

# *The sustainable use and exploitation of fishes – the Society’s summer symposium held at the University of East Anglia*

**Joe Watson and Rob Boyd (both at the University of Reading) report**



## A very apt setting

The University of East Anglia hosted this year’s FSBI symposium in their impressive enterprise building. As the UK’s greenest building this provided a fitting venue in which to hear all about the “suitable use and exploitation of fishes”! The week of inspiring fisheries presentations and enjoyable evenings of social events was dampened only by England’s untimely exit from the World Cup!

## Inspiring Talks

The conference was opened with the Jack Jones lecture given by Professor Steve J Cooke. He gave a wonderful lecture on sustainable and responsible recreational fishing which set the tone for the coming day’s talks. The conference was split into sessions with broad topics of recreational, commercial and ornamental fisheries. Each

session kicked off with a plenary lecture from a leading expert. The plenary talks gave insight into the development of sustainable aquaculture on small islands (Prof Selina Stead, Newcastle University), who determines sustainability (Dr David Agnew, ex-MSC now at CCALMR), sources of freshwater ornamental fish (Hans Georg Evers, AMAZONAS) and the sustainable trade of

marine ornamental fish (Professor Heather Koldewey, Zoological Society of London). After the plenary talks had set the tone, the sessions were filled with a fantastic program of oral and poster presentations. These were given by students, early career scientists and established members of the field from all over the world. Presentation topics spanned the breadth of fisheries ➤



An array of fabulous speed talks



One of the many interesting talks throughout the week

◀ research, including: genetics, behaviour, policy, physiology, social science and modelling in both fresh and marine waters. As well as full length talks, speed talks challenged speakers to summarise their work in just three minutes, allowing the audience to get exposure to a huge range of science in a very short time. The talks provoked some interesting questions that will no doubt inspire future research ideas.

## Social Schedule

To compliment each busy day of academic presentations each evening there were opportunities to unwind with some organised social events. The first evening was a challenging pub quiz in the students union. The questions were fish themed with one particularly imaginative round using emojis to describe memorable *Blue Planet* scenes. Night two saw us capitalise on the sweltering sun (*really? ed*) with a BBQ in the square of the UEA campus. There was much excitement as England played in



Disappointment in the World Cup semi-final



Guests arriving at the Assembly Hall

the semi-final of the world cup only to have dreams cast aside later in the game when Croatia scored a late goal. Despite this, spirits were still high for the final evening banquet in the beautiful Georgian Assembly Hall. A fabulous meal was enjoyed after which delegates listened to Dr James Barrett from Cambridge University talking about archaeology and fish.

## Deserved awards

A range of medals were presented at the banquet. The Beverton medal went to Professor Gary Carvalho, the FSBI Medal to Dr M Aron MacNeil, and the LeCren Medal to Professor Amanda Vincent. Gary Carvalho and Aron MacNeil gave short talks earlier in the conference, showcasing their expertise and flair in their field.



Professor Gary Carvalho receives the Beverton Medal

In addition to the medal winners, there was a series of student competitions with winners of best: student poster (Philip Lamb), speed talk and student presentation (Rob Boyd). A chance to showcase the more aesthetic beauty of fisheries research came in the form of a photo competition. The two photos that were joint winners are highlighted separately.



## The killers, the Charlatans and #funwithfish

The week's talks may have ended on Friday, but conference organisers John Pinnegar and Martin Taylor were not done yet. They, along with UEA graduates Sarah Jackson and Ellen Bell, made the short trip over to Suffolk for the Latitude Festival. But they were not there to see the Killers or the Charlatans; they were there to run a stand in the "Science tent". They spent the weekend teaching lots of budding young ichthyologists all about fish Biology, or at least had them making origami fishes! A nice informal end to a great week.



Conference organisers John Pinnegar and Martin Tyler having #funwithfish at their stand in the "Kids zone" at Latitude festival

## Concluding remarks

The week was a resounding success. All those who attended were exposed to an enormous breadth of fisheries research from across the globe all in a fantastic setting. The concentration of fisheries researchers in one place gave opportunity to discuss fisheries research with scientists from diverse parts of the planet and provide opportunity for new collaborations. The inspiring talks provoked thoughts and perhaps this combination may create new research that will be showcased in FSBI 2019 and beyond.

# Mary Fisher, who was the American Fisheries Society award holder, recounts her experiences at the FSBI 2018 Annual Symposium in Norwich

I applied for the AFS International Fisheries Section Fellow Award for many reasons, including the opportunity to gain more conference experience, make professional connections, travel to the UK, and increase my involvement in the American Fisheries Society. But the major motivation for my application was that the theme for the FSBI 2018 symposium in Norwich would be “the sustainable use and exploitation of fishes,” with a broad range of topic areas across several fisheries sectors.



Mary Fisher in front of Urquhart Castle, Inverness – a long way from UEA!

I recently defended my master’s degree on the population genetics of Pacific cod. My research focused on commercial fishery management applications for Pacific cod stocks around the Korean peninsula, and on broader evolutionary theory for a comparison between eastern and western Pacific cod populations. But for my PhD, I will be studying commercial fisheries from an entirely different angle: socioecological systems. As a result, I wanted to attend

a conference characterized by a diversity of scientific fields and a manageable number of parallel sessions. This would provide the opportunity to present and discuss my master’s project while also learning about ongoing socioecological research and modeling methods.

It was immediately clear that the FSBI annual symposium would not just meet that requirement; it would exceed my expectations. Within the first day, we enjoyed an engaging keynote and morning session on recreational fisheries, a session and plenary lecture on the growing aquaculture industry, and a talk from Gary Carvalho on the application of molecular analysis to commercial fisheries management. And with all symposium attendees in the same room, we were consistently exposed to research beyond our own areas of expertise. As someone whose research background is rooted firmly in commercial fisheries, it was enlightening to attend recreational fisheries and aquaculture sessions, which introduced novel challenges and showed how similar methodology can be applied across study systems. Some of the most engaging presentations - such as those by keynote speakers Hans Georg Evers and Heather Koldewey – were on ornamental fisheries, an underrepresented sector at other fisheries meetings.

In this respect, the FSBI symposium provided an excellent juxtaposition to conferences like the World Fisheries Congress, where multiple sessions and expansive venues make it difficult to attend presentations, and connect with researchers, across disciplines and sectors. Yet

despite its smaller size, we heard from a truly international suite of scientists conducting research globally, from the North Sea, to Mozambique, to Brazil.

As an early career researcher, the size and structure of the FSBI symposium also facilitated more genuine conversations with other attendees, from my fellow graduate students to established PIs, without the need for more structured networking events. I can also safely say that through the variety of evening events, I was able to make the most of my first time in the UK - from the historic setting of the banquet in downtown Norwich to the energy of the World Cup semifinal game at the UEA Square.

This experience would not have been possible without the generosity of FSBI and the International Fisheries Section of AFS. I must extend my sincere thanks to the FSBI Council members and President Iain Barber, the AFS International Fisheries Section Executive Committee and President Steven Cooke, the 2018 symposium conveners, Martin Taylor and John Pinnegar, as well as the Committee Chair and Deputy Committee Chair for the AFS-IFS Fellow Program, Charlie Waters and Jane Sullivan. And of course, I would like to thank the many inspiring scientists who attended the FSBI annual symposium and welcomed me to the UK. I hope to reconnect with you at other conferences and look forward to seeing more of your research in the future!

# Editorial

The annual symposium was a well-organised and stimulating event. For those of us who live in the UK, it was disappointing that the conference week in Norwich was cool and cloudy whilst further west the long lasting heat wave was still in force. Despite the coolness in Norwich the UEA campus was, like most of the rest of Britain, very dry and very brown. The campus has lots of rabbits that were out in numbers but one wondered what on earth they were eating – dry and dead grass I suppose.

It is easy to realise from the media that the hot dry summer in the UK has been echoed around the world. Sweden has had one of the driest and hottest summers ever and forest fires have been numerous and destructive. In Japan some of the hottest temperatures ever in that part of the world have been recorded. The violent and extensive fires in Northern California must have

been terrifying for residents. All these events are put down to climate change, bringing home to us the realities of a process that is hard to make tangible.

Humans are set up to respond to short-term outcomes. It could be said that this is a characteristic of all living things which are remarkably resistant to inputs that are damaging but at sub-lethal level. People can smoke all their lives and not succumb to cancer until they are in their 70s or not at all, others can eat too much and become obese without severe penalty until they reach their 50s and 60s when the detrimental effects start to become hard to cope with and life becomes a burden. The same is of course true with climate change; we can make small adjustments as the world warms and enjoy the hotter summers, but when will the time come when the system can no longer absorb the punishment

and switch catastrophically to a new state? We have managed to find a way to reduce the number of people who smoke, but we are still looking for workable methods to persuade people to reduce their carbon emissions. Similarly we are still struggling to find ways to reduce fishing pressure on exploited stocks. Some of the papers given at the UEA conference provided glimpses of how fishing, both commercial and recreational, can be made more sustainable. The big challenge is to start making changes in how we exploit aquatic habitats now rather than just hoping that we'll get there in the long run, when it will probably be too late.

Paul J B Hart  
Leicester, August 2018

Next deadline: 1st November 2018

## Photographic competition at the summer symposium

John Pinnegar and Martin Taylor organised a photo competition at the July Symposium at UEA, Norwich. Here are the two winning photos.

Herring (in Iceland?) by Sarah Helyar, Queen's University, Belfast



Resting parents by Lewis Cocks, Senior Aquatic biologist/Dive Supervisor at Issham aquatics



# Travel grant reports



**Diana Pazmino, at James Cook University, Australia, used a travel grant to attend the Sharks International Conference in Joao Pessoa, Brazil in June 2018.**

The Sharks International Conference is the largest gathering of chondrichthyan researchers worldwide and represents an amazing opportunity to present and discuss ideas with shark scientists. At the conference, I presented one of the chapters explored during my PhD research, which tried to unveil the relationship between two closely related shark species (*Carcharhinus obscurus* and *C. galapagensis*). Although some studies have tried to understand this complex relationship, our study revealed for the first-time signals of ongoing hybridization. Furthermore, after four years outside my native country (Ecuador), the participation at this conference was crucial to network with Latin American colleagues that shared an interest on conservation genomics and fisheries research, as well as to strengthen the current collaborations with researchers from the United States and Australia.

I am grateful for the FSBI support, for giving me the opportunity to network and discuss new ideas and projects, especially with collaborators from Mexico, Colombia, Costa Rica and Chile. As a result, we expect to start projects sharing samples and information from the above-mentioned countries, as well as combining the respective expertise

from different laboratories and institutions (including genetics, satellite and acoustic tracking and stable isotope analysis). Ultimately this will lead to studies capable of providing information that helps enhance shark management practices on the entire Eastern Tropical Pacific, which is particularly important for highly migratory species.



**Agnieszka Magierecka from the University of Glasgow used her travel grant to attend the 9th International Conference on Stickleback Behaviour and Evolution, held in Kyoto, Japan, 3-7 July 2018.**

Thanks to the generous grant from the FSBI, I participated in the Stickleback 2018 conference, which brought together researchers from all over the world who use sticklebacks as their study species. The scope of the conference was very broad, with topics including genomics, evolutionary ecology, physiology, behaviour, relationships between hosts and parasites. Thanks to that, I improved the understanding of my study system and gained new ideas about future research. I was fortunate to present my PhD research in the “Epigenetics and plasticity session”, and to discuss my work with a range of people. I received valuable feedback and suggestions and made many new contacts, which will benefit not only my thesis but also my future career. Being a relatively small conference with friendly

and informal atmosphere, there were numerous opportunities for networking with both fellow students and senior researchers. Amongst the talks, I particularly enjoyed those by Anne Bado-Nilles on use of sticklebacks for biomonitoring, by Whitley Lehto on predator-induced parental effects and by Andrew Hendry on eco-evolutionary dynamics in sticklebacks (and Darwin’s finches). Equally interesting were the poster sessions, with 35 posters not only on sticklebacks, but also on medaka, gobies and cavefish. The highlight of the conference for me, as a researcher at the beginning of her career, was the concluding talk by Michael Bell, who reminisced on his long-standing and successful career, sharing some useful tips on how to succeed in academia. I am immensely grateful to the FSBI for the opportunity to participate in this interesting and stimulating conference and to experience the fantastic Japanese culture and hospitality.



**Katie St John Glew, from the University of Southampton attended the 11th International Conference on the**

**Applications of Stable Isotopes to Ecological Studies (IsoEcol 2018) held in Santiago, Chile.**

I recently attended the International Conference on the Applications of Stable Isotopes to Ecological Studies (IsoEcol 2018) held in Santiago, Chile. IsoEcol is a biannual conference bringing together isotope ecologists from across the globe, studying different ecosystems and using isotopes to answer a magnitude



of ecological questions. I gave an oral presentation on my recently completed PhD work titled “New methods of isoscape development: the good, the bad and the variability”. I discussed how isotope maps (isoscapes) are useful tools in both terrestrial and marine ecological settings to enable assignment of animals or animal products back to their origin. I presented my work on a new approach to predict these isotope maps which addresses some of the common issues currently experienced within the field. This was a really useful



Viña del Mar, Chile

opportunity to discuss my PhD research with world experts and receive advice and suggestions for future publications and applications of my research. At this stage of my career, it was also extremely valuable to have the opportunity to make new contacts and collaborations for future projects and job prospects leading on from my PhD. I had a really great time at IsoEcol and feel I gained a

huge amount of knowledge on the wider field of isotope ecology. I met some really interesting people and I hope these new connections will lead on to new opportunities in future. I would like to thank the Fisheries Society of the British Isles for awarding me this travel grant and enabling me to experience this amazing opportunity.



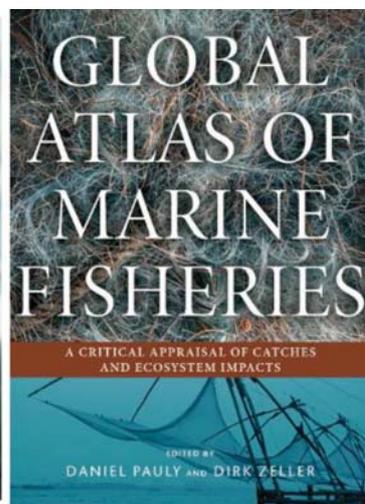
Fishing boats (and cranes) in Valparaíso Harbour, Chile

*The following was first published in the Journal of Fish Biology*

## Global Atlas of Marine Fisheries: A Critical Appraisal of Catches and Ecosystem Impacts

**By Pauly, D. & D. Zeller (Eds). 520 pp. Published by Island Press, Washington, D.C., U.S.A., 2016. Price \$80.00. ISBN: 9781610917698**

Since 1997 Daniel Pauly has directed the *Sea Around Us* project based at the University of British Columbia, Vancouver, Canada. His right-hand man has been Dirk Zeller and together they have directed a programme of detective work which has used a large range of sources to refine the statistics on the world catch of fish. Until Pauly and Zeller got to work the main source of fishery statistics was the UN Food and Agricultural Organisation’s (FAO) annual yearbook on fish catches around the world. The problem with this was that FAO relied on countries to gather and report statistics of



catch and it wasn’t easy to verify the accuracy of the data.

Since the start of the *Sea*

*Around Us* project numerous papers have flowed from it, many in high profile journals, ➤

◀ reporting on the parlous state of the world's fish stocks. The present book brings together and summarises the results of all these years of work. Pauly and Zeller are assisted in this task by a large number of country specialists.

The book is in two parts with Part I giving global accounts and Part II focussing on country and territory accounts. In the first part Pauly discusses why it is important to reconstruct catches. He writes: "It seems clear that the health of a fishery should be measured by changes in the magnitude and species composition of catches, along with other information, such as the growth and mortality of the fish that are exploited. Yet a debate has been recently raging about whether to use catch data to infer the status of fisheries, causing great confusion among fisheries scientists and managers" (p. 1). Pauly argues that without good catch data it is difficult to evaluate the status of fisheries and this is particularly so in countries where detailed stock assessments are not possible.

Further chapters in Part I deal with how catches have been reconstructed, global catches of large pelagic fish on the high seas, the distribution of exploited marine biodiversity, the economics of global fisheries, high seas fishery

management, the vulnerability of marine species to climate change, modelling the global ocean with Ecopath, jellyfish fisheries, seabird populations and their food, a global analysis of aquaculture production and its sustainability, pollutants and a comprehensive estimate of global marine fish catches. Part II comprises about two thirds of the book and is occupied by regional and country accounts of catches. A map represents each country or area, there are graphs of catches since 1950 to the present, where possible divided into major species, a short account of the fisheries and some key references.

The last chapter of Part I, Chapter 14, is entitled 'Toward a comprehensive estimate of global marine fisheries catches'. The chapter is in two parts; the first presenting information on global fish catch and the second headed 'Some policy implications'. The first part shows that the catches presented here as reconstructed by Pauly *et al.*, are some 50% higher than reported to FAO through each country's official fishery channels. This outcome is of course worrying and shows how urgent it is for stocks to be managed sustainably. The second part of the chapter is disappointing as it says little more than that aquaculture as practiced

in developed countries can never be a solution to food supply from fish, that FAO should get countries to report data on both inshore and offshore fisheries and that countries should give FAO more money so that they can produce better data.

Undoubtedly, accurate data on catches is critical. In 1879, Frank Buckland and Spencer Walpole published a report on the sea fisheries of England and Wales (Buckland, F. & Walpole, S. (1879). *Report of The Commissioners for Sea Fisheries on the Sea Fisheries of England and Wales*. London: HMSO). In this they decried the lack of statistics on catch, as at that time no central authority collected such information. We have come some way since then, but good statistics are only the start of managing fisheries sustainably. Thanks to the present book and the *Sea Around Us* data archive we have a much better knowledge of how much fish is being caught from the ocean, but the much harder task is to find ways of regulating fishing so that stocks are sustained and essential food is provided to a growing human population.

Paul J. B. Hart  
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## Society News – The Annual General meeting at the University of East Anglia, 11th July 2018

The Society's AGM was attended chaired by the President, Iain Barber, and attended by the officers and 29 members. The Presidents of the American Fisheries Society and the Japanese Fisheries Society were also present and were introduced to the meeting.

The business was mostly routine with reports from the President, Secretary and Treasurer

and the Journal editor.

The most significant business was a proposed change to the constitution dealing with the terms of office of the President and Vice-President. At present these are four years each with no guarantee that the VP would always feel able to continue as President. This could create succession issues and might lead to a loss of institutional memory and understanding. The

proposed change, which was approved by the AGM, was for the Vice-President to be in office for two years with the expectation that he/she will then be president for two more years. Subsequently the President would become Past-President but with a considerably reduced role. The main part that the PP would have would be to advise current officers on any matter that required knowledge ▶

◀ of how the Society got to a particular state. The changes will come into force when Iain Barber's term as President finishes in July 2019.

The final task at the AGM was to appoint four new council members. The Council itself proposed four nominees and none had been proposed by ordinary members. As a result the four new councillors were appointed unopposed. They are:



Ilaria Coscia – University of Salford, UK



Claudia Junge – Institute of Marine Research, Tromsø, Norway



Willie Yeomans – Clyde River Foundation, UK



FSBI PhD Student Nicholas Jones – University of St Andrews, UK. Nick studies archer fish and as there is no picture of Nick on the web I have had to substitute him with his study species – sorry Nick (ed).

## Information Desk

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See <http://www.fsbi.org.uk/membership/joining-the-fsbi/> for further information.

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