands” for short-term carbon sequestration and multiple benefits.

- <https://www.ser.org/news/558079/>



Sphagnum magellanicum in Fuego-Patagonia. Photo: Hans Joosten.

South-America

Chile

Three new nature reserves will form the "Chiloé Peatland Network".

The sanctuaries Turberas de Aucar in the commune of Quemchi, Turberas de Púlpito in the commune of Chonchi and Turbera de Punta Lapas in the commune of Quellón, are the areas that will make up the Chiloé Peatland Network, which comprises a total area of approximately 278 hectares that are part of the National Wetlands Protection Plan 2018-2022, specifically for Chiloé. The proposals were supported by the NGO Cecpan and landowners, in collaboration with the Chilean Ministry of the Environment. "These areas located in three communes of Chiloé represent a relevant sample of the peatland ecosystem located in the archipelago, which translates into the delivery of important benefits for local communities such as the provision and purification of water, and globally peatlands are very efficient ecosystems in the capture and storage of carbon," said Environment Minister Carolina Schmidt.

Peatlands are the product of a process of thousands of years: 13,000 years ago, after glaciation, large bodies of water accumulated with moss of the genus *Sphagnum* allowed the accumulation of organic matter that became extensive peatlands. Its main component is *Sphagnum magellanicum* moss, commonly called pompon, which allows water absorption. Unfortunately, because of the sustained removal of this material for human activities, peatlands have become threatened, impacting on the health of the environment.

- <https://www.eha.cl/noticia/regional/tres-nuevos-santuarios-de-la-naturaleza-conformaran-la-red-de-turberas-de-chiloe-10651>

Chile and its commitment to peatlands

In Chile, most peatlands are in the Region of Magallanes and Chilean Antarctica, but there are also some, although to a lesser extent, in the Regions of Chiloé and Aysén. Now, in terms of peatland figures, it is estimated at 3.1 million hectares, of which 2,500 hectares have been concessioned for exploitation. Even so, peatlands have

been included in Chile's Nationally Determined Contribution (NDC), a document that sets out commitments to reduce emissions and adapt to climate change, in accordance with the goals of the Paris Treaty. This recognises their contributions, but also emphasises the need to obtain more information on their total surface area, their estimates of capture and storage of Greenhouse Gases (GHG), which is why it has also been established to have all this information by 2025, adding a national inventory of wetlands; metrics to assess their contributions to mitigation and adaptation by 2030, in addition to the development of pilot plans in 5 areas for their management. But despite this progress, in Chile there is a very particular case, and that is that from a legal point of view, peatlands are regulated within the mining law, and are defined as a concessionable and exploitable fossil resource. On the other hand, sphagnum, which is the moss that is harvested in an important way in Chiloé and Magallanes, is not peat and is not regulated by the mining law, but by the Ministry of Agriculture. This complexity in regulation and in the regulatory body are some of the aspects that make it difficult to protect and conserve peat bogs.

In addition, "the main risk, which no one is exempt from, is climate change, i.e. changes in precipitation patterns have a direct effect on the availability of water in these ecosystems, and peatlands depend 100% on water, as well as the maintenance of water associated with these ecosystems," emphasises Jorge Hoyos Santillán, researcher at the Laboratory of Environmental Biogeochemistry in Extreme Ecosystems at the University of Magallanes and postdoctoral researcher at the Centre for Climate Science and Resilience (CR)² at the University of Chile.

Another threat facing peatlands in Chile is the impact of beavers on peatlands. "At the moment beavers are mostly confined to Tierra del Fuego, they spread out as if it were their home, and what happened is that they create their ecosystem, so if you get to a peatland and there was no body of water, they create it and that is what they have done," explains the researcher from the University of Magallanes.

But other threats are generated by humans, such as the extraction of peat or moss for commercial purposes (gardening, for example), but also changes in land use, which allow the use of land for livestock or the development of housing structures, which can be easily seen in those that have been classified as urban wetlands.

Despite this, there are actions we could take to protect these ecosystems. The first, says Hoyos, is "to redefine them from a legal point of view, to stop considering them as concessionable and exploitable material, and to see them as an ecosystem, to protect and legislate them as such; stop seeing them also as an isolated ecosystem and look at it as a basin dimension, because peatland water does not appear magically, it may come from rain, but part of it comes from the whole basin; and, obviously, stop exploiting it, but let's be honest, there are people who live from it and we cannot take away one source of income without offering them another".

But the researcher goes on to project that, if "we seek more funding for research, we will have more scientists studying, which will obviously accelerate what we know about peatlands. This will improve the public policies that can be made to protect them, because there will be concrete facts, studies and scientists to back up those decisions. An ambitious idea, but one that will undoubtedly only bring benefits.

- <https://www.elagoradiario.com/latam/turberas-chile-secreto-bien-guardado/#>

Antarctica and the subantarctic isles

Amsterdam and St Paul islands

Amsterdam Island hit by a fire like in 1792 when Admiral d'Entrecasteaux passed through

(Translation of an account by Olivier Chapuis)

On the edge of the Roaring Forties in the Indian Ocean, the peat fires that hit Amsterdam Island for a month in February and March 2021 were confined to the cliffs of Entrecasteaux. These cliffs are named after the admiral who, on 28 March 1792, discovered a huge fire there. This fire probably changed the face of the land, as was the opinion of the French sailors who witnessed it 229 years ago.

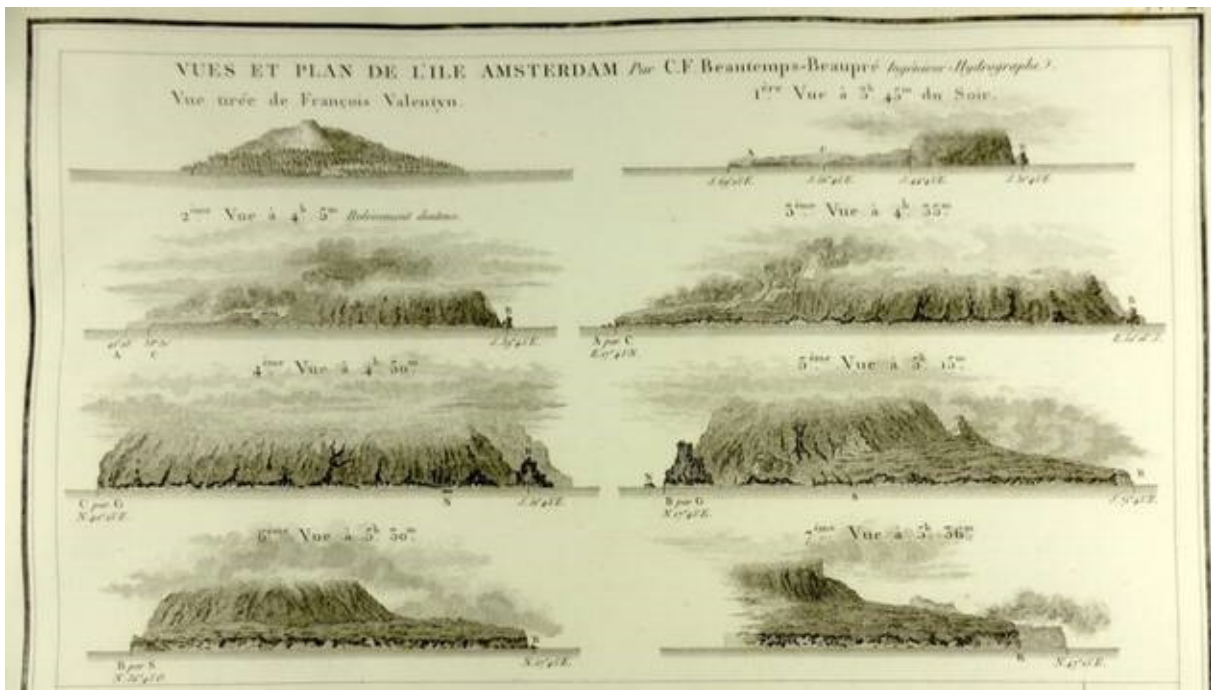
From mid-February to mid-March 2021, a low-intensity fire persisted on the western coast of Amsterdam Island. The island is located in the Indian Ocean, at 37° 50'S and 77° 33'E, 2,800 miles east of the Cape of Good Hope and 1,850 miles west of Cape Leeuwin. Administered by the French Southern and Antarctic Lands (TAAF) - whose southern islands were designated a UNESCO World Heritage Site in July 2019 - Amsterdam is just over 1,500 miles south-east of Reunion Island, from where ships come to supply it, as is its neighbour Saint-Paul Island, 50 miles further south. Air access is only possible by helicopter from a ship.

A TAAF base is well established at the north-eastern tip of Amsterdam, but it is 7.5 kilometres as the crow flies from d'Entrecasteaux, which is the southern third of the west coast, where the fire occurred. With almost eight hours of walking over rough terrain, fire monitoring was complicated for the 29 people stationed at the Martinde-Viviès base. It was mainly possible to control the spread of the fire without being able to fight in the steep part of the impressive cliffs of Entrecasteaux (700 metres high) where only a few residual fires remained in mid-March. The Marion-Dufresne was nevertheless to bring additional equipment and the expertise of an officer from the Reunion Departmental Fire and Rescue Service in the second half of the month.

At the end of the southern summer, the island benefits from a rather dry climate, with global warming seeming to accentuate its intensity in recent years. This drought can encourage the outbreak of peat fires, as happened in 1974, when they multiplied but eventually died out on their own. Fortunately, this happened again at the beginning of March 2021, thanks to some welcome rainfall. Peatlands are both a factor in the start of fires and in their stoppage by the ambient humidity.

Amsterdam Island has an average of 163 days of rain per year and wetlands cover about half of the island, mainly at high altitudes, especially on the caldera and the Peatland Plateau. It remains to be seen whether the bird colonies that make up the bulk of the local fauna, including albatrosses, have been affected by the fires on the Entrecasteaux and Peatlands sites, which are strictly protected and reserved for ornithologists.

A gigantic fire on 28 March 1792



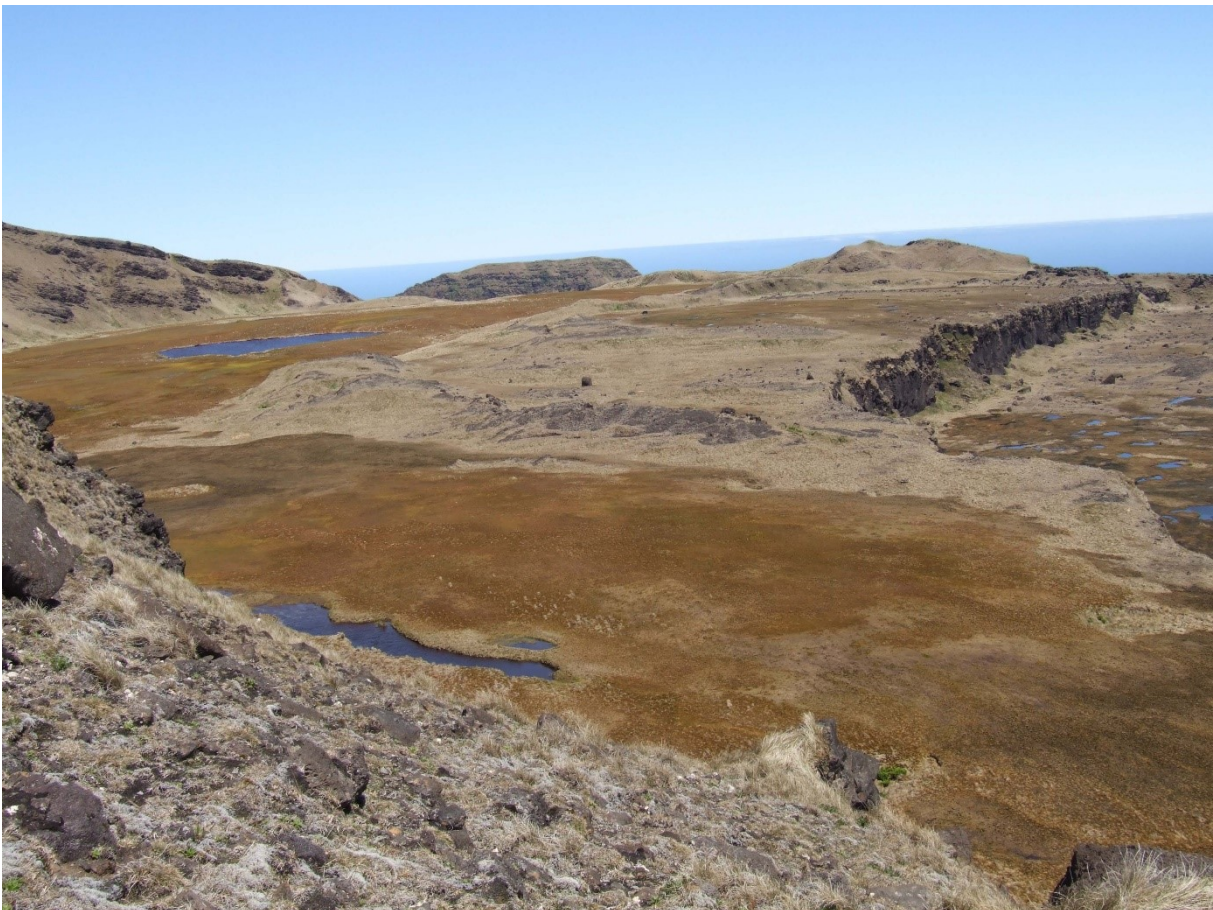
On March 28, 1792, Beautemps-Beaupré - hydrographic engineer of the d'Entrecasteaux expedition - was hampered in the drawing of his coastal views by clouds of smoke due to a very large peat fire. | BNF

Much more spectacular was the fire discovered by the French sailors of the d'Entrecasteaux expedition. They were carrying out hydrographic surveys of Amsterdam Island, as I wrote about in my book 'À la mer comme au ciel'. More than a hundred people were embarked on each of the gabares la Recherche and l'Espérance, rigged as three-masted frigates and measuring 112 and 114 feet in length (just over 36 and 37 metres) by 28 and 26

feet in beam (about 9.10 and 8.45 metres) respectively. On 28 March 1792, the gigantic fire that raged hampered the surveys, even though Beautemps-Beaupré drew up his first sea chart in a few hours, which was the very first modern hydrographic chart. In the absence of large flames under the very high smoke, some imagined hot springs, while others thought of a volcanic origin that could have caused the accidental ignition of the tall grass, which was still very numerous at that time. The hypothesis is all the more plausible a posteriori as we know today that small eruptive cones - around the Dives neo-volcano, visible on the extract of the Shom map that I give here - were still formed two centuries ago.

The peat fires whose combustion generates few flames but a lot of smoke are hardly envisaged by the witnesses of March 1792. More numerous are those who think of the presence of shipwrecked people. Mostly concerned about the fate of Lapérouse, whom he had been sent to find, d'Entrecasteaux, who was behind schedule, did not really seem to believe in this possibility, as the extent of the fire made it impossible to believe that it had been lit in full view of the ships.

"The general, who knew that these areas were often visited by American fishermen, did not consider it appropriate to spend a night there to verify these conjectures," notes Beautemps-Beaupré in his journal of the voyage. At ten o'clock in the evening, under the lee of the island, the ships passed in a "very thick column of smoke which [smelled] of burnt grass" added the hydrographic engineer. Aware of the problems already caused by the economic exploitation of these waters, perhaps Admiral d'Entrecasteaux was simply thinking of a voluntary burning by passing sailors?



Two of the three peatland covered terraces in the caldera at 700m on Ile Amsterdam. Photo: Jennie Whinam.

Some members of the expedition underline the first ecological ravages observed on the island: "Since 1696 when the Fleming Vlaming [...] visited it, it must have undergone great changes. According to his account, it was then covered with beautiful woods [this was still the case in 1769] and we did not even see a bush. He found it so laughable that he called it very pleasant, and it is far from deserving of this today. [...]. So we must believe that a great upheaval has reduced it to the state in which we have seen it. Who knows if the navigators who will

follow us will find it as we describe it" wrote the officer Jacques-Malo La Motte du Portail in his diary on 29 March 1792.

Three years later, the naturalist Jacques-Julien Houtou de La Billardière confirmed that "an American vessel had taken men to the islands of Amsterdam and Saint-Paul to extract oil from sea calves". This was undoubtedly one of the many sealers from the north-eastern coast of the United States who, since 1790, had been visiting the areas around Saint-Paul, Amsterdam and Kerguelen. On 14 March 1792, two weeks before d'Entrecasteaux's passage to Amsterdam, there was a crew from Nantucket at Saint-Paul Island.

"One can imagine the astonishment that the sight of a burning island in the middle of a vast sea, so far from any continent, must have produced on us. The next day when we woke up, as if coming out of a dream, we needed the testimony of each other to confirm the reality of the spectacle we had enjoyed the day before. Jean-Michel Huon de Kermadec, the commander of the *Espérance* - whose name will be given during this voyage to the Huon Islands and the Kermadec Islands close to the anti-meridian (which I mentioned in particular in connection with the round-the-world voyage from East to West) - sums up well the disbelief that struck nearly two hundred men. As soon as Amsterdam disappeared in the wake, the sea took over and the roaring forties battered the heavy barges. On their way to Tasmania, they would sometimes approach ten knots, making their helmsmen's foreheads burn.

- <https://voilesetvoiliers.ouest-france.fr/france/terres-australes-et-antarctiques-francaises/l-ile-amsterdam-touchee-par-un-incendie-comme-en-1792-lors-du-passage-de-l-amiral-d-entrecasteaux-54ec387c-9915-11eb-98ea-96dbbd81b84a>

Peatland conservation relevant papers March – Apr. 2021.

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

1. Post-fire forest restoration in the humid tropics: A synthesis of available strategies and knowledge gaps for effective restoration: <https://www.sciencedirect.com/science/article/pii/S004896972038178X>
2. The testate amoebae of New Zealand: a checklist, identification key and assessment of biogeographic patterns: <https://www.sciencedirect.com/science/article/abs/pii/S0932473921000249>
3. Extensive remineralization of peatland-derived dissolved organic carbon and acidification in the Sunda Shelf Sea, Southeast Asia: <https://www.essoar.org/doi/abs/10.1002/essoar.10506636.1>
4. Catchment water quality in the year preceding and immediately following restoration of a drained afforested blanket bog: <https://link.springer.com/article/10.1007/s10533-021-00782-y>
5. Meteorological controls on water table dynamics in fen peatlands depend on management regimes: <https://www.frontiersin.org/articles/10.3389/feart.2021.630469/full>
6. Effects of climate change on a subtropical montane peatland over the last two centuries: Evidence from diatom records: <https://journals.sagepub.com/doi/abs/10.1177/09596836211003220>
7. Establishment and functioning of the savanna marshes of the Lopé National Park in Gabon since the termination of the African humid period and the arrival of humans 2500 years ago: <https://journals.sagepub.com/doi/abs/10.1177/09596836211003230>
8. Temperature and moisture controls on non-growing season CO₂ emissions in laboratory incubations with soils from northern peatlands: <https://meetingorganizer.copernicus.org/EGU21/EGU21-6281.html>
9. When water runs dry — peatland C dynamic under extreme droughts: <https://meetingorganizer.copernicus.org/EGU21/EGU21-1058.html>
10. Wet in the Anthropocene – a report of exceptionally stable hydrological conditions in a small bog over the last 1500 years: <https://meetingorganizer.copernicus.org/EGU21/EGU21-12192.html>
11. Simulating future distributions of Northern permafrost peatlands: <https://meetingorganizer.copernicus.org/EGU21/EGU21-7450.html>
12. How does wildfire impact carbon delivery to peatland drainage networks?: <https://meetingorganizer.copernicus.org/EGU21/EGU21-16046.html>
13. Post-fire carbon dioxide emissions from a peatland undergoing restoration: <https://meetingorganizer.copernicus.org/EGU21/EGU21-12193.html>
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