



# Conference 2019

## Salmon and People in a Changing World

**Fisheries Management Scotland would like to thank Marine Scotland and The Fishmongers' Company for supporting our Conference. We would also like to thank Sarah Bayley Slater for her help in organising the event and coordinating wider NGO activities relating to the International Year of the Salmon. Sarah's role is also funded by The Fishmongers' Company through the Atlantic Salmon Trust.**

### **Speaker biographies**

#### **Dr John Armstrong**

John has worked in Marine Scotland Science and its predecessors for over 20 years studying predominantly Atlantic salmon and brown trout, particularly in relation to fisheries management. Previously he researched Scottish pike and the behaviour of deep-sea fish in the Pacific and Atlantic Oceans. He has published extensively in the scientific and advisory literature on a wide range of management topics including fish passes, nutrient enrichment, stocking, marine renewable energy, fish-eating birds, seals, water flow regulation, impacts of alien species, beavers, pink salmon, climate change, aquaculture, tracking and population assessment.

#### **Mark Bilby**

Mark started his career in fisheries with a role at the National Rivers Authority, prior to spending several years in an environmental consultancy. In 1996, Mark joined the Western Isles Fisheries Trust as their Senior Biologist, delivering practical environmental research and fisheries management, looking at issues as diverse as aquaculture, angling youth development and habitat restoration schemes. In 2005 Mark moved to the role of River Director for the Dee District Salmon Fishery Board and River Dee Trust. Mark was responsible for delivering a radical programme of removing obstacles to fish migration, delivering large scale riparian schemes to improve fish habitat and initiating the programme to look at smolt survival through tracking fish. Since taking up the post of CEO with the Atlantic Salmon Trust in June 2018, Mark is responsible for the day-to-day operation of the organisation, including the flagship project of the Missing Salmon Project and its subsidiary initiatives the Likely Suspects Framework and the Moray Firth Tracking Project.

#### **Dr Patrick Boylan**

I am currently the Senior Biologist with the Loughs Agency. The Agency is responsible for managing the fisheries in the Foyle and Carlingford catchments which straddle the border between N Ireland and Ireland. Prior to this I worked with the Northern Regional Fisheries Board in the north west of Ireland undertaking stock assessment surveys on a range of salmonid systems and was lead on an EU funded programme to rehabilitate the salmon population of the River Erne. I did my PhD on salmon at the University of Glasgow and my MSc at Aberdeen University.

**Chris Conroy**

Chris is employed as River Director for the Ness District Salmon Fishery Board. This is a non-governmental statutory body, responsible for the protection of salmon and sea trout fisheries in watercourses following into and out of the famous Loch Ness. Chris has responsibility for the executive management of the board's day-to-day activities. This includes ensuring the delivery of programmes relating to fisheries monitoring, management and enforcement. He has over 20 years of experience working as an aquatic resource manager, specialising in maintaining and enhancing the ecological, social and economic benefits of the aquatic environment.

**Ross Gardiner**

Ross Gardiner works for Scottish Government in the Renewables and Energy Programme of Marine Scotland Science where he provides advice on diadromous fish (fish such as salmon, sea trout and eels which migrate between fresh water and the sea) in connection with marine renewables and marine construction developments. Ross also facilitates and participates in research to inform the advice given, including the use of a near surface trawl net to investigate the passage of emigrating salmon smolts through the coastal zone, which he will be speaking about.

**Dr Paddy Gargan**

Paddy Gargan is a salmon and sea trout biologist working with Inland Fisheries Ireland for 35 years. He began his career managing the Connemara sea trout fisheries in the west of Ireland in the 1980's and then managed the famous Galway salmon fishery. In 1990, he began studying the potential impact of sea lice from salmon farms on local sea trout stocks and has published over 25 papers on the subject. He is responsible for the national salmon and sea trout research station on the river Erriff in western Ireland and is the chairman of the scientific committee on salmon in Ireland.

**Stephen Gephard**

Steve Gephard is a Supervising Fisheries Biologist with the State of Connecticut (USA), DEEP- Fisheries Division and oversees the Diadromous Fish Program and Habitat Conservation Program. He has over 35 years of experience with diadromous fish species and fish passage projects. His assignments include: the Connecticut River Atlantic Salmon Commission's Technical Committee, the U.S. Atlantic Salmon Assessment Committee, chair of the Atlantic States Marine Fisheries Commission's Fish Passage Working Group, member of the Scientific Council for Diadromous Migratory Fishes of the Loire Basin, and is a U.S. Commissioner to the North Atlantic Salmon Conservation Organization (NASCO).

**Jon Gibb**

Jon is the Director of the Lochaber DSFB and Fishery Manager on the River Lochy, one of the West Coast's premier salmon rivers. Faced with the well-documented impacts of local fish farms, habitat loss, hydropower, and predators – all exacerbating an already alarmingly low marine return rate of adult salmon – Jon runs one of the largest restocking hatcheries in the country as one part of the local management response. Drimsallie Hatchery near Glenfinnan provides restoration stocking on a number of rivers and, under Jon's management, the facility spearheads some of the most current thinking and contemporary approaches to the stocking of salmon in Scottish waters. Jon is a passionate salmon fisherman and is equally as passionate about the West Highland communities in which he lives and works.

### **Dr Gideon Pringle**

I started salmon farming in 1985 as a weekend fish feeder. I have a PhD in salmon genetics. This was supervised by Prof Eric Verspoor. Excluding my early years with worms and big hooks, it was working with Eric, Anne McLay, Alan Youngson & John Webb et al, where I first gained a good understanding of wild salmon. But research into wild salmon couldn't pay the bills! so moved back to the salmon industry where I ran the Broodstock, egg and smolt production for Landcatch 1996 – 2004. Thereafter I was the Freshwater & Broodstock Manager for Mowi (Scotland) 2004 – 2011. I became Farming Director, farming trout, for Dawnfresh Seafoods 2011 – 2016. I am currently the Operations Director for Mowi (Scotland). Away from salmon farming, I shoot, fish and race cars.

### **David Harley**

David Harley is SEPA's Head of Water and Planning. This role is responsible for SEPA's land use planning function, river basin management planning, water policy, land policy, water industry investment planning and river restoration funding. David has worked for SEPA and predecessor bodies since 1991 in a wide variety of roles including ecological assessment, regulation, water policy and water framework directive implementation. His priority is on focussing SEPA's considerable water and planning expertise and talent towards securing a more circular economy, in line with SEPA's One Planet Prosperity vision.

### **Dr Emma Hatfield**

Dr Emma Hatfield is Secretary of the North Atlantic Salmon Conservation Organization. She started her scientific career as a fisheries biologist with the British Antarctic Survey where she worked for 10 years visiting the South Atlantic and Antarctic Oceans. She has since worked in the northwest Atlantic, the northeast Pacific and, more recently, in the northeast Atlantic, during 15 years as a fisheries scientist and fisheries advisor at the Scottish Government. She returned to the UK in September 2017 to take up her current post after three years working in European fisheries policy in the European Commission.

### **Dr Jens Christian Holst**

Dr Jens Christian Holst is a fisheries biologist who worked as a pelagic fish stock and ecosystem-based management scientist at the Institute of Marine Research in Norway from 1991 to 2013. From 1991 Holst and his colleagues mapped and described the ecology of the important migration phase of European post smolts from west of the British Isles to the northern Norwegian Sea. During 2008-2011 Holst was the scientific coordinator for Salsea-Merge. Based on 25 years of focused studies of the ecology of the NE Atlantic, Holst has developed the hypothesis of overgrazing and predation, saying that the European wild salmon collapse is due to overgrazing by mackerel of the post smolt salmon food resources combined with increased predation on post smolts from today's strongly underestimated and starved mackerel stock.

### **James Hunt**

Through my general interest in biology and environmental issues, my choice of undergraduate degree was to study Ecology at The University of Edinburgh, before progressing to The Tweed Foundation, where I have worked for just over 20 years. In 2001, I completed an M.Sc. in Geographical Information Science, which has helped me to utilise GIS in local fisheries management. Important aspects of my work include the monitoring of juvenile Salmonid stocks through our annual electro-fishing programme, running a smolt trap to monitor smolt output and the operation of three fish counters. Due to the recent decline in the

numbers of returning Salmon, monitoring numbers of Goosanders and Cormorants and their potential effect on local fish populations has become an increasingly important part of our work programme.

#### **Dr Niels Jepsen**

Niels Jepsen worked with fish research since 1995 and received his PhD in 2000 on predator-prey interactions in reservoirs. Through the 25 years of scientific work for the Danish Government Jepsen focused on individual fish behavior, effects of telemetry tagging, recovery of salmon stocks and the role of predation in rivers and on the coast. Jepsen have published 60 papers in peer reviewed journals along with a number of reports, book chapters and popular scientific papers. Jepsen is associated professor at the Danish Technical University.

#### **Dr Sten Karlsson**

Senior scientist and Section manager at Norwegian institute for nature research (NINA) in Trondheim, Norway. Educated marine biologist and population genetics. Research interests: Using molecular genetic markers to study: Genetic introgression of farmed to wild Atlantic salmon – magnitude and consequences, Genetic effects from stocking wild populations, genetic structure of wild populations. Current species under study: Atlantic salmon, Brown trout, Freshwater pearl mussel.

#### **Dr Stuart Middlemas**

Stuart Middlemas has worked as an Ecologist at the Freshwater Fisheries Laboratory since 2001. Prior to this he studied the interactions of seals and salmon in the Cromarty Firth. His work has covered a number of areas including tracking salmon and sea trout in the coastal zone and the interactions of salmon with both predators and aquaculture. He currently oversees the collection of Marine Scotland's long term counter and catch data and the assessment of adult salmon stocks.

#### **Sarah Pirie**

Sarah Pirie is Head of Development for EDPR UK. She leads the teams responsible for the permitting of the Moray East and Moray West offshore wind projects in the outer Moray Firth. In addition, she supports the development of EDPR's international portfolio of offshore wind projects particularly in the US. Sarah was a recognised planning, environmental and renewable energy legal specialist focused on major transport infrastructure and energy projects and practised for over 15 years. After moving into the renewable energy sector she specialises in the project management of all stages of the development process from site identification onwards.

#### **Arlin Rickard – Chief Executive Officer (CEO): The Rivers Trust**

Arlin was the founding Director of Westcountry Rivers Trust, from the Trusts' inception in 1994 until 2004, when he went on to establish and lead 'The Rivers Trust', the umbrella body of the Rivers Trust Movement covering the UK and Ireland. A former Member of the IUCN Commission on Ecosystem Management, Arlin has spent many years working closely with farmers and landowners and developing new project initiatives adopting the Ecosystem Approach. Arlin has developed and worked on European and international partnership projects covering climate change, catchment management, WFD, freshwater fisheries, flood risk management, sustainable agriculture and the development of the "third sector" through championing the community based, Rivers Trust Movement and most recently, 'The Catchment Based Approach' (CaBA). Arlin studied agriculture and has a small hill farm on Bodmin Moor, where he is a Commoner.

**Dr Eric Sterud**

MSc in Aquaculture, PhD fish in health/fish parasitology. Senior adviser Norske Lakseelver (Norwegian Salmon Rivers). Working mainly with interactions between farmed and wild salmonids. Previously engaged in education at Norwegian School of Veterinary Medicine and in fish parasitology research at the National Veterinary Institute.

**Dr David Summers**

David initially studied for a DAFS funded PhD at the University of Aberdeen / Freshwater Fisheries Laboratory North Esk research station at Montrose from 1988 – 1992. The research focussed on long term changes in salmon (netting) catches and salmon population structuring in the River North Esk. He then spent six years working for the Game Conservancy Trust, principally researching management of brown trout and salmon in southern chalk streams and the River Wye in Wales. In 1999 he returned to Scotland to become the manager of the Tay District Salmon Fisheries Board where he continues to lead the team protecting and improving the Tay's salmon fisheries to this day.

**Prof Christopher Todd**

Chris Todd is Honorary Professor of Marine Ecology at Scottish Oceans Institute, University of St Andrews. He has long-standing research interests in the impacts of parasitic sea lice on wild salmonids, and also on the effects of ocean climate change on growth, survivorship and marine migration of wild salmon. He has collaborated extensively with Marine Science Scotland (MSS) in both of these research topics. The MSS monitoring data and scale archives – which date back to 1963 – have proven to be an invaluable tool in assessing long-term changes and ecological responses of wild salmon to ocean warming.

**Jamie Urquhart**

Jamie started a career in fisheries working with the River Don Trust as their biologist in 2009 for before moving to the Dee in 2013. Jamie then developed his role as a fishery officer, where his duties were split between the Trust and Board as a biologist and water bailiff respectively. The duality of this role gave Jamie an understanding of all aspects of fisheries management. During 2018 Jamie has taken over the delivery of several programmes including policing, education, invasive species and predator management, whilst managing a team of staff across the Dee and Don DSFB's in his new role as Fisheries Protection Manager.

**Prof Eric Verspoor**

Eric is an internationally recognised researcher in the field of aquatic biodiversity science and management, with interests focused on fish and in particular on the Atlantic salmon and Arctic charr. He has over 35 years of research and advisory experience and, prior to joining The Rivers and Lochs Institute, headed the Scottish Government fish genetics research group at the Freshwater Laboratory in Pitlochry. His current research is aimed at the development of a more complete understanding the true nature and extent of biodiversity in Scottish rivers and lochs and its role local maintaining healthy freshwater ecosystems. It also is aimed at applying genetic and genomic analysis to the routine management and conservation of aquatic biodiversity such as fish stocks, to provide the knowledge on the basic biology and status of species and populations that to guide management, avoid and minimize negative impacts, and maximize sustainable economic returns at both the local and national level.

**Dr Alan Wells**

Alan is the Chief Executive of Fisheries Management Scotland – the representative body for Scotland’s district salmon fishery boards, the River Tweed Commission and rivers and fisheries trusts. Alan spent nearly 15 years at the University of St Andrews, latterly as a post-doctoral research fellow examining the management of interactions between aquaculture and wild salmonid fish. Alan moved to a role in Scottish Environment LINK, where he contributed to a campaign for marine protection, culminating in the Marine (Scotland) Act 2010. In 2011 Alan joined the Association of Salmon Fishery Boards, which became Fisheries Management Scotland in 2016. Fisheries Management Scotland represents members across a broad range of issues including: salmon conservation; fisheries enforcement and wildlife crime; aquaculture; river basin management planning; predation; beaver management and marine renewables.

**Prof Ken Whelan**

In the past Ken worked for several research organisations in Ireland and more recently as an Executive Director in the Irish Marine Institute. He served as President of NASCO from 2004 to 2008. As President he helped to initiate and manage the SALSEA or Salmon at Sea Programme. He was Chairman of the International Atlantic Salmon Research Board from 2007 to 2011 and is currently Chairman of the Scientific Council of the Loire Basin Salmon Restoration Programme. In December 2009 he was appointed as Adjunct Professor in the School of Biology and Environmental Science at University College Dublin and as Research Director of the Atlantic Salmon Trust. Ken runs his own fisheries and environmental consultancy (<http://www.kenwhelan.info/>).