

Peatlands

International

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50 Years of the IPS - Summit and Jubilee Symposium on Board a 1950s Cruise Liner
How to promote substrates' R&D - The results of the 2017 ISHS Working Group Growing Media survey
Peat Crossing Borderlines - Sharing the Dutch-Irish Bog Story - European Year of Cultural Heritage 2018
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Mires and Peat - Volume 20: Growing Sphagnum (2017/2018)
European Sphagna finally compiled as a book
Fires flare in Southeast Asian peatlands



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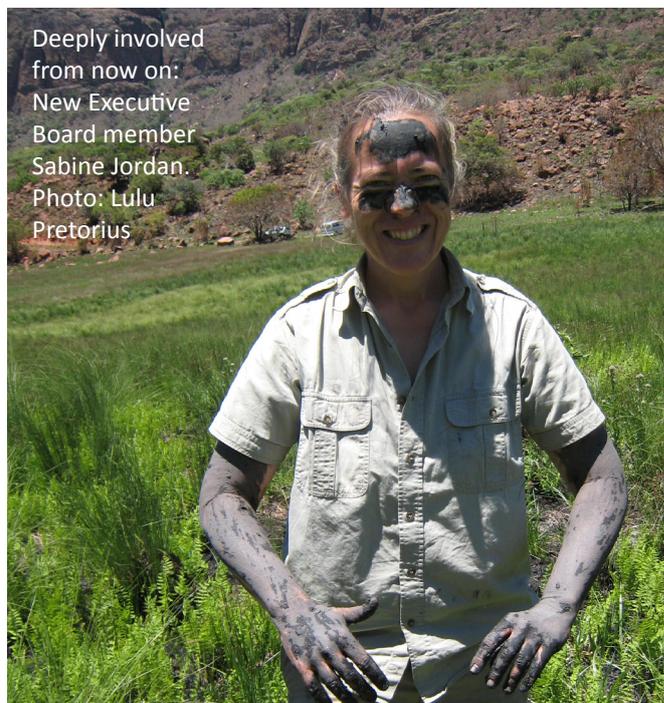
Editorial

Thank you all for sitting in the same boat!

During the IPS Annual Meetings of 2018 in the Netherlands, the SS Rotterdam acted as a platform for peat-related information interchange and constructive communication among people from all peat and peatland related sectors - such as peat industries, peatland management, international conventions, agreements and programmes, as well as science and regulative bodies.

The outcomes from this first **'Global Peatland and Peat Industry Summit'** and **'50th Jubilee Symposium'** focused on the strengthening of information exchange between varied stakeholders at local, regional, national and international levels.

Biodiversity, climate change, food security, societal wellbeing and resource management are currently considered to be hot topics within the peat dialogue and action regarding them must be either started, better implemented or intensified and followed up on. In addition, action already taken should be made more transparent, meaning lessons learned from both successful and less promising endeavours are made visible to the community.



Deeply involved from now on: New Executive Board member Sabine Jordan. Photo: Lulu Pretorius

There is still a need for more high-quality research and a better understanding of the importance of peatlands and the role they play in maintaining and improving environmental quality.

Besides the manifold lectures and talks on the ship, delegates were able to choose from four field trips to familiarize themselves with Dutch culture as well as its history with peat. Scientific and culinary needs were balanced very well, culminating in a long queue outside a cheese speciality shop in Gouda!

It was also party time. Since the IPS turned 50 this year, the SS Rotterdam was the perfect venue to celebrate the jubilee. To experience our daily routine on a former luxury liner was just

Peatlands International is the global magazine of the International Peatland Society (IPS). It provides the almost 1,500 individual, institute and corporate members of the Society with up-to-date information on peat and peatland matters, reports and photos of conferences and workshops, background reports and publication reviews.

To serve all of our members, we provide always a good balance between economic, social and environmental points of view. To receive Peatlands International in your email every three months, visit www.peatlands.org/join-us and sign up as a member or subscribe for € 60/year.

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Cover: Don Grubich, one of the oldest IPS members, in front of a Dutch hybrid windpowered water mill.
peatlands.org/publications/peatlands-international

unique. Luckily, we were no 3rd class passengers!

We warmly thank the Dutch National Committee for their excellent organization of both events. All those who contributed to these days are sincerely acknowledged.

Remember, to find a common denominator (or to sit in the same boat) is not always an easy task. Do not worry! Be active and contribute to the peat dialogue with your experience and knowledge. The IPS needs YOU!

Enjoy reading our latest edition of Peatlands International - find out more about the Rotterdam Jubilee, about our new Executive Board, new publications and many other interesting topics.

Sabine Jordan

IPS Executive Board
sabine.jordan@slu.se

14 - 17 MAY 2019
BREMEN, GERMANY

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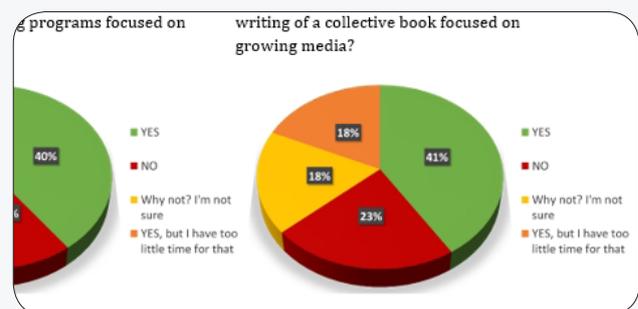
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50 Years of the IPS - Summit and Jubilee Symposium on Board a 1950s Cruise Liner

Have you ever travelled from the Netherlands to America by boat? Probably not. This time, we almost achieved that; but for some reason, our ship, the majestic SS Rotterdam, stayed in the harbour of the city of Rotterdam, together with some 180 participants from the IPS' 50th Jubilee Symposium and 75 participants from the Global Peatland and Peat Industry Summit. Maybe we were lucky as the only icebergs present were found in the glasses of some of our drinks served in the evening...

The 2018 annual meetings of the IPS commenced with an Executive Board meeting on Sunday, 9 August. As just a few members were present at this early event, we mainly discussed current matters and agreed the latest organizational matters for the symposium. Information exchange continued during a lively dinner at the Hotel New York, which could be easily reached by water taxi.



An interested audience attended the Global Peatland and Peat Industry Summit on 10 September. Photo: Susann Warnecke

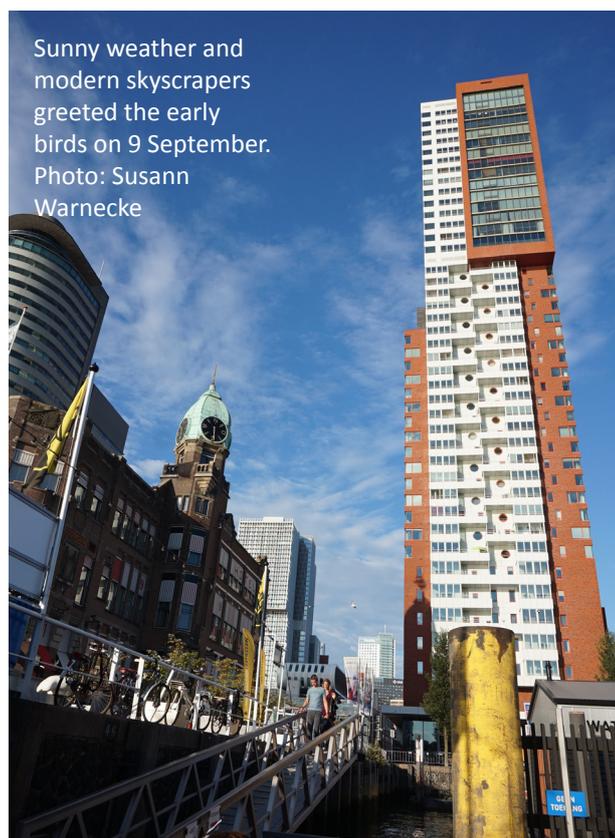


Panel discussion of the Summit with Hans Joosten, Tobias Salathé, Chris Blok, Maria Nuutinen, Tim Christophersen, Paul Short, Aljosja Hooijer, Kiyoto Tanabe, Clifton Bain, Jack Rieley and Bernd Hofer, led by Erki Niitlaan (left to right). Photo: Susann Warnecke

The IPS Summit

Monday, 10 September, was the perfect day for the first IPS Global Peatland and Peat Industry Summit. Twelve speakers introduced some 75 participants to the work of peatland-related international conventions and the efforts made

by the industry for responsible peat production and peatland management. Of course, the summit also addressed burning questions concerning the climate impact of peatlands, decreasing biodiversity, impacts on society, and the importance of peat as a growing medium constituent for the horticulture and food sectors.



Sunny weather and modern skyscrapers greeted the early birds on 9 September. Photo: Susann Warnecke

Presentations 9/10

- Gerald Schmilewski, President, IPS: Welcome to the Summit
- Hans Hoogeveen, Ambassador and Permanent Representative of the Netherlands to the UN Organizations for Food and Agriculture: Summit Opening Statement
- Jack Rieley, IPS Executive Board Member: How International Conventions and Agreements Affect Peatland and Peat Industries
- Tobias Salathé, Senior Adviser (Europe), Secretariat of the Ramsar Convention on Wetlands: Paris Agreement and Emission Reductions - Are Peatlands Hotspots?
- Kiyoto Tanabe, International Panel on Climate Change (IPCC): Peatland in National Greenhouse Gas Inventories - A Basis for Better Peatland Management
- Paul Short, President of the Canadian

The Summit Communiqué

The IPS Executive Board has published the following communiqué, as supported by all speakers following the summit:

The International Peatland Society (IPS) held the first 'Global Peatland and Peat Industry Summit' on September 10th 2018, in Rotterdam, The Netherlands. It was attended by 75 participants.

The 'Summit' brought together senior executives of peat and peat products industries, and companies involved in peatland management for agriculture and forestry from 20 countries, with senior representatives of international agencies, conventions, agreements and programmes, academia/science and regional regulators.

The main objective of the 'Summit' was to inform industry companies how their businesses are affected by international processes and engagements, such as the Sustainable Development Goals (SDGs), and policies that originate from these international, national and regional bodies and how these are implemented at national or regional levels.

In exchange, industry representatives explained about their businesses including their nature, focus and regard for the environment.

This dialogue included discussion of biodiversity, climate change, economy, ecosystem services, food safety, growing media, international conventions, responsible peatland management, and societal wellbeing.

It was concluded that there is already a high amount of evidence and recommendations giving a framework for truly sustainable peatland management. To be able to adapt to this rapidly changing world there is also a need for further high-quality research and better understanding of the importance of peatlands and the role they play in maintaining and improving environmental quality.

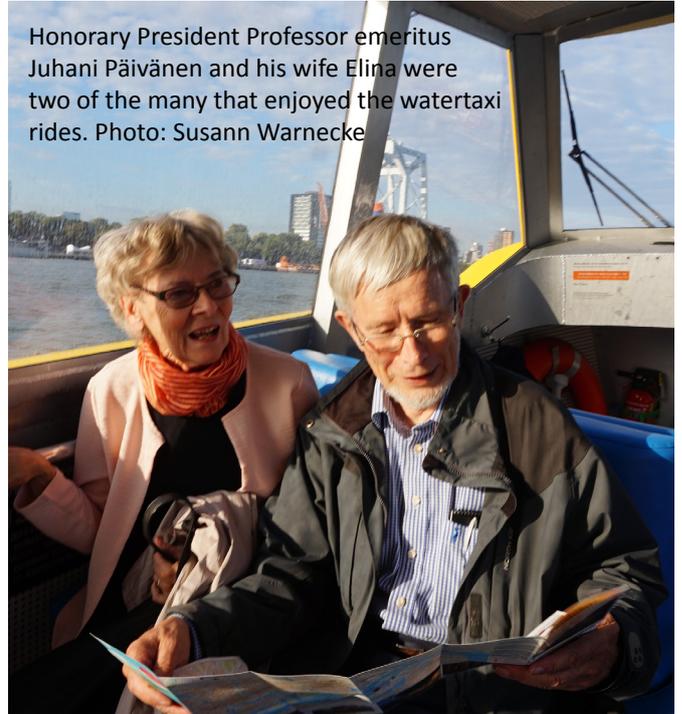
The IPS will continue to engage with all participants to promote resolution of global challenges facing peat and peatlands.

- Sphagnum Peat Moss Association (CSPMA): Value and Values of Responsible Peatland Management in Canada and North America
- Tim Christophersen, United Nations Environment Programme (UNEP), Senior Programme Officer and Representative of the Global Peatland Initiative: Peatlands and UN Sustainability Goals
- Hans Joosten, Greifswald Mire Centre: The Peatland Pathway to 2050: Aims and Challenges
- Aljosja Hooijer and Ronald Vernimmen, Deltares: Planning Plantation Rezoning for Impact Mitigation in Tropical Peatlands
- Bernd Hofer, Chair, IPS Peatlands and Environment Commission: Paris 2015 and Peatlands - Vision and Reality
- Chris Blok, Project Manager, Wortelmedia en Plantenvoeding Wageningen University & Research Business Unit Glastuinbouw: The World's Need for Growing Media - Reflections on Peat Use for Food and Quality of Life 2020-2050
- Clifton Bain, International Union for Conservation of Nature (IUCN), Director, UK Peatland Programme: New Approaches to Securing Peatland Ecosystem Services

Meeting venue and hotel: the majestic SS Rotterdam in the old days. Photo: SS Rotterdam hallway



Honorary President Professor emeritus Juhani Päivänen and his wife Elina were two of the many that enjoyed the watertaxi rides. Photo: Susann Warnecke



After the presentations, there was an intensive panel discussion with all speakers, as well as audience involvement, moderated by Executive Board Member Erki Niitlaan. This was followed by a joint dinner in the Club Room of the boat.

We warmly thank all guests, speakers, volunteers and sponsors for their contribution during this event, especially Premier Tech, Jiffy, Responsibly Produced Peat (RPP), Bord na Móna and Griendtsveen AG. Without their generous financial

support, this seminar would not have been possible.

Presentations and abstracts of the Summit are available from the IPS website: www.peatlands.org/news/presentations-ips-summit-and-jubilee.

Jubilee Symposium

The long-awaited 50th Jubilee Symposium of the IPS was opened by Gerald Schmilewski on Tuesday, 11 September. Some 180 participants filled the auditorium, which was lit in festive blue and red colours.

Gerald's original Green Bay Packers cap (the Packers won the Super Bowl in 1968) and the yellow flower in his breast pocket (1968 was the year of 'flower power') especially made the audience pay their fullest attention to the most interesting speeches that followed.

Presentations 9/11

Welcome speeches

- Guus van Berckel, Chair, Organizing Committee
- Gerald Schmilewski, President of the IPS
- Juhani Päivänen, Honorary President of the IPS
- Pieter van Geel, National Climate and Energy

IPS President Gerald Schmilewski (right) and First Vice President Guus van Berckel jointly opened the Jubilee Symposium on 11 September. Photo: Susann Warnecke





A very special atmosphere could be felt when Professor Päivänen and Mr Belanger spoke about the early days of the IPS. Photo: Susann Warnecke

Agreement, the Netherlands

- Bernard Bélanger, CEO, Premier Tech, Canada

Peat and Peatlands

- Prof. dr. ir. Theo Spek, University of Groningen, the Netherlands: Landscape History of the Netherlands - The Result of 1,000 Years of Peatland Drainage, Agriculture Use and Peat Cutting
- Dr. Jens Leifeld, Agroecology and Environment Research Division, Zurich, Switzerland: Global Peatlands in Light of the Paris Agreement and

the 4% Initiative - Do They Play a Role?

- Prof. Supiandi Sabiham, Bogor Agricultural University: Managing the Indonesian Tropical Peatlands - Past, Present and Future
- Dr. Alue Dohong, Indonesian Peatland Restoration Agency: Implementing Peatland Restoration in Indonesia - Technical Policy and Current Progress
- Dr. Maria Strack, University of Waterloo, Canada: Peatland Restoration in Canada - Returning Carbon Sink Function
- Ir. Jan Van Den Akker, Wageningen University & Research, the Netherlands: Perspective on the Agricultural Use of Peatlands
- Rik Janssen, Regional Minister, Province of Zuid-Holland: Subsidence of Peat Soils in the Netherlands - From Recognizing the Problem to Agreeing on Solutions



A large delegation of 17 participants had arrived from China, led by Professor Meng Xianmin (second from right). Photo: Susann Warnecke

Peat for Food and Quality of Life

- Dr. Reinier de Man, Consultant for Sustainable Supply Chains, the Netherlands: Introduction to the Subject
- Ir. Chris Blok, Wageningen University & Research, the Netherlands: Reflections on the World's Need for Growing Media for Food and Quality of Life 2020-2050
- Dipl. Ing. Bernd Hofer, Hofer & Pautz GbR, Germany: Available Worldwide Peat Resources to Cover the Demand
- Panel discussion chaired by Dr. de Man



Vice Mayor Barbara Kathmann highlighted the close connection of Rotterdam and the Netherlands to peat and peatlands. Photo: Susann Warnecke

Abstracts and presentations can be downloaded (if permission has been given by the author) from the IPS intranet/document bank for members: www.peatlands.org/news/presentations-ips-summit-and-jubilee.

Gala Reception

In the evening, two buses brought us to the City Hall in Rotterdam, where Vice Mayor Barbara Kathmann greeted the international guests with warm words of welcome. What a beauty this building is, located in between the stunning modern architecture of the surrounding city!

Later on, participants celebrated the IPS Jubilee in the Zalmhuis next to the harbour shore, with an interesting slide show of old IPS photographs, alongside music, magic and dance.

On this occasion, the winners of the **Allan Robertson Grants for 2018** were also announced by Samu Valpola and Jack Rieley:

- Danielle Rupp, USA: Elucidating Carbon Cycle Pathways in a Boreal Rich Fen Using a Pulse-chase Experiment
- Elisa Männistö, Finland: Travel and Participation Fee for EGU General Assembly 2018 in Vienna, Austria
- Henk Pieter Sterk, the Netherlands: PAR Sensors Funding for Upscaling Peatland Condition Research in Scotland



Executive Board members Jack Rieley and Samu Valpola announced the eight winners of the Allan Robertson Grants 2018 during the Gala Dinner. Photo: Susann Warnecke

Visiting a local museum to learn about the Dutch and their history with peat. Photo: Susann Warnecke



- Hui Zhang, China: Funds to Attend the Fifth European Conference on Permafrost in Chamonix-Mont Blanc, France
- Jasmijn E. Sybenga, the Netherlands: Seeing the Wood for the Trees: A Palaeoecological Approach to Research on Past Natural Woodland in the Scottish Highlands
- Jerome Blewett, UK: Biomarkers and Genomics to Constrain Biogeochemistry in Modern/Ancient Peatlands
- Kirsten Lees, UK: Measuring Carbon Sequestration in Peatlands Using Remote Sensing
- Martha Ledger, UK: Determining Regional-scale Carbon Losses from Tropical Peatlands Using InSAR

The next application period is 15 December 2018 - 31 January 2019, see more at www.peatlands.org/about-us/allan-robertson-grants.

Excursions 9/12

On Wednesday, 12 August, we were surprised by pouring rain, but also four extremely interesting excursions. The buses were full with participants

Typical for the Netherlands - bicycles and canals. Photo: Susan Page



Miniature windmills, landscape and water management. Photo: Susann Warnecke



Scientific Sessions 9/13

Finally in the great outdoors: all excursions were very popular. Photo: Susann Warnecke



On the last day, Thursday, four rooms were made available for a total of 48 presentations on peat and peatland issues. As time was short, each speaker was only allocated 10 minutes. But, in most cases, that seemed to be a sufficient amount

wishing to discover the following: back to the past - the Dutch and their history with peat; peat and tree culture - the peat village of Boskoop; rural peat and cruising down the Rotte peat river; and the future for the Green Heart of Holland - the Research Centre at Zegveld and the city of Gouda. Lots of choices for just one day!

of time to get the message across and stimulate information exchanges. Hustling and bustling participants could be seen all over the boat, with many holding extra meetings, studying the 15 posters or visiting exhibition stands in the coffee hall.

I myself participated in the first excursion and was able to see how peat cutting had changed the Dutch landscape and people's lives over the last five centuries, as well as experience hybrid wind/electro-powered water management at first hand, learn how to fight land subsidence and floods, and visit the beautiful town of Delft with its canals, to mention just a few attractions.

Also these abstracts and presentations can be downloaded (if permission has been given by the author) from the IPS intranet/document bank for members: www.peatlands.org/news/presentations-ips-summit-and-jubilee. If you wish to have your poster uploaded, email it as a PDF attachment to: ips@peatlands.org. Please also remember to fill in our participant survey at <https://goo.gl/forms/26kleyZjQPdZDdek1>.

The evening was filled by a packed National Committee Round Table, where, in addition to preparing the Annual Assembly and discussing cooperation matters, our three Commission Chairs presented their current activities. As a "dank je" for their work and commitment, all official delegates were invited for dinner to the Lido Restaurant.



Reed demonstration. Photo: Susan Page



Hard work and smiles at the informative National Committee Round Table. Photo: Susann Warnecke

budget and membership fees for 2018, and an interim set for 2019, as well as appointing the official auditors.

The departing Executive Board Members, Moritz Böcking and Claes Rülcker, were warmly thanked for their contribution during the previous four to eight years.

The next Annual Assembly will be held in Bremen, Germany, from 14 to 17 May 2019, followed by an

IPS Symposium in Liaocheng City, China, from 16 to 18 October 2019.

Annual Assembly

After a typical Dutch lunch (sandwiches and soup), 14 representatives of our 16 National Committees sat together for two hours to agree on the near future and administration of our society.

Most importantly, the Annual Assembly elected six new Executive Board Members (11 in total) and decided that the International Peatland Congress for 2024 will be held in Beijing, China, from 22 to 25 July 2024. In addition, the Assembly approved the Annual Report for 2017 (<https://bit.ly/2D7tacF>), together with a plan of activities, the

Hopefully, many of you will be able to attend these important networking events!

Sponsors

The Rotterdam meetings were made possible by the following sponsors:

Gold Sponsor Summit

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Tired but happy: all attendees of the Annual Assembly after a busy week. Photo: Jiqueline Anakratai

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Thank you very much for all your support!

Susann Warnecke

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New IPS Executive Board elected

The Annual Assembly of the IPS elected a new Executive Board in Rotterdam on 13 September. Six ordinary members were elected by secret ballot out of nine candidates, among which are, for the first time in IPS history, three women.

The IPS Executive Board consists now of (term in brackets):

Presidents (2016-2020)

- Gerald Schmilewski, Germany
- Guus van Berckel, Netherlands (1st Vice)
- Samu Valpola, Finland (2nd Vice)

Ordinary members (2016-2020)

- Donal Clarke, Ireland
- Paul Short, Canada

Ordinary members (2018-2020)

- Erki Niitlaan, Estonia
- Zhengping Wang, China

Ordinary members (2018-2022)

- Sabine Jordan, Sweden
- Lulie Melling, Malaysia
- Jack Rieley, United Kingdom
- Frank Tamminga, Germany

Their detailed contact information can be found at www.peatlands.org/about-us/executive-board. A candidate overview was published in Peatlands International 2.2018.

The EB is responsible to the Annual Assembly for the management of the Society. To reflect the balance of industry and science IPS stands for, EB members shall come from both areas. Further emphasis is laid on a cultural, gender and geographical balance. This autumn's Executive Board meeting will be held in Tallinn, Estonia during 2 - 5 December 2018.

How to promote substrates' R&D

This article is re-published on kind permission by ISHS & Acta Horticulturae.

The results of the 2017 ISHS Working Group Growing Media survey

Foreword by Professor Michael Raviv, Chair of the ISHS (International Society for Horticultural Science) Commission Plant Substrates and Soilless Culture and Gerald Schmilewski, President of the IPS (International Peatland Society):

Cooperation between the Commission Plant Substrates and Soilless Culture of the ISHS and the Peatlands and Economy (including growing media) Commission of the IPS has existed for over 30 years, and was formally recognized in an agreement, initially signed at an ISHS symposium in Angers in 2005 and continued thereafter.

Formal and informal contact between members of both societies has proved fruitful in terms of research, in handling technical issues and in fostering commercial developments, particularly in growing media.

Links have also involved reciprocal visits of staff between laboratories and university/research institutes worldwide, and participation in international initiatives including the European Committee for Standardization (CEN) and the European Peat and Growing Media Association (EPAGMA), today known as Growing Media Europe (GME).

As the Commission Chair and President of the IPS respectively, we were delighted to support the proposal of Professor Jean-Charles Michel, from Agrocampus Ouest of Angers, France and Chair of the ISHS Working Group Growing Media, to develop a cross-society participative consultation via a questionnaire, with the aim of improving and developing contacts, as well as priming initiatives between members of both societies.

Background

A questionnaire was drawn up by the ISHS Working Group Growing Media and sent out to all members of the ISHS Commission Plant Substrates and Soilless Culture as well as to those members of the IPS who are directly concerned with horticulture and growing media.

The aim of the questionnaire was to propose and define some areas of priority for the ISHS Working Group Growing Media in terms of improving and sharing knowledge and developing projects focused on growing media.

Four topics were covered by the survey: teaching and e-learning programmes, publishing a book, a platform for sharing information and international R&D projects.

Eighty-seven responses were obtained, highlighting the lack, but also the willingness, of respondents to develop and share common international activities related to our topics. From these responses, definitive actions were proposed and potential avenues for future development suggested.

Introduction

As defined by the ISHS, the role of ISHS Sections, Commissions and Working Groups is to achieve a range of activities that are relevant to horticultural science, with the main objectives of further improving scientific publications, developing the means of communication for the dissemination of information (electronic newsletters, websites, etc.) and increasing attendance at symposia.

Some actions have already been conducted by the ISHS Commission Plant Substrates and Soilless Culture to meet some of these expectations, including: (1) reviewing each paper proposed for publication in *Acta Horticulturae*, (2) signing an agreement between the ISHS and IPS to jointly organize symposia every two years (since 2005 at the symposium in Angers) and (3) more recently in Portland in August 2017, promoting and honouring scientific activities developed by students during the symposium.

In addition to these actions, which have been mainly focused on the biennial symposium and managed by relatively few people (the Organizing Committee, Chairs of the Commission and Working Groups), the Working Group Growing Media recently suggested a participative consultation, with the aim of allowing the development of some common activities within the Working Group with the involvement of its members.

The first step of this initiative was to build and disseminate a questionnaire to all people potentially involved in substrates' R&D, to propose and define the priorities of the Working Group in terms of improving and sharing knowledge and developing projects.

The objective of this article is to present the results of this questionnaire, to outline positive actions already implemented and to suggest potential avenues of work for future actions.

About the author

Dr. Jean-Charles Michel is Associate Professor at Agrocampus Ouest, Angers (France). He mainly works on the physical properties and wettability of growing media, their evolution during plant (root) growth and irrigation management, with the aim of improving water and fertilizers' efficiency in soilless culture. E-mail: jean-charles.michel@agrocampus-ouest.fr



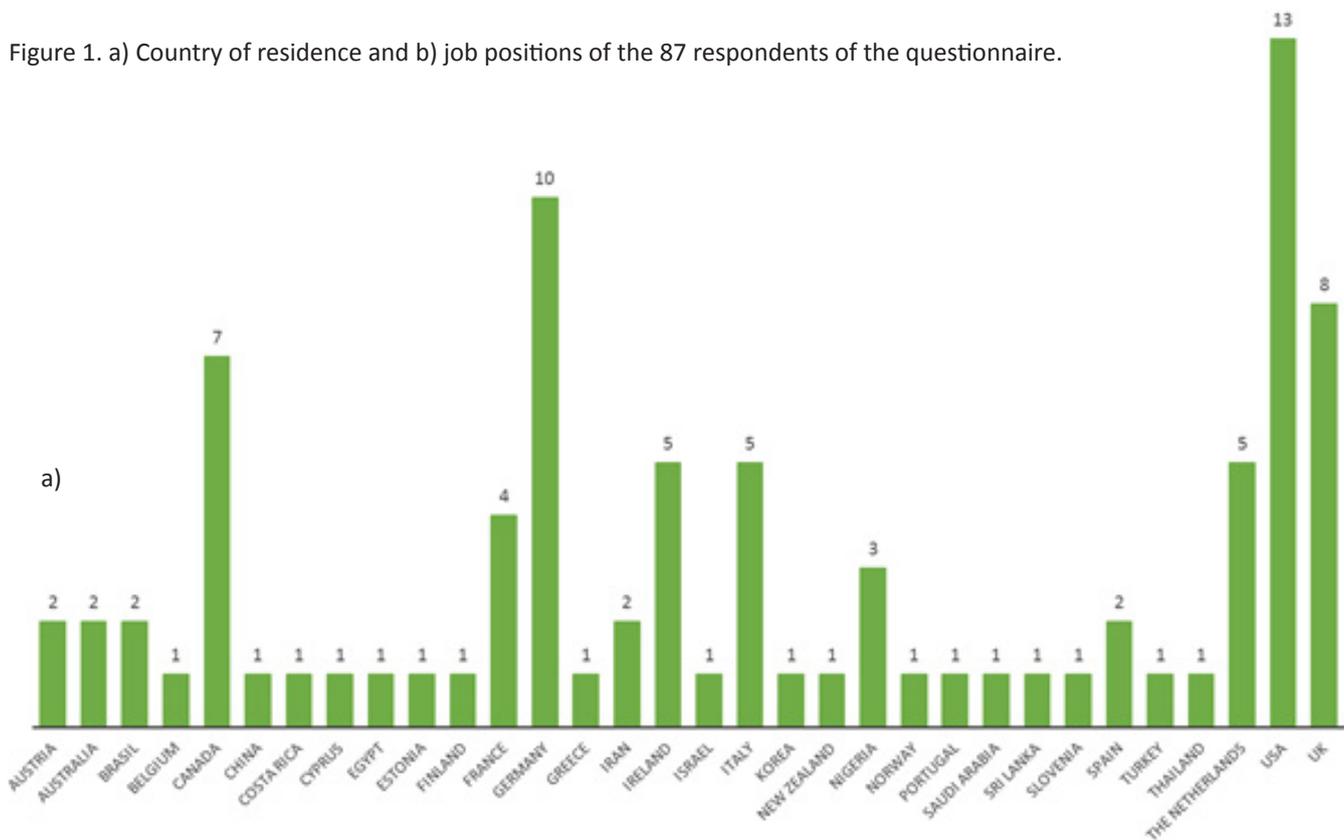
Questionnaire

The questionnaire can be found (including a completed version) by clicking on the link: <http://bit.do/ezrkL>. It consisted of 35 items grouped into four main categories: teaching and e-learning programmes, the writing of a collective book, a platform for sharing information, and the formulation of proposals for international R&D projects.

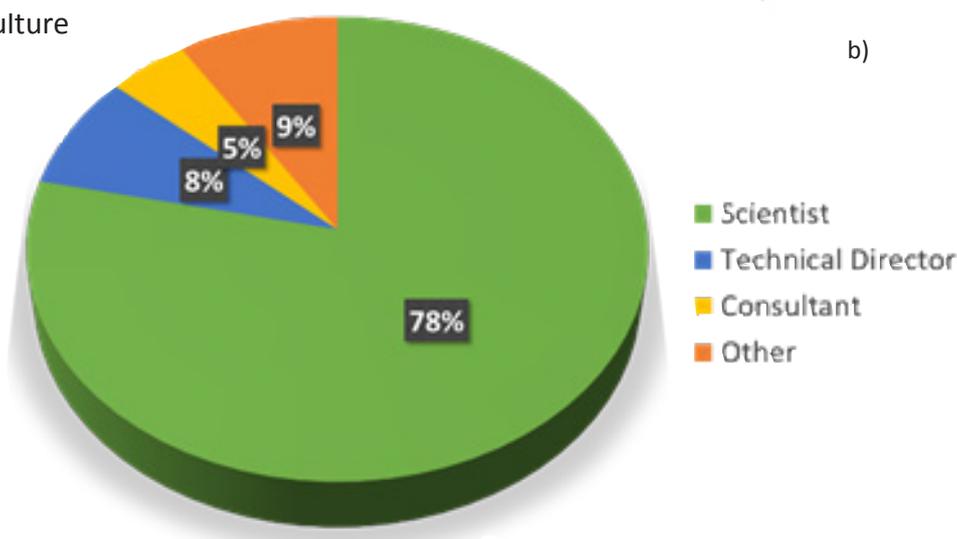
Each category was similarly approached, discerning the state of knowledge of respondents, their interest and potential contribution to the further development of activities, and the audiences targeted for these actions. Finally, the importance of suggested activities from the respondents' point of view, was requested to be rated.

The questionnaire was sent out in March 2017 to all 912 effective members of the ISHS Commission

Figure 1. a) Country of residence and b) job positions of the 87 respondents of the questionnaire.



Plant Substrates and Soilless Culture (Growing Media, Composting for Horticultural Applications, Substrate Analysis, Hydroponics and Aquaponics) as well as to members of the IPS directly concerned with horticultural purposes, via Gerald Schmilewski, President of the IPS.



Results

Who responded?

Eighty-seven responses (from 31 countries) were recorded by 20 August, 2017 (when the ISHS symposium in Portland started) (Figure 1a). They included those working in the public (56%) and private sectors (44%), mainly as scientists (78%) (Figure 1b). Most of respondents were ISHS members (91%), with only 16% being IPS members.

Teaching and e-learning programmes

Sixty-nine percent of respondents indicated that they have participated in specific training courses about growing media; 23 and 28% of them have regularly taught more than 20 h and between

4 and 20 h per year, respectively; whereas the other 49% have occasionally participated in such teaching.

The targeted audiences were very diversified, with 68% of respondents indicating that audiences had included growers, 65% had taught technicians and/or engineers of private companies and/or universities, 67% had taught Bachelor or Licence students (or learners at an equivalent level) and 52% had taught Master and PhD level students.

Until now, e-learning programmes that consider all aspects of growing media and soilless culture have not been developed to any great extent, except for



Growth



Substrates



Potting Soils



Raw Materials



Energy



Renewable Energy

Keeping an eye on our responsibility as we continue to grow

Our substrates ensure the growth of fruit, vegetables, ornamental plants, trees and shrubs worldwide. We turn our renewable resources into climate-friendly energy sources. The key criterion for our activities is sustainability. And we are pursuing ambitious plans for the future.

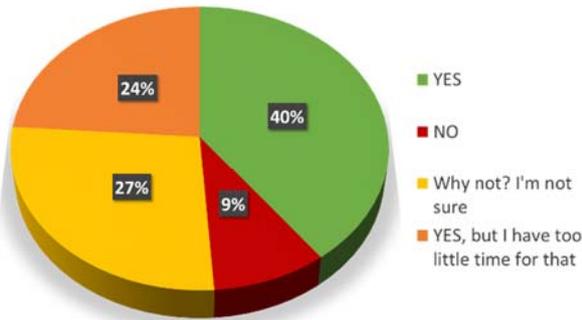
Klasmann-Deilmann is one of the global market leaders to have emerged from Germany's medium-sized businesses, and we are at home all over the world.



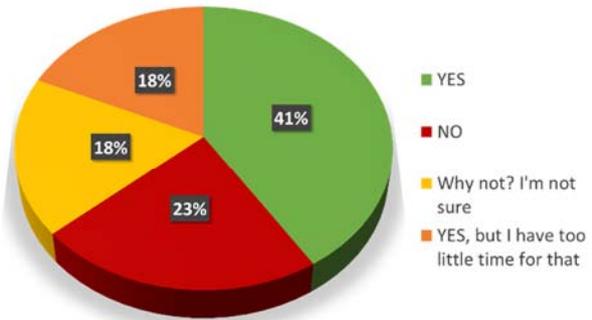
1913

we make it grow

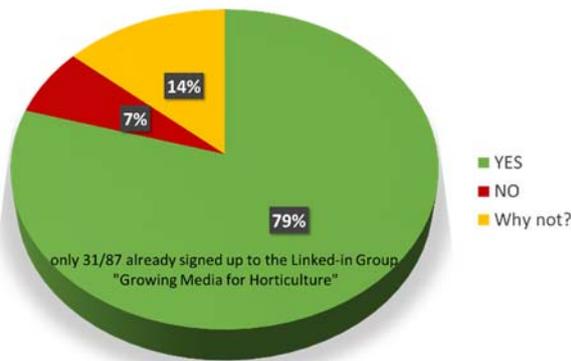
a) Would you be willing to participate in the creation of e-learning programs focused on growing media?



b) Would you be willing to participate in the writing of a collective book focused on growing media?



c) Would you be interested in a platform for exchange of information, focused on growing media & soilless culture?



d) Would you be willing to work on international R&D projects about growing media & soilless culture?

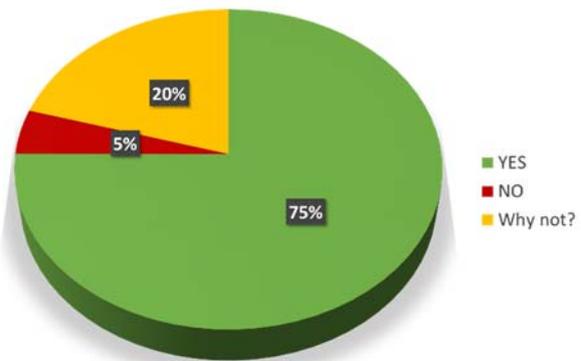


Figure 2. Interest of questionnaire respondents in proposed activities (87 responses for each question).

a few webinars proposed in North America or in Europe (unknown by 87% of respondents).

However, 86% of respondents said they would be interested in such e-learning programs and 40% would be willing to actively participate in the creation of an e-learning program (Figure 2a).

The main identified audience would be growers for 79% of all respondents but the other targeted audiences were also considered important; close to 55% of respondents identified students (of all levels), and a similar percentage identified technicians or engineers working in private companies, universities, research institutes, etc.

Writing of a collective book

Sixty-four percent of respondents were aware of many books about growing media. Regarding the number of respondents naming specific

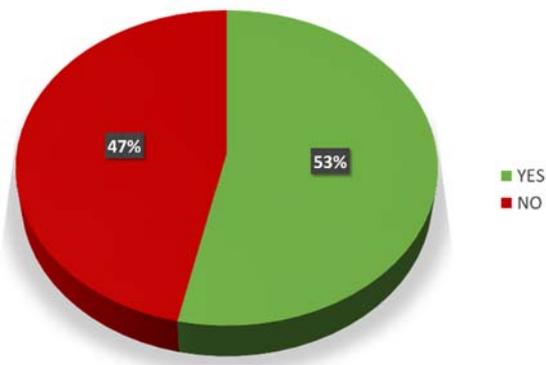
books, two of them could be considered as main reference books, with 16 and 10 citations for *Soilless Culture: Theory and Practice* (Raviv and Lieth, 2007) and *Media and Mixes for Container-Grown Plants* (Bunt, 1988), respectively.

With a large interest expressed in having a reference book, 41% of respondents indicated they would also be willing to actively participate in the writing of a collective book focused on growing media (Figure 2b), again mainly targeted towards growers for 81% of respondents, then technicians and/or engineers for 71% of them, and students for 56% of them.

Platform for sharing information and publications

The questions about the sharing of information were subdivided into two parts; the first part being focused strictly on questions around a publication-sharing platform and the second around a platform

a) Did you already sign up to any publication-sharing platform?



b) If not, could you sign up to any publication-sharing platform? (40 responses)

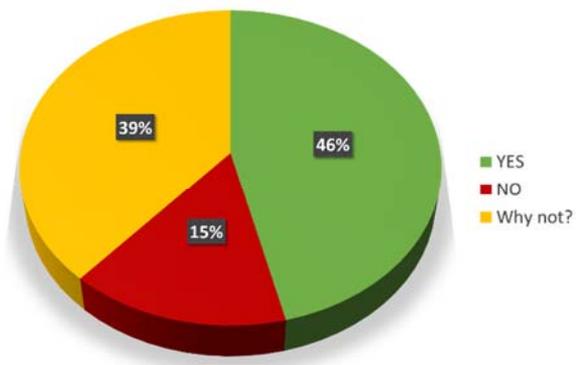


Figure 3. a) Use and b) potential use of publication-sharing platforms by the 87 questionnaire respondents.

for the exchange of information in general, the information needed and/or what information could potentially be shared by users (Figure 3).

Fifty-nine percent of respondents were aware of publication-sharing platforms. Among all respondents, 53% had already signed up to such platforms (Figure 3a). For the remaining 47%, 46% were willing to sign up to a publication-sharing platform and 39% might possibly do so (Figure 3b).

A clear majority of respondents (79%) expressed an interest in having a platform for the exchange of information particularly focused on growing media, whereas 14% were undecided (Figure 3c).

This response validated the creation of the LinkedIn group “Growing Media for Horticulture”, available on the web since December 2016 and accessible for free at www.linkedin.com/groups/8568066. However, this newly-created platform remains so far relatively unknown by respondents, with only 36% of them already being registered as members. However, the group size is increasing, consisting of 180 members by September 2017.

Three main kinds of information are considered essential by respondents: knowledge of national and international scientific events and trade shows/exhibitions for 99 and 97% of them, respectively, as well as the opportunity to find partners for R&D projects for 89% of respondents.

Other suggested topics considered important for dissemination included internship position (PhD,

MSc, postdoctoral, etc.) offers, job position offers, and an updated list of publications about growing media, noted by 51, 57 and 53% of respondents, respectively.

Formulation of proposals for international R&D projects

International projects were not very familiar to many respondents (75%) or were mainly only bilateral. However, 75% of respondents indicated they would be interested in building and contributing to international and collaborative R&D projects (20% remained undecided).

Among proposals to respondents regarding their own contribution, none were completely ignored, even if only 17% could contribute to socio-economic studies (current state, benefits of the projects), probably due to the scientific job sectors of respondents.

For other actions, the rates reached 40% for supplying materials (growing media, additives, sensors, etc.), 49% for developing operational tools for end-users, 53% for developing scientific activities in laboratories and up to 72% for implementing growing tests in greenhouses and/or outside.

Nutrient management (cited 9 times), peat alternatives (9), additives in growing media (8) and water-relations (7) were the main open proposals suggested by respondents, but other keywords were also mentioned, such as aqua/hydroponics (5), root growth and development (4), organic

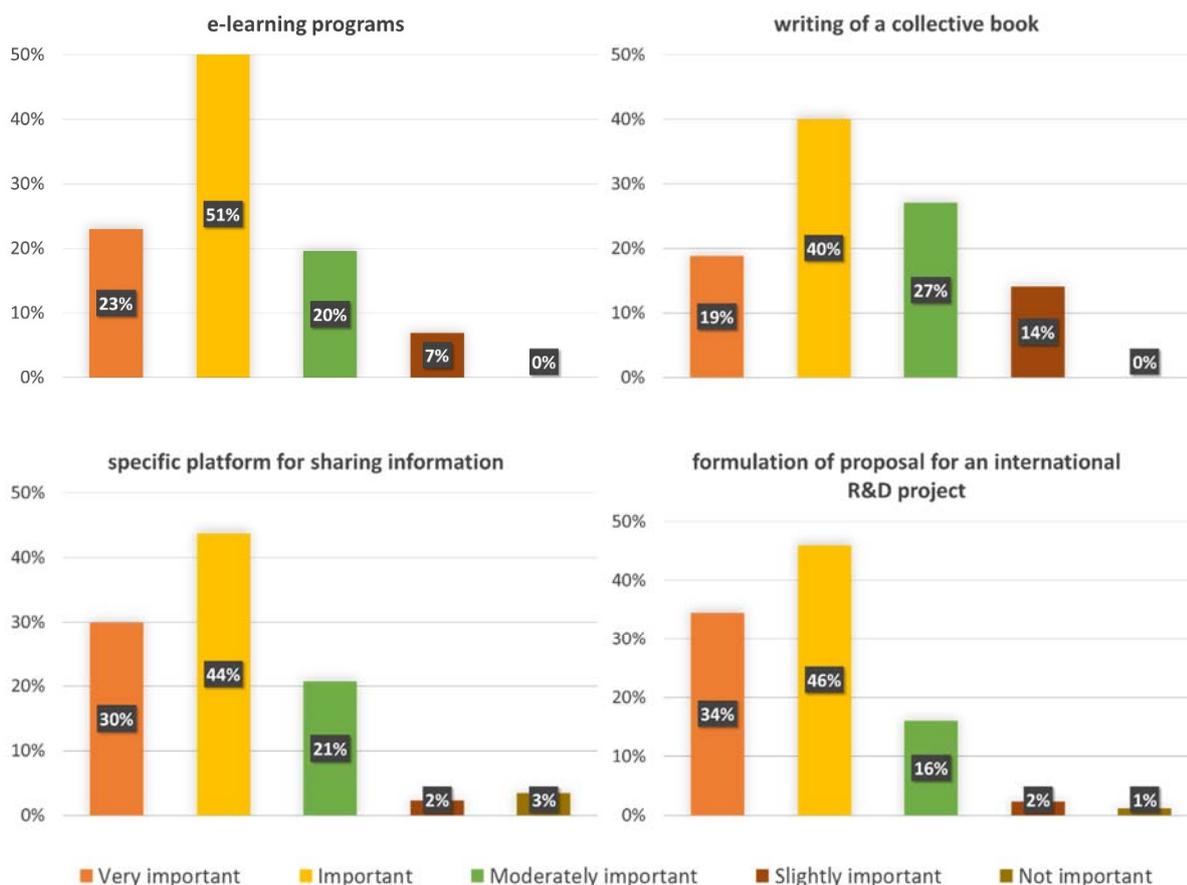


Figure 4. Importance rating of potential work focus for the Working Group Growing Media, as judged by the 87 questionnaire respondents.

fertilizers (3), composts and their properties (3), and different materials potentially used as substrates (wood, biochars, wastes) (twice for each).

Importance level of topics mentioned

The answer to the last question, referring to the importance rating of topics mentioned, is presented in Figure 4.

Regarding topics considered as “very important” by respondents, results clearly showed their main interest was in the formulation of international R&D projects (34%) and then in the use of a specific platform for the exchange of information (30%), whereas the creation of an e-learning program and the writing of a collective book collected just 23 and 19% of responses.

Discussion and conclusion

The results of the survey reveal the dynamism and high levels of motivation of respondents to be actively involved in new activities (Figure 2) that would assist them in their achievements.

From the results of this survey and the discussions held at the last ISHS Commission Symposium in Portland, some proposals and suggestions have been highlighted, in particular:

- To promote to the LinkedIn group “Growing Media for Horticulture” www.linkedin.com/groups/8568066, as an excellent tool for members to share information and have open discussions;
- The opportunity to publish a handbook compiling methods of analysis (standardized or not); knowing also that a second version of the book by Raviv and Lieth is in progress;

- The identification of main issues and associated R&D questions that could be suitable for collaborative project proposals; potential partners and their level of involvement.

Working methods and tasks will soon be proposed to respondents. The progress made in the achievement of tasks will be presented at the next symposium in 2019, www.ishs.org/symposium/630.

Acknowledgments

The author would like to thank all respondents for their contribution, as well as Michael Raviv (Chair of the ISHS Commission Plant Substrates and Soilless Culture), Bill Carlile (Vice-Chair of the Commission), and Gerald Schmilewski (President of the IPS), for their support of this survey.

References

- Bunt, B.R. (1988). Media and Mixes for Container-Grown Plants: A Manual on the Preparation and Use of Growing Media for Pot Plants (Springer Science & Business Media).
- Raviv, M., and Lieth, J.H., eds. (2007). Soilless Culture: Theory and Practice (Elsevier).

Jean-Charles Michel

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SIGN UP ----> [LINKEDIN.COM/GROUPS/8568066](https://www.linkedin.com/groups/8568066)



Fires flare in Southeast Asian peatlands

August 2018

The world has recorded extremely high temperatures and a record number of fires in 2018. With catastrophic typhoons, storms and floods, it seems that the earth is demonstrating the havoc that full-scale climate change would create.

In Southeast Asia, the hot, dry season has come on in full force and has caused many incidents of wildfires in the region. Large peatland areas of Indonesia, Malaysia and even Brunei have burned despite various measures being taken to prevent fires and subsequent haze.

Indonesia is particularly affected as the fires in Sumatra may affect the Asian Games which are being held in Jakarta and Palembang City. Some of the resulting haze has moved across the Straits of Malacca to neighbouring Malaysia and Singapore. In Malaysia, peatland fires have been recorded in the states of Sarawak, Selangor, Pahang, Kelantan and Terengganu.

Most of them started as a result of land clearing or the burning of farm waste. In Selangor state, some cloud seeding has been undertaken to help douse fires on farm lands in the Johan Setia area, near Klang.

Thanks to various fire prevention and preparation strategies, the fires are being dealt with speedily, although some loss of homes and commercial crops has occurred. With the dry season estimated to last until the end of September, it is hoped that fires can be prevented or controlled to avoid another disaster like the 2015 haze.

Related news

- Schools close as haze worsens in Pontianak
- Nation experiencing haze
- Miri fire department using excavators to snuff out peat fires
- Ketika Api Ludeskan Kebun, Rumah dan Harta Benda Warga Rokan Hilir (Indonesian)
- 200ha bushes in Sarawak destroyed in fire
- A burning problem in Pahang
- Palembang ruffled by fire, LRT malfunction ahead of Asian Games
- Forest fires threaten Asian Games as hotspots flare up in Sumatra

RSPO

As the Roundtable on Sustainable Palm Oil is conducting a review of its standards, it is being put under increasing pressure to ensure zero deforestation is included in its, already stringent, requirements.

Palm oil has been under much scrutiny in recent years regarding various issues including peatland degradation and unsustainable development.

- Info: www.thestar.com.my/business/business-news/2018/08/23/palm-oil-watchdog-urged-to-take-giant-leap-to-save-forests
- RSPO should ban deforestation, say investors representing \$6.7t in assets

7th Ministerial Meeting for ASEAN Greater Mekong Subregion

The seventh ministerial meeting to coordinate the Greater Mekong Subregion (GMS) countries joining the ASEAN Agreement on Transboundary Haze Pollution took place in the central coastal city of Da Nang, Vietnam on 29th August 2018. It was attended by representatives from Cambodia, Laos, Thailand and Vietnam. The annual meeting is part of the regional cooperation mechanism to ensure the success of the agreement.

The Host Deputy Minister of Agriculture and Rural Development Ha Cong Tuan affirmed that Vietnam is committed to utilizing all necessary resources to implement effective sustainable forest management, as well as to ensuring the protection and development of forest resources with priority being given to forest fire prevention and control.

Tropical Peatlands Exchange, Indonesia

A Tropical Peatlands Exchange event was held on 8th August 2018 in Bogor, Indonesia, organized by The Center for International Forestry Research (CIFOR) with support from the Government of Indonesia and private sector partners.

The Exchange opened with remarks from representatives of CIFOR, the Peatlands Restoration Agency (BRG) and the Research, Development and Innovation Agency of the Indonesian Ministry of Environment and Forestry (FOERDIA).

The Exchange included two panels: national and subnational exchanges; and four parallel sessions: peatlands and climate change, peatlands hydrology and subsidence, peatlands and



ecosystem services and community engagement for peatlands conservation and restoration. The sessions involved 29 resource persons. It was attended by over 120 participants.

Recordings and materials can be obtained from the links below.

- Researchers, government, civil society and the private sector come together for peatlands management in Indonesia
- Tropical Peatlands Exchange 2018
- Alue Dohong - Opening Remarks Tropical Peatlands Exchange 2018

More news are available from www.aseanpeat.net and www.aseanpeat.net/newsmaster.cfm?&action=news&menuid=11

Noor Azura Ahmad

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Peat Crossing Borderlines – Sharing the Dutch-Irish Bog Story - European Year of Cultural Heritage 2018

On the 28th and 29th July the Irish Peatland Conservation Council (IPCC) marked European Year of Cultural Heritage and International Bog Day by organising an event entitled Peat Crossing Borderlines.

Prof Matthijs Schouten from the University of Wageningen visited the Bog of Allen Nature Centre to give an evening lecture entitled “How People Perceive Wilderness”. Over 50 people gathered for the talk, which focused on cultural history and the perception of landscape across Europe.

Professor Schouten who is fondly known as the father of Irish peatland conservation describes bogs as the last true wilderness of Western Europe. He maintains that it is quite crucial for human beings to experience wilderness which has the power to re-orientate ones perspective for the better.



Other speakers in the evening paid special tribute to the role of the Dutch people in helping to raise awareness of the need to conserve peatlands and included the Mayor of Kildare Mr Sean Power, His Excellency Mr Peter Kok the Netherlands Ambassador to Ireland and Dr Catherine O'Connell of the Irish Peatland Conservation Council.

On the 29th July a group of 45 people took part in a tour to visit two peatlands in the east of Ireland. The first was Scragh Bog in Co. Westmeath, a site purchased by the Dutch and donated to the Irish people as a gift to demonstrate the importance of conserving bogs – the last wilderness of Europe.

After lunch in Causey Farm the group visited Girley Bog in Co. Meath and were given a demonstration of drain blocking, Sphagnum transfer and water table monitoring on the raised bog by IPCC staff.

This was a very successful celebration of European Year of Cultural Heritage with visitors attending from the Netherlands, Northern Ireland, England, Russia and Poland. IPCC are grateful to Kildare County Council, Westmeath County Council, Meath County Council and Creative Ireland for supporting this event.

Katie Geraghty

Conservation Officer
Irish Peatland Conservation Council
Lullymore, Rathangan
Co. Kildare, Ireland
bogs@ipcc.ie
www.ipcc.ie

Left page: Participants on the Peat Crossing Borderlines Event on Scragh Bog Co. Westmeath with Professor Matthijs Schouten of the Dutch Foundation for Conservation of Irish Bogs. From the left: Melanie McQuade (Heritage Officer Westmeath County Council), Bridget Loughlin (Heritage Officer Kildare County Council), Prof Matthijs Schouten, Catherine O'Connell (IPCC), Angela Mason, Chris Fusco, Albert Mason, Shirley Butler, Hester Heuff, Nuala Madigan (IPCC), Katie Geraghty (IPCC) and Cormac Kilbride (IPCC).

New Members of the IPS

New members (or new contact persons for corporate and institute members) are approved by our National Committees or, in other countries, by the Executive Board of the IPS. Fill in our online membership form at www.peatlands.org/join-us! (status 9 October)

Individual members

Finland, Suoseura: Anu Väinölä

Spain: Pedro Antonio Guerra

United Kingdom: Bethan Hanley, Paul Lunt, Katherine Roucoux

USA: Claire Hendricks, Lauren Hendricks, Rich Hendricks

Student members:

Australia: Amanda Sinclair

Corporate members:

Erni Pärnpuu (Van Der Knaap Eesti OÜ)

Membership fees are collected by each of our National Committees on their own conditions and timetables. For members in other countries, invoices are sent directly by the IPS Secretariat, mainly by email, this year in early October. Next year's fees will be collected in June, after the Annual Assembly in Bremen, Germany.

Thank you very much for supporting us.

Did you know that the IPS is fully financed by membership fees?

New children's picture book set to change attitudes to peatland

Lonesome Bog and Little Dog by Iona Tulloch and Harry Woodgate is a captivating picture book, for people aged three to 103 years old.

Entertaining, thoughtful and beautifully illustrated with a unique environmental message, Lonesome Bog and Little Dog is believed to be the first children's story to highlight the importance of peatland.

Little Dog and Lonesome Bog are misfits who strike up an unlikely friendship. But is Little Dog brave enough to convince the other dogs of the beauty within the glorious peaty landscape he discovers?

"That night a huge tear welled up inside Lonesome Bog, filling a pool with water."

Lonesome Bog and Little Dog is written and illustrated for people of all ages who love wildlife, dogs and a quirky tale.



Lonesome Bog and Little Dog by Iona Tulloch and Harry Woodgate

Published by Little Forest Publishing;
ISBN: 978-1-9999921-0-1

Available from www.waterstones.com,
www.littleforestpublishing.com,
www.amazon.co.uk and all other
bookshops for £6.99.

General enquiries, review copies and interview
requests: press@littleforestpublishing.com

Spot the bird!

Conservation groups are excited by the publication of Lonesome Bog and Little Dog due to the urgent need to increase public awareness of the vital

functions of peatland. The UK Royal Society for the Protection of Birds (RSPB) provided a list of birds they wanted to see in Lonesome Bog and Little Dog, many of which have experienced significant declines in population. Harry managed to include: black grouse, buzzard, carrion crow, common sandpiper, curlew, dunlin, golden eagle, golden plover, greenshank, grey wagtail, meadow pipit, lapwing, raven, red grouse, snipe and wheatear.

Can you find Harry's enchanting interpretations of these on almost every page?

Reader's Comments

"Lonesome Bog and Little Dog is a beautifully-written children's story. We are delighted that Iona decided to highlight the environmental importance of peatlands, and bring them into the public consciousness as wonderful, inspiring places."

Joanna Richards, Communications Manager,
International Union for Conservation of Nature UK
Peatland Programme



Award-winning illustrator Harry Woodgate lives in St Albans and has been drawing for as long as they can remember. Apart from illustrating, Harry loves to cycle, walk the family dogs in the countryside and bake (and eat) lots of cakes. In 2018 Harry was awarded First Place at the Penguin Student Design Awards.



Author Iona Tulloch is from Scotland and lives in East Sussex with her four children and husband. Lonesome Bog and Little Dog was inspired by an eventful walk during which a blue flipflop was sucked deep into a bog, finally retrieved after much muddy rummaging.

"I very much enjoyed this heart warming story – Lonesome Bog and Little Dog. Iona Tulloch has found a unique way to make bogs attractive to a young audience."

Catherine O'Connell, Chair, Irish Peatland Conservation Council

"Lonesome Bog and Little Dog is a great book to introduce young children to the wonders of a peatland/bog. It's so lovely that it made me cry!"

Dr Eliza Olson, President, Burns Bog Conservation Society (Canada's largest peatland conservation society)

"What a lovely story! I can honestly say, both through my work at the International Peatland Society, and as a parent always on the lookout for children's books about animals and nature, that Lonesome Bog and Little Dog has a definite place on bookshelves around the world. It is exciting, mysterious and fun to read."

Susann Warnecke, Communications Manager, International Peatland Society

Peatland facts

What is peatland?

Pristine peatlands are wet, often acidic and starved of oxygen, which means decomposition is slowed to such an extent that dead plants and animals accumulate. This builds up over thousands of years and becomes several metres thick, burying carbon.

As well as being an essential store of carbon, peatland habitat supports an array of rare and beautiful plants, birds and insects.

Vital statistics

- Peatlands cover less than 3% of the Earth's surface but are the largest land-based organic carbon stock, storing twice as much carbon as the world's forests. Peat is the world's second largest carbon store after the oceans.¹
- The amount of carbon held in a single hectare of wet peatland is equivalent to the annual emissions of 1,400 passenger cars.¹
- Greenhouse gas emissions from drained or burned peatlands account for 5% of the global

carbon budget.¹

- Peatland can be found in over 180 countries.¹
- Western European countries have lost over 90% of their natural peatlands.² At least 80% of peatland in the UK has been lost, endangering many rare plants and animals.³
- About 70% of drinking water in the UK comes from peatland river catchments.⁴

Hyperlinks

For more detailed information, visit:

www.gridarendal-website-live.s3.amazonaws.com/production/documents/:s_document/376/original/RRAPeatland_revised_jan.pdf?1515398975

www.iucn-uk-peatlandprogramme.org/sites/www.iucn-uk-peatlandprogramme.org/files/Threats%20to%20peatlandsVCoelho.pdf

www.wildlifetrusts.org/soils-and-carbon

References

- ¹ Smoke On Water. Countering Global Threats From Peatland Loss And Degradation. The United Nations Environment Programme (2017)
- ² Threats To Peatlands, Vera Coelho, Wetlands International EU Office (2014)
- ³ Communication with International Union for Conservation of Nature UK Peatland Programme
- ⁴ The Wildlife Trusts, Soils & Carbon - Website (accessed June 2018)

Iona Tulloch

Little Forest Publishing
info@littleforestpublishing.com

Although the natural world is integral to each of our books, equally important are themes many children are more familiar with, such as friendship, family and loneliness.

European Sphagna finally compiled as a book

A Finnish expert team published the first edition of “The Intricate Beauty of Sphagnum Mosses - a Finnish Guide to Identification”, in 2009. There, they described the Sphagna commonly found in the North European (Fennoscandian) boreal zone. This means that some species found in the southern fringes of the area, as well as many oceanic species, were not included in that guide.

The second amended edition, (2011), also sold out quickly. Instead of making a new edition, they

decided to compile a new book where all the European species would be included. Professor Kjell Ivar Flatberg (Trondheim, Norway) came in as a new member of the team. His knowledge, experience and commitment to Sphagna are incontestable.

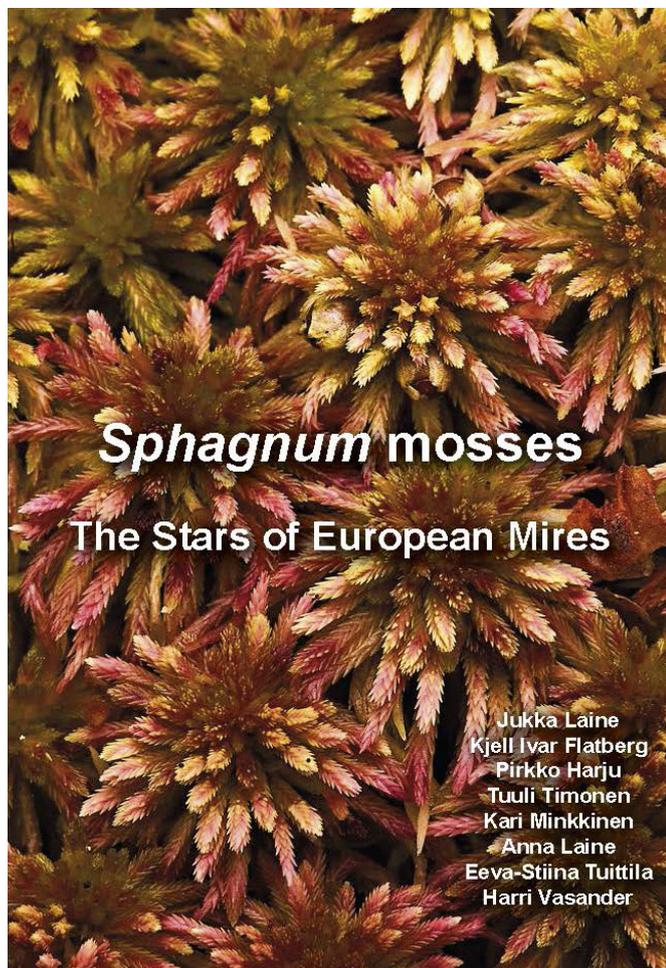
The title of the new book “Sphagnum Mosses - The Stars of European Mires”, has a double meaning. In many Sphagnum species, the capitulum is stellate, i.e., having a star shape when looked at from above. However, Sphagna are also “stars” of the mire scene - Boggywood Stars -, i.e., ecologically performing the lead role in peat formation and thus being largely responsible for the accumulation of carbon into mires. A third meaning could be an allusion to the symbolic stars of European Union. However, this does not work properly as many important Sphagnum countries - like Norway, Russia and soon Scotland - are not EU members!

This magnificent new book will help both field ecologists and paleo-ecologists/geologists in their demanding work of Sphagnum identification and will also reveal the beauty of the European mires as well as mires worldwide, even in the smaller forms!

Orders: <https://holvi.com/shop/Sphagna>

Some spontaneous reviews from readers include:

*A peatland researcher from the Azores:
“The book is excellent, amazing”.*



*A peatland researcher from Scotland:
"Wonderful, wonderful, wonderful".*

A peatland researcher from Estonia: "Wow!!".

*A peatland researcher from Finland:
"Helvetin hyvä kirja".*

The price of the book is €69 plus postage to outside Finland of €17.05. The prices include VAT. If there are more people in the same department, etc., who would be interested in ordering the book, the postage will only be charged once, so a saving will be made. There is also a special price for a box of 11 books.

You can find some sample pages on our research group's blog pages:

<https://blogs.helsinki.fi/peatlanders>

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Mires and Peat - Volume 20

Growing Sphagnum (2017/2018)

Volume editors Stephan Glatzel and Line Rochefort (Special Volume)

Growing Sphagnum: Foreword, by S. Glatzel and L. Rochefort

Swift recovery of Sphagnum carpet and carbon sequestration after shallow Sphagnum biomass harvesting, by N. Silvan, K. Jokinen, J. Näkkilä and R. Tahvonen

Greenhouse gas balance of an establishing Sphagnum culture on a former bog grassland in Germany, by A. Günther, G. Jurasinski, K. Albrecht, G. Gaudig, M. Krebs and S. Glatzel

Establishing Sphagnum cultures on bog grassland, cut-over bogs, and floating mats: procedures, costs and area potential in Germany, by S. Wichmann, A. Prager and G. Gaudig

Sphagnum farming on cut-over bog in NW Germany: Long-term studies on Sphagnum growth, by G. Gaudig, M. Krebs and H. Joosten

The effects of water management on the CO₂ uptake of Sphagnum moss in a reclaimed peatland, by C.M. Brown, M. Strack and J.S. Price

Effect of repeated mowing to reduce graminoid plant cover on the moss carpet at a Sphagnum farm in North America, by M. Guêné-Nanchen, R. Pouliot, S. Hugron and L. Rochefort

Sphagnum moss as a growing media constituent: some effects of harvesting, processing and storage, by S. Kumar

Sphagnum growth in floating cultures: Effect of planting design, by Y. Hoshi

Sphagnum restoration on degraded blanket and raised bogs in the UK using micropropagated source material: a review of progress, by S.J.M Caporn, A.E. Rosenburgh, A.T. Keightley, S.L. Hinde, J.L. Riggs, M. Buckler and N.A. Wright

The water balance of a Sphagnum farming site in north-west Germany, by K. Brust, M. Krebs, A. Wahren, G. Gaudig and H. Joosten

Sphagnum mosses cultivated in outdoor nurseries yield efficient plant material for peatland restoration, by S. Hugron and L. Rochefort

Sphagnum regrowth after cutting, by M. Krebs, G. Gaudig, I. Matchutadze and H. Joosten

Sphagnum farming from species selection to the production of growing media: a review by G. Gaudig, M. Krebs, A. Prager, S. Wichmann and 30 others

IMCG and IPS acknowledge the work of the reviewers.

Research visit to Canada

Next application period:
15 December to
31 January 2019.

Allan Robertson Grant recipients report

The Allan Robertson award enabled me to make a research visit to Canada, where I met with many scientists in my area of work, presented at a workshop and a conference, and began an international collaboration.

Whilst staying at McGill University in Montreal I attended the Mer Bleue workshop. This included a daytrip to the Mer Bleue bog site where I observed the many long-running experiments which form the basis of some key peatland literature. I presented my own work on developing a model using satellite data to estimate peat bog photosynthesis at the workshop, and there was much interest in my successful results at Scottish and Irish sites. Dr Elyn Humphreys, who currently runs the Eddy Covariance (EC) tower at the Mer Bleue site, has given me the EC data spanning a twenty year period. This will be used to test whether my model can be applied across northern peat bogs in different continents, and will form part of my PhD thesis.

As part of my research visit I travelled to the Joint Meeting for the CGU, CSSS, CIG, ES-SSA and

CSAFM, where I presented my research and won the award for best oral presentation in the CSAFM section.

I met many Canadian peatlands researchers at the conference and was able to discuss my work in depth and gain insights which will help with the completion of my PhD. I also met with Dr Myroslava Khomik, one of my PhD supervisors who has recently moved to Waterloo University, and we discussed the write-up of my project.

This research visit was extremely useful for networking and building professional relationships which will benefit my PhD and my longer term academic career.

Kirsten J Lees

University of Reading, UK
k.j.lees@pgr.reading.ac.uk

About the IPS Grants

- Allan Robertson was the First Honorary President of the IPS and loved by many.
- The 500€ Grants are awarded to young peatland and peat researchers carrying out research or practical work or young professionals in early stages of their career in managing peatlands or peat industry.
- Grant recipients are normally be under the age of 30. Undergraduates are ineligible.
- See more and apply at www.peatlands.org/about-us/allan-robertson-grants.



K. Lees 3rd from left. Photo: Nicholas Kinar

Peat and Peatland Events

Growing Media Europe
Growing Media - the Foundation
for a Greener Future
European Parliament, Brussels, Belgium
5 November 2018
Info: cecilia.luetgebrune@growing-media.eu

CBD COP 14
Sharm El-Sheikh, Egypt
17 - 29 November 2018
www.cbd.int

6th Global Biodiversity Summit
of Local and Subnational Governments
Sharm El-Sheikh, Egypt
23 - 24 November 2018
<http://cbc.iclei.org/event/6thbiodiversitysummit>

Global Landscapes Forum
Bonn, Germany
1 - 2 December 2018
<https://events.globallandscapesforum.org/bonn-2018>

IPS Executive Board Meeting
Tallinn, Estonia
2 - 5 December 2018

United Nations Climate Change Conference
COP24/CMP 14/CMA 1.3
Katowice, Poland
3 - 14 December 2018
<https://unfccc.int>

IPS Symposium and Annual Assembly
Bremen, Germany
14 - 17 May 2019

27th European Biomass Conference EUBCE 2019
27 - 30 May 2019
Lisbon, Portugal
www.eubce.com

ISHS-IPS III International Symposium on Growing
Media, Composting and Substrate Analysis
Milan, Italy
24 - 28 June 2019
www.susgro2019.com

8th World Conference on Ecological Restoration
Cape Town, South Africa
24 - 28 September 2019
www.ser2019.org

IPS Symposium
Peat Use for Food Production and Life Quality
16 - 18 October 2019
Liaocheng, China

Southern Hemisphere Regional Conference on
Permafrost of the IPA
Queenstown, New Zealand
4 - 14 December 2019
<https://southcop19.com>

Tenth International Symposium on
Land Subsidence (TISOLS)
Delft-Gouda, the Netherlands
20 - 24 April 2020
www.tisols2020.org

Québec RE3 Conference 2020
From Reclaiming to Restoring and Rewilding
Quebec City, Canada
7 - 11 June 2020
www.re3-quebec2020.org

16th International Peatland Congress
Tallinn, Estonia
16 - 19 June 2020
www.turbaliit.ee
www.facebook.com/events/1162609177193984

17th International Peatland Congress
Beijing, China
22 - 25 July 2024

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Submission deadline: PI 4/2018: **20 November**



New IPS Secretary General ready to meet you!

International Peatland Congress 2020 in Estonia
Facts and Preview



Looking forward to
Bremen 2019 -
Annual Meetings in May