

# ICES SYMPOSIA REPORT 2021

ICES CM 2021/GEN:01

## **International Symposium on Plastics in the Arctic and Sub-Arctic Region**

2-4 and 8-9 March 2021, Online

## **World Fisheries Congress 2021**

20-24 September 2021, Adelaide, Australia, Online

## **Baltic Sea Science Congress (BSSC2021)**

18-22 October 2021, Århus, Denmark



**ICES**  
**CIEM**

International Council for  
the Exploration of the Sea

Conseil International pour  
l'Exploration de la Mer

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## 1 International Symposium on Plastics in the Arctic

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### 2–4 and 8–9 March 2021, Online

Symposium conveners: Hrönn Jörundsdóttir, Matis, Iceland and Thomas Maes, Grid-Arendal, Norway

Co-organizers and observers: Vivian Piil (ICES Science Support Departmental Secretary), Wojciech Wawrzynski (Head of ICES Science Support)

The conference was hosted by the Government of Iceland in collaboration with the Nordic Council of Ministers on March 2–4 and 8–9, 2021, in connection with the Icelandic Chairmanship of the Arctic Council. The symposium was organised in co-operation with 11 international partners that address marine pollution in various ways (ICES included). Iceland had chosen the Arctic marine environment as one of four priority areas of work for its chairmanship and addressing plastic marine litter, and in particular pollution in the Arctic, became a high priority issue in the work programme of the Arctic Council.

The symposium was conceived of as a way to bring together scientists, practitioners, decision makers and other stakeholders for an exchange of information that would lay a foundation for science-based best practices that can improve the way we deal with the problem of plastics in the Arctic marine environment.

A scientific steering committee comprised of experts nominated by the partners was established to support the organising committee in setting up the agenda and selecting speakers and presenters based upon scientific abstracts.

The conference programme covered a diverse range of themes including presentations on sources and transports of plastics, waste management strategies, research students on macro-, micro- and nano-plastics, monitoring strategies, toxicology, mitigation practices, and a round table discussion on developing a regional action plan for the Arctic.

## 2 World Fisheries Congress 2021: 'Sharing our oceans and rivers – a vision for the world's fisheries'

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### Adelaide, Australia, 20–24 September 2021, Online

Conveners: Prof Gavin Begg, PIRSA, Australia (Chair WFC2021) and Jane Ham, SARDI, Australia

#### WFC2021 Steering Committee:

- Prof Gavin Begg (Chair): Primary Industries and Regions South Australia (PIRSA), Australia
- Dr Stephen Balcombe: Griffith University, Australia
- Dr Stephen Beatty: Murdoch University, Australia
- Dr Matt Dunn: NIWA, New Zealand
- Prof Bronwyn Gillanders: University of Adelaide, Australia
- Dr Alistair Hobday: CSIRO, Australia
- Shane Holland: FRDC Indigenous Reference Group, Australia
- Dr Patrick Hone: Fisheries Research and Development Corporation (FRDC), Australia
- Peter Horvat: Fisheries Research and Development Corporation (FRDC), Australia
- A/Prof Alison King: La Trobe University, Australia
- Dr Pamela Mace: Ministry for Primary Industries, New Zealand
- Karen Olver: Seafood New Zealand, New Zealand
- Veronica Papacosta: Seafood Industry Australia, Australia
- Colin Tannahill: Shimano, Australia
- A/Prof Tim Ward: South Australian Research and Development Institute (SARDI), Australia
- Anna Willock: AFMA, Australia

#### International Program Committee:

- Prof Bronwyn Gillanders (Co-Chair): University of Adelaide, Australia
- A/Prof Tim Ward (Co-Chair): South Australian Research and Development Institute (SARDI), Australia
- Prof Gavin Begg: Primary Industries and Regions South Australia (PIRSA), Australia
- Dr Steven Cooke: Carleton University, Canada
- Barbara Konstas: Melbourne Seafood Centre
- Prof Atsushi Hagiwara: Nagasaki University, Japan
- Dr Sarah Helyar: Queen's University Belfast, UK
- Wayne Hutchinson: Fisheries Research and Development Corporation (FRDC), Australia
- Dr Chris Izzo: Fisheries Research and Development Corporation (FRDC), Australia
- Dr Joykrushna Jena: National Academy of Agricultural Sciences, India
- Dr Julie Kellner: International Council for Exploration of the Sea (ICES), Denmark
- A/Prof Alison King: La Trobe University, Australia
- Dr Jason Link: NOAA Fisheries Directorate, USA
- Dr Abigail Lynch: U.S. Geological Survey, USA
- Dr Pamela Mace: Ministry for Primary Industries, New Zealand

- Prof Muhammad Naeem Khan: University of Punjab, Pakistan
- Rowena Orok: Fisheries and Oceans, Canada
- Ann Preece: CSIRO, Australia
- Prof Warwick Sauer: Rhodes University, South Africa
- Dr Luiz Silva: Federal University of Sao Joao del-Rei, Brazil
- Dr David Smith: CSIRO, Australia
- Dr Peter Thompson: CSIRO, Australia
- Prof Xiujuan Shan: Yellow Sea Fisheries Research Institute, China
- Juan Carlos Quiroz: Instituto de Fomento Pesquero (IFOP), Chile

The World Fisheries Congress is the premier international fisheries conference held every four years to advance and promote international developments and cooperation in fisheries science, conservation and management.

The 8<sup>th</sup> World Fisheries Congress was held in September 2021 as a 100% virtual event, hosted from Adelaide, Australia, with the overarching theme 'Sharing our oceans and rivers – a vision for the future.'

Participation was encouraged from students, researchers (all career stages), managers and industry (recreational, commercial and indigenous fisheries) from all geographic regions.

In total, the Congress delivered over 800 presentations, covering a broad range of topics critical to the future of fisheries, and attracted 1200 delegates from over 60 countries. ICES supported the registration of 39 Early Career Scientists.

Every session and presentation was recorded and will remain available on the WFC2021 virtual portal for 6 months post congress.

Plenary presentations and presentations of student award winners have been made publicly available on the [WFC2021 website](#).

### **Program structure**

Congress sessions were focused on ~30 key topics grouped under four themes:

- Theme 1 – Sustainable fisheries (assessment, regulation, enforcement)
- Theme 2 – Fish and aquatic ecosystems (biodiversity, conservation, ecosystem function, integration management)
- Theme 3 – Fisheries and Society (contributions to sustainable development)
- Theme 4 – Future of fish and fisheries (innovations in fisheries)

Sessions were structured to include 3-5 key presentations followed by a 30-60 minute Q&A panel discussion to provide dedicated time to discuss and debate key topics and issues.

The program included ten workshops that covered a range of topics including modelling in R; publishing in journals – insights from editors; making your research stand out – graphical abstracts; adapting fisheries management to change; freshwater fish sampling; identifying successes and next steps in transdisciplinary fisheries research; perspectives from early-career researchers; and staying afloat – a new approach to mental healthiness.

**Plenary presentations:**

- Ambassador Peter Thomson, United Nations Secretary General's Special Envoy for the Ocean (Opening Address).
- Prof Toyoji Kaneko, on behalf of the winner of the International Fisheries Science Prize, Prof Katsumi Tsukamoto.
- Prof Manuel Barange, Director of the Fisheries and Aquaculture Policy and Resources Division at the Food and Agriculture Organisation in Rome, Italy.
- Dr Meryl Williams, over 40 years' experience in fisheries, aquaculture, conservation and human development having been the Director General of Worldfish, Director of the Australian Institute of Marine Science and Executive Director of Rural Sciences (Australia).
- Dr Beth Fulton, Principal Research Scientists with CSIRO Ocean and Atmosphere, Australia.
- Prof Nicholas Mandrak, Director of a professional Master's program in Conservation and Biodiversity at the University of Toronto, presenting joint research on behalf of Prof Olaf Weyl who was a Chair and Chief Scientist at the South African Institute for Aquatic Biodiversity.
- Prof Ratana Chuenpagdee, Memorial University of Newfoundland, St John's Canada.
- Ms Kerstin Forsberg, Founder and Director of Planeta Océano, a Peruvian non-profit organisation empowering coastal communities in marine conservation through research, education, policy and sustainable development efforts.
- Mr Martin Exel, Austral Fisheries and Managing Director of SeaBOS, a collaborative venture between 10 of the world's largest seafood businesses, and the Stockholm Resilience Centre in Sweden.
- Mr Matt Osborne is a Kurna and Narungga man and has extensive experience in Indigenous fisheries. Program Leader, Aquaculture and Regional Development in Northern Territory Fisheries.

**Key issues highlighted during the congress included:**

- understanding and managing the complexity of whole systems;
- sharing oceans and rivers with multiple users;
- preventing overfishing and recovering overfished stocks;
- eliminating illegal, unreported and unregulated (IUU) fishing and destructive fishing practices;
- addressing and responding to climate change, plastics and other pollution;
- developing the resilience to recover from COVID-19 pandemic impacts and preparedness for similar future challenges;
- securing sustainable small-scale fisheries and equitable access to resources;
- improving workforce safety, gender equality and recognition of the significant role women play in the seafood sector;
- eliminating human rights abuses and modern slavery in seafood production;
- recognising the importance of traditional customary fishers and their participation in decision-making processes.

**Common solutions discussed during the congress included:**

- developing and applying new and emerging technologies;
- promoting coastal and inland fisheries in food security and economic development;

- co-managing fisheries to provide stewardship of resources, with participatory decision-making involving scientists, fishers, managers and other stakeholders (doing it together);
- co-designing solutions across scientific disciplines and stakeholder groups to develop innovative, locally tailored solutions to industry issues, such as by-catch;
- building capacity across all sectors – Indigenous, recreational, commercial, research and management;
- improving communication and transparency in operations; and building community trust.

The WFC2021 was supported by: the South Australian Government and the Fisheries Research and Development Corporation (FRDC) on behalf of the Australian Government (Foundation sponsors); CSIRO and NOAA (Premium congress sponsors); Austral Fisheries (Major congress sponsor); Victorian Fisheries Authority (Premium congress support sponsor); Australian Fisheries Management Authority (Welcome reception sponsor); Australian Society for Fish Biology (Student mixer sponsor); The International Council for the Exploration of the Sea (ICES), Minderoo Foundation and Queensland Government (Congress sponsors); The University of Adelaide – Environment Institute; The University of Tasmania – IMAS; NSW Department of Primary Industries; Department of Primary Industries and Regional Development, WA; BDO Adelaide; Victoria Fisheries Authority (Congress support sponsors); Fisheries New Zealand; NIWA; Seafood New Zealand; Northern Territory Government; Minderoo Foundation; Fisheries Society of the British Isles (FSBI) (Session sponsors); and ECO magazine and Journal of Fish Biology (Media partner).

### 3 Baltic Sea Science Congress (BSSC2021)

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**Aarhus University, Denmark, 19–22 October 2021**

Symposium conveners:

1. Jacob Carstensen, Professor, Aarhus University, Denmark
2. Professor Christoph Humborg, Stockholm University
3. Nikolaj Reducha Andersen, Special Consultant, Aarhus University

#### Scientific contents

The Baltic Sea Science Congress hosted scientists studying the Baltic Sea, or similar coastal sea systems, to share their results at this international and interdisciplinary forum. The event focused on five overarching themes:

Theme 1: Transition

Theme 2: Ecosystems

Theme 3: Contaminants

Theme 4: New technologies

Theme 5: Stewardship

The conference addressed several of the ICES Science priorities like pressures on the marine environment in the Baltic Sea and their impact on species and ecosystem dynamics, assessments and management.

The Baltic Sea Science congress 2021 was the first fully physical international conference supported by ICES since the COVID pandemics begun. ICES HoSD presented ICES engagement in the UN Decade of Ocean Science for sustainable development during the Workshop 'UN Decade of Ocean Science for Sustainable Development'.



Conference Plenary