

WORLD WATER DAY 2023

ACCELERATING CHANGE THROUGH PARTNERSHIPS AND COOPERATION

EDINBURGH INTERNATIONAL CONFERENCE CENTRE (EICC)
WEDNESDAY 22ND MARCH, HYBRID WITH LIVE-STREAM



General information

In Person Participation

Registration on the day

Registration will be open from 9:15 at Strathblane Hall. The event will commence in the Moorfoot Room at 10:00. At the registration desk, we will ask your name and organisation, please have your tickets in hand, should we need to verify your registration. There will be coffee and refreshments provided in the registration area.

COVID-19 guidance

The health and safety of our delegates is our top priority, and we will follow all current government guidance and assure you that all necessary precautions will be in place to ensure your safety. For the most up to date information, please read the current information from the [Scottish Government](#). While delegates are not required to wear face masks, these will be provided at the venue for anyone who wishes to do so. Hand sanitation stations will be available in the registration area. If you have symptoms of a virus, cold or flu, we advise that you switch to online participation given the hybrid nature of the event.

Getting here

Please see [here](#) for information on how to get to the EICC and parking/charge points.

Contact

Email: wwd23@hutton.ac.uk

Please visit the Event website for more information: <https://www.hnic.scot/world-water-day/world-water-day-2023>

Venue Wi-fi

Network: delegate | Password: haymarket

Virtual Resources

Live stream

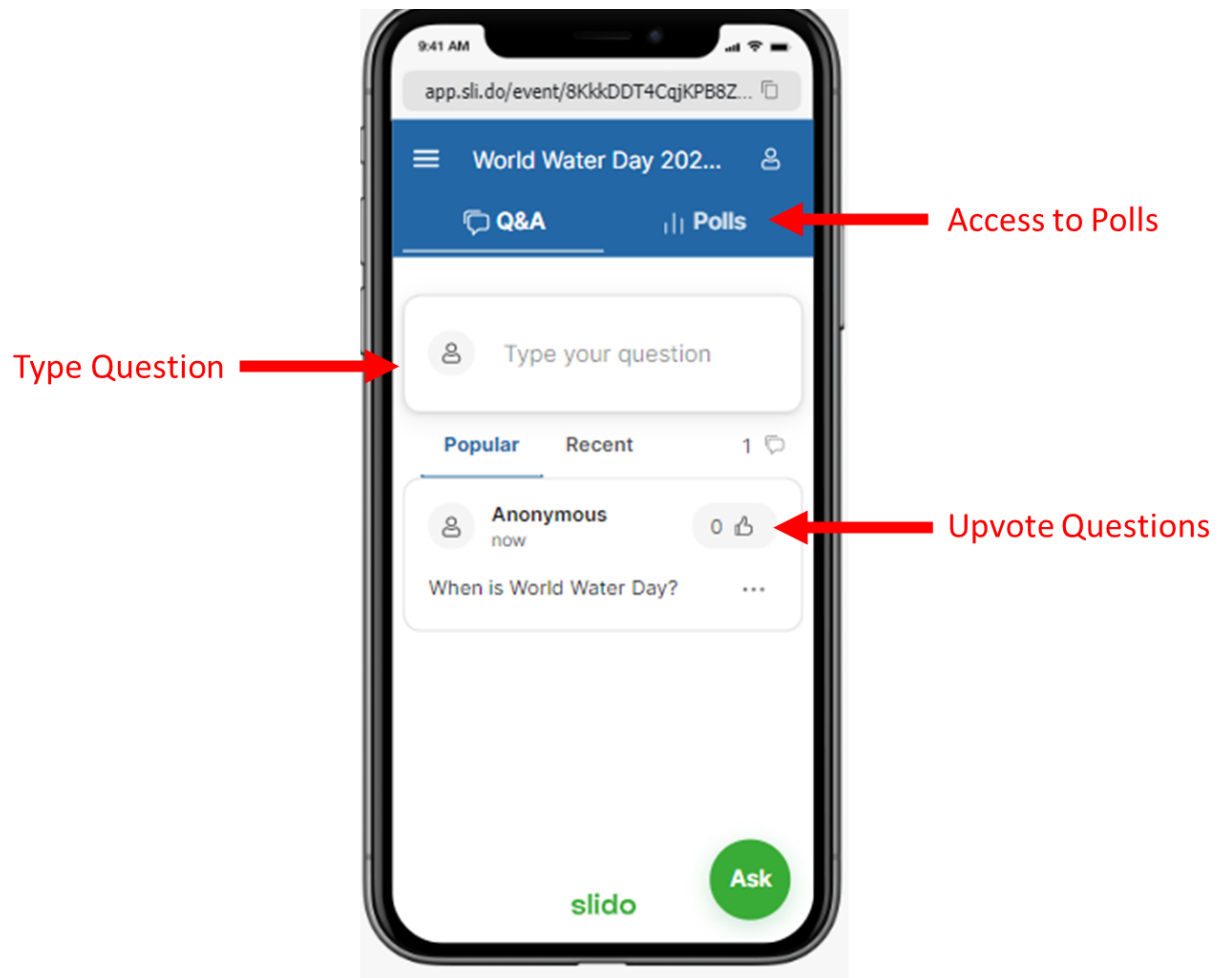
World Water Day 2023 will be broadcasted via live stream for online participants, and a recording will be available post-event. Please visit the Event website for the link: <https://www.hnic.scot/world-water-day/world-water-day-2023>

Online attendees will be able to view the Hydro Nation Scholars Programme Poster Exhibition through our [Virtual Pavilion](#), also available on the Event website.

Q&A

We will be using Slido to help facilitate our interactive Q&A, collect your questions in advance and hear your feedback via live polls. In-person and online participants can send their questions by joining at [slido.com](#) with access code **#2859105**. Questions can be submitted anonymously and at any time. You will be able to see and upvote questions provided by others in your device. The moderators will ask the speakers to address the most upvoted questions.

Submitting questions through SLIDO, and access to polls



Event Programme

Accelerating Change through Partnerships and Cooperation

On 22nd March 2023, Scotland will join the annual World Water Day observance with its national event entitled 'Accelerating Change through Partnerships and Cooperation'. This conference aims to explore emerging trends and opportunities for water to act as a catalyst for accelerating change through intersectoral interactions, and the ways in which policy, research and innovation can come together to safeguard water sustainability and resilience worldwide. This free hybrid event is hosted by the Hydro Nation International Centre with CREW and supported by the Scottish Government and The James Hutton Institute.

Please use hashtag #WWD2023Scotland for your social media posts

Welcome to World Water Day 2023

09:15-10:00 **Registration** (Strathblane Hall)

Move to Moorfoot Room

10:00-10:05 **Welcome**

[Rachel Helliwell](#), Director of Scotland's Centre of Expertise for Waters & the Hydro Nation International Centre, The James Hutton Institute

10:05-10:20 **Opening address**

Mairi McAllan MSP, Minister for Environment and Land Reform

Thematic Presentations (Moorfoot Room)

*Chaired by Bob Ferrier, Honorary Fellow, The James Hutton Institute & Honorary Chair, University of Dundee
Audience Q&A via SLIDO, moderated by Hydro Nation Scholars*

10:20-10:25 **Session Introduction by Chairperson**

Water and Health

10:25-10:45 **Wastewater-based epidemiology (WBE) to track COVID-19**

Speakers: [Andrew Millar](#), Chair of Systems Biology, University of Edinburgh & [Michael Lockhart](#), Programme Lead, Public Health Microbiology, Public Health Scotland

Scotland quickly established a nationwide programme to monitor genetic material of SARS-CoV-2 in untreated wastewater in 2020. Andrew Millar will describe the resulting data, and the research and delivery process that produced it. Michael Lockhart will be reflecting on the public health impact of SARS-CoV-2 WW testing in Scotland and more widely across the world, and what PHS sees as potential next steps and opportunities for wastewater from a public health agency point of view.

10:45-11:05 A prescription for sustainable policies in Scotland

Speaker: [Sharon Pfleger](#), NHS Highland, Co-founder One Health Breakthrough Partnership

This presentation will cover the One Health Breakthrough Partnership and how working intersectorally is accelerating change in the arena of pharmaceutical pollution of our water environment. The OHBP is leading the way in upstream thinking to reduce pharmaceutical pollution, decrease antimicrobial resistance and how this contributes to wider societal benefits, the economy, net zero and sustainability targets.

11:05-11:10 Launch of 'Recommendations for leveraging blue space for health: A blueprint for change'

Speaker: [Niamh Smith](#), Glasgow Caledonian University

We present evidence-based recommendations for leveraging blue space for health. Blue spaces are increasingly being understood to provide positive health benefits. The recommendations, developed through extensive longitudinal research, partnership working, and participatory methods, can support decision-makers in preserving, revitalizing, and using urban blue spaces to provide synergistic benefits to people and the planet.

Water and Sustainable Engineering

11:10-11:30 Sustainable Urban Infrastructure

Speaker: [Rebecca Wade](#), Senior Lecturer, Abertay University

There is a recognised need for a fundamental change in how cities manage urban water and flood risk. Sustainable urban infrastructure, particularly Blue-Green Infrastructure (BGI) has become central to climate change mitigation and adaptation. The increasing incorporation of BGI within Scotland highlights a need to consider the inclusivity of BGI as part of how we bring about a just transition, delivering healthy places for healthy people.

11:30-12:00 Morning Break (Kilsyth Room)

Water and Digitalisation

12:00-12:20 Digital Environment for Water Resources

Speaker: [Marian Scott](#), Professor of Environmental Statistics, University of Glasgow

"Data rich, information poor" has been a phrase used historically to describe the water sector, but in the past few years this has changed to now be 'a data deluge'. New in-situ sensors, as well as new earth observation missions, all mean that the water sector has become even richer in data, and with that comes numerous opportunities to translate the data into information, knowledge and understanding. Marian will present a few examples from recent work, addressing some of the challenges and opportunities in a small catchment and globally.

12:20-12:40 Digital Water: Innovation and Adoption in Low- and Middle-Income Countries

Speaker: [Zach White](#), Senior Insights Manager, GSMA

This session explores the state of digital adoption in the water sector across low- and middle-income countries. It will provide frameworks for understanding how digital tools augment water provider capacity, profile some of the innovative companies working in the sector, and review what we know about levels of digitalisation within water utilities.

Water and International Cooperation

12:40-13:00 **Cooperation in Urban Water and Wastewater Management: Opportunities and Challenges**

Speaker: [Asit Biswas](#), *Distinguished Visiting Professor, University of Glasgow*

Cities and countries can learn much from each other on how specific water problems can be solved. Up to now, knowledge flow has been mostly from developed to developing countries. In reality, developed countries can also learn much from developing countries. Several examples will be given to show that knowledge flow in the 21st century is a 2-way street.

Session close

13:00 **Lunch Break (with Networking & Exhibitions)**

Kilsyth Room

On display: [Hydro Nation Scholars Programme](#) Digital Poster Exhibition and Virtual Pavilion

Online: Virtual Pavilion at <https://www.hnic.scot/world-water-day/world-water-day-2023>

Water and Policy: Roundtable & Hydro Nation (Moorfoot Room)

Chaired by Bob Ferrier, Honorary Fellow, The James Hutton Institute & Honorary Chair, University of Dundee

Audience Q&A via SLIDO, moderated by Hydro Nation Scholars

14:00-14:05 **Session Introduction by Chairperson**

14:05-15:00 **Roundtable Session: Accelerating Change through Partnership Working**

The roundtable discussion will focus on the experiences and challenges of partnership working to achieve sustainable water management. Panellists will discuss the benefits and challenges of partnership working and its contributions in the context of Scotland's Hydro Nation agenda and in response to global change impacts on water.

Led by Kerr Adams, International Development Officer, HNIC, The James Hutton Institute

Panellists:

- *Nicola Melville – SEPA (One Planet Choices Team)*
- *Jim Pritchard – SEPA (One Planet Choices Team)*
- *Stephen Mendey – Scottish Water (One Planet Choices Team)*
- *Cecilia Tortajada – University of Glasgow*
- *Barry Greig – Scottish Government*

15:00-15:10 Hydro Nation Energy Innovation Programme (HNEIP)

Stephen-Mark Williams, Executive Director, ETP

The Scottish Hydro Nation programme is committed to making Scotland a 'Hydro Nation' where water resources are developed to bring maximum benefit to the Scottish economy. Its new Hydro Nation Energy Innovation Programme (HNEIP) offers businesses based in Scotland access to project funding and support to work with Scottish universities on projects that create products and services that reduce and eliminate carbon emissions in the water supply industry.

15:10-15:30 Afternoon Break (Kilsyth Room)

15:30-15:45 Increasing the Flow of Knowledge and Capability through the Hydro Nation Chair Programme

George Ponton, Head of Research and Innovation, Scottish Water

15:45-16:00 Summary & Close of the Main World Water Day 2023 Event

Jon Rathjen, Deputy Director, Water Policy & Directorate of Energy and Climate Change Operations, Scottish Government

Session close

Evening Event: Scotland's Centre of Expertise for Waters Annual Keynote Lecture 2023

****Separate registration is required for this event****

16:00-17:00 Evening Reception & Networking (Kilsyth Room)

Move to Moorfoot Room

17:00-18:00 Keynote Lecture: 'The Language of Water'

[Minni Jain](#), Operations Director, the Flow Partnership

Chaired by Rachel Helliwell, Director of CREW and HNIC, The James Hutton Institute

Audience Q&A moderated by Hydro Nation Scholars

What is the language of water? How do you read it effectively in the landscape? How do we speak it to keep life flowing? What are the consequences when we forget the language of water? Bringing real community led examples of regeneration and rejuvenation of local landscapes by local communities, Minni will discuss how communities in Africa and India are repairing their arid or flooded regions and speaking the language of water in caring for and reviving the water resilience of their landscapes.

Event close

WORLD WATER DAY 2023 SPEAKERS AND PANELISTS



Mairi McAllan is a former lawyer and Special Adviser to the First Minister in Environment and Land Reform and was elected to the Scottish Parliament in 2021 to represent the constituency of Clydesdale. Ms McAllan was educated in the town of Biggar in South Lanarkshire, before studying Scots Law at the University of Glasgow and European law at the University of Ghent, Belgium. After qualifying as a Scots lawyer, she specialised in energy and natural resources in a Glasgow, commercial firm. Ms McAllan also cofounded the human rights organisation 'Reblaw Scotland'.



Rachel Helliwell is the Director of the Hydro Nation International Centre and Centre of Expertise for Waters. She works at the science: policy interface delivering evidence and knowledge gathered by Scottish and international academics to the water community of practice (policy, industry and regulators). She is a board member of the Hydro Nation Chair Programme, member of the Hydro Nation Forum, a representative on the research and innovation committee for the Scottish Alliance for Geoscience Environment and Society, and Scottish Freshwater Group. Rachel also sits on local, national, and global stakeholder consultation groups covering pressing policy issues including net zero, climate crisis, circular economy and resource efficiency.



Dr Michael Lockhart, graduated in Medicine from Dundee University in 1989. Initially gaining experience in general medicine, general surgery and orthopaedic surgery he then specialised in Medical Microbiology, which is a laboratory based clinical specialty. He completed post-graduate training in Glasgow Royal Infirmary; St.Vincent's Hospital, Sydney and Ninewells Hospital, Dundee becoming a Fellow of the Royal College of Pathologists and gaining an MSc in Healthcare Associated Infection (University College London). He was Consultant Medical Microbiologist for NHS Tayside, 2000-2018. In 2015 he joined Health Protection Scotland (HPS) and gained experience in Public Health Microbiology which is a specialty focussing on ensuring the data and expertise from all microbiology specialties across the One health spectrum is integrated to support public health. In 2018 he moved to work full time with HPS and subsequently Public Health Scotland as Clinical lead for Public Health Microbiology. During the pandemic alongside a broad based team he worked to coordinate various aspects of the microbiological response. A particular focus became developing a coordinated SARS-CoV-2 pathogen genomic service in Scotland that could work alongside 4 Nations partners to provide genomic intelligence to support the pandemic response.



Andrew Millar FRS FRSE trained as a molecular geneticist at Cambridge and Rockefeller Universities. He acted as a senior champion for wastewater monitoring of Covid-19, while he served as the Chief Scientific Adviser for the Environment, Natural Resources and Agriculture to the Scottish Government in 2018-2021.

Photo credit: Anne Purkiss.



Sharon Pflieger currently works in NHS Highland as a Consultant in Pharmaceutical Public Health. She is a founding member and NHS Highland lead of The One Health Breakthrough Partnership (<https://ohbp.org/>) and is currently focussed on the impact of pharmaceuticals on the water environment. She advises the Scottish Government on their Climate Emergency and Sustainability Strategy, Value Based Health and Care Strategy, Antimicrobials in the Environment action plan and represents the Chief Pharmaceutical Officer on the Climate Emergency Board.



Niamh Smith is a PhD researcher at Glasgow Caledonian University, specialising in the health benefits of urban blue spaces. With a varied background in geography, education, and project management, Niamh's interests lie in how physical and socio-economic environments affect health and how these health outcomes can be improved. The recommendations presented today are a culmination of her PhD research. Niamh previously coordinated Scotland's early adopter program for a whole systems approach to diet and healthy weight with Obesity Action Scotland. Currently, she is project managing Health CASCADE, an EU-funded research project focused on using evidence-based co-creation to improve public health.



Rebecca Wade is a Senior Lecturer in Environmental Science at Abertay University. Her research and knowledge exchange activities focus on sustainable management of the natural and built environment. Her research on blue and green infrastructure and river restoration seeks to enhance multiple benefits delivery for society, nature, and our economy from the ways we design, engineer, and manage our environments. She leads an international network dedicated to sustainable water management (SUDSnet). Rebecca is an award-winning STEM ambassador (Institution of Civil Engineers UK STEM Ambassador 2022) and was named Woman of Influence 2022 by Action for Children Scotland.



Marian Scott is Professor of Environmental Statistics, University of Glasgow, School of Mathematics and Statistics and elected fellow of the Royal Society of Edinburgh and the International Statistics Institute. She is a chartered statistician of the Royal Statistical Society. Her research lies firmly in applied Statistics, with specific interests in the environment, (past, present and future), archaeology and animal welfare. Marian is a chair of EU Scientific Committee on Health, Environment and Emerging Risk, and member of NatureScot and DEFRA Science Advisory Committee and the Scottish Science Advisory Council. In 2009, she was awarded an OBE for services to science. She won the Barnett award of the Royal Statistical Society in 2019 and the inaugural impact award in 2021 of the Edinburgh Mathematical Society.



Zach White is a Senior Insights Manager with the GSMA Mobile for Development Digital Utilities Programme. His work focuses on how digital solutions can be leveraged to accelerate access to affordable, reliable, safe and sustainable urban utility services in low- and middle-income countries. Zach has spent ten years working in applied research in water and other essential services for a range of organisations including: WaterAid, the Collaborative African Budget Reform Initiative, DfID/FCDO, the World Bank, various UN agencies, and USAID. Zach also presently sits on the International Water Association's Digital Water Steering Committee.



Asit K. Biswas is currently Distinguished Visiting Professor, University of Glasgow; Chief Executive, Third World Centre for Water Management, Mexico; and Partner, Water Management International Pte Ltd, Singapore. One of the world's leading authorities on water and environment-related issues, he received the Stockholm Water Prize for his "manifold contributions to water science," in 2006. He is the author of some 800+ papers and over 80 books. His work has been translated into 42 languages. Reuters selected him as one of the 10 water trailblazers of the world.



Kerr Adams is a Hydro Nation Scholar and International Development Officer within the Hydro Nation International Centre based at the James Hutton Institute. His research focusses on partnership working to develop risk-based decision support tools to inform sustainable water management. In his PhD research, Kerr supported the Scottish Environment Protection Agency and Scottish Water's One Planet Choices decision-making method by developing a tool to map complex catchment systems and investigate the impacts of future climatic, population and land use change on the system. The decision-support tool informed the identification of adaptive water management options across multiple participating sectors.



Nicola Melville is a Senior Scientist in SEPA leading on integrating the environment and its benefits into decision making. She is technical lead for co-developing the One Planet Choices Approach in partnership with Scottish Water and Hydro Nation. She has established partnership approaches to resolving land and water issues for over 25 years. She developed and delivered the Effective Partnership Working Course for SEPA staff.



Stephen Mendey is a planner for the Wastewater Strategy team with 25 years' experience in the water industry. His key areas of expertise are environmental studies and wastewater asset management. He is currently working on identifying asset enhancements and developing solutions for wastewater assets that will achieve long-term compliance with the company's strategic ambitions. This includes water quality, carbon net zero, resilience to climate change and to support a flourishing Scotland. He believes that partnership working will be key to the long-term ambitions for Scotland.



Jim Pritchard has over 25 years of experience in the environmental sector, working for the Environment Agency and SEPA in partnership with stakeholders to protect and improve the environment. Jim has worked with Local Authorities, Government, Industry, and other partners to deliver improvements to the environment, most recently working with Scottish Water and the Hydro Nation Scholars Programme on a Sustainable Growth Agreement to promote innovative solutions to shared problems. Jim is interested in how we can live more sustainable lives and enjoys sharing practical information about this with anyone who will listen.



Cecilia Tortajada holds the Chair of Professor in Practice in Environmental Innovation, School of Interdisciplinary Studies, University of Glasgow, UK, and Adjunct Senior Research Fellow, Institute for Environment and Sustainability, Lee Kuan Yew School of Public Policy, National University of Singapore. Over 30 years of experience in water, environment and natural resources management in the context of development. Working at present on impacts of global changes on water resources, food, environment, and societies. Winner of the Crystal Drop Award in 2016 and the 50th Anniversary Award in 2021, International Water Resources Association (IWRA). Member of the International Selection Committee, Millennium Technology Prize, Technology Academy Finland; the UKRI Future Leaders Fellowships Peer Review College, UK; and the OECD Initiative on Water Governance. She is Editor-in-Chief of the *International Journal of Water Resources Development*.



Barry Greig is Head of Water Industry Policy, Scottish Government Directorate for Environment and Climate Change: Water Industry Division. Barry joined the Scottish Government after working as a lawyer and commercial arbitrator in the City and has worked in a variety of policy roles including helping establish the Food Standards Agency and drafting Scotland's first Sustainable Development Strategy. His Team has responsibility for the Scottish Water Industry including acting on behalf of Scottish Ministers as the owner and financier of the public corporation Scottish Water and directing the Hydro Nation agenda which focuses on the economic, social, and environmental development of the value of water resources in Scotland and the raising of Scotland's international profile through its performance on global water issues.



Stephen-Mark Williams is the Executive Director of ETP, the Scottish research partnership for energy. He has worked in a number of locations around the world, working for high-technology innovation companies in France, Germany, and the US. As ETP's Executive Director, he leads on identifying, developing and delivering a programme of national and international research partnerships, and works with public sector agencies and Innovation Centres on increasing the visibility and reputation of the Scottish energy sector at home and abroad. In his spare, time he is a tennis/padel coach and referee, and is about to take his Grade 4 bass guitar exam.



George Ponton is Head of Research and Innovation at Scottish Water. He has worked in the Scottish water industry for 30 years with roles in water process design, project & programme management, and water regulation. He has been Head of Research and Innovation since 2009, leading strategic programmes covering Net Zero, Circular Economy, water service and wastewater service. George was involved in the development of the UK Water 2050 strategy and shaping the establishment of SPRING, the UK water sector Innovation Centre of Excellence. He established the Hydro Nation Chair Programme with the University of Stirling in 2021.



Jon Rathjen is the Deputy Director for Water Policy [and directorate for energy and climate change operations] in the Scottish Government with responsibility for the Scottish Water Industry including sponsorship of the public corporation Scottish Water and the new Hydro Nation agenda. Jon has over 30 years' experience as a Public Servant having worked for Customs and Excise and now the Scottish Government. Scotland the Hydro Nation focuses on the economic, social, and environmental development of the value of water resources in Scotland and the raising of Scotland's international profile through its performance on global water issues.



For over 25 years **Minni Jain** has been working with communities to regenerate their landscapes and lives. She is the Operations Director of [The Flow Partnership](#), working on community-led management of droughts and floods across Africa, India and Europe. To share and make available this community knowledge and their simple, successful, low-cost, methods of landscape water resilience, she has recently helped set up the [Water School Africa](#). This is both an online forum as well as community Water Hubs in different countries in Africa.