



ANNUAL REPORT 2022





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CHAIR'S WELCOME

Over the last ten years, the World Congress of Soil Science has become a significant part of my life. Starting with developing the bid ten years ago, winning the bid eight years ago in Jeju, South Korea, becoming a member of the IUSS Executive Committee six years ago and establishing this charity to deliver the Congress aims and the long-term legacy from the event.

I couldn't be prouder of the outcomes we achieved during the event. Set against a backdrop of Covid-19 and Brexit, arguably the 22nd World Congress was the most challenging to deliver. Despite half the usual number of delegates at a World Congress, we were delighted to welcome almost 1,400 delegates in person and a further 300 online, to Glasgow.

In addition to the fantastic scientific programme, our volunteers and executive team delivered a number of complementary activities for delegates and the wider public. Delegates visited our fringe events which included discussions around long-term experiments from the Ecological Continuity Trust, viewed artwork from Newton Harrison courtesy of the Barn Arts and had the opportunity to see and purchase pottery made from hand-dug Scottish clay, courtesy of the Scottish Potters' Association.

In partnership with the British Society of Soil Science (BSSS), volunteers delivered a week-long residency at the Glasgow Science Centre. These volunteers engaged with over 7,000 people during the week of the Congress, highlighting the importance of soil via our 'Soil Explorer' activities developed by its education committee (see page 10). The extent of our reach at this event, was beyond our expectations and the feedback from the public was incredibly encouraging.

As we leave the Congress (and ten years of my life!) behind, it is important that we do not lose sight of the importance of leaving a positive legacy in both Glasgow and the wider world. With the surplus generated from the Congress, the Trustees of the World Congress of Soil Science 2022, engaged with the working group set up to support the delivery of the Congress on the activities they would like to see delivered further to the Congress. Many of these activities will utilise the surplus made and some recommendations are based on our approach to Equity, Diversity and Inclusion for example.

As the surplus from the Congress has been distributed between BSSS and the International Union of Soil Sciences (IUSS) we have already seen positive changes being made, with BSSS introducing an Equity, Diversity and Inclusion representative on its Board and Council, whose role will be to ensure the positive processes we implemented during the Congress, such as blind reviewing abstracts, are continued throughout the Society's other activities.

As the Congress year ends, I would like to thank my fellow Trustees David Manning and Sarah Garry, who have shouldered the responsibility for the Congress alongside me. I would also like to thank all members of the World Congress working group, who ensured we delivered our objectives whilst delivering a surplus to support soil science into the future. It has been an absolute pleasure to lead such a committed team.



Bruce Lascelles
Chair of Trustees

INTRODUCTION

From its inception, the Congress has had four key pillars which each of its activities map against:

SCIENTIFIC CULTURAL SOCIAL ENVIRONMENTAL

Our annual report is set out to cover each of these pillars, the activities we delivered within each of them and the impact the activities have had.

SCIENTIFIC

- The Congress hosted 46 scientific sessions broken down by theme, four plenary speakers, and the first ever President's Invited Lecture delivered by Professor Peter Gregory
- Scientific Sessions ranged across 24 Divisional and 10 Interdivisional episodes and the full scientific programme will remain available on the BSSS website. Topics included were:
 - Spatial decision making and mapping for implementing policies for sustainable soil management
 - Soil carbon: from particle to planet
 - Interdisciplinary soil science for impact
 - Plant soil interactions and their roles in soil formation and sustainable crop production
 - Novel methods and techniques
 - Dynamics of soil erosion and land loss under present and future environments
 - Soil securing humanity, humanity securing soil
 - Sustainable land use
 - Soil science and the emerging philosophy of regenerative agriculture
 - Land contamination and degradation, including urban land
 - Nitrogen cycling and soil health
 - Soil geography: basic science and new technologies
 - History, philosophy, and sociology of soil science
 - Soil classification and palaeopedology
 - Soil microorganisms under changing environment
 - Soil genesis
 - Sustainable use of legacy soil phosphorus
 - Soil evaluation and land use planning
 - Digital soil mapping: advances towards digital soil assessment
 - Soil water, pollutant, and gas movement in the context of changing environment
 - How pedometrics can cross boundaries and change society
 - Soil biology in transition: from descriptive to mechanistical understanding
 - Soil education – in school, university, and in-service training
 - Soil structure – observation, resilience, and its role in ecosystem functioning
 - Biogeochemical cycles in the soil, processes linking the abiotic and biotic realms
 - Effects and processes of biochar and soil organic matter on plant nutrition
- Plenaries were delivered by:
 - Professor Ismahane Elouafi, Chief Scientist at the UN Food and Agriculture Organization (FAO), on *Soils and Security*
 - Dr Debra Roberts, Chief Resilience Officer, Durban, South Africa, on *Soils and Land use in the 22nd Century*
 - Professor Suzi Theodoro, Professor of Soil Geology at Universidade de Brasilia, on *The North South Divide: Economic and soil management allowing the South to thrive*
 - Ranveer Chandra, Chief Technology Officer and Head of Networking Research at Microsoft Research, presenting on *Data and the Information Revolution*
 - Professor Peter Gregory, Emeritus Professor at the University of Reading, on Russell Review Paper: *Are plant roots only "in" soil or are they "of" it? Roots, soil formation and function*
- The Congress was attended by 1,675 delegates, 1,377 in person and 298 online, from around the globe. Of the attendees, 320 were from the UK (19.1%), 509 from Europe (30.4%), 175 from the USA (10.4%), and 527 from other regions (31.5%) with 144 being of unknown origin (8.6%)



SCIENTIFIC

- The scientific committee accepted 445 oral presentations from abstracts submitted, of those 387 went on to present at the WCSS22 (86.9%). Of those who gave oral presentations at the Congress, 68 were from the UK (17.6%), 155 from Europe (40.1%), 55 from the USA (14.2%), and 76 from other regions (19.6%) with 33 being of unknown origin (8.5%)
- The scientific committee accepted 1,488 poster presentations from abstracts submitted, and of those 943 were featured at the Congress (63.34%). Of those who gave poster presentations at the Congress, 115 were from the UK (12.2%), 359 were European (38.1%), 79 from the USA (8.4%), and 266 from other regions (28.2%) with 124 being of unknown origin (13.1%)
- We hosted a scientific fringe programme with events from:
 - Cranfield University, *A Soil Journey with Cranfield: Past, Present, Future*
 - Ecological Continuity Trust, *Long-term Ecological Field Experiments – Opportunities for Soil Scientists*
 - Soil Benchmark, *Building Bridges between Soil Scientists and Farmers: Making the Best use of on Farm Soil Data*
 - STARS, *Reaching Higher Ground: the Next Generation of Soil Science through Collaborative Postgraduate Training and Learning*
 - Global Soil Health Programme, *Restoring Life on Earth*
- We hosted the first ever policy session at a World Congress of Soil Science, which was attended by over 100 delegates, and included representatives from academia, government, landowners, and membership bodies
- We hosted the fourth international soil judging competition, delivering high-quality soil categorisation training to over 40 students representing nine different countries. The winners in the team category were team America (1st), team Australia (2nd) and team Spain (3rd) and the individual competition placings were Clare Tallamy (USA) in first, with Eduardo Vasquez Garcia (Spain) taking second, and Ben Atkins (USA) taking third.
- We delivered six tours visiting sites of soils of interest and soil-science related organisations across Scotland, four day and two multi-day tours. Highlights included visits to the Isle of Arran, Boghall Glen, the University of Stirling, and the Pentland Hills
- 78.24% of delegates who responded to the post-Congress survey rated the content delivered in the Divisional sessions good or excellent, with 84.11% rating the content of the interdivisional and 80.83% rating the plenary content as being good or excellent
- 94.3% of delegates who responded to the post-Congress survey reported gaining new knowledge as a result of the Congress. 79.45% of respondents stated that they would be able to apply knowledge gained at the Congress in their practice.



Bruce Lascales, Clare Tallamy and Matt Aitkenhead



Soil judges reviewing the teams' entries

SCIENTIFIC

CASE STUDY 1

WHAT	International Soil Judging Competition. Three days of classroom and field training followed by two days of competition, delegates were taken to a variety of sites around Stirling and were given the opportunity to view 9 different soil profiles.
WHERE/WHEN	Wednesday 27 – Sunday 31 July 2022 at Stirling University.
WHO	37 delegates comprising 9 teams from international Soil Science Societies, 12 team coaches, 10 volunteers, 9 day delegates and support staff.
WHY	To provide high-quality soil categorisation training, and networking opportunities, to the next generation of soil scientists.
IMPACT	In the post-Competition survey 100% of delegates rated their overall experience in attending the training as satisfactory or very satisfactory, with 100% also rating the classroom training as good or very good, and 93% rating the field training as fair, good, or very good.



CASE STUDY 2

WHAT	Soil Tours: Arran Day Tour. The tour visited the Isle of Arran, stopping off at several pre-prepared soil pits, visiting a local scientific outpost, and whisky distillery.
WHEN	Friday 5 August 2022.
WHO	34 Congress delegates and 2 tour leaders.
WHY	To provide the opportunity for visitors to the region to appreciate the soils of the Highlands and Islands of Scotland and partake in the culture of the area.
IMPACT	In the post-Congress survey 80.37% of respondents who reported attending a tour rated the tours as good or excellent. The tours contributed to 54.02% of delegates who confirmed they spent additional time in Scotland either pre- or post-Congress in the same survey.

SCIENTIFIC LEGACY

- The plenary and interdivisional sessions were hosted on the British Society of Soil Science website and were available free of charge to Society members
- We supported the British Society of Soil Science, in producing the document Soil Policy Report Summary and COP27 Discussion Document, an overview of the activities which took place during the soil policy day
- A final document, which summarises the whole soil policy day was published in February 2023 and is hosted on the British Society of Soil Science website.

CULTURAL

- The World Congress of Soil Science 2022 was opened by the Patron of the British Society of Soil Science, His Royal Highness the Duke of Gloucester KG, Dr Bruce Lascelles, and Glasgow's Deputè Lord Provost in an opening ceremony hosted at the Glasgow SEC, with drinks reception at the Glasgow Science Centre
- We hosted a Gala Dinner at the Kelvingrove Museum and Art Gallery with 400 delegates in attendance. The event included a traditional Scottish menu and ceilidh
- We supported the delivery of the We are Compost/ Composting the We art exhibition at the Glasgow Centre for Contemporary Art (CCA) in conjunction with IUSS Division Four Co-Chairs Dr. Alexandra Toland and Dr. Anna Krzywoszynska
- The Congress was closed in a ceremony featuring a specially recorded video addressing the importance of healthy soils from His Royal Highness King Charles, at the time of event HRH The Prince of Wales
- We delivered a cultural tour for delegates visiting the home of The Princes Trust, Dumfries House, and Glasgow CCA for a soil discussion, bringing together artists and scientists from around the world
- Supported a local organisation, Propagate, in a successful application to the National Lottery Heritage Fund to deliver a series of community workshops in Glasgow, centred around soils education. Included in the grant was for the project, Soil and Soul, to exhibit at the Congress and for the Open Jar Collective to record audio on soil culture to act as a legacy from the Congress
- Part-funded artist Jude Allen, of Soil Voices, to interview delegates to record their 'Soil Voice' and upload on to her interactive digital mapping platform at www.soilvoices.org
- Part-funded writer Isla Robinson to develop an audio play, Digging Deeper
- Exhibited Newton Harrison's work, On the Deep Wealth of this Nation, in the Congress exhibition area
- Supported our local partners Propagate in hosting Dish the Dirt: A multi-sensory tasting experience, a pop-up tasting experience connecting the food we eat to the land it is grown in
- Invited the Scottish Potters Association to present their exhibition Wild Clay within the main space of the Congress, which featured local artists working with the traditional practice of hand-dug earths
- Natalie Taylor exhibited her Keeper of Soils cape, featuring soil samples collected from around Scotland and encouraged delegates to interact with the piece
- Artist Phil Lambert exhibited at the Congress, displaying his soil lithographs and paintings.



CULTURAL

CASE STUDY 1

WHAT	<i>We are Compost/ Composting the We</i> , and art exhibition curated by Dr. Alexandra Toland for the Glasgow Centre of Contemporary Arts (CCA)
WHERE/ WHEN	Saturday 30 July – Saturday 10 September 2022, Glasgow CCA with a discussion event on Saturday 5 August 2022 and several online sessions: <ul style="list-style-type: none"> • 18 August - Telegraphing the Dead through Soil by Rolf Hughes and Rachel Armstrong • 25 August - Composting Settler Nationalisms by Mathew Arthur and Reuben Jentink • 1 September - Unearthed by Clair Ratinon • 8 September - Soil Interfaces and Interactions by Roman Kirschner and Duy Bui on the 8th of September
WHO	Curated by Alexandra Toland and featuring the works: <ul style="list-style-type: none"> • <i>Time for Growth</i> by Desiree Coral • <i>Shadow Constellations</i> by Desiree Coral • <i>Absorption</i> by Asad Raza • <i>Absorption, ingredients storage</i> by Asad Raza • <i>Gaia Glossary</i> by Alexandra Toland
WHY	To bring soil science, particularly composting, to the wider Glasgow community at the time the city was hosting the World Congress of Soil Science 2022
IMPACT	<ul style="list-style-type: none"> • Those attending the Congress were able to engage with soils on a cultural level in tandem with local visitors to the Glasgow CCA • Visited by 3,041 people over the course of the exhibitions run.



"This is quite striking; the clinical white of the walls really makes you focus on the soil and think that's what we came from"

"Great to see a crossover between art and science"

"Children absolutely loving [the exhibition], digging holes and helping to rake the soil"

CASE STUDY 2

WHAT	Soil and Soul, a Propagate project taking place throughout 2022 in partnership with the World Congress of Soil Science delivering community workshops, creative sessions, podcasts, and events
WHERE/ WHEN	Throughout 2022 in Glasgow (UK)
WHO	Propagate is a worker led collective specialising in local, community and sustainable food projects. Who have worked with groups such as the Chara Centre, Woodside Kids, Cadder Primary School, Lambhill Stables, City of Glasgow College, and CityWorks. Podcasts from Katie Revell, Open Jar Collective, available online
WHY	To bring value from hosting the World Congress of Soil Science 2022 to local communities
IMPACT	The partnership was able to reach the wider Glasgow community and has seeded a generation of community engagement sessions.



CULTURAL LEGACY

- Post-Congress, our arts and culture lead, Willie Towers has accepted a position on the Board of the Barn Arts, one of the organisations which presented at our exhibition during the World Congress

SOCIAL

- In conjunction with the British Society of Soil Science, developed four videos which highlight the importance of soils as linked to the UN Sustainable Development Goals: *Life on Land*, *Zero Hunger*, *Sustainable Cities and Communities*, and *Clean Water and Sanitation*
- The Congress featured many networking opportunities for delegates, including an Early Career Networking Event, the British Society of Soil Science AGM, and a comprehensive social calendar of events including running clubs, yoga and informal dinners
- We delivered our promise to make the Congress accessible by lowering the admission fees for those from low-income countries, and by offering grants to those from low-income countries and early career researchers. The Macaulay Development Trust also provided funding to support a number of bursaries and the £12,000 bursary pot was shared between:

- Vincent Geoffroy
- Mulenga Kalumba
- Munisath Khandoker
- Anastasiia Kurgaeveva
- Lucas Lesaint
- Naseri Mahyar
- Supriya Majumder
- Ana Morais Natalio
- Laudelino Mota Neto
- Deepika Pandey
- Rika Sari
- Jim Scrown
- Hadee Thompson-Morrison
- Richard York
- Vincent Logah



- We supported BSSS in delivering a week-long engagement event at the Glasgow Science Centre interacting with over 7,000 people in the five-day run on the functioning of healthy soils. This event was also supported by WCSS22 volunteers who delivered the engagement and acted as ambassadors for soil science
- We supported IUSS in presenting Glasgow City Council with 500 copies of soil-themed children book *The Magical World of Soil Biodiversity*, a copy of each was subsequently presented to all Glasgow primary schools
- We penned an open letter to the soil science community sharing best practice from hosting the Congress and made a large selection of documents relating to planning and delivering the event to the hosts of the 23rd and 24th iterations of the event (page 15)
- Developed legacy videos from the World Congress with Earth Minutes, which capture the essence of the Congress and reflect on outcomes from hosting the event. The video will remain available on the BSSS Congress archive webpages.

SOCIAL

CASE STUDY 1

WHAT	<i>Soil Explorers</i> , an engagement event hosted in partnership with the British Society of Soil Science
WHERE/WHEN	Hosted at the Glasgow Science Centre during the World Congress of Soil Science 2022 1- 5 August 2022
WHO	An event planned and delivered by the British Society of Soil Science, supported by 15 volunteers
WHY	To bring soil science education to Glasgow at the time of the Congress
IMPACT	During the week-long event over 7,000 people passed through the Glasgow Science Centre. This gave the opportunity for young people and families to be hands on with soil activities, engage directly with soil scientists, and to take home leaflets detailing experiments that they could complete at home.



CASE STUDY 2 – GSC and UN SDG videos

WHAT	UN Sustainable Development Goal (SDG) videos. Four one minute long videos, Life on Land (SDG 15), Zero Hunger (SDG 2), Sustainable Cities and Communities (SDG 11) and Clean Water and Sanitation (SDG 6)
WHERE/WHEN	During July and August 2022. Watch the videos online at www.soils.org.uk/soil-and-the-unsdgs/
WHO	The British Society of Soil Science (BSSS), in partnership with the World Congress of Soil Science 2022
WHY	These awareness-raising videos provide an overview of the importance of soil, based on the evidence-base, and support the Congress' aim of highlighting the importance of soil in achieving the UN Sustainable Development Goals
IMPACT	The videos have been watched almost 1,600 times and were played during the Opening Ceremony of the World Congress of Soil Science. The videos are available to freely download via the BSSS YouTube channel and anyone with an interest in soil is encouraged to use them in outreach presentations and across their social networks.



SOCIAL LEGACY

- Post-event, we held a Christmas party to thank our volunteers for the support they had provided over many years.

ENVIRONMENTAL

We knew when we agreed to host the World Congress of Soil Science (WCSS) in Glasgow this year, it would have a significant environmental impact. Sustainability therefore became one of our pillars for the Congress and wherever possible we aimed for the event to be sustainable.

At a strategic level, this included commissioning what we believe to be one of the first ever Environmental Impact Assessments (EIA) of an international congress. Delivered by Alexandre Couvez, a Masters' student at Cranfield University, the EIA is being peer-reviewed with the aim of being published in a business and tourism journal in 2023.

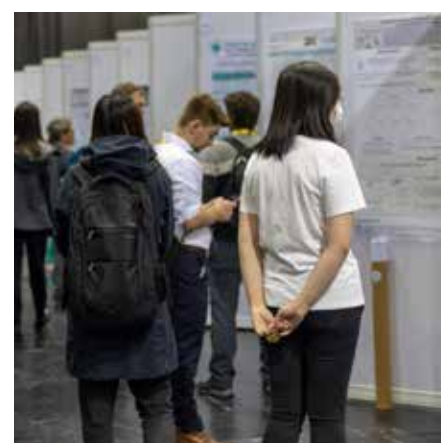
At an operational level, we embedded sustainability into all aspects of our operations: from choosing congress food which was 90% locally sourced, to providing non-plastic merchandise made in the UK and either recyclable or compostable on disposal.

We came across significant challenges on our journey: although we used compostable packaging for our lunches, Scotland did not have recycling facilities for compostable packing locally, meaning it was disposed of into landfill.

In the meantime, the challenges we came across during the delivery of the Congress as well as our successes, have been turned into our document, Delivering Sustainable International Events. The document, which has been co-branded with the International Congress and Convention Association (ICCA), was launched by Congress Trustee Sarah Garry, during ICCA's 61st Annual Conference in November 2022.

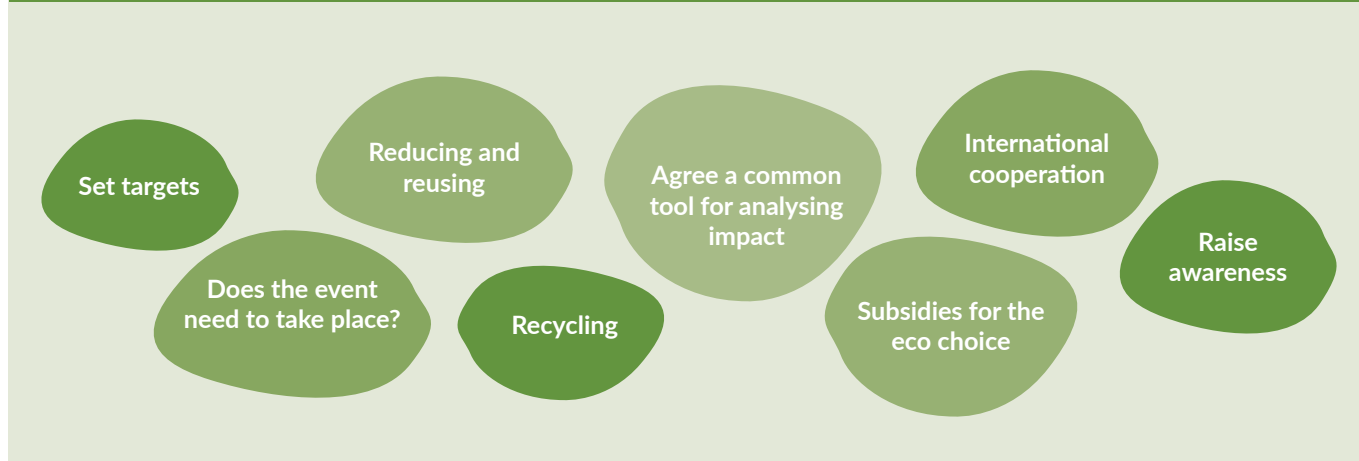
Our recommendations, which set out the key considerations for both event organiser, destinations and governments, has been well received by the industry where there is a need for case studies from organisations such as ours, which have a clear idea of what it means to live by sustainable values.

We will continue to encourage others to consider our recommendations in their event planning, to ensure a congress legacy which if implemented by the international events sector which is worth \$1,135.4 billion, will have a significant impact on humanity's global impact.



ENVIRONMENTAL

OUR RECOMMENDATIONS



Impact of WCSS 2022 in numbers

- Based on 1,700 delegates in person and online, our environmental impact assessment indicated that the event took the:
 - equivalent of **200 UK peoples'** Greenhouse Gas Emissions for the year
 - equivalent of **350 UK peoples'** water consumption for the year.
- 84% reduction in food waste between days 1 and 3 of the Congress
- Clearly set out CO₂ impact for all meals provided at the SEC, allowing delegates to choose their lunch based on the environmental impact
- Developed an environmental statement which all direct contractors were asked to support
- Reduced the carpet we used by not carpeting walkways in the exhibition hall. Any undamaged, used carpet was redistributed to social housing, with other carpet being recycled.



Newton Harrison's work 'On the Deep Wealth of this Nation'

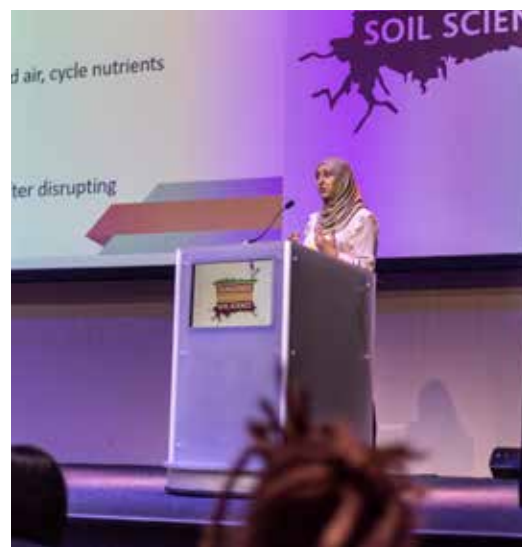


Hand-dug clay pots, presented by the Scottish Potters' Association



EQUALITY, DIVERSITY & INCLUSION

- The review process for abstracts was completed blind with measures taken to ensure no biases in the process
- Of the 445 oral presentations accepted by the scientific review panel 124 were female (27.9%), 170 male (38.2%), 2 of other gender (0.4%), and 149 preferred not to say (33.5%)
- Of the 1,488 poster presentations accepted by the scientific review panel 439 were female (29.5%), 395 male (26.5%), 4 other gender (0.3%), and 650 preferred not to say (43.7%)
- The 22nd World Congress of Soil Science was the first in the series to have elements available in real-time, with the plenary and divisional elements of the scientific programme available to access online. The plenary sessions were deliberately scheduled at different times of day, to provide equity to attendees from around the world
- Those accepted for poster presentations were able to participate online and upload digital (pico) presentations to accompany their posters. This option was also available for in-person attendees
- Sponsors were encouraged to make use of our online platforms to further engage digital audiences and allow for networking with remote individuals
- We supported oral and poster presenters from low-income countries to attend the Congress by offering waived registration fees in return for volunteering at the event.



OTHER ACTIVITIES

- We produced policies for the event on:
 - Corporate Social Responsibility
 - Equality Diversity and Inclusion
 - Ethics
 - Health and Safety
 - Procurement
 - Safeguarding
 - Expenses
- We produced statements on the Environment and Privacy.

MAINTAINING THE LEGACY OF THE WORLD CONGRESS OF SOIL SCIENCE



In late 2022, on confirmation that the Congress had made a surplus, the Trustees of the World Congress of Soil Science 2022, agreed to split the surplus between the British Society of Soil Science (BSSS) and the International Union of Soil Sciences (IUSS).

Our Chair wrote to BSSS specifically setting out how its share of the surplus should be spent with these requests reproduced below:

1. The funds should be spent by the end of 2030 to coincide with the end of the World Congress of Soil Science which will be held in Canada in the summer of that year
2. Funds should be spent to enhance legacy activities of the Congress, to scientific and non-scientific audiences. Where projects are 'place-based', we would like to see these take place in Glasgow or Scotland initially, and rolled out more widely later.

We would propose BSSS seed-fund activities which become self-funded in the long-term. We propose that the Society use the funds from this donation to seed-fund:

- a) A digital pit archive to digitise the activities from the post-congress tours, and the cancelled pre-congress tour, and allow them to be accessible by a wider audience
- b) A number of grants to fund full attendance of Early Career members to the Chinese (2026) and Canadian (2030) World Congress of Soil Science
- c) Publish international case studies demonstrating the practical importance of investing in soil. These case studies should show soil's importance from a wide-range of viewpoints, including international food supply-chains, to construction, to smallholder farming
- d) Publish the environmental impact assessment from the World Congress and continue to support IUSS and other international congress-holding societies, to reduce their own environmental impacts
- e) A series of 'Listening Benches' in the Glasgow area, linking personal 'soil voices' of the area with an overview of the local soil landscape.

We anticipate there may be funds left from the donation after completing the activities listed above and would propose that the remaining funds are spent on any other activities which support the Society's mission.

In addition, we hope that the Society will continue to undertake the following activities which worked well at WCSS and are unlikely to have an additional cost:

- a) Make a commitment to Equality, Diversity and Inclusion (EDI) by nominating named EDI representatives and blind reviewing conference abstracts
- b) Further developing the link between researchers, practitioners and policymakers, by having annual opportunities for them to share knowledge with each other
- c) Sharing the knowledge we gained in delivering WCSS, with other organisations
- d) Continue to support the artists showcased at WCSS, by raising awareness of their activities and providing in-kind support where possible.

FACING THE FUTURE TOGETHER: BUILDING ON THE WORLD CONGRESS OF SOIL SCIENCE 2022



To ensure future World Congress organisers do not have to re-develop processes and procedures, a complete operational manual was shared with the International Union of Soil Sciences and the Chinese and Canadian Soil Science Societies, both future hosts of the World Congress. This was accompanied by a recommendations letter, highlighting the key learning points and activities which we believe should be embedded into future events. The letter is reproduced below:

At the British Society of Soil Science (BSSS), we are determined to ensure that the World Congress of Soil Science 2022 (WCSS22) will not be a forgotten moment, that legacies from the Congress will live on and continue to inform the future of soil science.

In this open letter to the soil science community, we aim to support the legacy of WCSS22 through the sharing of learned experience and as a benchmark for the future.

BSSS hosted WCSS22 on behalf of the International Union of Soil Sciences (IUSS) from 31 July to 5 August 2022 in Glasgow (UK). There were four pillars defining the Congress strategy: **Science, Culture, Social, and Environment**.

WCSS22 represented one of the first opportunities for the soil science community to gather post-Covid, with almost 1,700 delegates participating (see Appendix One). The scientific programme was a triumph for representation within the community, with the final programme featuring presentations from all regions of the globe across a variety of research themes. Measures taken such as blind peer-reviewing, concessionary rates for delegates from low-income countries, and generous grant awards, helped achieve this outcome. Measures should be taken to ensure diversity is integrated into future events.

Taking soils beyond the academic and relating them to professionals in practice and those in their everyday lives, was kept in mind throughout Congress planning and delivery. Considering culture early, allowed *Our Living Soil* to be established. This fringe programme delivered multiple exhibitions, community programmes, workshops, and multi-media projects by working through local community partnerships.

Our ambition to deliver outcomes more widely than WCSS' traditional scientific audience, should be maintained to make the most of momentum from hosting any event.

Science does not exist in a vacuum. Cultural and social needs should be addressed when hosting any event. The wider world is beginning to understand the need to preserve and protect our shared environment, and we in the soil community understand the role of soils in that.

We addressed this with the introduction of the first ever Soils Policy session at a World Congress of Soil Science. This session hosted stakeholders including policymakers, academics, landowners, practitioners, lobbyists, campaign groups, environmental organisations, all engaging on soils policy. The room had to be extended due to demand, such was the need for and importance of the session. The [Soil Policy Report Summary](#) is the outcome of the recommendations made during the session.

We would encourage continued evidence-based advocacy of soils within local, and global, governance and regulation.

Understanding the importance of soils to healthy environmental functioning, we considered the environmental impact of hosting WCSS22.



We took steps such as commissioning an Environmental Impact Assessment (pending publication), developing an internal procurement policy focusing on circular economy principles, reducing food waste and using local suppliers, amongst others. Our methods have seen us shortlisted for the Best Sustainable Conference at the ABPCO Excellence Awards.

An advice document, [Delivering Sustainable Events](#), was produced in conjunction with the International Congress and Conventions Association (ICCA) with recommendations for reducing the impact of the international congress sector). All those working within the environmental sector have a responsibility towards their environment and sustainability, and we call on all event co-ordinators to consider how they may minimise their footprint.

We faced significant challenges, including Covid and sometimes had to compromise in the face of operational and logistical constraints. We hope that by being transparent, sharing data and materials, we will aid others in improving from the legacy we have left. We have set out a list of recommendations below.

RECOMMENDATIONS

Our recommendations are broken down based on the four core pillars of WCSS22:

SCIENCE

Scientific Programme

- Equality, diversity and inclusivity (EDI) **principles** should be embedded throughout the Congress planning. This should include where practicable an even split of gendered representation on the local organising committee, a nominated EDI representative on the committee and blind reviewing of abstracts to ensure an unbiased approach
- More time should be committed to panel discussions, to allow a balance of international opinions and expertise
- A minimum of six months' notice should be provided to accepted oral presenters, before the Congress begins, to provide time for visa applications and processing
- Grants to support in-person attendance for delegates from low-income countries should be available
- Remote conference attendance was low in comparison to in-person attendance (17% of total attendees) and was a significant cost in delivering. Filming the event and posting the content post-event may be a cheaper alternative to delivering the hybrid model.

Tours Programme

- Tours are a valuable opportunity to learn about local soils, however are often difficult for those in their Early Career to attend. Tours should be tailored to provide those early in their career with the opportunity to attend
- The tours only benefit a small number of participants and steps should be taken to record and make available, the learnings from the tours.

Soil Judging Competition

- Team coaches and participants should be identified at least a year in advance. This will provide the coaches with an opportunity to meet, support the local host and for the teams to prepare
- The Soil Judging Competition organiser should be a part of the local organising committee and clear documentation from IUSS should be produced setting out the exact requirements and syllabus for the competition.



CULTURE

Scientists should be encouraged to see soil from a cultural perspective and the public should be encouraged to understand soils' importance.

Cultural activities should be delivered during the Congress to meet the first of these objectives. This is likely to include representation from local artists and opportunities for delegates to interact with soil in an arts context.

To engage the public, the Congress should include local arts exhibitions, outreach activities and community projects, to extend the legacy of the Congress and increase its reach to a broader non-scientific audience.

SOCIAL

To widen participation and engage a larger community, the following activities should become core activities within future WCSS':

- Early Careers networking opportunities: to encourage knowledge-sharing and collaboration amongst those at the start of their careers
- Policy programme: bringing together policymakers, scientists and practitioners to provide evidence and recommendations to those making societal decisions.

Equality, diversity and inclusion should be actively considered and external supporters and spokespeople should be from a wide-range of cultural and social backgrounds, to appeal to delegates from a range of international backgrounds.

ENVIRONMENT

Actions should be taken to reduce the environmental impact of the congress. This may include considering whether there is an optimal location for the event to take place, based on the members of the international soil science community, or whether several local but connected events could be a possibility. A full list of environmental recommendations can be found in [Delivering Sustainable International Events](#).

An environmental impact assessment should be undertaken with the aim of identifying whether a reduction in environmental impact has been made.

OPERATIONS

Operationally, a Memorandum of Understanding (MoU) between the local organising committee and IUSS would be recommended early in the process. The MoU should be clear as to the obligations of both parties and the activities which must be delivered as part of the Congress. It is also recommended that a separate company is established to deliver the Congress to provide clarity over governance and financial processes.

The next Congress should build on our foundation. All resources and legacies from the WCSS22 will be provided to IUSS, the Chinese and Canadian Soil Science Societies, in advance of the next World Congresses. We encourage IUSS to make these documents freely available to help make our legacy, last.

Yours faithfully

Dr Bruce Lascelles, Chair, World Congress of Soil Science 2022
On behalf of the Board of Trustees

ABOUT US



The 22nd World Congress of Soil Science (WCSS) was hosted by the British Society of Soil Science (BSSS) on behalf of the International Union of Soil Science (IUSS) at the SEC, Glasgow from 31 July – 5 August 2022. The Congress theme was Crossing Boundaries, Changing Society and 1,700 international soil scientists, practitioners, and policy makers attended. This was an exciting event in the soil science calendar and there was something for everyone within this diverse and wide-ranging event.

The main scientific programme featured four keynote speakers from varied backgrounds and disciplines, over 400 oral presentations split by theme, and over 1,000 posters and accompanying media. The dedicated policy programme invited views and debate on the hot-topics of real-world applications in soil science. Accompanying the scientific and policy programmes was an diverse selection of industry exhibitors, soil tours, competitions, and fringe events. New for this Congress is the Our Living Soil arts and culture programme, and visitors can expect to find curated exhibitions, ceramic art, community workshops, and audio and visual media included in the main event.

Trustees

Dr Bruce Lascelles – Chair, Mrs Sarah Garry, Prof David Manning

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- Bruce Lascelles (Chair)
- Jack Hannam (Vice Chair)
- Helaina Black (Health and Safety, Sponsorship)
- Colette Black-Heaton (Speakeasy - Professional Congress Organiser)
- Kirsty Charles (nee Elliott) (Early Careers)
- Sarah Garry (Operations)
- Peter Gregory (Scientific Programme)
- Allan Lilly (Tours Programme)
- David Manning (Scientific Programme)
- Sacha Mooney (British Society of Soil Science)
- Eleanor Reed (Policy Programme)
- Willie Towers (Arts and Culture)



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