



3RD

International Marine Conservation Congress

Organised by: Society for Conservation Biology Marine Section

GLASGOW, SCOTLAND

14-18 AUGUST, 2014

Program



Society for Conservation Biology

Dedicated to advancing the science and practice of conserving Earth's biological diversity, the Society for Conservation Biology (SCB) is a global community of conservation professionals with thousands of members worldwide. The Society's membership comprises a wide range of people interested in the conservation and study of biological diversity: researchers, resource managers, educators, government and private conservation workers, and students.

SCB publishes the flagship peer-reviewed journal of the field, *Conservation Biology*, the award-winning magazine, *Conservation* and the online journal, *Conservation Letters*. The International Congress for Conservation Biology, ranging in location from Chattanooga to Beijing, is recognized as the most important global meeting for conservation professionals and students. The Society provides many benefits to its community, including local, regional, and global networking, an active conservation-policy program, and free online access to publications for members in developing countries. SCB also administers a postdoctoral program, the David H. Smith Conservation Research Fellowship Program, sponsored by the Cedar Tree Foundation.

www.conbio.org

SCB Marine Section

After the first (1997) and second (2001) Symposia on Marine Conservation Biology confirmed the large number of marine conservation biologists (MCBs) interested in furthering marine science, research and public policy, a group of marine professionals organized a formal society for MCB. After much discussion, this group accepted an invitation from the Society for Conservation Biology to become an SCB Regional Section as SCB strived to internationalize and increase its membership to encompass both global marine and terrestrial conservation. The Section opened and elected its first board of directors in December of 2001, and is continuing to recruit members interested in the marine realm – both current SCB members and those new to SCB who are looking for a network for focusing their research interests.

The Marine Section's mission statement is: To advance the science and practice of conserving the Earth's marine biological diversity. The Section's goals are to 1) Be a global focal point for marine conservation; 2) Facilitate the dissemination of the science of marine conservation through education, publications, presentations, and media outreach; 3) Promote marine conservation as a priority for SCB; 4) Inform and facilitate the implementation of marine conservation policy; 5) Encourage communication and action across disciplinary, national, and institutional boundaries; and 6) Create the capacity to accomplish the aforementioned goals. The Section board of directors currently has nine members whose work crosses international boundaries and represents a wide range of marine conservation issues.

www.conbio.org/marine



3rd International Marine Conservation Congress,
Organised by the Society for Conservation Biology Marine Section

IMCC 2014 Congress Guide

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Welcome from IMCC3 Chair



Chris Parsons
IMCC3 Chair

Dear Delegates,

Welcome to the third International Marine Conservation Congress (IMCC). The first two IMCCs were held in the Washington DC in 2009 and Victoria, British Columbia in 2011. With up to 1400 delegates attending, these meetings are the largest academic conferences ever held specifically on marine conservation. The Congresses were developed because many of us in the marine conservation community were finding that in marine science meetings, despite the dire situation the marine environment was in, there was only a token consideration of conservation. Moreover, in specific conservation-oriented meetings there was little consideration of marine issues, perhaps a few presentations tucked away in a couple of symposia. In short,

marine conservation issues were not getting the attention they needed. Moreover, many of us were frustrated that we were going to meeting after meeting with the same old faces who gave the same old presentations about the same old problems that were being brought up time and time again. We knew that in a couple of years, there would be another meeting and the same issues would be brought once more, the same concerns would be voiced, and no progress would be made. Therefore, we were determined that the IMCCs would go beyond the standard format of marine science conferences and produce tangible outputs and make actual progress between meetings, and especially to make marine science matter, which has become the ultimate theme of the IMCC meetings. Although there are regular conference presentation sessions, many of the sessions at the IMCCs are workshops and symposia, for which organisers are obliged, and committed, to producing tangible outputs in the form of strategy plans, white papers, proposals, papers, action plans, books or other projects that will help to move marine conservation forwards. There has also been a major effort to share the products of the IMCCs with the wider scientific community and with the general public. The IMCCs were amongst the pioneers in using the internet and social media to spread the results of marine conservation science, which many other meetings and societies have subsequently tried to emulate.

The IMCCs are organized by the Society for Conservation Biology Marine Section, and I hope that if you are not already a member of our Section, that you will join and help support the organization of future IMCCs and other activities. This is the first IMCC that the Marine Section has organized outside of North America (although SCB Marine organized two smaller sets of workshop-oriented meetings – the International Marine Conservation Think Tanks – in New Zealand, in 2011 and 2013).

But why did we choose Scotland, and specifically Glasgow, for this first meeting outside of North America? Well, Scotland has a long history of excellent marine science – it's the site of one of the oldest marine biological stations in the world, the Millport Field center, and hosts several universities with excellent marine biology laboratories and programs - and it has a substantial maritime heritage, with a long historical dependence on the marine environment for food and other resources as well as a means of travel and communication.

This connection with the marine environment is evident in Scotland's rich culture of music, legend and art inspired by the sea. For example, stones carved by the long gone Pictish people depict salmon, dolphins and other marine species showing that they held some important spiritual or cultural value. Many marine species



Welcome from IMCC3 Chair

have been exploited by the Scots – Scottish whalers were one of the first to exploit whales and other marine mammal species in the waters around Antarctica, basking sharks were hunted in Scottish waters until relatively recently, and shellfish and other marine species have been an important source of food for communities in Scotland since the stone age. Some of these marine populations were very heavily depleted, but today major efforts are underway to make Scottish fisheries more sustainable, and to develop aquaculture projects that are not environmentally damaging. Moreover, business is increasingly looking to the Scottish marine environment for other forms of sustainable enterprises, such as marine renewable energy, whether it be wind or tidal, or marine wildlife tourism, which has become a very important source of employment for many coastal communities, as well as helping to educate the public about the impressive marine biodiversity of Scottish waters.

Unfortunately, Scottish waters do have major environmental problems, and one of the most overarching issues is climate change – already seabird populations have been impacted because of climate-linked shifts in prey abundance and weather conditions, and cool water dolphin species are being forced further and further north, their historic habitats being taken over by incoming warm water species. Hopefully this IMCC will help to highlight the successes and challenges of marine conservation in not just Scottish waters, but in marine and coastal locations around the world.

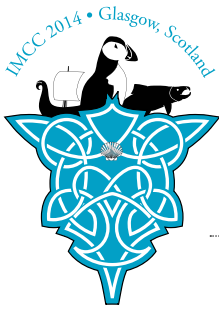
This has been a hard meeting to organize – many national governments have substantially cut their budgets for conservation, especially marine conservation, and many universities, agencies and NGOs have been tightening their belts and there is little funding to go around. There is a lot of competition for the meager funding that exists. This meeting has been organized on a relatively “shoestring” budget, where there were several moments when the financial situation made it seem like we would have to cancel the conference. However the hard work, innovation and dedication of our organizing team has made this all possible and I’d like to recognize and gratefully thank them for all their hard work: John Cigliano, Samantha Oester, Dominic McCafferty, Kirsteen McColgan, Natalie Walden, Lori Strong, Ruedi Birenheide, Mel Cosentino, Sarah Foster, Keryn Gedad, Andrew Wright, David Shiffman, Karyn Traphagen, Brinkley Dinsmore, Autumn-Lynn Harrison, Lisa Schreffler, the SCB Marine Section Board, and the SCB Executive Office back in Washington DC. I’d especially like to thank the student committee who have helped to produce many excellent activities for this congress: Katheryn Patterson, Jake Levenson, Gillian Bott, Charlotte Findley, Samantha King, Toni Mizerek, Jack Wilson-Green.

I hope that everyone has a stimulating, fruitful and, especially, enjoyable, meeting !

Ceud mìle fáilte !

Chris Parsons

Chair, 3rd International Marine Conservation Congress



Welcome from IMCC Co-Chair & Program Chair



John A. Cigliano
Program Co-chair

Dear Delegates,

Welcome to the 3rd International Marine Conservation Congress. The importance and influence of IMCC has continued to grow with each IMCC so that now it can be argued that it has become one of the most, if not the most, important and influential marine conservation meeting. This is because it not only attracts the most passionate and committed marine conservationists but also because of the focus on solutions – *Making Marine Science Matter*. It is not all doom and gloom. Yes, there is much work still to be done but there is hope for marine biodiversity because all of the great work that marine conservationists have done to conserve marine biodiversity. This will become evident as you attend some of the many talks, posters, workshops, focus groups, and symposia at the 3rd IMCC.

IMCCs are the main activity of the Board of Directors of the Marine Section of the Society for Conservation Biology. And the planning of these congresses quite literally takeover our lives. Why do we do it? Because we know that this congress have become so essential for advancing marine conservation. IMCCs have become a labor of love and passion for the board. So, if you run into a board member please thank them for their efforts. And be sure to thank all of the organizing committee members. They have all put much of their lives on hold to organize this meeting.

So, I wish everyone a fruitful, inspiring, and energizing meeting. And if you are not a member of SCB or the Marine Section, please consider joining. There is no better way to help advance marine Conservation then by joining.

Sincerely,

President, Marine Section Board of Directors

Co-Chair, IMCC

Co-Chair, IMCC Scientific Program Committee



Welcome from IMCC Co-Chair & Communications Chair



Samantha Oester (@samoester)
Program Co-Chair & Communications Chair
Email: soester@gmu.edu

Conservation success cannot be achieved by scientists alone. The leading conservation success stories also involve local communities, policymakers, NGOs and the general public. The best conservation success stories involve excellent communication and communication strategies, outreach and education. Communication is both a science and an art. Effective conservation communication does not just involve having a presence and sharing your science. Effectual science communicators can adapt messages for different audiences, tailor information for distinct outlets, and find ways to achieve maximum impact. Compelling science communicators spark interest, inspire action, and share stories.

The Society for Conservation Biology said the Marine Section is leading SCB in communication efforts and initiatives. In fact, several members of SCB's new Social Media Committee are Marine Section members, with leadership including SCBMarine members Emily Darling (IMCC3 plenary speaker) serving as a co-chair and David Shiffman (IMCC3 Communications Committee Vice-Chair) serving as the committee's expert advisor.

The International Marine Conservation Congress has strived from the beginning to encourage communication among delegates and from the conference to the outside world. With each IMCC, communication measures expand in an effort to reach beyond the traditional outcomes of scientific conferences. We aspire to showcase your research and messages, reach marine scientists and conservationists who cannot attend the conference, and engage the public.

As part of the IMCC3 communication strategy, we became more accessible to the press, are conducting marine conservation outreach events in Glasgow in conjunction with the conference, started the IMCC2014 blog, are ramping up social media efforts, and encouraged communication presentations. There are six communication-oriented workshops, five symposia and numerous presentations, as well as other communication-related sessions.

Communication is involved in most aspects of marine conservation. Working in field teams, discussing ideas with fellow scientists, publishing results, leading projects, and disseminating research are all more successful with thoughtful communication. You all have conducted thorough research. To make your marine science matter, it needs to be conveyed—shared with the public, potential funders, project managers, legislators and fellow scientists.

Graduate students should appreciate how important communication skills are to the thesis and dissertation process. Interacting with professors, advisors, committee members and project collaborators is an enormous task. Science professors should recognize how important communication skills are to teaching and advising. Rather than viewing the media, policymakers and general public as adversaries, they can become an extension of your conservation committees, collaborators and students. It can be difficult at times, but sharpening effective communication skills will make this a more accessible task.

To join the IMCC3 conservation communication conversation, go to:

Blog: imcc2014.wordpress.com

Twitter: @IMCC2014

Official Hashtag: #IMCC3

Facebook: International Marine Conservation Congress

Instagram: @IMCC2014

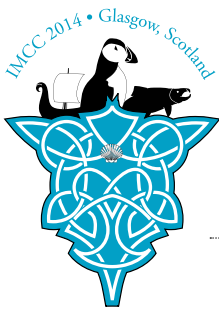
See the IMCC3 website to follow meeting chairs, members of the organizing committee and plenary speakers.

Follow the Marine Section of the Society for Conservation Biology at:

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Welcome from Local Secretariat



University of Glasgow

Dear Delegate

On behalf of the Local Organising Secretariat it gives me great pleasure in welcoming you to Glasgow and Scotland for IMCC3. Scotland has one of Europe's most varied marine environments, a strong historical and cultural connection with the sea and continues to derive important economic benefits from its productive waters.

The location of this congress in Glasgow is particularly appropriate given the recent announcement on 24 July 2014 by the Scottish Government that 30 Marine Protected Areas (MPAs) have been designated in both inshore and offshore waters around Scotland. This has the potential to make a major contribution to marine conservation. There will be many challenges ahead to manage these developments and therefore the shared expertise in marine science, conservation policy, education and outreach from 60 nations at IMCC3 is especially important for Scotland, as it will be for marine conservation across the World.

I hope you will benefit greatly from the wide range of presentations, workshops and symposia during this week, meet new colleagues and friends and of course enjoy the culture of Glasgow and Scotland during your visit.

Yours

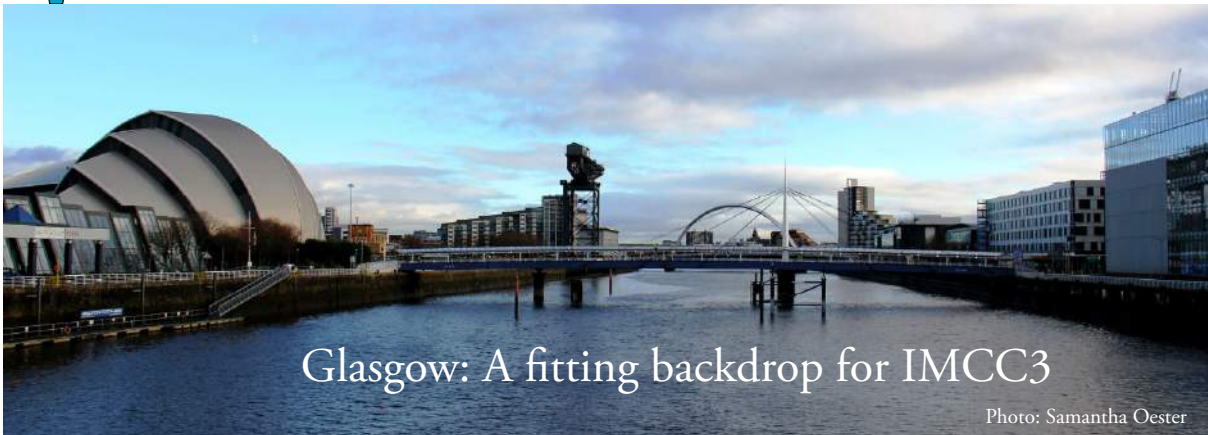
Dr. Dominic McCafferty
Head of Local Organising Secretariat
University of Glasgow

A global community of conservation professionals advancing the science and practice of conserving the Earth's biodiversity.

www.ConservationBiology.org



Welcome to Glasgow!



Scotland's largest city is located in the West Central Lowlands, with the River Clyde bisecting the picturesque location. Glasgow was chosen as the host city for IMCC3 for several reasons, including its location, history and the country's keen interest in marine science and marine conservation. And Glasgow is pleased to host IMCC3. "Hosting such a prestigious conference reinforces Glasgow's international reputation as a world-leading conventions city, and we are committed to ensuring IMCC is a success and that your delegates enjoy a memorable experience." said Aileen Crawford, Head of Conventions at the Glasgow City Marketing Bureau.

The top reasons the SCB Marine Section Board chose Glasgow as the location for IMCC3 include:

- (1) The city's location on the Clyde estuary. Glasgow has a long history of being a city whose people depended upon the estuary.
- (2) The Millport Marine Lab, the oldest marine field station in Scotland (and one of the oldest in the world), is situated in the Firth of Clyde.
- (3) Glasgow is a portal to some of the country's most beautiful natural settings. The west coast of Scotland is a premier destination for marine wildlife tourism. Hop on a train, and in an hour or so, you're in the Scottish Highlands. In three hours, you're in Oban, the gateway to the western Isles of Scotland and next to some of the best whale watching and bird watching locations in Europe.
- (4) There has been a lot of success in the Clyde in bringing scientists and fishermen together to help manage marine resources.
- (5) There are numerous universities in Glasgow, or within about an hour outside of the city, with nationally and internationally famous marine biology programs.
- (6) The SECC (Scottish Exhibition and Conference Centre), the location of the main IMCC3 scientific program, has a great sustainability policy.
- (7) The University of Glasgow kindly offered to partner with IMCC to help organize the meeting and host most of the workshops.
- (8) The IMCC3 chair and co-chair, Chris Parsons, John Cigliano, are big single malt whisky aficionados...

Additionally, the Glasgow City Marketing Bureau is an incredibly hospitable organization, ensuring delegates of international events held in Glasgow feel welcomed. "Glasgow prides itself on being home to world-class amenities, great travel and transport links and a 'can-do' culture," Crawford explained. Crawford best describes Glasgow as "vibrant and dynamic," with much to see and do in the way of arts, culture, architecture and of course, shopping. Crawford feels the entire city is excited to host IMCC3. "We look forward to extending Glasgow's renowned warm and friendly welcome to each and every one of you at IMCC 2014."



Insider tips for enjoying Glasgow

GIE IT LALDY IN GLASGOW

by Samantha Jane King



Photo: Samantha Oester

Awright! Welcome to Glasgow—city of culture, city of history, but most importantly MY city. To all you visitors from near or far landing on Scottish soil this August, a warmer welcome you could not ask for! Glasgow is our dear green place. Glasgow is rainy. Glasgow is friendly. But most importantly, Glasgow is **UNIQUE!**

I have lived on the outskirts of this city my entire life, and many a weekend I have frequented the bright lights of “Glasvegas.” Whether it be for the live music scene, thriving nightlife or the deep fried cuisine, there’s something for everyone in this most diverse of cities.

So let’s start with our bellies. Scottish cuisine can be found all over the city, with traditional restaurants like Arisaig and Roastit Bubbly Jocks serving up delicious haggis (if they can catch it first), venison, game and a homemade black pudding. Too heavy on the meat? Vegans and vegetarians are more than catered for in the city centre with restaurants like 13th Note and Mono serving up scrummy meat-free mains and dairy-free desserts. The vegan-friendly salted caramel and pecan cheesecake with tequila and lime syrup from Mono is a pudding not to be missed! But before you leave this city—or country as a matter of fact – you have to claim that you’ve encountered the culinary delight that is the deep-fried Mars bar! I’ll leave you to decide on that one....

Now, we need something to wash all that delicious food down with. Good or bad, Glasgow is a city with a vast drinking culture. What better way to quench a thirst than with a wee dram! After all, we are the whiskey capitol. The Pot Still, Lismore, The Ben Nevis and The Wee Pub at Ubiquitous Chip are among the favourites of Glaswegians—boasting more than 150 types of malt, along with craft beers and ales. Make sure to visit the whiskey shop at Buchanan Galleries to pick up traditional island malt before heading back home!

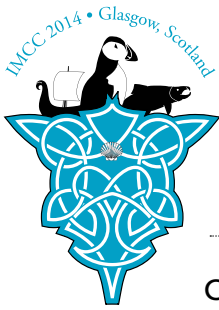
If you have no intention of returning to your hotel after a drink at the pub, then Glasgow has many opportunities for late-night entertainment. Thriving nightclubs, comedy clubs, jazz bars, live music venues and even a burlesque scene await you in the city centre and west end. Most clubs are open till 3am, giving plenty of time for you to “gie it laldy” on the dance floor! Taxis are plentiful in the city centre, so you’ll never be stuck for a lift home.

So pubs, clubs and boogie nights are not your thing? Don’t worry. You’ve come to the city of culture. The Kelvingrove Art Gallery and Museum, Scottish Transport Museum and Charles Rene Mackintosh-designed buildings, such as “House for an Art Lover,” are all spectacular places to visit on a rainy day. (Let’s face it, you’re in the wettest country on Earth.) But the biggest draw to these attractions is that they’re all FREE. If you feel you can brave the weather head to Glasgow’s main shopping streets, known locally to us Scots as the “style mile,” including Argyle Street, Buchanan Street and the wonderfully named Sauchiehall street. (I challenge you to pronounce that one.)

I could go on for page after page about how much I love this city, but whatever you choose to do with your free time here at Glasgow, I guarantee you’ll soon fall in love with this city and country! **Haste ye back and Lang may yer lums reek!**

-**Samantha Jane King** is a Glasgow native.

She is the area coordinator for Glasgow and Western Scotland with the British Divers Marine Life Rescue, as well as part of the IMCC3 Communications Committee and Student Activities Committee.



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MASCOT

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Acknowledgments

Thank you!

The 3rd International Marine Conservation Congress would not have been possible were it not for the generous help of our volunteers. Their hard work has not gone unnoticed, and we'd like to recognize them here.

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Susan Gallon, Anna McGregor and Louise Milne

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All conference volunteers, including volunteers from the University of Glasgow

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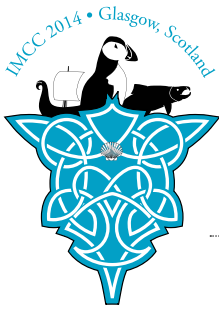
Firth of Clyde Forum

Whale and Dolphin Conservation

Marine Conservation Society

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There are undoubtedly several individuals not listed here who contributed their time and effort to make this conference successful, including a long list of abstract reviewers. To anyone we may have missed: your hard work was greatly appreciated and we are glad you were a part of IMCC 2014!



Sponsors

The IMCC3 Organising Committee owes our gratitude to the following groups for their generous support.

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Silver



Gordon and Betty Moore Foundation

The Moore Foundation believes in bold ideas that create enduring impact in the areas of environmental conservation, patient care and science. Intel co-founder Gordon and his wife Betty established the foundation to create positive change around the world and at home in the San Francisco Bay Area.

www.moore.org



The Rufford Foundation

The Rufford Foundation is a charity established specifically for the development of Rufford Small Grants for Nature Conservation (RSGs). Since inception we have given in excess of 2000 grants in 137 countries.

www.rufford.org

Bronze

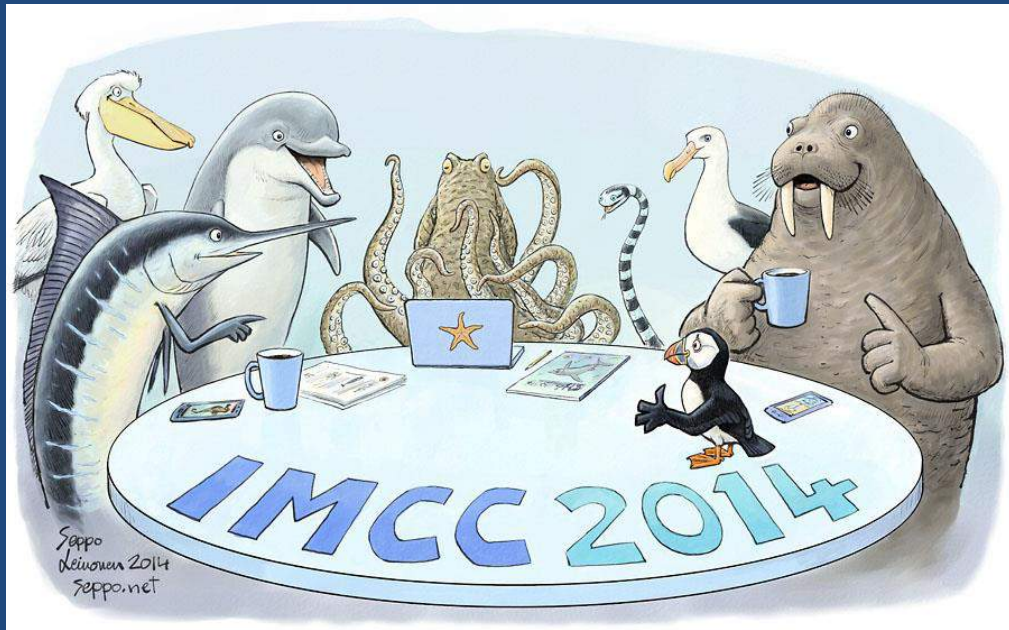


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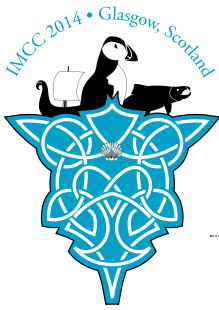
The IMCC2014 Blog

Get information on Glasgow, IMCC-related articles, interviews with plenaries and organizers and IMCC3 features.

imcc2014.wordpress.com

Interested in contributing to the IMCC2014 blog
as a guest writer?

Contact Samantha Oester at soester@gmu.edu



Pre Congress Venue: Getting Around

Pre/Post Congress Workshop Venue University of Glasgow (12th, 13th, 19th August)

As one of the oldest and most internationally renowned learning institutions in the UK, the University of Glasgow's Gilmorehill Campus is the venue for our pre and post congress workshops. The campus is located in the west end of Glasgow, three miles from the city centre. All workshops will take place in the St Andrew's Building (E14 in map at end of program).

Directions to University of Glasgow

TRAVELLING BY SUBWAY

Glasgow has its very own subway system, providing one of the easiest ways to get around the City Centre and West End of Glasgow (www.spt.co.uk/subway). If you're travelling to workshops at the University of Glasgow, we'd recommend this as an affordable and easy way to travel. Ticket prices start at £1.50 and the St Andrew's Building at the University is a five minute walk from the Kelvinbridge station.

TRAVELLING BY TRAIN

The nearest suburban rail station is Partick, about one mile west of the University. It has an interchange with the subway and with bus services on Dumbarton Road.

TRAVELLING BY TAXI

Black taxi cabs can be picked up at most times in the University area and the city centre. You can also phone for a black taxi cab on 0141 429 7070.

TRAVELLING BY BUS

Routes 4 and 4A run through the main campus from the city centre. Other routes serve Dumbarton Road, Great Western Road and Byres Road. A seasonal tourist bus stops at the University.



Pre Congress Venue: Dining

Pre/Post Congress Dining

Places to eat within walking distance of University of Glasgow, St. Andrews Bldg.

UNIVERSITY OF GLASGOW, THE FRASER BUILDING, LEVEL 3

Based in the heart of the University, this 400-seater restaurant is open from 8.00am to 4.00pm and has wi-fi access. Hot meals and snacks are available, with vegan, vegetarian and gluten free options. In fact, the University of Glasgow has been voted one of the most vegetarian and vegan friendly in the country. Whether you want to sit down, check your e-mail and network with colleagues or simply catch a quick snack on the run, the Fraser Building will meet all your needs, without the need to leave the University campus.

THE OLD SCHOOLHOUSE

311 Woodlands Road, Glasgow G3 6NG

Quality pub grub and excellent service in a beautiful, traditional setting make The Old Schoolhouse extremely popular. What's more, it's right across the road from the University, so if you're on a tight schedule, it's a good choice.

SHISH MAHAL

66 – 68 Park Road, Glasgow G4 9JF

Regularly voted 'Best Indian Restaurant in Glasgow', the Shish Mahal is a family run establishment providing authentic Indian cuisine at a very reasonable price. An eclectic menu provides a blend of traditional and more modern ingredients and recipes.

STRAVAIGIN

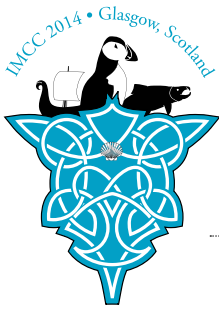
28- 30 Gibson Street, Glasgow G12 8NX

A relaxed, café-bar and restaurant, with a 'think global, eat local' ethos, providing food that showcases Scottish products. Friendly, informal service combined with a menu that provides something that little bit different, Stravaigin is a firm favourite with Glasgow locals.

DRAM!

232 -246 Woodlands Road, Glasgow G3 6ND

Whether you're looking for a light lunch or something a bit more substantial, Dram! provides a mixture of modern and traditional pub food. What's more, free wi-fi and great coffee in a bright but cosy atmosphere make Dram! a great place to hang out.



Conference Venue: Getting Around

Main conference venue Scottish Exhibition & Conference Centre (SECC)

This year's IMCC takes place in the Scottish Exhibition & Conference Centre, Scotland's premier purpose-built event venue. The Centre is a fantastic resource, situated on the banks of the River Clyde, with excellent transport links.

Directions to Scottish Exhibition & Conference Centre

TRAVELLING BY AIR

The main airport in Scotland, Glasgow International Airport (www.glasgowairport.com) is Scotland's principal long haul gateway. The airport taxi service is located outside domestic arrivals and the Scottish Exhibition & Conference Centre (and hotels within its boundaries) is a 15-minute ride away (20-minutes will take you into the centre of Glasgow). Airport taxis are regulated and a journey from the airport into Glasgow costs around £20.

TRAVELLING BY RAIL

If you're staying in a hotel in the centre of Glasgow, the easiest way to get to the Scottish Exhibition & Conference Centre is by train (www.scotrail.co.uk). Trains run from Glasgow Central Station (Platform 17, lower level) to the Exhibition Centre's own railway station around every ten minutes. The journey time is a mere three minutes and costs around £3.

TRAVELLING BY TAXI

There are taxi ranks throughout the city and there is also a taxi pick-up and drop-off point at the East End of the Clyde Auditorium at the Scottish Exhibition & Conference Centre. An average journey from the city centre to the Exhibition Centre takes 5 – 10 minutes and costs around £5.

TRAVELLING IN AND AROUND GLASGOW

Glasgow has its very own subway system, providing one of the easiest ways to get around the City Centre and West End of Glasgow (www.spt.co.uk/subway). If you're travelling to workshops at the University of Glasgow, we'd recommend this as an affordable and easy way to travel. Ticket prices start at £1.50 and the University is a five minute walk from the Hillhead station. If you're travelling to the University for pre or post congress workshops, Kelvinbridge is the nearest subway station to the St Andrews Building where all workshops are being held.

TRAVELLING ON FOOT

If you're staying in a hotel within the boundaries of the SECC complex (Crowne Plaza, Hilton Garden Inn or Campanile) your walk will be no more than a few minutes to the main congress. If you're staying in a city centre hotel you'll be looking at a 20-30 minute walk (depending on the exact location of your hotel). The walk from Glasgow city centre to the SECC is a pleasant one, following the Clyde walkway along the river.



Conference Venue: Facilities

Facilities and Resources: Scottish Exhibition & Conference Centre

The Exhibition Centre itself has great resources including impressive exhibitor halls, break-out meeting rooms, restaurants, cafes and bars - it even has its own railway station. This all adds up to a great space for us to hold the main congress. On-site facilities include:

BANK

There is a free of charge ATM within the SECC; this is located on the main Concourse next to the ticketSOUP.com® Box Office. In addition to this there are three other ATMs in the main SECC.

INFORMATION & BUSINESS CENTRE

The SECC has a well equipped Information & Business Centre for visitors. Available services include: PC use/internet access, photocopying, printing, scanning and faxing.

MEDICAL CENTRE

A well-equipped Medical Centre is located on the concourse of the main building, at the East entrance. The highly qualified medical team will be pleased to help, or simply answer any queries you may have.

POST BOX

A Royal Mail post box is located externally, in front of the Clyde Auditorium. UK stamps are available from the shop and international stamps are normally available from the Information & Business Centre, both situated on the main concourse.

PRAYER ROOM

There is no specific Prayer Room at the SECC, but the Medical Centre can offer visitors a quiet room to use (subject to availability). For further information call 0141 275 6333.

SHOP

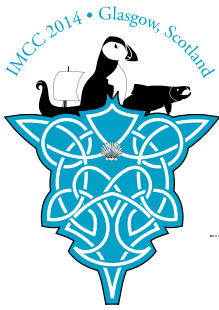
McColls, situated on the main concourse, sells a wide range of products including newspapers and magazines, snacks, toiletries, stamps and mobile phone top-ups. Hot and cold drink vending machines are also available at various locations throughout the SECC.

WHEELCHAIRS

The Medical Centre has a limited number of wheelchairs that visitors may 'borrow' for the duration of their visit. Wheelchairs are allocated on a first come, first served basis and can be booked the day before your visit. Please note that wheelchairs can only be 'borrowed' for a day at a time. The medical team are happy to aide wheelchair users who require assistance getting to and from a location within the Centre (subject to availability), but wheelchairs should be picked up/dropped off at the Medical Centre. To book a wheelchair or for further information please call 0141 275 6333 or drop into the Medical Centre.

WI-FI

IMCC is providing WiFi at the SECC during the conference. The network password will be provided at registration - stop by the registration desk if you have any questions about accessing the network.



Finding your way around the Congress

• VOLUNTEERS:

Look for the green ribbons

Volunteers can be easily identified by their green VOLUNTEER ribbon. Please do not hesitate to ask them for assistance as they are here to help and direct you.

• LOCAL COMMITTEE:

Local folks can be identified by their teal Local Committee ribbon. Looking for recommendations about anything Glasgow, just ask them!!

• REGISTRATION DESK HOURS

The registration desk will be located on the main floor of the SECC starting 14 August at 11 AM and will be open until 18 August at Noon.

Thursday 14 August	11:00 A.M.-4:30 P.M.
Friday 15 August	7:30 A.M. -5 P.M.
Saturday 16 August	8 A.M. - 5 P.M.
Sunday 17 August	8 A.M. - 5 P.M.
Monday 18 August	8 A.M. - Noon

• CONTACT INFORMATION:

During the conference

Visit the registration desk on the main floor of the SECC.

Before and after the conference

Before and after the conference
Lori Strong - LStrong@Burkinc.com

• GET A ROOM!

Need to book a room for an IMCC -related meeting? Visit our registration desk to arrange with Lori Strong.

• MERCHANDISE BOOTH

Purchase or pick up your pre-ordered IMCC souvenirs. Local volunteers will be on hand to answer questions ranging from restaurants, things to do during your stay in Glasgow. Registration staff will be available for conference-related inquiries, including but not limited to information regarding the message board and session locations.

• MESSAGE/JOB BOARD

A message/job board near registration will be available for conference-participant use throughout the conference. Participants may leave messages for colleagues to help facilitate meetings or get-togethers. All materials should be

standard A4 or smaller. We also ask that messages/ads be limited to one (1) piece of paper per message/ad (i.e. we will not be able to accommodate or distribute multiple brochures or pamphlets).

• EMERGENCY CONTACTS

If you become ill and require medical assistance during your stay in Glasgow, call NHS 24 on 111. This is a dedicated helpline where you will be put in touch with a healthcare professional to provide assistance.

In a medical emergency call 999 for an ambulance. Please note, the Scottish Ambulance Service and Accident & Emergency departments provide care for people with symptoms of serious illness or who have been badly injured. When you call 999 the Scottish Ambulance Service will respond with the most appropriate help for your situation. 999 and A&E should only be used for serious illnesses or injuries.

Western Infirmary

Dumbarton Road, Glasgow, G11 6NT
Telephone: 0141 211 2000

This is the nearest hospital to the SECC and the University of Glasgow, with a dedicated Accident & Emergency Unit.

Royal Hospital for Sick Children

Dalnair Street, Yorkhill, Glasgow G3 8SJ
Telephone: 0141 201 0000

This is the nearest childrens' hospital to the SECC the University of Glasgow, with a dedicated Accident & Emergency Unit.

• SPEAKER READY ROOM

The Fyne Room, ground level behind the Lomond Auditorium at the SECC. All presenters must check in at the Speaker Ready Room one day prior to your presentation day. All presentations will be delivered electronically to the session rooms. If you loaded your presentation thru the FTP site, please check in to make sure it came through correctly.

Hours are:

Thursday - 11 A.M. - 4:30 P.M.

Friday-Sunday 8 A.M. -5 P.M.

Monday 8 A.M. -Noon

• WIRELESS ACCESS

IMCC is providing WiFi at the SECC during the conference. The network password will be provided at registration - stop by the registration desk if you have any questions about accessing the network.



Dining

Dining within walking distance of SECC

CLYDEBUILT BAR & KITCHEN:

Located at the East Entrance of the SECC with great views over to The SSE Hydro, Clydebuilt Bar & Kitchen provide a range of eating options without having to leave the SECC complex. Sharing platters, snacks, pizza and burgers are all available from the bar. The Kitchen area, located at the opposite end of the bar, offers a more intimate environment and more substantial menu with starters, mains salads and desserts. Pre booking for The Kitchen is recommended.

LA ROTUNDA

28 Tunnel Street, Glasgow G3 8HL

An Italian restaurant located just across the road from the SECC, La Rotunda is on the ground floor of the iconic North Rotunda building. Traditional Italian food is served, with a modern twist. Enjoy stone-baked pizza, fresh Scottish seafood served with simple pasta and handmade burgers.

YEN ROTUNDA

28 Tunnel Street, Glasgow G3 8HL

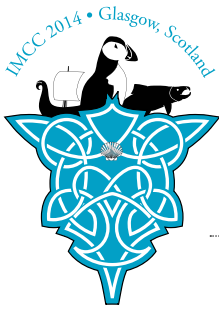
Upstairs from La Rotunda, you'll find Yen Rotunda on the first floor of the rotunda complex. Chinese, Japanese and Thai cuisines are served with a wide range of oriental dishes on offer. The restaurant also serves a selection of Oriental beers in bottles and draught as well as an extensive choice of wine.

INDIA QUAY

181 Finnieston Street, Glasgow G3 8HE

Just a few minutes' walk from the SECC, along the Clyde walkway heading towards the City Centre, India Quay pairs Indian cuisine with 'urban chic'. The menu is made up of long established Indian favourites, with a few surprises such as the extra large Chees, Chilli and Coriander Naan Bread – definitely worth a try!

There are also a number of hotels within the boundaries of the SECC complex, with a range of restaurants and bars.



ECO FRIENDLY IMCC3

This year at IMCC3 great efforts have been made to ensure the conference is as eco-friendly and sustainable as possible. To do so, we have incorporated environmental considerations throughout all stages of the meeting process to minimize the potential negative environmental impacts of holding the conference.

CONFERENCE SUSTAINABILITY OBJECTIVES:

- To offset the carbon emissions resulting from this conference
- To reduce the environmental impacts of conference transportation, meetings, and events
- To provide merchandise & conference gifts from locally produced and/or sustainable sources
- To minimize or eliminate waste from food, conference materials, water, and energy sustainable Initiatives undertaken by IMCC3 and their partners.

SUSTAINABLE INITIATIVES UNDERTAKEN BY IMCC3 AND THEIR PARTNERS:

1. Carbon Offset Program

At the 2006 Board of Governors meeting in San Jose, California, USA, the decision was made to take responsibility for the carbon impacts of travel to Global and Section Congresses. By being 'carbon neutral,' we neutralize the effect of our greenhouse gas emissions, so that our activities no longer contribute to global warming. The first meeting to be offset was the 2007 global meeting in Port Elizabeth, South Africa. A small voluntary fee was voluntarily added to each attendee's registration fee to offset the carbon of the overall travel to the meeting. 98% of attendees voluntarily paid an extra \$20 on their registration to offset their carbon emissions. The money was invested at the Baviaanskloof Megareserve, where invasive and degraded vegetation will be replaced with Elephant Bush (*Portulacaria afra*), a plant known to sequester large amounts of carbon. SCB was the first professional organization to take responsibility for the carbon footprint of its meetings. After this first meetings, unique carbon offset projects have been selected. Find our more information at: www.conbio.org/about-scb/green-initiatives/current-projects

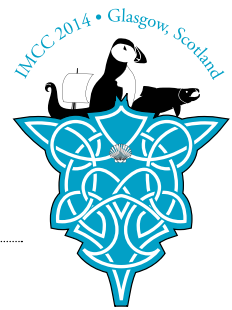
2. Conference Venues

The University of Glasgow

The University of Glasgow is committed to integrating sustainability into their teaching, research, community partnerships and campus operations. To acknowledge and highlight these commitments, the University has joined other leading universities around the world in becoming signatories to the Talloires Declaration and the Copernicus Charter. Students are also actively encouraged to get involved with initiatives such as the student led Glasgow University Environmental Sustainability Team, GUEST, connecting practice to the centre of the university community.

Scottish Exhibition + Conference Centre (SECC)

SECC Ltd is aware of the potential impact that the events staged at the Scottish Exhibition + Conference Centre SECC can have on the environment. It is committed to further growth and development of its exhibition, conference and events business and intends to pursue this objective whilst operating the venue in an environmentally sustainable way wherever possible. The Scottish Exhibition and Conference Centre is the winner of the Gold Star Award for Greenest Conference Venue at the Green Tourism Business Scheme.



IMCC3 Sustainability Statement

SECC will comply, whilst aiming to surpass, the relevant legal requirements with the objective of gaining formal accreditation. This will be achieved in a number of ways, by:

- using electricity generated only by renewable sources
- reducing the amount of waste sent to landfill
- maintaining plant and machinery to ensure they are running at maximum efficiency
- using environmentally friendly or fully biodegradable materials for cleaning
- reducing the use of paper and using recycled paper for all office requirements
- making use of technology to reduce waste and improve efficiencies
- review emerging technologies to see how further improvements can be made
- work with the Carbon Trust to assess and reduce SECC's carbon footprint
- specifying that all timber used by SEC comes from sustained or managed forests

SECC also supports "Trees for Life," the conservation charity dedicated to the restoration and regeneration of the Caledonian Forest in the Highlands of Scotland. For every major conference staged at the Centre, SEC will sponsor the planting of an acre of native trees, for smaller events, a grove of eight trees will be sponsored. The objective is to link up several fragments of the Caledonian Forest and re-establish a forest corridor from Glen Moriston to Glen Affric in the north, creating a continuous stretch of native woodland.

3. Food

The Scottish Exhibition + Conference Centre is committed to serving local, seasonal, and organic foods. All coffee served is organic and often fair-trade.

4. Waste reduction

On-site recycling and composting are available. China service is used for coffee breaks, meals and receptions. We encourage participants to bring their own water bottles to further reduce waste. Those that registered before June 30th will also receive an IMCC travel mug that you can use for your coffee/tea.

If you don't want your travel mug, please return it to registration as we will be selling surplus mugs as souvenirs to raise funds to support student activities and events at the next IMCC.

5. Transport

The conference is being held in downtown area of Glasgow near City Centre which will minimize the need for motorized transit. If walking is not an option, we encourage conference participants to use Glasgow's friendly public transit system (<http://www.spt.co.uk/subway/>).

6. Conference gifts and merchandise

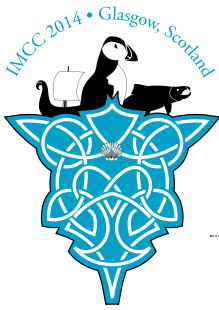
To reduce waste and cost, we are asking delegates to please bring their own lanyards, notebooks and bags. Don't forget to pack your reusable water bottle! We will be using recycled lanyards from IMCC2.

8. Signage

Signage was all selected based on whether it could be recycled. PVC banners will be donated to the Common Thread Cooperative which take street banners and other fabric for re-purposing into colourful and durable products such as conference tote bags!

9. Glasgow's green spaces

Glasgow is committed to establishing a network of green spaces throughout the city. Glasgow has over 90 Parks and Formal Gardens within the City boundaries and such is the diversity of these parks you will always be able to find somewhere to suit your taste. Kelvingrove Park, Victoria Park, Glasgow Green, Glasgow Botanic Gardens and Bellahouston Park are just a few of their splendid destinations.



Tours/Activities/Things to Do

Glasgow is a dynamic city, with lots to see and do, whatever your tastes and interests. We've put together a few ideas if you've got some spare time during your stay.

Hop on one of the city's open top bus tours to help you get your bearings and see the sights of the city (www.citysightseeingglasgow.co.uk).

Glasgow's cosmopolitan West End (www.glasgowwestend.co.uk) is home to the University of Glasgow, which is also the venue for our pre and post congress workshops. The University itself has many cultural attractions and there's a wealth of boutique shops, cafes, restaurants and bars in the leafy West End, as well as museums, galleries and gardens.

Jump on a train (from Glasgow Queen Street) to Edinburgh, Scotland's capital city. Visit the castle, zoo, dungeons, parliament buildings and numerous museums, while taking in the beautiful scenery of the Old and New Towns (www.thisisedinburgh.co.uk).

Scotland's stunning Loch Lomond & The Trossachs National Park (www.lochlomond-trossachs.org) is only a 40-minute drive from Glasgow with woods, mountains and lochs rich in wildlife.

Take a day trip down the coast to the beautiful island of Arran (www.visitarran.com). Affectionately referred to as 'Scotland in Miniature', you'll find beautiful beaches, a castle with stunning gardens, a brewery and distillery, cafes, bars and restaurants all within a stretch that's only 20 miles long and ten miles wide.

Take a bus tour further afield (www.timberbush-tours.co.uk). Organised bus tours allow you to see the sights and sounds of Scotland without having to navigate and drive yourself. Top destinations within easy reach for a day trip include Loch Lomond & The Trossachs and Loch Ness, Glencoe & The Highlands.





Book a ticket on the West Highland Line (www.westhighlandline.org.uk). Voted the 'world's most scenic train journey' for three consecutive years by Wanderlust magazine, this Glasgow to Mallaig train ride takes you on an amazing journey through iconic Highland scenery.

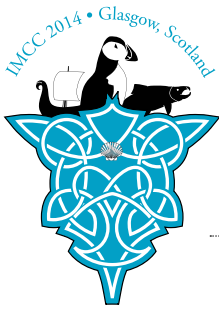
If you want to experience some of the amazing wildlife Scotland has to offer, have some time and don't mind travelling, head to the Outer Hebrides. The region is an important area for conservation and includes within its boundaries the World Heritage Site of St Kilda, Europe's most important seabird breeding area. There are many scheduled or charter boat trips offered around the Western Isles allowing access to all, including the most inaccessible, areas of the archipelago (www.visitouterhebrides.co.uk).

If you're looking for more ideas of things to see and do during your stay in Glasgow check out www.visitscotland.com, Scotland's national tourism organisation.



IMCC3 General Schedule

	11-13 AUG	14 AUG	FRI. AUG 15	SAT. AUG 16	SUN. AUG 17	MON. AUG 18	
8:30 - 13:00 		Pre-Congress Activities: Workshops & Focus Groups <i>8:00 to 12:00</i>	Welcome Plenary 8:30 to 10:30 Lomond Auditorium	Symposia/Focus Groups/ Contributed Sessions 8:30 to 10:30			
		Exhibitor Set-up <i>14:00 to 17:00</i> Registration Opens 11:00	<u>Morning Coffee Break:</u> 10:30 to 11:00				
15:00 - 19:30 	Pre-Congress Activities: Short Courses Workshops & Focus Groups <i>8:00 to 18:30</i> University of Glasgow	Opening Session ***** Welcome (13:00-13:15) ***** Plenary 1 & 2 (13:15-15:15pm) ***** Break (15:15-15:30) ***** Plenary 3 & 4 (15:00-17:30)	Lunch, Workshops, and Focus Groups 13:00 to 15:00				
			Symposia/Focus Groups/ Contributed Sessions 15:00 to 17:00				
			<u>Afternoon Coffee Break:</u> 17:00 to 17:30				
			Symposia/Focus Groups/ Contributed Sessions 17:30 to 19:30	Diversity Workshop 17:30 to 19:30	Ram Myers Lecture 17:30 to 19:15		
19:30 - 21:30 		Opening Reception 18:00 to 21:00		Documentary & Filmmaking Session featuring BBC Ocean and Clyde Reflections 19:30 to 21:30	No mermaids don't exist! Panel on impact of fake documentaries on public understanding 19:30 to 21:30	Final Party! 19:30+	
			Poster Session 19:30 to 21:00		Feelin' Druth? Student Mixer 20:00+		
20:00 + 							



Presenters

SYMPOSIUM AND ORAL PRESENTATIONS

About:

Oral presentation rooms will be equipped with a PC and data projector.

Talk format:

Symposium talks must be either 15 minutes or 30 minutes in length, with 3 minutes for discussion. This time limit will be strictly enforced by session organizers to keep sessions in synchrony. Symposia must include a discussion period at the end.

Full-length contributed oral presentations are limited to 15 minutes, which should comprise 12 minutes for presenting and 3 minutes for questions. This time limit will be strictly enforced by session moderators to keep concurrent sessions in synchrony.

Speaker Ready Room:

The Speaker Ready Room is located in the Fyne Room. The room will be open during the following hours:

- Thursday - 11 A.M. - 4:30 P.M.
- Friday-Sunday 8 A.M. - 5 P.M.
- Monday 8 A.M. - Noon

How to Upload Your Talk:

Presentations will NOT be uploaded in the individual session rooms. All talks must be uploaded in advance of the congress or at least one day in advance of when the talk is scheduled in the Speaker Ready Room (Fyne Room).

A technician will be available for assistance in the Speaker Ready Room (Fyne Room).

Presenters who uploaded your talk before the Congress

If you chose to upload your talk via the ftp site prior to the Congress, please check-in at the Speaker Ready Room at least the day before your presentation to confirm that your talk has been received and that it opens correctly. This is especially important for presentations with video/audio clips and for presentations converted from a Mac.

Please see the congress website for more details on how to upload your talk:

www.conbio.org/mini-sites/imcc-2014/registration-participation/presenter-information

Presenters who are uploading talks during the Congress in the Speaker Ready Room (Fyne Room)

All presentations must be uploaded in the Speaker Ready Room one day in advance. No talks will be uploaded in the individual session rooms. Please bring your presentation to the Speaker Ready Room during the hours of operation (see above) saved onto a thumb drive. A technician will be there to assist you, if needed. To ensure that your presentation gets uploaded to the correct session, please save your presentation as instructed below.

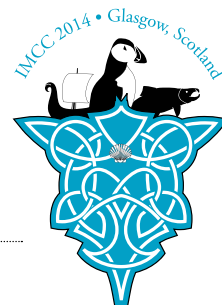
How to Save your Presentation

The conference will be using the standard 4 x 3 format for Microsoft PowerPoint slides. All presentations must be saved in this format. Presentation file names must include the day of your presentation, session ID, room name, and your surname as illustrated in the following examples:

18JUL_C19_Alsh_Jones

15JUL_SY15_Lomond_Smith

Please note: If you are presenting for someone else, please save the file under the name of the first author that is listed in the program and please notify the moderator before the session that you will be making the presentation.



Information for Presenters

SPEED PRESENTATIONS

About: The speed presentation room will be equipped with a computer and a data projector.

Timing:

Presenters will present their work as a four (4) minute speed-talk during the contributed presentation session on Saturday, 16 August. Please note: each speed talk is allotted 5-minutes to allow for transition to the next speaker but speakers will only have 4 minutes to present. A small number of speed sessions include one or two opening 15-minute contributed presentations (15 minutes)

During the speed-talk, present key ideas and results, utilizing the full 4 minutes. There will be no time for discussion during your talk. Time will be set aside during each session for one-on-one discussions with delegates. The 4-minute time limit will be strictly observed.

How to Upload Your Talk: (See instructions for oral presentations)

POSTER PRESENTATIONS

About:

There will be a dedicated poster sessions on Friday, 15 August from 7:30 P.M. to 9:30 P.M. in the Exhibit Hall. Presenting authors are required to remain at their poster during the session.

Set-up:

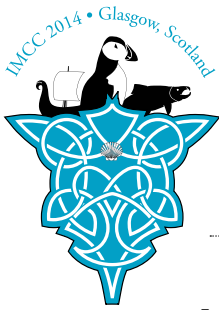
All posters must be put up between 10:30 A.M. and 3:00 P.M. on 15 August and must be taken down by 5:30 P.M. on 17 August. Any posters that remain up after 5:30 P.M. on 17 August will have to be removed and discarded.

Posters are assigned a number that correspond to the appropriate board. Two posters will share one side of the poster board so please obey the size limitations.

How to prepare your poster:

Please note that your poster must be limited to 42 inches (107 cm) wide by 36 inches (91.5 cm) tall (landscape orientation) in order to fit on the poster board.

Drinks (cash bar) will be available during the session.



Moderators

Moderators are responsible for keeping time during oral and speed sessions to ensure synchrony between sessions.

Oral sessions

Oral talks are limited to 15 minutes: 12 minutes for the presentation, and 3 minutes for questions. Moderators will introduce the speaker and will notify the presenter after 10 minutes have elapsed (to let the speaker know there are 2 minutes left for presenting and 3 for questions), and then at 12 minutes (to let the speaker know the question period should begin). The moderator will stand up after 14 minutes have elapsed, giving the speaker 1 minute to wrap up all presentation material or to finish questions.

Symposia

The symposia organizer will act as moderator for their session, according to their symposium schedule.

Speed Talks

Moderators must keep strict time during the presentation portion of the speed talks, to ensure each speaker receives 4 minutes of presentation time. Moderators will introduce the speaker and notify the speaker when 3 minutes has elapsed (1 minute remaining) and then at 4 minutes. The moderator will then introduce the next speaker.

Presentation slots have been scheduled for 5 minutes to allow time to transition to the next speaker. Presenters are not to be given 5 minutes to present. There will be no question period during the presentation portion of a speed session.

After all the speed session presenters have given their talks, there will be time for audience members to speak to them. Speakers should distribute themselves through out the room and are expected to remain in the room until the session ends.



Pre-congress Workshops

Pre-congress Focus Group and Workshops

Pre-congress workshops will take place on Tuesday 12 August and/or Wednesday 13 August. Pre-meeting workshops will be held at the University of Glasgow and the pre-meeting Focus Group will be held at the Marriott Hotel. All workshops required payment and pre-registration.

TUESDAY, AUGUST 12TH

- **The Verdict on Marine Megafauna Tourism is In: Where Do We Go from Here?**
University of Glasgow, St. Andrews Building (Room N101)
WS32: Tuesday, 12 August, Full-day (8:30 - 18:30)
Organizer(s): Dr. C. Scarpaci of Victoria University, Dr. ECM Parsons of George Mason University
-

TUESDAY - WEDNESDAY, AUGUST 12-13TH

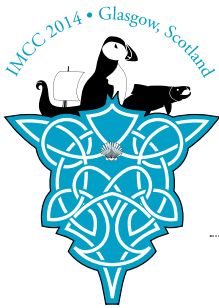
- **Tales from the Sea: Communicating Science and Conservation through Storytelling**
University of Glasgow, St. Andrews Building (Room 338)
WS69: Tuesday-Wednesday, 12-13 August, Full-day (8:30 - 18:30)
Organizer(s): Stephanie Green of Oregon State University, Kirsten Grorud-Colvert of the Partnership for Interdisciplinary Studies of Coastal Oceans, Karen McLeod of COMPASS
-

WEDNESDAY, AUGUST 13TH

- **Using Social Media to Make Your Marine Science Matter**
University of Glasgow, St. Andrews Building (Room N101)
WS2: Wednesday, 13 August, Half-day (8:30 to 12:30)
Organizer(s): IMCC3 Communications Committee with Communications Chair Samantha Oester, Communications Vice Chairs David Shiffman and Karyn Traphagen
 - **Increasing the Effort to Reduce Marine Noise: Turn Down the Volume!**
University of Glasgow, St. Andrews Building (Room 432)
WS37: Wednesday, 13 August, Full-day (8:30 - 16:30)
Organizer(s): Sarah Dolman, Karsten Brensing, and Nicola Hodgins of Whale and Dolphin Conservation, and Michael Jasny of Natural Resources Defense Council
 - **Talking the Talk: Giving Effective and Engaging Presentations**
University of Glasgow, St. Andrews Building (Room N101)
WS4: Wednesday, 13 August, Half-day (13:30 to 17:30)
Organizer(s): IMCC3 Communications Committee with Communications Chair Samantha Oester, Communications Vice Chairs David Shiffman and Karyn Traphagen
 - **Advancing the Global Ocean Refuge System (GLORES)**
By invitation only
University of Glasgow, St. Andrews Building (Room 433)
WS61: Wednesday, 13 August, Full-day (8:30 - 16:30)
Organizer(s): Lance Morgan and Elliott Norse, Marine Conservation Institute
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THURSDAY, AUGUST 14TH

- Focus Group: **Integrating Marine Mammal Conservation: Human Dimensions and the Practitioner (Publication Development)**
Marriott Hotel, Argyll Suite, Thursday, 14 August, Half-day (8:30 - 12:30)
Organizer(s): Leslie Cornick, Alaska Pacific University, E.C.M. Parsons, George Mason University, Naomi Rose, Animal Welfare Institute, Cassandra Cervený, Consortium for Ocean Leadership, Carolina Behe, Inuit Circumpolar Council



Special events by day

THURSDAY, AUGUST 14TH

- **Opening Plenary Session**
13:00 to 17:30, Lomond Auditorium
Welcome to IMCC3!
See full details of this multi-speaker event in the scientific program. For speaker bios, see the following pages.
- **Welcome Reception**
18:00 to 21:00, Glasgow Science Centre
Directly following the Opening Plenary Session on 14 August, delegates will follow a pied bagpiper from the Scottish Exhibition and Conference Centre, across the River Clyde bridge, to the Glasgow Science Centre.
At the Glasgow Science Centre, a Welcome drinks reception will be co-hosted by the City of Glasgow. Canapés will also be served. IMCC3 delegates can network and explore the exhibits throughout the Science Centre.



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FRIDAY, AUGUST 15TH

- **Poster Session**
19:30 to 21:00, Exhibit Hall
A cash bar will be available.

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SATURDAY, AUGUST 16TH

- **Sea Stories:
Tales from the Field**
13:00 to 15:00, Lomond Auditorium
Organized by: *Stephanie Green, Kirsten Grorud-Colvert, Karen McLeod*
Five workshop participants from “Tales from the Sea: Communicating Science and Conservation through Storytelling” will be selected to share their stories, crafted during the pre-conference workshop. This is a special live event on 16 August, and delegates are encouraged to come hear this storytelling session.
- **Documentary and Filmmaking Session:
Featuring BBC Ocean and Clyde Reflections**
19:30 to 21:00, Lomond Auditorium
Organized by: *Samantha Oester*
This special session will feature discussions of conservation and marine documentary making. Panelists including artists, scientists and filmmakers will give tips on sharing environmental stories through film, the documentary-making process and collaborating with filmmakers.



SUNDAY, AUGUST 17TH

- **Members Meeting: SCB Marine Section**
8:00 to 8:30, LOMOND AUDITORIUM
- **COMPASS Message Box Workshop:
Learning to Communicate the “So What” of your Science**
13:00 to 15:00, Lomond Auditorium
Organized by: *Heather Mannix*

To communicate effectively with both peer and non-peer audiences requires that you as scientists master two essential and interrelated skills: 1) knowing your audience, and 2) clearly conveying the “so what” of your science. In this 2-hour workshop led by COMPASS, you will learn how to think about your audience’s needs, and practice pulling relevant messages from your own research. You will learn to use a tool called the Message Box to sharpen your ability to distill your complex knowledge into the key messages that can engage audiences such as journalists, policymakers, or others who are not subject matter experts. Peer-to-peer exercises offer opportunity to practice delivering your message, as well as to give and receive feedback.

- **Diversity Workshop & Forum**
17:30 to 19:30, Carron A Room
Organized by: *Eleanor Sterling and Leslie Cornick*

This workshop will follow up on a comparable event at the North American Conservation Congress in Montana. We will focus specifically on diversity questions, themes, activities, and ways forward in the SCB at large, the Marine Section, and Marine Science and Conservation broadly. The goal will be to develop a list of specific strategies and activities that can be undertaken by the Marine Section Board and its members in order to foster increased diversity in the section and across the discipline. Please contact workshop organizer Leslie Cornick (lcornick@alaskapacific.edu) with questions.

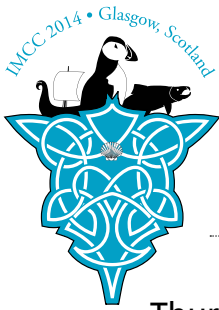
- **No Mermaids Don’t Exist!**
Panel on impact of fake documentaries on public understanding
19:30 to 21:00, Lomond Auditorium
Organized by: *Andrew David Thaler and David Shiffman*

Recently, educational TV channels have aired documentaries claiming that mermaids exist, and that megalodon sharks are still alive. This has had a major and negative impact on public understanding of marine science and conservation. Two ocean scientists on the front lines of science communication will share horror stories from the trenches, as well as communications strategies for ocean scientists and conservationists to confront these misconceptions.

MONDAY, AUGUST 18TH

- **Science in the Clyde:**
Local insight on international issues
13:00 to 15:00, Lomond Auditorium
Organized by: *Natalie Welden*

The Firth of Clyde is a complex and dynamic system subject many anthropogenic pressures. Intensely studied for over a century, it has yielded internationally important insights into many marine issues. In this session, sponsored by the Firth of Clyde Forum, we provide an introduction to the fascinating oceanography, wildlife, and industrial and urban environments of the Clyde. We will be joined by a number of local researchers to explore examples of the varied research being carried out in the Clyde Sea and to discuss the benefits of this research to other systems and studies.
- **Ram Myers Memorial Lecture and Closing Event**
Elliott Norse, *A vision to save the world’s marine species*
17:30 to 19:15, Lomond Auditorium
See page 33 for more details.



Plenary Speakers

Thursday, August 14, 13:15-15:15, Lomond Auditorium
Emily S. Darling • Sam Fanshawe



DR. EMILY S. DARLING

EMILY S. DARLING, PH.D.

An overview of the effects of climate change on coral reefs, the importance of effective conservation planning and global networks of scientists.

Emily S. Darling is a community and conservation ecologist motivated to understand and mitigate the impacts of humans on marine ecosystems. Emily completed her PhD at Simon Fraser University in Vancouver, Canada where she won the Governor General's Gold Medal for distinction in doctoral research. Her current research is working towards a climate adaptation plan for coral reefs in the US Pacific in collaboration with NOAA, the World Wildlife Fund and the Wildlife Conservation Society. She is also interested in how scientists use social media to expand their online connections and collaborations. Find out more about her research on Twitter @emilydarling or her website www.emilydarling.com.

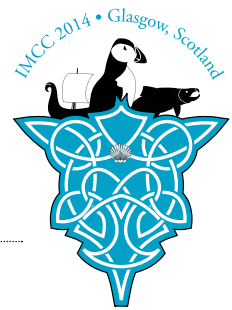


SAM FANSHAWE

SAM FANSHAWE, M.SC.

An overview of citizen science and public engagement in UK marine conservation.

Sam Fanshawe studied marine sciences at the University of California, Santa Cruz, with a focus on community ecology and interactions between sea otters, abalone and commercial fishermen. She joined the Marine Conservation Society, a UK-based charity, in 1994, coordinating the charity's education and public engagement projects, such as Basking Shark Watch, Beachwatch (beach litter surveys) and Seasearch (underwater habitat and species surveys). This role developed into one focused on informing and influencing UK policies for marine wildlife protection and sustainable management, including protection of the basking shark and the Review of Marine Nature Conservation that led to the Marine & Coastal Access Act 2010. Director and Chief Executive since 2005, Sam continues to champion the charity's mission to inspire, inform, involve and influence everyone with a role to play in protecting our seas, shores and marine life. She is getting the hang of Twitter @samfanshawe.



Plenary Speakers

Thursday, 14 August, 15:30-17:30, Lomond Auditorium
Amanda Vincent • Patricia Majluf



DR. AMANDA VINCENT

AMANDA VINCENT, PH.D.

An overview of sustainable use of marine ecosystems and the trade-offs involved with CITES.

Amanda Vincent suffers from aqualust from too little time in the water. She is co-founder and director of Project Seahorse, a marine conservation group that really tries to measure its contributions in outcomes and impacts. She also holds the Canada Research Chair in Marine Conservation in the Fisheries Centre at the University of British Columbia, Canada and is Chair of the IUCN Seahorse, Pipefish and Stickleback Specialist Group. Amanda loves being a Pew Fellow in Marine Conservation, mostly because of the great network of amazing colleagues. Having two young children has greatly reinforced Amanda's commitment to the ocean and its future. You can follow Amanda on Twitter @amandavincen1.

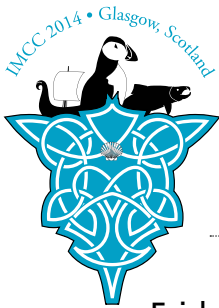


DR. PATRICIA MAJLUF

PATRICIA MAJLUF, PH.D.

An overview of sustainable fisheries and marine conservation in a developing country.

Patricia Majluf is the founder and current director of the Center for Environmental Sustainability of the Cayetano Heredia University in Lima, Peru. Since 1996, she has almost single-handedly led marine conservation efforts in Peru. She has successfully promoted establishment of marine protected areas and development of public awareness of the large-scale ecosystemic and socioeconomic impacts of the industrial anchoveta (*Engraulis ringens*) fisheries. This is part of an ongoing effort to develop the necessary enabling conditions for the implementation of ecosystem-based management for the Humboldt ecosystem. Her most successful initiative led to a nationwide increase in direct consumption of anchovetas, this ecosystem's keystone species, which is massively extracted and until recently was used only to produce fishmeal and oil exported as feed for aquaculture and industrial animal production systems. She briefly served as vice minister of fisheries in early 2012 and brought national attention to the systemic corruption of the sector in Peru. For her work in marine conservation, she has a number of national and international awards. You can follow her on Twitter @panchoveta.



Plenary Speakers

Friday, 15 August, 8:30-10:30, Lomond Auditorium
John Baxter • Heather Koldewey



DR. JOHN BAXTER

JOHN BAXTER, PH.D.

25 years hard labour - And no hope of remission for good behaviour

John Baxter has worked for Scottish Natural Heritage (SNH) for 24 years. He is responsible for the coordination of the SNH marine research, survey and monitoring work, to help inform the ongoing process to identify an ecologically coherent network of MPAs and for the identification of targets and indicators for achieving Good Environmental Status under the Marine Strategy Framework Directive. He is involved in a wide range of major collaborative projects, including the development of the MarLIN (Marine Life Information Network) and MarClim (Marine Climate Change Project). He is on the steering group of the Marine Climate Change Impacts Partnership (MCCIP), for which he is also the chair of the expert review panel and editor of the MCCIP Annual Report Cards. He is the vice-chair of the Ocean Acidification international Reference User Group (OAI-RUG) that draws together a wide range of end users to support the work of leading scientists on ocean acidification from around the world and facilitate the rapid transfer of knowledge, as well as help the effective delivery of quality science and advice to policy makers. He is the Editor in Chief (Marine) for the journal *Aquatic Conservation: Marine and Freshwater Ecosystems*.



DR. HEATHER KOLDEWEY

HEATHER KOLDEWEY, PH.D.

An overview of building hope and innovation in marine conservation.

Heather Koldewey started working for the Zoological Society of London (ZSL) in 1997, initially as a research scientist, then as curator of the ZSL London Zoo Aquarium, and now as Head of Global Conservation Programmes. She is currently involved in marine conservation projects in the Philippines, Mozambique, Cameroon and the UK Overseas Territories, particularly the Chagos archipelago and the Pitcairn Islands. She co-founded Project Seahorse, is a research associate at University College London and the University of Exeter, a board member of the Chagos Conservation Trust and Shark Trust, as well as a representative of ZSL on a number of national and international conservation committees. Her first-hand experience of diverse marine conservation challenges ranges from how to protect pristine ocean wilderness areas, to finding the balance between conservation and development. Focusing on some innovative approaches and partnerships that ZSL has underway, Heather will discuss solutions that she hopes may have broader applicability in marine conservation. She can be followed on Twitter @HeatherKoldewey.



Closing Day Memorial Lecture and Reception

3rd Dr. Ransom A. Myers Memorial Lecture & Closing Remarks

MONDAY, 18 AUGUST,

17:30-19:15, LOMOND AUDITORIUM



Elliott Albert Norse, Ph.D.

Founder and Chief Scientist, Marine Conservation Institute

A VISION TO SAVE THE WORLD'S MARINE SPECIES

Learning to save the diversity of life in a perilous, complex, anthropocentric world has taken Elliott Albert Norse 25 years of academic training in marine biology, ecology, biogeography and oceanography, then 36 years on-the-job learning about psychology, economics, politics and fundraising. He has learned from inspiring people, including Society for Conservation Biology Founder Michael Soulé, marine scientists such as Jane Lubchenco, Les Watling and Callum Roberts, SCB Marine Section President John Cigliano, Marine Conservation Institute President Lance Morgan and his greatly admired and profoundly missed friend RAM. He has seen how natural and social scientists in government, professional societies and advocacy organizations shape marine conservation with new ideas, books, symposia, coalitions, targeted outreach to key audiences and political work behind the scenes. But he also knows that marine life is more imperiled than when he began, that ignorance and short-sightedness are our worst enemies, and that only by working together, far more effectively can we save our living oceans. He is the Founder and Chief Scientist for marine Conservation Institute.

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Closing Party at the Arches

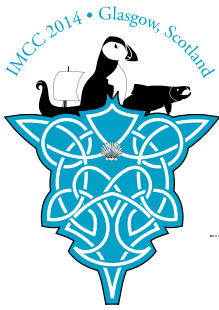
MONDAY, 18 AUGUST

19:30 UNTIL LATE

The IMCC3 organizers decided to forgo the usual, expensive and staid end-of-conference banquets. Instead, we have arranged an enormous party for everyone. The venue is The Arches, a series of Victorian brickwork vaults underneath central station reminiscent of a gothic cathedral undercroft. (It's sort of place where cool (not sparkly) vampires might hang out). This historic, preserved site is one of Glasgow's most famous nightclubs.

The Arches is close to the south entrance of Central train station. From the SECC, it is a 30-minute stroll down the waterfront, then turn left up Oswald Street and then right onto Argyle Street (235 Argyle Street).

The Arches Cafe will be open for those wanting to eat before the party starts (or there are many restaurants nearby). A karaoke competition will start at 9pm, followed by our band at 10pm. The Red Hot Chilli Pipers are one of Scotland's most famous local bagrock bands (classic rock covers on the bagpipes), that sells out concert venues. But for one night, they are playing just for IMCC delegates. Finally there will be a disco until closing.



Student Activities

CONSERVATION CONVERSATIONS: BEYOND BUSINESS CARDS (SPEED-NETWORKING EVENT)

Location: Lomond Auditorium
Date: Friday, 15 August
Time: Lunch break
Capacity: 150 students

Does the thought of interviews make your heart race? If asked why hire you, do you find yourself saying 'um' a lot? Come meet a diverse range of conservation professionals in a fast-paced environment while learning how to perfect your pitch, learning about the dos and don'ts of networking and ensuring a professional personal brand. This is a brown bag event, so students are encouraged to bring their own lunches. Lunches are available for purchase at McColl's (grab-n-go shop), Cafe Ritazza and Harry Ramsden's.

STUDENT LUNCHEON WITH THE PLENARY SPEAKERS

Location: Campanile, 10 Tunnel St, Glasgow (approx. 5-10 minute walk)
Date: Saturday, 16 August 2014
Time: Lunch break
Capacity: 45 Students

This lunch event honors our plenary speakers and offers students a chance to meet the speakers on a more personal level and learn more about their life contributions to the marine community in an informal setting. A buffet of heavy hors d'oeuvres and non-alcoholic beverages will be provided. Pre-registration for this event is required.

WANT TO SAVE THE WORLD? HERE'S HOW: SKILL SETS ALL MARINE CONSERVATIONISTS SHOULD HAVE

Location: Boisdale Room
Date: Sunday, 17 August 2014
Time: Lunch break
Capacity: 200 students

If you want to pursue a career in marine conservation then this is the event you want to join! Come along and meet our speakers, learn what skills you need to have and find out about how to become more engaged in conservation. Marine conservation is an interdisciplinary science, join us and discover the many career paths that can be taken to become a successful marine conservationist. This is a brown bag event, so students are encouraged to bring their own lunches. Lunches are available for purchase at McColl's (grab-n-go shop), Cafe Ritazza and Harry Ramsden's.

FEELIN' DRUTH? THEN GEE URSELF A BEVVY!

Location: The Grosvenor, 24 Ashton Ln, Glasgow G12 8SJ (approx. 30 min walk)
Date: Sunday, 17 August 2014
Time: 8p.m. to close
Capacity: 300 delegates
Cost: Student tickets are \$25 (£18*), Non-student tickets are \$42 (£24*). All are welcome!

Welcome to the twinkling lights and cobbled street of Ashton Lane! Get ready to party all night at the Grosvenor cafe, where drinks will be flowing for student friendly prices! You're sure to have an amazing time meeting new friends and enjoying everything the Scottish Nightlife can offer! The first 200 people to purchase their ticket will get to indulge in our delicious buffet line (served from 8p.m.-10p.m.), and all will be able to enjoy special drink promotional prices. **Funds raised from ticket sales will go to support future student travel grants.**



In Memorium: Rachel Morrison

SCRIPPS GRADUATE STUDENT; PASSIONATE ABOUT THE SEA



Rachel Morrison, a Ph.D. student at the Scripps Institute of Oceanography at UC San Diego, was scheduled to deliver the following presentation at IMCC3: *Dynamic indicators of coral reef community health in the Cook Islands reflect disturbance histories and suggest future reef trajectories*. The IMCC3 Organizing Committee was incredibly sad to hear of Rachel's passing. The following is printed with permission from the Scripps memorial page for her.

Rachel Anne Morrison, a fourth-year Ph.D. student in marine biology at Scripps Institution of Oceanography, UC San Diego, suffered fatal injuries after being struck by a car on March 28 in Del Mar, Calif.

Rachel was an emerging star with a passion for being at sea and applying her research to the future health of the ocean. Her research focused on questions of resilience of marine ecosystems, and specifically the capacity of ecosystem recovery following major disturbances. Rachel's thirst for being at sea was evidenced by her participation in research cruises to Brazil, the Cook Islands, the Republic of Kiribati, as well as a number of other ship-based expeditions.

Rachel's passing is a tremendous loss to Scripps Oceanography and the entire UC San Diego community. Her current and former Scripps Oceanography advisors Stuart Sandin, Octavio Aburto-Oropeza, and Phil Hastings described her as a bright, energetic, and driven individual. Sandin fondly recalled Rachel's never-ending compulsion to succeed and her unique view of obstacles as opportunities to find creative solutions. Aburto-Oropeza began working with her a short time ago and described their interactions as one of the most dynamic collaborations in his life and highlighted her passion for communicating science to broad audiences.

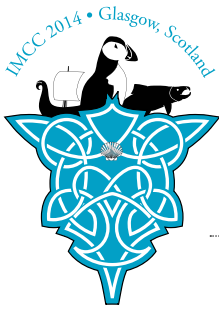
Her friends and colleagues at Scripps have described her touchingly:

"Rachel was a beautiful person, inside and out. She was dedicated to her work in ocean conservation and exploration. She enjoyed simply being out on the water. She was a brilliant, giving, and selfless person that always had a smile on her face. Rachel was an explorer at heart, sailing across the Pacific and collecting valuable data as she went. Among her many talents, she was an amazing communicator and editor. We will always keep her in our hearts and miss her dearly."

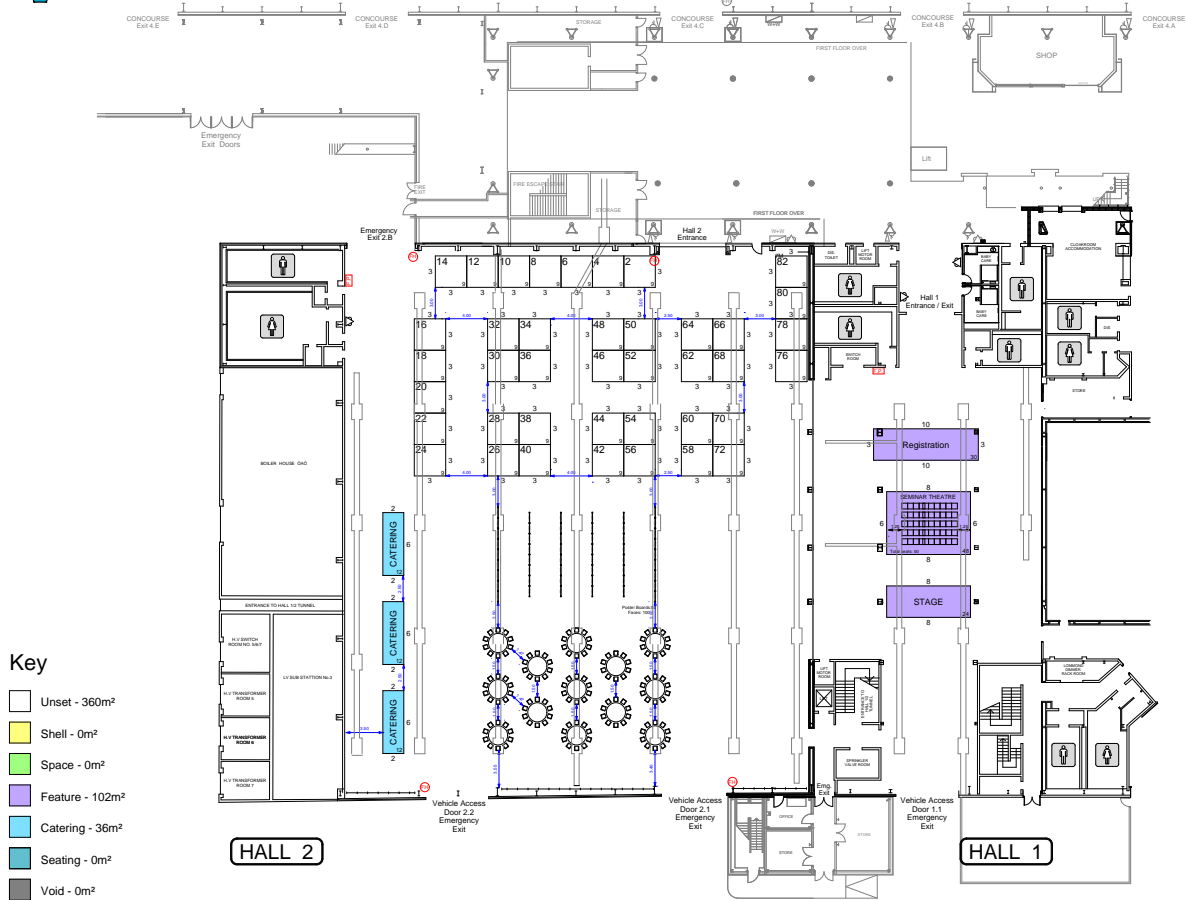
- Lindsay Bonito, Kate Furby, Maggie Johnson, Jill Harris, Levi Lewis, Mike Fox, Susan Kram, Cara Simonsen

A fund to support graduate students at Scripps has been established in her memory. Due to the generosity of many supporters to this fund, we are pleased to report that it is now endowed and will generate funds for Scripps students in perpetuity. For information on the UC San Diego Foundation's Endowment Investment Policy and guidelines, please go to <http://foundation.ucsd.edu> and locate How Endowment Works under the Financial Information tab. If you have additional questions, please contact UC San Diego Foundation Accounting at 858-534-1038.

To post a remembrance of Rachel, send your tribute to: <https://scripps.ucsd.edu/education/remembering-rachel>.



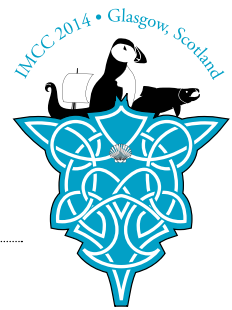
Exhibitors



BOOTH # ALPHABETICAL LISTING OF EXHIBITORS

44	British Ecological Society
48	Cambridge University Press
46	Coral Watch
40	Field Studies Council
56	Glover's Reef Research Station, Wildlife Conservation Society
26	LenFest Ocean Program
34	MASTS
38	Marine Management Organisation
28	Oxford University Press
36	Plymouth University
52	Royal Society
30	The Scottish Association for Marine Science
42	Seppo.Net
58	University of the Highlands and Islands
54	University of Portsmouth
50	Whalefish
32	Wiley

*All exhibits are located in Main Exhibit Hall



Exhibitors

Exhibitors

Main Exhibit Hall

Exhibitor Move-In

Thurs. August 14 @ 2pm-5pm

Exhibitor Move-Out

Sun. August 17 @ 5:30-9pm

EXHIBIT HOURS

Room: Main Exhibit Hall

Fri. August 15 @ 9:45am - 9pm

Sat. August 16 @ 9:45am - 5:30pm

Sun. August 17 @ 9:45am - 5:30pm

Booth Numbers and Exhibitor Descriptions

44. BRITISH ECOLOGICAL SOCIETY

The British Ecological Society is a scientific society for those interested in ecology. Our vision is: advancing ecology and making it count. We will achieve this through:

- Developing ecological science and scientists
- Improving the quality of education and capacity building
- Promoting the use of ecological science
- Building collaborative partnerships
- Ensuring financial sustainability
- Improving efficacy

www.britishecologicalsociety.org

48. CAMBRIDGE UNIVERSITY PRESS

Cambridge University Press is a not-for-profit organization that advances learning, knowledge and research worldwide. It is an integral part of the University of Cambridge and for centuries has extended its research and teaching activities through a remarkable range of academic and educational books and journals. Visit our stand for 20% off all titles on display.

www.cambridge.org/lifesciences

46. CORAL WATCH

CoralWatch is a citizen science program that integrates volunteer monitoring of coral bleaching with education about marine conservation. Our 'Do it Yourself' Monitoring Kits are available in 10 languages. Our products include the book 'Coral Reefs and Climate Change: the guide for educator and awareness', education DVDs, and education packages.

www.coralwatch.org

40. FIELD STUDIES COUNCIL

Field Studies Council (FSC) is an education charity with two Scottish locations; Kindrogan, Perthshire and Millport, Isle of Cumbrae. FSC Millport, formally the marine research station run by University of London has a number of teaching and research facilities include an electron microscope and research vessel. FSC offers fieldwork for schools and universities and professional training including marine-specific courses at Millport.

www.field-studies-council.org/

56. GLOVER'S REEF RESEARCH STATION, WILDLIFE CONSERVATION SOCIETY

Glover's Reef Research Station, located on the Belize Barrier Reef, is an ideal location for marine research and education. Owned by the Wildlife Conservation Society, the station provides a platform for scientists and students to conduct cutting-edge research at one of the Caribbean's most complex and important coral reef systems.

www.wcs.org/marine

26. LENFEST OCEAN PROGRAM

The Lenfest Ocean Program is a grantmaking program that funds scientific research on policy-relevant topics concerning the world's oceans and communicates the results of the supported research to decision makers and other interested audiences.

www.lenfestocean.org

34.. MASTS

The Marine Alliance for Science and Technology for Scotland (MASTS) is a strong strategic collaboration representing Scotland's marine research capacity. Its three Research Themes cover regions from the coasts to the deep oceans and subjects ranging from the effects of global climate change to marine energy, fisheries and aquaculture.

www.masts.ac.uk

38. MARINE MANAGEMENT ORGANISATION

The Marine Management Organisation (MMO) is a non-departmental public body which licenses, regulates and plans marine activities in the seas around England and Wales to ensure so that they're carried out in a sustainable way.

www.marinemmanagement.org.uk

28. OXFORD UNIVERSITY PRESS

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide.

www.oup.org

36. PLYMOUTH UNIVERSITY

We represent a large pool of world-leading experts whose breadth of marine knowledge and expertise is second-to-none in the UK, enabling us to understand relationships between human activities and our surrounding seas. We develop, work and collaborate with businesses and research communities globally to provide sustainable and practical solutions.

www.plymouth.ac.uk/marine

52. ROYAL SOCIETY

The Royal Society publishes 10 scientific journals; 4 of which cover the biological sciences. Biology Letters and Proceedings B publish research articles, Philosophical Transactions B publishes themed issues and Open Biology is an online open access journal covering biology at a molecular/cellular level. Royal Society Open Science, a new online open journal will also be of interest.'

www.royalsocietypublishing.org



Exhibitors

30. THE SCOTTISH ASSOCIATION FOR MARINE SCIENCE

Sea things differently with the Scottish Association for Marine Science (SAMS); a leading international research institute, University campus (UHI and UN-University) and environmental consultancy. Visit our Stand to see how exciting and rewarding marine science can be, and how our research is making a difference around the world.

www.sams.ac.uk

42. SEPPONET

- Humorous cartoons to help you popularize nature conservation and science.
- Illustrations for books, posters and campaigns.
- Pictures of small and large creatures and various phenomena in nature and politics.
- Get a free cartoon of your favourite animal drawn for you at our booth!

www.seppo.net/e/

32. UNIVERSITY OF THE HIGHLANDS AND ISLANDS

The University of the Highlands and Islands is a partnership of 13 independent colleges and research institutions, and is the only university based in the Highlands and Islands of Scotland. Our research interests reflect the natural and social laboratory in which we live and work, and includes research into climate change, marine science, and renewable energy. We have a particular interest in Marine Energy and the Environment through the MERIKA programme - Marine Energy Research Innovation and Knowledge Accelerator

www.uhi.ac.uk/en

54. UNIVERSITY OF PORTSMOUTH

Sea things differently with the Scottish Association for Marine Science (SAMS); a leading international research institute, University campus (UHI and UN-University) and environmental consultancy. Visit our Stand to see how exciting and rewarding marine science can be, and how our research is making a difference around the world.

www.port.ac.uk

50. WHALEFISH

Whalefish is a non-profit international organization launched in 2014. Whalefish's task is to improve marine conservation awareness by transmitting the research of scientists and collaborators from the field to the public. Whalefish also provides a platform to network for conservation projects, volunteer and job opportunities within the scientific community.

www.whalefish.org

32. WILEY

Wiley is the world's leading publisher of Ecology, Conservation and Evolution journals and books, including five of the top journals in the ISI Biodiversity Conservation category. Conservation Biology, the most influential and frequently cited journal in its field, has been a collaboration between the Society for Conservation Biology and Wiley since its inception in 1987.

<http://onlinelibrary.wiley.com/subject/ecology>

www.wiley.com





3RD

Society for Conservation Biology Marine Section
International Marine Conservation Congress

Congress Schedule

Full Schedule



FRI



SAT



SUN



MON



Morning



Late Morning



Lunch



Afternoon



Early Evening



Poster
Session



Evening
Events





Mission Biodiversity: Choosing new paths for conservation

27TH INTERNATIONAL CONGRESS FOR CONSERVATION BIOLOGY 4TH EUROPEAN CONGRESS FOR CONSERVATION BIOLOGY MONTPELLIER, FRANCE • AUGUST 2-6, 2015

Pre-congress workshops, short courses, and focus groups August 1 & 2

The **International Congress for Conservation Biology (ICCB)** and the **European Congress for Conservation Biology (ECCB)** will bring together our international community of conservation professionals to address conservation challenges and present new findings, initiatives, methods, tools and opportunities in conservation science and practice.

Scientists, students, managers, decision-makers, writers, and other conservation professionals are invited to participate in this event.

Montpellier is located in the south of France between the Mediterranean Sea and several national parks and is a hotspot of European biodiversity.

Visit **iccb-eccb2015.org** for submission deadlines, pre-congress sessions, field trips, travel information, and more.

The Society for Conservation Biology is proud to team up with Acropolis International and the French Foundation for Research on Biodiversity to host ICCB/ECCB 2015.

Early bird registration opens on 1 December 2014.

-  iccb-eccb2015.org
-  contact@iccb-eccb2015.org
-  [Society4ConBio](https://www.facebook.com/Society4ConBio)
-  [@Society4ConBio](https://twitter.com/Society4ConBio)



Society for Conservation Biology

*Photo credits (clockwise, from top):
Vally de Campan, Hautes-Pyrenées,
France, with the summit of the Pic
du Mal de Biquet in the distance
(Sébastien Carrière-Joué); Arc
de Triomphe in Deyan Garden,
Montpellier; Flamingos in the
Camargue, western Europe's largest river
delta; Watermark: Country house and
countryside near Montpellier in France.*

Opening Plenary Session and Welcome Reception

Thursday, 14 August, Events begin at 1:00 P.M.

Scottish Exhibition and Conference Centre/Glasgow Science Centre

PLENARY SESSION: 1:00 - 5:30 P.M. Lomond Auditorium, Scottish Exhibition and Conference Centre

1:00-1:15 P.M. Welcome

Welcome to IMCC3: Marine conservation, global networks, public engagement and sustainability

1:15-3:15 P.M. Plenaries 1 & 2

Emily S. Darling, Ph.D., *David H. Smith Conservation Research Fellow, University of North Carolina, Chapel Hill, USA*

Effects of climate change on coral reefs, the importance of effective conservation planning, and global networks of scientists.

Sam Fanshawe, M.Sc. *Chief Executive, Marine Conservation Society, UK*
Citizen science and public engagement in UK marine conservation.

3:15 - 3:30 P.M. Break

3:30-5:30 P.M. Plenaries 3 & 4

Amanda Vincent, Ph.D., *Director, Project Seahorse and Canada Research Chair in Marine Conservation, University of British Columbia, Canada*

Sustainable use of marine ecosystems and the trade-offs involved with CITES.

Patricia Majluf, Ph.D. *Director, Center for Environmental Sustainability, Cayetano Heredia University, Lima, Peru*

Sustainable fisheries and marine conservation in a developing country.

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WELCOME RECEPTION: 6:00-9:00 P.M., GLASGOW SCIENCE CENTRE

Directly following the Opening Plenary Session on 14 August, delegates will follow a piper from the Scottish Exhibition and Conference Centre, across the River Clyde bridge, to the Glasgow Science Centre.

At the Glasgow Science Centre, a Welcome drinks reception will be co-hosted by the City of Glasgow. Canapés will also be served. IMCC3 delegates can network and explore the exhibits throughout the Science Centre.





Morning session: 8:30 A.M. to 10:30 A.M., Lomond Auditorium

PLENARY SESSION

8:30-10:30

Lomond Auditorium

Kick-off to the IMCC3 Main Scientific Program: *Marine conservation and innovation in the U.K.***John Baxter, Ph.D.**, *Principal Adviser, Coastal and Marine Ecosystems, Scottish Natural Heritage*

25 years hard labour - And no hope of remission for good behaviour

Heather Koldewey, Ph.D., *Head of Global Conservation Programmes, Zoological Society of London*

Building hope and innovation in marine conservation

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**COFFEE BREAK**

10:30 to 11:00



Late morning session: 11:00 A.M. to 1:00 P.M.

SY82. SYMPOSIUM:**IMPACTS OF SHIP NOISE ON MARINE LIFE: RESEARCH AND OUTREACH ON THE PACIFIC NORTHWEST COAST****LOMOND AUDITORIUM**

Friday, 15 August, 11:00 to 13:00

ORGANIZER(S):**Sarika Cullis-Suzuki**, *University of York, UK*

The effects of acute anthropogenic noise on cetaceans have long been an established concern. More recently, effects on other marine life have been explored, revealing startling results: physiological changes in fish, massive acoustic trauma in cephalopods, internal bruising in crustaceans, deformities in bivalves. However, of perhaps greater consequence to marine organisms is low frequency noise which travels greater distances and is mostly associated with shipping. Ship traffic contributes to more than 80% of global freight transport and spans the entire global ocean. Thus, low frequency anthropogenic noise has become a chronic, globally widespread presence. It is also on the rise: over the last half century, low frequency noise in the ocean has increased by at least 20dB. We discuss current research in the Pacific Northwest on implications of ship noise on killer whales, deep-sea fish, and intertidal species, and explore spatial and temporal mapping of ship traffic. We also discuss the potential of large, underwater cabled observatories, such as Ocean Networks Canada's NEPTUNE, as tools for increasing scientific and public understanding of marine noise, aiding in outreach.

11:00 Key issues in spatiotemporal data and analysis of vessel movement patterns as an indicator of marine noise**Canessa, R**, *University of Victoria*; **O'Hara, PD**, *Environment Canada*; **Serra-Sogas, N**, *University of Victoria*; **Pelot, R**, *Dalhousie University***11:15 Engaging diverse audiences to advance management solutions for underwater noise****Blight, LK**, *Procellaria Research & Consulting*; **Wright, AJ**, *Department of Environmental Science and Policy, George Mason University*; **Nowlan, L**, *WWF-Canada***11:30 Rapid recovery following noise exposure?****Bruintjes, R**, *School of Biological Sciences, University of Bristol, Bristol, United Kingdom*, **PJ**, *School of Biological Sciences, University of Bristol, Bristol*, **Radford, AR**, *School of Biological Sciences, University of Bristol, Bristol*; **Simpson, SD**, *Biosciences, College of Life and Environmental Sciences, University of Exeter***11:45 Noise exposure from shipping in the Strait of Georgia.****Merchant, ND**, *Syracuse University*, **Dakin, DT**, *Ocean Networks Canada*, **Dorocicz, J**, *Ocean Networks Canada*, **O'Hara, PD**, *Environment Canada*, **Dewey, RK**, *Ocean Networks Canada***12:00 The effect of ship noise on the behaviour and physiology of *Carcinus maenad*.****Wale, M**, *Edinburgh Napier University*; **Radford, A**, *University of Bristol***12:15 Chronic ocean noise and critical whale habitats: mitigation through marine spatial planning or allowable harm limits to target populations****Williams, R**, *Oceans Initiative*; **Thomas, L**, *University of St. Andrews*; **Ashe, E**, *Oceans Initiative*; **Clark, CW**, *Cornell University*; **Erbe, C**, *Curtin University*; **Hammond, PS**, *University of St. Andrews*

SY46. SYMPOSIUM:

ENDING OVERFISHING IN THE NORTHEAST ATLANTIC: SCIENCE AND FISHERIES MANAGEMENT UNDER THE NEW CFP

ALSH ROOM

Friday, 15 August, 11:00 to 13:00

ORGANIZER(S):

Kathryn Matthews and Markus Knigge, *Pew Charitable Trust*

Northeast Atlantic fisheries have been heavily exploited for over a century. Although early results indicate some recovery under more conservative management, many remain depleted, and overfishing continues when Total Allowable Catches (TACs) are set in excess of the scientific advice. The EU's new Common Fisheries Policy (CFP) now commits to end overfishing by 2015 where possible and 2020 at the latest, and to rebuild stocks to Bmsy (but without a target date). The CFP also requires the setting of actual catch limits, as opposed to landing limits that resulted in large at-sea discards. To date, however, most of these efforts to end overfishing in the region exist only on paper. What remains to be done to implement these mandates and rebuild all stocks to sustainable levels? The panel will address key scientific and management issues for CFP implementation, including: (1) How can sufficiently precautionary TACs be set while also accounting for ecosystem needs, particularly with the data-poor stocks, shifting baselines, and mixed fisheries prevalent in this area? (2) What are the ramifications of transitioning from landing to catch quotas? (3) How should stocks without TACs be managed? (4) How can the scientific community best engage with the CFP management process? This discussion will provide crucial insight into how to implement a large-scale agreement at a variety of levels, particularly in the Northeast Atlantic.

11:00 A reformed Common Fisheries Policy - a new role for science?

O'Brien, CM, *Cefas*

11:15 Operationalising the new CFP: Multispecies Assessment and Management

Schmidt JO, *Kiel Marine Science*; **Voss, R**, *Kiel Marine Science*; **Quaas, MF**, *Kiel Marine Science*

11:30 Ending overfishing and the implementation of the EU discard ban - a view from civil society

Absil, MCP, *Northsea Foundation*

11:45 How to implement the landing obligation in pelagic fisheries

Pastors, M, *Imares/PFA*

12:00 Forage fish and their management in the North Sea with the example of a data-poor species, the anchovy

Raab, K, *Wageningen University, Aquaculture and Fisheries Group, The Netherlands*



Marine Planning Partnership for the North Pacific Coast

- A co-led partnership between the Province of British Columbia (Canada) and 18 First Nations
- Planning for ocean health and marine uses
- Applies ecosystem-based management
- Informed by scientific, traditional and local knowledge
- Input and advice from stakeholders, scientists and the general public
- Fosters sustainable development and marine stewardship

Learn more at www.mappocean.org



The MaPP initiative is made possible with funding from the Gordon and Betty Moore Foundation, administered by Tides Canada Initiatives Society.



C9. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

BOISDALE ROOM

Friday, 15 August, 11:00 to 13:00

11:00 Recruitment variability and the marine protected area effect: Considering multiple life stages in the evaluation of protected areas

Caselle, JE, *University of California, Santa Barbara*; Grorud-Colvert, K, *Oregon State University*; White, JW, *University of North Carolina, Wilmington*

11:15 Reconstructing coral communities through time to inform effective management strategies for the inshore Great Barrier Reef

Markham, HL, *University of Queensland*; Roff, G, *University of Queensland*; Zhao, J, *University of Queensland*; Pandolfi, JM, *University of Queensland*

11:30 Assessing ecological correlates of marine bird declines to inform conservation

Vilchis, LI, *Scripps Institution of Oceanography, University of California San Diego*; Gaydos, JK, *Wildlife Health Center, School of Veterinary Medicine, University of California Davis*; Johnson, CK, *Wildlife Health Center, School of Veterinary Medicine, University of California Davis*; Pearson, SF, *Wildlife Research Division, Washington Department of Fish and Wildlife*; Evenson, JR, *Wildlife Research Division, Washington Department of Fish and Wildlife*; Davidson, P, *Bird Studies Canada, Pacific Wildlife Research Centre*; Barry, KL, *Bird Studies Canada, Pacific Wildlife Research Centre*; Raphael, MG, *USDA Forest Service, Pacific Northwest Research Station*;

11:45 An ecosystem-based approach for the Mediterranean Sea in support of the EU Biodiversity Strategy and the Marine Strategy Framework Directive

Piroddi, C, *European Commission, Joint Research Centre*

12:00 Human impact and natural variability regulate predatory fish biomass in coral reefs

Valdivia, A, *University of North Carolina at Chapel Hill*; Cox, C, *University of North Carolina at Chapel Hill*; Bruno, J, *University of North Carolina at Chapel Hill*

12:15 Metapopulation modelling for the management of marine invasions: a case study with Indo-Pacific lionfish (*Pterois volitans*) on Caribbean coral reefs

Tamburello, N, *Simon Fraser University*; Côté, IM, *Simon Fraser University*

12:30 Landscape effects in the intertidal around the coastline of Great Britain

Johnson, MP, *NUI Galway*; Blight, AJ, *University of St Andrews*

SY35. SYMPOSIUM:

BUILDING AN EVIDENCE BASE FOR MARINE CONSERVATION: EVALUATING THE ECOLOGICAL AND SOCIAL IMPACTS OF MPAS

CARRON A ROOM

Friday, 15 August, 11:00 to 13:00

ORGANIZER(S):

Bob Pressey and Georgina Gurney, *ARC Centre of Excellence for Coral Reef Studies*

Marine protected areas (MPAs) are expanding rapidly, partly motivated by high-level policy commitments. Many important decisions are made each year about the location, configuration and management of MPAs. These decisions will strongly influence the future of marine biodiversity, ecosystem services, and related livelihoods. However, established and proposed MPAs are seldom evaluated for their impact. Evaluation of MPA impact involves comparing changes in social or ecological characteristics attributable to MPAs with changes expected in the counterfactual situation without MPAs. Evaluating impact is critical for building a strong evidence base for the design and management of MPAs, and includes predicting the impact of future potential management. Impact evaluation is also central to developing meaningful targets and measures of progress for marine conservation, extending policy beyond simplistic measures of success related to the extent of MPAs or representation of marine regions. The symposium brings together state-of-the-art approaches to evaluating the social and ecological impacts of MPAs using case studies from Oceania, Indonesia, the Philippines and globally. We will explore ways in which impact evaluation can inform policy.

11:00 Estimating impact of MPAs and MPA networks: why and how

Pressey, RL, *James Cook University*

11:15 Methods in retrospective impact evaluation of marine protected areas: a review

Gurney, G, *ARC Centre of Excellence for Coral Reef Studies, James Cook University*; Pressey, R, *ARC Centre of Excellence for Coral Reef Studies, James Cook University*

11:30 Locally-managed marine areas in the tropical Pacific: Diverse strategies to achieve multiple objectives

Jupiter, SD, *Wildlife Conservation Society, Fiji Country Program*; Cohen, PJ, *WorldFish, Honiara, Solomon Islands*; Weeks, RW, *ARC Centre of Excellence for Coral Reef Studies, James Cook University*; Tawake, A, *University of the South Pacific*; Govan, H, *LMMA network*

11:45 Power and potential of using quasi-experimental design methods to evaluate ecological Impacts of MPAs

Ahmadia, GN, *World Wildlife Fund US*; Fox, H, *World Wildlife Fund US*; Glew, L, *World Wildlife Fund US*; Hidayat, N, *Conservation International ID*; Mangubhai, S, *Wildlife Conservation Society*; Pada, D, *Conservation International ID*; Purwanto, *The Nature Conservancy*;



12:00 Marine protected areas and poverty alleviation: insights from Papua, Indonesia.

Glew, L., *World Wildlife Fund US*; **Mascia, MB**, *World Wildlife Fund US*; **Pakiding, F**, *Universitas Negeri Papua*; **Toru Toja, Y**, *Universitas Negeri Papua*; **Allo, A**, *Universitas Negeri Papua*

12:15 Impact of a global sample of MPAs on biomass of harvested reef fish

Kininmonth, SJ, *Stockholm University*; **Edgar, G**, *University of Tasmania*; **Stuart-Smith, R**, *University of Tasmania*; **Willis, T**, *University of Portsmouth*; **Thomson, R**, *University of Tasmania*; **Becerro, M**, *University of La Laguna*

12:30 Predicting future impacts of MPAs with simulation models

Melbourne-Thomas, J, *Australian Antarctic Division and Antarctic Climate & Ecosystems Cooperative Research Centre*; **Gurney, GG**, *ARC Centre of Excellence for Coral Reef Studies, James Cook University*

SY19. SYMPOSIUM:

NOVEL SOLUTIONS TO CONSERVATION DATA GAPS USING HISTORICAL ECOLOGY

CARRON B ROOM

Friday, 15 August, 11:00 to 13:00

ORGANIZER(S):

R.H. Thurstan, *University of Queensland*; **L. McClenachan**, *Colby College*; **J.N. Kittinger**, *Stanford University*; **J. Drew**, *Columbia University*; **J.M. Pandolfi**, *University of Queensland*

Many marine environments suffer from a lack of high quality, long-term data. Marine historical ecologists often use innovative approaches to generate data from periods in time where few other data exist, thus these approaches have the potential to fill conservation data gaps in novel and creative ways. Examples of novel approaches include analysis of photographs documenting changes in the size and composition of recreational fish catches in periods where landings data were absent and seafood menus that were used to infer changes during a transitional period in resource availability. This symposium will highlight examples of creative solutions that have helped to fill gaps in the historical record and inform management efforts. It will provide an opportunity for presenters to demonstrate how alternative data sources can contribute to our knowledge of past environments as well as their direct applicability to management and policy. Our focus on novel historical research will focus explicitly on opportunities these perspectives offer for more effective management, and therefore contribute to the Congress theme, Making Marine Science Matter. The symposium will be combined with a focus group on how historical ecology can inform management, conservation and policy. These will promote the importance of historical data from two critical perspectives: the value of historic reference points when assessing contemporary trends and the potential for practical application of this knowledge.

**A focus group follows this symposium: Managing human legacies in a changing sea: Integrating historical ecology into marine conservation and management (Carron B Room:1:00-3:00 P.M.)

11:00 Using novel historical data to assess long-term drivers of marine ecosystem change

Kittinger, John N., *Center for Ocean Solutions, Stanford University & Conservation International's Hawai'i Fish Trust*; **Van Houtan, Kyle S.**, *NOAA Fisheries, Pacific Islands Fisheries Science Center & Nicholas School of the Environment and Earth Sciences, Duke University*; **McClenachan, Loren**, *Environmental Studies Program, Colby College*

11:15 Using 'no-analogue' communities to inform management of degraded reef ecosystems

Pandolfi, JM, *The University of Queensland*

11:30 Using Popular Media to Plug Critical Knowledge Gaps in Australia's pre-Industrial Fisheries

Thurstan, RH, *The University of Queensland*; **Campbell, AB**, *Department of Agriculture, Fisheries and Forestry*; **Pandolfi, JM**, *The University of Queensland*

11:45 Using estimates of historic ecosystem service provision to guide habitat restoration efforts.

zu Ermgassen, P.S.E, *University of Cambridge/ The Nature Conservancy*; **Spalding, M.D.**, *The Nature Conservancy, Global Marine Team*; **Brumbaugh, R.D.**, *The Nature Conservancy, Global Marine Team*

12:00 Integrating multiple data sources to infer transitions in fisheries and marine ecosystems

Roberts, C., *Environment Dept, University of York*; **Williams, E.**, *Environment Dept, University of York*; **Hawkins, J**, *Environment Dept, University of York*; **Engelhardt, G.**, *CEFAS, Lowestoft*; **Simpson, S.**, *University of Exeter*; **Stewart, B.**, *Environment Dept, University of York*; **Stevens, R.**, *Environment Dept, University of York*; **Thurstan, RH**, *The University of Queensland*;

12:15 Exploring social-ecological co-evolution in Baltic Sea fisheries

Hentati-Sundberg, J, *Stockholm Resilience Centre, Stockholm University*

12:45 Dining through the food chain: using historic New York City menus to explore local fishery trends

Hall, Carolyn, *consultant*; **Camhi, Merry**, *Wildlife Conservation Society*; **LaBelle, Jake**, *Wildlife Conservation Society*



SY38. SYMPOSIUM:

UNDERSTANDING AUDIENCES: HOW RESEARCH INTO PUBLIC PERCEPTIONS OF THE SEA CAN SUPPORT MARINE CONSERVATION

DOCHART A ROOM

Friday, 15 August, 11:00 to 13:00

ORGANIZER(S):

Rebecca Jefferson, *RSPB Centre for Conservation Science*; **Emma McKinley**, *University of Chichester*

Engaging society with the marine environment is of increasing importance to marine conservation challenges. The public is often considered to be a single, homogeneous audience; however, research reveals a diversity of values, knowledge and attitudes. Understanding these perceptions enables agencies to develop appropriate engagement approaches with greater resonance with target audiences. The aim of this symposium is to bring together seven speakers who work in a range of fields around public perceptions research. The presenters will highlight their experiences and encourage dialogue around the value of understanding the audience to achieving marine conservation outcomes. The symposium is informed by a global review of marine public perceptions research which highlights a need for more focused research efforts, increased connectivity between researchers, and the application of findings into practice. This event supports these needs by connecting researchers and practitioners, developing research priorities and identifying opportunities to ensure marine conservation benefits. Key questions will be discussed during the focus group to identify further opportunities to support these developments.

*A focus group follows this symposium: How can research into public perceptions of the sea support marine conservation (Dochart A Room: 1:00-3:00 P.M.)

11:00 Understanding audiences: how public perceptions research can support marine citizenship

McKinley, E., *University of Chichester*; **Jefferson, R.**, *RSPB*

11:15 A global review of public perceptions research: what has been done and where are the gaps?

Jefferson, R.L., *RSPB Centre for Conservation Science*; **Fletcher, S.**, *Plymouth University*; **Griffin, H.**, *University College London*; **McKinley, E.**, *University of Chichester*

11:30 Public understanding of ocean acidification and implications for communication

Capstick, S., *Cardiff University*

11:45 Not for granted. What do people think about the oceans?

Milanese, M., *Studio Associato Gaia snc - Italy*; **Bugli, F.**, *National Research Council CNR - Italy*; **Ferrero, T.**, *Hampshire & Isle of Wight Wildlife trust - UK*; **Khanaychenko, A.**, *Institute of Biology of the Southern Seas - Ukraine*; **Korotkova, A.**, *Sevastopol Marine Aquarium - Ukraine*; **Rocchi, G.**, *Institution of Maritime Museums - Italy*; **Urban-Malinga, B.**, *Sea Fishery Institute - Poland*; **SarÁ, A.**, *Studio Associato Gaia snc - Italy*

12:00 Undersea environments - Public perceptions of subtidal English seas

Mitchell, K., *Natural England*

12:15 Communicating around marine biodiversity - insights and lessons from a sustainability perspective

Ed Gillespie, *Futerra*

SY51. SYMPOSIUM:

END-TO-END MARINE CONSERVATION: CASE STUDIES IN SUCCESSFULLY TRANSLATING SCIENCE INTO MANAGEMENT ACTION THROUGH COMMUNICATION AND OUTREACH

DOCHART B ROOM

Friday, 15 August, 11:00 to 13:00

ORGANIZER(S):

Christy Pattengill-Semmens, *Reef Environmental Education Foundation*; **Brice Semmens**, *Scripps Institution of Oceanography*; **Scott Heppell**, *Oregon State University*

Marine science in support of conservation goals and policy must be made to matter not only to managers and policymakers charged with making decisions but also to those affected by the decision making process. Through an exploration of three case studies we will demonstrate how conservation policy objectives have been achieved through the application of relevant scientific investigations. Each of the case studies will define: 1) a marine conservation issue that spurred scientific inquiry, 2) the research products that resulted, 3) the outreach and communication efforts made to link science with policy/management, and 4) the conservation actions taken to address the issue. Our case studies will be taxonomically, geographically, and conceptually diverse, documenting how marine science has been made to matter across biological, physical, and political systems. Each of these case studies emphasizes a direct application of science to conservation, and showcases science-influenced conservation planning, the engagement of citizens in the process, and the translation of science into outreach and policy action.

11:00 End-to-end marine conservation: Case studies in successfully translating science into management action through communication and outreach - An introduction

Heppell, SA., *Oregon State University*; **Pattengill-Semmens, C.**, *Reef Environmental Education Foundation*; **Semmens, BX.**, *Scripps Institute of Oceanography, UC San Diego*; **Heppell, SS.**, *Oregon State University*; **Ebanks-Petrie, G.**, *Cayman Islands Department of Environment*; **Fortuna, C.**, *Blue World Institute of Marine Research and Conservation*; **Mackelworth, P.**, *Blue World Institute of Marine Research and Conservation*; **Katz, S.**, *Washington State University*



- 11:15 Informing and mis-informing conservation management: why distribution and abundance is not the whole story.**
Fortuna, CM, *Italian National Institute for Environmental Protection and Research*; **Pleslić, G**, *Blue World Institute of Marine Research and Conservation*; **Miočić-Stošić, J**, *Blue World Institute of Marine Research and Conservation*; **Mackelworth, P**, *Blue World Institute of Marine Research and Conservation*; **Rako-Gospić, N**, *Blue World Institute of Marine Research and Conservation*; **Holcer, D**, *Blue World Institute of Marine Research and Conservation*
- 11:30 Stories of conservation - the development of the Cres-Lošinj Marine Protected Area**
Mackelworth, P, *Blue World Institute of Marine Research and Conservation*; **Holcer, D.**, *Blue World Institute of Marine Research and Conservation*
- 11:45 Defining the status and biogeography of Nassau grouper spawning aggregations to inform marine reserve planning and evaluation in the Cayman Islands**
Semmens, BX, *Scripps Institution of Oceanography, UCSD*; **Bush, PG**, *Department of Environment, Cayman Islands*; **Heppell, SA**, *Oregon State University*; **Johnson, BC**, *Department of Environment, Cayman Islands*; **McCoy, CMR**, *Department of Environment, Cayman Islands*; **Pattengill-Semmens, CV**, *Reef Environmental Education Foundation (REEF)*
- 12:00 On the science, politics and conservation of Nassau grouper (*Epinephelus striatus*) in the Cayman Islands**
Ebanks-Petrie, G, *Cayman Islands Department of Environment*; **Semmens, BX**, *Scripps Institution of Oceanography, UCSD*; **Austin, TJ**, *Cayman Islands Department of Environment*; **Bush, PG**, *Cayman Islands Department of Environment*; **Heppell, SA**, *Oregon State University*; **Johnson, BC**, *Cayman Islands Department of Environment*; **McCoy, CMR.**, *Cayman Islands Department of Environment*; **Pattengill-Semmens, CV**, *Reef Environmental Education Foundation*
- 12:15 Managing data to meet the needs of Reducing Ship Strikes on Large Whales in Southern California**
Katz, SL, *Washington State University*; **Hastings, S**, *NOAA Channel Islands National Marine Sanctuary*; **McKenna, M**, *US National Park Service*; **Calambokidis, J**, *Cascadia Research*
- 12:30 From voluntary conservation agreements to international policy changes: reducing spatial overlap of whales and ships in National Marine Sanctuaries**
Hastings, S, *NOAA Channel Islands National Marine Sanctuary*; **Carver, M**, *NOAA Cordell Bank National Marine Sanctuary*; **Abramson, L**, *NOAA Gulf of the Farallones National Marine Sanctuaries*; **Wooninck, L**, *NOAA West Coast National Marine Sanctuaries*; **Birney, K**, *Environmental Defense Center*; **Shafritz, B**, *Santa Barbara Air Pollution Control District*; **Bryd, M**, *Santa Barbara Air Pollution Control District*



Lunch Activities: 1:00 P.M. to 3:00 P.M.

STUDENT EVENT:
 CONSERVATION CONVERSATIONS: BEYOND BUSINESS CARDS (Speed-Networking Event)

LOMOND AUDITORIUM
 Friday, 15 August, 13:00 to 15:00
 Students only (Capacity: 150)
 Pre-Registration Required

WS12. WORKSHOP:
 HOW POLLUTED IS YOUR BEACH? MARINE LITTER: A (INTER)NATIONAL ISSUE

ALSH ROOM
 Friday, 15 August, 13:00 to 15:00

ORGANIZER(S):
Carla Isobel Elliff, *Universidade Federal da Bahia*; **Gerson Fernandino**, *Universidade Federal da Bahia*; **Jose Rodrigues de Souza Filho**, *Instituto Federal de Educacion*

Marine litter is a global issue in our oceans. Its impact on marine animals, environmental quality and various marine ecosystem services emphasizes the need to take action in order to remediate the situation. Actions to prevent and remove marine litter must come from various sectors. Regarding the government, the State has its responsibilities concerning its removal from beaches and its prevention. But where should we start? The first step is to perform a national diagnosis that comprehends all punctual actions performed along a coastline so we can understand where we should focus our resources and optimize time and effort. In this workshop the Brazilian experience will be discussed regarding its proposal to create the first nationwide project to diagnose the coastline in an integrated manner regarding marine litter through the elaboration of an atlas, which will map the information concerning this issue in the country. Brazil, bathed by the South Atlantic Ocean, has over 9,000 km of coastline, and a high diversity of coastal environments (mangroves, coral reefs, sandy beaches, bays, etc.), which contrast with large urban centers in coastal areas, such as Salvador and Rio de Janeiro. Many countries can identify with the Brazilian coastal situation and, thus, benefit from an exchange of experiences about the issue of marine litter. Dealing with this issue is more than just securing the benefits that we have from the coast, it is about protecting a global heritage.

WS15. WORKSHOP:
WHY NOT ONLY MARINE BUT SOCIAL SCIENCE MATTERS: SUSTAINABLE FISHERIES MANAGEMENT THROUGH
SOCIAL MARKETING TOOLS APPLICATION

BOISDALE ROOM

Friday, 15 August, 13:00 to 15:00

ORGANIZER(S):

Rafael Calderon and Paloma Chavez, *Rare*

Despite conservation has long been science-driven, success will ultimately come down to changing the way people relate to nature. In the face of climate change and dwindling fish stocks, conservationists find themselves in dire need of a new set of tools for changing behaviors and inspiring civic action. For more than 20 years, Rare has been training emerging local leaders in the Pride methodology, so-called because it inspires people to take pride in the species and habitats that make their communities unique, while also giving them real alternatives to change environmentally destructive behaviors. Pride campaigns approach, a mix of social marketing tools and barrier removal strategies to change social norms is coupled with social research, community mobilization techniques, and complemented by monitoring and evaluation to assess campaign impact. Specifically related to marine conservation, Rare has globally launched around 60 Pride campaigns designed to change the behavior of local fishers to: (i) increase compliance with size limits regulations, closure seasons, gear restrictions, (ii) increase fishers compliance respect to No Take Zones, and (iii) engage local fishers to proactively participate in fisheries decision making through well-organized community groups. Recent analysis has revealed significant reduction in fishers' activity in NTZs, increase in fishermen engagement in patrolling, reporting, and membership in collaborative partnerships for management in partner sites.

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FG20. FOCUS GROUP:
MANAGING HUMAN LEGACIES IN A CHANGING SEA: INTEGRATING HISTORICAL ECOLOGY

CARRON B ROOM

Friday, 15 August, 13:00 to 15:00

ORGANIZER(S):

Ruth Thurstan, *University of Queensland*; Loren McClenachan, *Colby College*; John Kittinger, *Stanford University*; Joshua Drew, *Columbia University*; John Pandolfi, *University of Queensland*

* This focus group is a follow-up to the Symposium: Novel solutions to conservation data gaps using historical ecology

The importance of an historical perspective when managing marine populations and ecosystems is becoming globally recognised. Marine historical ecology (MHE) research continues to address critical knowledge gaps in areas as diverse as fisheries science, endangered species and catchment management. However, there are still few examples of such research being subsequently applied by management. This lack of application may be due to limited communication between researchers and managers, or it may be because historical ecology research outputs are difficult to translate into management objectives. During the IMCC2, a symposium into the potential application of historical data was successfully hosted, where a diverse group of panelists discussed the common challenges that arose in the application of long-term data to management. This focus group will expand upon previous work by discussing the role historical data can play in proactively advancing effective policy and evaluation of marine systems. Discussions will revolve around the potential role of historical data in contributing to quantitative models and management frameworks, and how impediments to its adoption can be overcome. This focus group will be a joint session with a symposium on the use of novel approaches to fill historic data gaps, and will present a valuable opportunity for researchers from different fields to consider the potential application of their work.

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FG39. FOCUS GROUP:
UNDERSTANDING AUDIENCES: HOW RESEARCH INTO PUBLIC PERCEPTIONS OF THE SEA CAN SUPPORT MARINE
CONSERVATION

DOCHART A ROOM

Friday, 15 August, 13:00 to 15:00

ORGANIZER(S):

Rebecca Jefferson, *RSPB Centre for Conservation Science*; Emma McKinley, *University of Chichester*

*This focus group is a follow-up to the Symposium: Understanding audiences: How research into public perceptions of the sea can support marine conservation

This focus group will follow on from a symposium which provides a background of research into public perceptions of the sea, discussing research findings and their application to marine conservation. Additionally, presenters will highlight gaps in our understanding of public perceptions of the sea, and questions of how this research can be used more effectively to support marine science: specifically how we can make this science matter. The aim of the focus group is to bring together an international audience of academics and practitioners, to discuss pertinent questions and move forwards the agenda on how to best use research into public perceptions of the sea to achieve marine conservation outcomes. The focus group will look at improving the application of this research to marine conservation through discussing four of questions: (1) What are the priorities for future research on public perceptions of the sea? (2) How can public perceptions research be made most accessible to practitioners and policymakers? (3) How can connections be fostered between researchers to support cohesion in



the research, and practitioners to encourage application of this research to marine conservation? (4) What is our baseline of public perceptions? By discussing these questions, the participants will investigate how public perception research can be made most relevant to marine conservation, and what capacity is needed to ensure that this research can have an impact.

SY85. WORKSHOP:

HAPI FIS: HOW TECHNOLOGY IS SUPPORTING LOCAL ECONOMIES IN THE SOLOMON ISLANDS

DOCHART B ROOM

Friday, 15 August, 13:00 to 15:00

ORGANIZER(S):

Ruby Gates, *Point 97*

Seeking a better and more reliable system of data collection, the Solomon Islands Ministry of Fisheries and Marine Resources (MFMR) looked to mobile technology to shift the tide of data collection and processing. Through the Coral Triangle Support Program, MFMR partnered with Point 97 in Portland, Oregon to collaborate on Hapi Fis (pronounced Happy Fish in English), a mobile app and web-based platform that streamlines the collection process and provides qualified data without the reams of paper. This workshop will present how the use of mobile technology applications support local economies and food security for inshore fisheries in the Solomon Islands.



Afternoon session: 3:00 P.M. to 5:00 P.M.

C10. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

LOMOND AUDITORIUM

Friday, 15 August, 15:00 to 17:00

15:00 How to make marine ecosystem service valuation matter for marine conservation and planning: The VALMER experience

Dodds, W, *Plymouth University*; **Phillipe, M**, *Université de Brest/ UMR-AMURE*; **Friedrich, L**, *Plymouth University*; **Fletcher, S**, *Plymouth University*; **Glegg, G**, *Plymouth University*; **Bailly, D**, *Université de Brest/ UMR-AMURE*

15:15 Q methodology: a novel approach to assessing stakeholder acceptance and social impacts of MPAs

Gall, SC, *Centre for Marine and Coastal Policy Research, Plymouth University*; **Rodwell, LD**, *Centre for Marine and Coastal Policy Research, Plymouth University*

15:30 Dolphin conservation through distribution modelling and marine spatial planning in a rapidly industrialised seascape, north Western Australia

Hanf, D, *Murdoch University*; **Bejder, L**, *Murdoch University*; **Hodgson, A**, *Murdoch University*; **Kobryn, H**, *Murdoch University*; **Rankin, R**, *Murdoch University*; **Smith, J**, *Murdoch University*

15:45 Is sustainable exploitation of coral reefs for marine aquariums possible and what does that look like?

Rhyne, AL, *Roger Williams University*; **Rhyne, AL**, *New England Aquarium*; **Tlusty, M**, *New England Aquarium*; **Kaufman, L**, *Boston University*

16:00 An experimental approach to identifying coral conservation priorities in the central Red Sea.

Ormond RFG, *Faculty of Life Sciences, Heriot-Watt University, Edinburgh*; **Al-Sofyani A**, *Faculty of Marine Science, King Abdul-Aziz University, Jeddah, Saudi Arabia*; **Zubier K**, *Faculty of Marine Science, King Abdul-Aziz University, Jeddah, Saudi Arabia*; **Wilson J**, *Faculty of Marine Science, King Abdul-Aziz University, Jeddah, Saudi Arabia*; **Al-Ahmadi S**, *Faculty of Marine Science, King Abdul-Aziz University, Jeddah, Saudi Arabia*; **BaOmer G**, *Faculty of Marine Science, King Abdul-Aziz University, Jeddah, Saudi Arabia*; **Porter A**, *Faculty of Marine Science, King Abdul-Aziz University, Jeddah, Saudi Arabia*; **Voolstra CR**, *Red Sea Research Center, King Abdullah University of Science & Technology, Thuwal, Saudi Arabia*

16:15 Six common mistakes in conservation planning

Game, ET, *The Nature Conservancy*; **Kareiva, P**, *The Nature Conservancy*; **Possingham, HP**, *University of Queensland*

16:30 Reserve effect on fish assemblages of a no-take zone in the Punta Campanella MPA (Gulf of Naples: center Tyrrhenia Sea)

Appolloni, L, *Marine Ecology Lab, Department of Science and Technology, University "Parthenope" of Naples*; **Donnarumma, L**, *Marine Ecology Lab, Department of Science and Technology, University "Parthenope" of Naples*; **Sbrescia, L**, *Marine Ecology Lab, Department of Science and Technology, University "Parthenope" of Naples*; **Di Stefano, F**, *Marine Ecology Lab, Department of Science and Technology, University "Parthenope" of Naples*; **Sandulli, R**, *Marine Ecology Lab, Department of Science and Technology, University "Parthenope" of Naples*; **Fulvio Russo, G**, *Marine Ecology Lab, Department of Science and Technology, University "Parthenope" of Naples*

16:45 Stakeholder engagement and Marine Protected Areas: Experience from around the UK

Henshall, B, *Joint Nature Conservation Committee*; **Chaniotis, P**, *Joint Nature Conservation Committee*



C19. CONTRIBUTED SESSION: FOOD SECURITY AND THE OCEANS

ALSH ROOM

Friday, 15 August, 15:00 to 17:00

- 15:00 Measuring the effects of a seasonal fishing closure on the abundance of Atlantic Cod (*Gadus morhua*) using a Before-After-Control-Impact (BACI) design**
Clarke, J, *University of Glasgow*; Bailey, DM, *Univeristy of Glasgow*; Wright, PJ, *Marine Scotland Science*
- 15:15 How genetic markers are helping fisheries management and marine biodiversity conservation in the Philippines**
Santos, MD, *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*; Willette, DA, *Department of Ecology and Evolutionary Biology, University of California, Los Angeles*; Thomas, RC Jr., *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*; Ventolero, MFH, *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*; Pedrosa-Gersmio, I, *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*; Asis, AMJM, *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*; Agmata, AB, *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*; Lozano, AMD, *Genetic Fingerprinting Laboratory, National Fisheries Research and Development Institute, Philippines*
- 15:30 Acoustical identification of Sea turtles using sidescan sonar**
Perez-Arjona, I, *Universitat Politècnica de València*; Espinosa, V, *Universitat Politècnica de València*; Alonso, E., *Universitat Politècnica de València*; Ordóñez, P, *Universitat Politècnica de València*; Rodilla, M, *Universitat Politècnica de València*; Castaño J, *Universitat Politècnica de València*; Esteban, JA, *OceanogrÁfic. Ciudad de las Artes y las Ciencias*; Eymar, J, *Generalitat Valenciana*
- 15:45 Historical reconstruction of commercial and recreational spatio-temporal patterns reveals a Great Barrier Reef spawning fishery in double jeopardy**
Buckley, SB, *University of Queensland*; Thurstan, RH, *University of Queensland*; Tobin, A, *James Cook University*; Pandolfi, JM, *University of Queensland*
- 16:00 Net-Works: From fishing nets to carpets**
Hill, N, *Zoological Society of London*; Daneshpay, F, *Zoological Society of London*
- 16:15 Fish aggregations occur globally. We have a database that shows the status!**
Russell, MW, *Science and Conservation of Fish Aggregations (SCRFA)*
- 16:30 Marine conservation consequences of changes in political regimes in Chile**
Talloni, AN, *University of British Columbia*; Lam, M, *University of British Columbia*; Pitcher, T, *University of British Columbia*
- 16:45 Extinction risk of sharks and rays and the global conservation planning challenge**
Dulvy, NK, *IUCN Shark SG / Simon Fraser University*; Simpfendorfer, CA, *IUCN Shark SG / James Cook University*

C5. CONTRIBUTED SESSION: CLIMATE, OCEAN ACIDIFICATION, AND THE CHANGING OCEANS

BOISDALE ROOM

Friday, 15 August, 15:00 to 17:00

- 15:00 Anthropogenic noise causes body malformations and delays development in marine**
Aguilar de Soto, N, *University of La Laguna*; Delorme, N, *University of Auckland*; Atkins, J, *University of Auckland*; Howard, S, *University of Otago*; Williams, J, *NIWA*; Johnson, M, *University of St Andrews*
- 15:15 Projecting changes to the relative abundance, distribution, and richness of First Nations' culturally-important marine species under climate change.**
Weatherdon, L, *Fisheries Centre, University of British Columbia*; Cheung, WWL, *Fisheries Centre, University of British Columbia*; Ota, Y, *Fisheries Centre, University of British Columbia*
- 15:30 Human impacts on the size structure of Pacific coral reef fish communities**
Robinson, J, *University of Victoria*; Edwards, A, *Fisheries and Oceans Canada*; Williams, I, *Pacific Islands Fisheries Center*; Brainard, R, *Pacific Islands Fisheries Center*; Baum, J, *University of Victoria*
- 15:45 Global assessment of extinction risk in anemonefishes and the suitability of IUCN criteria for habitat specialist marine species**
De Brauwer, M, *School of Plant Biology, The University of Western Australia*; Hobbs, JP, *Oceans Institute, The University of Western Australia*; Harvey, E, *Department of Environment and Agriculture, Curtin University*
- 16:00 Population dynamics of a tropical seabird facing climate change: the case of Audubon's shearwater in a natural reserve of Martinique**
Precheur, C, *University of French West Indies and Guiana*; Bretagnolle, V, *Centre d'Etudes Biologiques de Chizé*
- 16:15 Can specimen of the cold-water coral *Desmopyllum dianthus* adapt to a changing environment in the Chilean Fjord Region?**
Goehlich, H, *University of Rostock*; Laudien, J, *Alfred-Wegner-Institute Helmholtz-Center for Polar and Marine Research*; Nowak, C, *University of Bremen*; Jantzen, C, *Alfred-Wegner-Institute Helmholtz-Center for Polar and Marine Research*; Häussermann, V, *Huinay Scientific Field Station*; Richter, C, *Alfred-Wegner-Institute Helmholtz-Center for Polar and Marine Research*





16:30 Conservation planning for coral reefs to account for disturbance related to climate change

Magris, RA, Australian Research Council Centre of Excellence for Coral Reef Studies, James Cook University - JCU; **Heron, SF**, National Oceanic & Atmospheric Administration Coral Reef Watch; Marine Geophysical Laboratory, School of Engineering and Physical Sciences, James Cook University; **Pressey, RL**, Australian Research Council Centre of Excellence for Coral Reef Studies, James Cook University

16:45 Heat tolerance in the African Penguin in the face of climate change

Tubbs, NC, Percy FitzPatrick Institute of African Ornithology, DST/NRF Centre of Excellence, University of Cape Town; **Pichegru, L**, Percy FitzPatrick Institute of African Ornithology, DST/NRF Centre of Excellence, University of Cape Town; **Ryan, PG**, Percy FitzPatrick Institute of African Ornithology, DST/NRF Centre of Excellence, University of Cape Town; **Green, JA**, School of Environmental Sciences, University of Liverpool

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C25. CONTRIBUTED SESSION: FOOD SECURITY AND THE OCEANS

CARRON A ROOM

Friday, 15 August, 15:00 to 17:00

15:00 Translating a pelagic research partnership into enduring protections for the Yucatan Upwelling Zone (YUZ) in Quintana Roo, Mexico

Dove, ADM, Georgia Aquarium Research Center; **de la Parra, R**, Ch'ooj Ajauil AC; **Levenson, J**, Georgia Aquarium Research Center; **Galvan, B**, Ch'ooj Ajauil AC; **Billeter, K**, Ch'ooj Ajauil AC

15:15 Dolphin SMART: An Education and Conservation Program for Sustainable Dolphin-Watching Tourism in Hawaii, USA

McCue, L, NOAA Fisheries, PIRO

15:30 Differential reactions to anthropogenic disturbance by two ground-nesting seabirds

Van de Voorde, S*, Van Hall Larenstein, University of Applied Sciences; **Witteveen, M**, Percy FitzPatrick Institute of African Ornithology, University of Cape Town; **Brown, M**, Nature's Valley Trust

15:45 Past, present and future conservation contributions of SCUBA diving in Phuket Thailand

Dearden, P, University of Victoria; **Augustine, S**, Northwest Indian College

16:00 Whale shark provisioning in Oslob, Philippines: A case study.

Ponzo, A, Physalus, Large Marine Vertebrates Project Philippines; **Lucey, A**, Physalus, Large Marine Vertebrates Project Philippines; **Araujo, G**, Physalus, Large Marine Vertebrates Project Philippines; **Labaja, MJJ**, Physalus, Large Marine Vertebrates Project Philippines; **So, CL**, Physalus, Large Marine Vertebrates Project Philippines; **Snow, S**, Physalus, Large Marine Vertebrates Project Philippines

16:15 The current state of shark dive tourism: A powerful lever for conservation or an accident waiting to happen?

MacPherson, R, Pelagia Consulting

16:30 Conservation in the cloud: Leveraging mobile technology to connect marine tourism businesses with resource managers

Levenson, J, U.S. Department of Interior, Bureau of Ocean Energy; **Thompson, M**, NOAA Stellwagen Bank National Marine Sanctuary; **Grétarsdóttir, R**, Icelandic Whale Watch Operators Association; **Rasmussen, M**, University of Iceland's Husavik Research Center; **Harris, E**, Caribbean Association of Whale Watch Operators; **Hardy, S**, Western Atlantic Conservation Institute; **Nelson, P**, Western Atlantic Conservation Institute;

16:45 Is the value of wildlife tourism inaccurately estimated?

D'Lima, C, James Cook University; **Welters, R**, James Cook University; **Hamann, M**, James Cook University; **Marsh, H**, James Cook University

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SY58. SYMPOSIUM:

GENETICS AND GENOMICS FOR OCEAN CONSERVATION

CARRON B ROOM

Friday, 15 August, 15:00 to 17:00

ORGANIZER(S):

Rebecca Goldberg and Polita Glynn, Pew Charitable Trusts

Modern genetic techniques, which allow the molecular identification of pieces of genetic material, have become important tools in conservation. By comparing DNA segments from small tissue samples, for example, laboratories can readily check the authenticity of seafood. Genomics—essentially the study of all of an organism's genetic material—is now also becoming much more practical, thanks in large part to the plummeting cost and rapidly increasing speed of gene sequencing. Marine researchers are now using genomic and genetic techniques to evaluate and even predict coral reef tolerance to stressors, which may lead to the better design marine reserves resilient to climate change. Others are using genomics to develop new methods for estimating

fisheries spawning stocks based on kinship among fish. However, many marine scientists and policy makers are still unaware of the potential these molecular methods. Speakers at this session will review current research applying genetics and genomics to marine conservation science, including potential application to policy and legal enforcement. The session will conclude with a discussion of these and other current or potential applications.

15:00 Introduction by Rebecca Goldberg and Scott Baker

15:15 Genomic tools and applications for the conservation of coral reef ecosystems

Baker, AC, *University of Miami*

15:30 Overcoming obstacles and exploring opportunities for the Convention on International Trade in Endangered Species to contribute to global shark conservation.

Chapman, D, *Stony Brook University*

15:45 Molecular tools for surveillance and compliance in exploitation of whales, dolphins and porpoises

Baker, CS, *Oregon State University*

16:00 DNA-barcoding Europe's seafood markets: a new hope?

Mariani, S, *University of Salford & the LABELFISH Consortium, UK, Ireland, Spain, France, Portugal, Germany*

SY54. SYMPOSIUM:

TACKLING STAKEHOLDER UNCERTAINTY, EDUCATION AND EFFECTIVE PARTICIPATION IN OCEAN PLANNING

DOCHART A ROOM

Friday, 15 August, 15:00 to 17:00

ORGANIZER(S):

Kassandra Cerveny, *Consortium for Ocean Leadership*; **Sean Cosgrove**, *Conservation Law Foundation*

Comprehensive science-based ocean planning is a powerful tool to improve ecosystem health and build resilience against climate change while improving natural resource sustainability and providing economic opportunity for ocean users and coastal communities. Successful development of a comprehensive ocean plan requires vast engagement and support from a large and diverse set of stakeholders. Engaging stakeholders relies on making marine science matter in the context of how each stakeholder group uses, observes or appreciates ocean and coastal resources. Stakeholder perception of the state of ocean resources, management problems, and the goals of ocean planning determines how stakeholders might engage or disregard an ocean planning process. While many perspectives are determined by decided worldviews, the presenters have found unique and varied strategies for educating and engaging ocean user groups; scientists and policy makers; commercial fishermen; and, broader audiences of citizens, government officials, business people and elected officials on the science, policy and conservation opportunities in ocean planning.

15:00 Introduction

Cosgrove, S, *Conservation Law Foundation*

15:15 Ocean Frontiers films: Using film to get results

Anspacher-Meyer, K, *Green Fire Productions*

15:30 Engaging New England's Diverse Ocean Users in Ocean Planning

Cosgrove, S, *Conservation Law Foundation*, **Felt, J***, *Conservation Law Foundation*

15:45 Fishermen to the Planning Table: Cultivating Local Ocean Knowledge

Williamson, J, *Sea Keeper Fisheries Consulting and Charter*

16:00 Making Science Matter to Policy Makers

Cerveny, K, *Consortium for Ocean Leadership*

SY59. SYMPOSIUM:

THE MODELING AND ASSESSMENT OF WHALE-WATCHING IMPACTS

DOCHART B ROOM

Friday, 15 August, 15:00 to 17:00

ORGANIZER(S):

Leslie New, *U.S. Geologic Survey*

In our symposium, we will discuss the specific research questions and hypotheses that will most benefit our understanding of the impacts of whale-watching on large cetaceans. We will achieve this through presentations addressing the behavioral and physiological effects of this potential source of disturbance, current modeling techniques to aid assessment, and the most recent technological innovations for data collection and analysis. The goal is to build a strong scientific platform from which to assess the potential effects of whale-watching, as well as address those issues most important for the conservation and management of the species of concern. In uniting these objectives, we aim to make marine science matter by specifically linking cutting



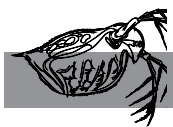
edge science to its practical application. Our symposium is aimed at diverse interest groups, including, but not limited to, conservation organizations, whale-watching companies, scientists and policy makers. In the symposium, we can present our audience with the information they need to understand our topic and approach, and provide people with a brief opportunity to interact, primarily with the speakers. However, to truly develop actionable outputs in order to our make science matter, it is important that we give our diverse audience a chance to fully interact with one another so that there can be a unified approach to the assessment of whale-watching impacts.

*A focus group follows this symposium: A discussion of the needs for modeling and assessment to understand whale-watching impacts (Dochart B Room: 5:30-7:30 P.M.)

- 15:00 The current state of the whale-watching industry around the globe.**
Scarpaci, C, *Victoria University*; **Parsons, ECM**, *George Mason University*
- 15:15 The modelling and assessment of whale-watching impacts: an introduction**
New, L, *USGS*; **Hall, A**, *University of St Andrews*; **Harcourt, R**, *Macquarie University*; **Kaufman, G**, *Pacific Whale Foundation*; **Parsons, ECM**, *George Mason University*; **Schick, R**, *University of St Andrews*
- 15:30 The physiological responses to disturbance in cetaceans**
Hall, AJ, *Sea Mammal Research Unit*
- 15:45 Are we loving our whales to death: marine mammal behavioural response to disturbance**
Harcourt R, *Macquarie University*
- 16:00 Measuring disturbance: Using statistical models to provide estimates of health in marine mammals**
Schick, R, *University of St Andrews*
- 16:15 Whale and Dolphin Tracker: A citizen science web-application contributing to research and management efforts**
Davidson, E, *Pacific Whale Foundation*; **Currie, J**, *Pacific Whale Foundation*; **Stack, S**, *Pacific Whale Foundation*; **Kaufman, G***, *Pacific Whale Foundation*; **Martinez, E**, *Pacific Whale Foundation*



COFFEE BREAK
 17:00 to 17:30



Late afternoon session: 5:30 P.M. to 7:30 P.M.

C30. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

LOMOND AUDITORIUM

Friday, 15 August, 17:30 to 19:30

- 17:30 Fishery consequences of marine reserves: short-term pain for long-term gain**
Hopf, JK, *James Cook University, ARC Centre of Excellence for Coral Reef Studies*; **Jones, GP**, *James Cook University, ARC Centre of Excellence for Coral Reef Studies*; **Williamson, DH**, *ARC Centre of Excellence for Coral Reef Studies*; **Connolly, SR**, *James Cook University, ARC Centre of Excellence for Coral Reef Studies*
- 17:45 Stable isotopes indicate trophic restructuring as a result of fishing on coral reefs**
Maljković, A, *Simon Fraser University*; **Côté, IM**, *Simon Fraser University*
- 18:00 Do seabird nutrients promote growth and enhance resilience of coral reefs?**
Savage, C, *University of Otago*; **Rundgren, CD**, *Independent researcher*
- 18:15 Among-year and within-population variation in foraging distribution of European shags over two decades: implications for marine spatial planning**
Bogdanova, MI, *Centre for Ecology & Hydrology*; **Wanless, S**, *Centre for Ecology & Hydrology*; **Harris, MP**, *Centre for Ecology & Hydrology*; **Lindström, J**, *University of Glasgow*; **Butler, A**, *Biomathematics & Statistics Scotland*; **Newell, M**, *Centre for Ecology & Hydrology*; **Sato, K**, *University of Tokyo*; **Watanuki, Y**, *Hokkaido University*; **Ito, M.**, *National Institute of Polar Research - Japan*; **Parsons, M**, *Joint Nature Conservation Committee*; **Daunt, E**, *Centre for Ecology & Hydrology*
- 18:30 Finding common ground: Regional collaboration for marine resource management in the Coral Triangle Initiative**
Sarkar, S, *University of Washington*; **Stevenson, TC**, *University of Washington*; **Pietri, DM**, *University of Rhode Island*; **Pollnac, RB**, *University of Washington*; **Christie, P**, *University of Washington*
- 18:45 Seals and shipping noise in a dynamic sea: seasonal changes in shipping noise exposure experienced by diving seals**
Chen, F, *Plymouth University*; **Shapiro, G**, *Plymouth University*; **Bennett, K**, *Plymouth University*; **Ingram, S**, *Plymouth University*; **Thompson, D**, *SMRU, University of St Andrews*; **Vincent, C**, *University de la Rochelle*; **Russell, D**, *SMRU, University of St Andrews*; **Embling, C**, *Plymouth University*



- 19:00 The Barbuda Blue Halo Initiative: A comprehensive, science-based community-driven approach to sustainable ocean management**
Johnson, AE, *Waitt Institute*
- 19:15 Establishing baselines for cetaceans using passive acoustic monitoring off west Africa.**
Rekdahl, M, *Wildlife Conservation Society*; Cerchio, S, *Wildlife Conservation Society*; Rosenbaum, H, *Wildlife Conservation Society*

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C20. CONTRIBUTED SESSION: FOOD SECURITY AND THE OCEANS

ALSH ROOM

Friday, 15 August, 17:30 to 19:30

- 17:30 Innovation in the marine aquarium trade for improved social and environmental performance: offshore cage culture of green chromis**
Hill, J, *Olazul*; Rhyne, A, *Roger Williams University*; Tlusty, M, *New England Aquarium*; Reksodihardjo-Lilley, G, *Indonesian Nature Foundation*
- 17:45 Effectiveness of periodically harvested closures to sustain small scale fisheries: diver operated stereo-video most accurately detects harvest impacts**
Goetze, JS, *University of Western Australia*; Jupiter, SD, *Wildlife Conservation Society*; Langlois, TJ, *University of Western Australia*; Wilson, SK, *Department of Parks and Wildlife Western Australia*; Harvey, ES, *Curtin University Australia*; Bond, T, *University of Western Australia*; Naisilisili, W, *Wildlife Conservation Society*;
- 18:00 Beyond ecosystem services: Causal mechanisms linking marine protected areas and food security**
Mascia, MB, *WWF*; Glew, L, *WWF*; Pakiding, F, *UNIPA*
- 18:15 Sea sharing or sparing: should we focus on more habitat protection or no-take marine areas?**
McGowan, J, *ARC Center of Excellence for Environmental Decisions, The University of Queensland*; Bode, M, *ARC Center of Excellence for Environmental Decisions, The University of Queensland*; Beger, M, *ARC Center of Excellence for Environmental Decisions, The University of Queensland*; Davis, K, *Centre for Environmental Economics and Policy, School of Agricultural and Resource Economics, University of Western Australia.*; Giakoumi, S, *ARC Center of Excellence for Environmental Decisions, The University of Queensland*; Krueck, N, *ARC Center of Excellence for Coral Reef Studies, The University of Queensland*; Yates, K, *School of the Environment, Flinders University*; Possingham, HP, *ARC Center of Excellence for Environmental Decisions, The University of Queensland*
- 18:30 Cultural bequest values for ecosystem service flows among indigenous fishers: A discrete choice experiment validated with mixed methods**
Oleson, KLL, *UH Manoa, Blue Ventures Conservation*; Barnes-Mauthe, M, *UH Manoa*; Brander, L, *Institute for Environmental Studies*; Oliver, T, *UH Manoa*; van Beek, I, *Wageningen University*; Zafindrasilivonona, *Blue Ventures Conservation*; van Beukering, P, *Institute for Environmental Studies*;
- 18:45 Fisheries-based management of the coral reef crisis**
MacNeil, M, *Australian Institute of Marine Science*; Graham, NAJ, *CoE Coral Reef Studies, James Cook University*; Cinner, JE, *CoE Coral Reef Studies, James Cook University*; McClanahan, TR, *Wildlife Conservation Society*; Wilson, SK, *Department of Environment and Conservation, WA*
- 19:00 Modelling resilience and extinction risk in sex-changing fishes: how much information do we need to conserve data-poor groupers?**
Kindsvater, HK, *Simon Fraser University*; Reynolds, JD, *Simon Fraser University*; Mangel, M, *UC Santa Cruz*
- 19:15 Data-limited stock assessment methods applied to global coral reef fisheries.**
Rudd, MB, *School of Aquatic and Fishery Sciences, University of Washington*; Branch, TA, *School of Aquatic and Fishery Sciences, University of Washington*; Hilborn, R, *School of Aquatic and Fishery Sciences, University of Washington*

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SY23. SYMPOSIUM:

FUELLING THE FUTURE OF MARINE SPATIAL PLANNING: INTEGRATING ENERGY EXTRACTION AND MARINE CONSERVATION SCIENCE

BOISDALE ROOM

Friday, 15 August, 17:30 to 19:30

ORGANIZER(S):

Tessa Mazor, *University of Queensland*; Johanna Polsenberg, *Wildlife Conservation Society*; Salit Kark, *University of Queensland*

Marine environments around the globe have long been over exploited as sources of energy extraction. Now, the ever growing demand for energy is destroying or putting at risk extensive areas that are critical for long-term marine biodiversity conservation and ecosystem functioning. While, many of the negative impacts of offshore extraction on biodiversity are well known, the challenge remains to incorporate this information into marine spatial plans and actions. In particular, the competition for



marine spaces creates conflict and divisions between stakeholders such as governments, the private sector and conservationists that can be mediated with innovative and integrated planning approaches. This symposium addresses ways of integrating energy extraction, specifically offshore oil and gas and wind-farm developments, into marine spatial planning. It brings together a diverse range of researchers and practitioners to present novel approaches for reaching conservation goals while maintaining the objectives of other stakeholders. A key discussion point will be the potential for collaboration between marine conservation and the energy industry. To make marine science matter it must be planned and conveyed in a relevant and realistic manner in which conservation goals can be achieved in the face of numerous anthropogenic pressures.

17:30 Prospective hydrocarbon extraction drives marine conservation planning with multiple users

Mazor, T, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*; **Possingham, HP**, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*; **Edelist, D**, *Leon Recanati Institute for Maritime Studies, Department of Maritime Civilizations, University of Haifa, Israel*; **Brokovich, B**, *Department of Geography, The Hebrew University of Jerusalem, Mount Scopus, Israel*; **Kark, S**, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*

17:45 Ocean-zoning for conservation, fisheries and renewable energy generation: assessing trade-offs and exploring co-location opportunities

Yates, KL, *Environmental Science Research Institute, University of Ulster, and ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, University of Queensland, Australia*; **Schoeman, DS**, *School of Science and Engineering, University of the Sunshine Coast, Australia*; **Klein, CJ**, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, University of Queensland, Australia*

18:00 Ecosystem service tradeoff analysis reveals the value of marine spatial planning for multiple ocean uses

White, C, *California Polytechnic State University, San Luis Obispo*

18:30 Start with a conversation: Finding common ground with industry to achieve positive results for marine conservation, society and business

Polsenberg, JF, *Wildlife Conservation Society*; **Callow, MJ**, *Wildlife Conservation Society*

18:45 Advancing offshore wind energy and ocean ecosystem protection in New England: Why ocean planning and stakeholder collaboration make sense

Brooks, PM, *Conservation Law Foundation*

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C31. CONTRIBUTED SESSION: COMMUNICATING MARINE CONSERVATION AND PUBLIC PARTICIPATION IN MARINE CONSERVATION

CARRON A ROOM

Friday, 15 August, 17:30 to 19:30

17:30 Smithsonian History of Marine Mammal Conservation

Ososky, JJ, *Smithsonian Institution*

17:45 CoralWatch - citizen science data for science, management and education

Marshall, J, *University of Queensland*; **Dean, A**, *University of Queensland*; **Kleine, D**, *University of Queensland*; **Hay, K**, *University of Queensland*

18:00 Adapting a marine debris K-12 citizen science program from the US for use in schools in Indonesia

Abbott, JM, *Bodega Marine Lab, University of California, Davis*; **Bean, J**, *Bodega Marine Lab, University of California, Davis*; **Hameed, S**, *Bodega Marine Lab, University of California, Davis*; **Trockel, D**, *Bodega Marine Lab, University of California, Davis*; **Williams, SL**, *Bodega Marine Lab, University of California, Davis*

18:15 The response of fish communities to 28 years of Marine Protected Area management in the Ningaloo Marine Park

Holmes, TH, *Marine Science Program, Department of Parks and Wildlife, Western Australia, Australia*; **Wilson, SK**, *Marine Science Program, Department of Parks and Wildlife, Western Australia, Australia*

18:30 No-take marine protected areas: who's counting?

Harries, R, *Marine Reserves Coalition, Zoological Society of London*; **Yesson, C**, *Institute of Zoology*; **Eckert, S**, *Zoological Society of London*; **Llewellyn, F**, *Marine Reserves Coalition, Zoological Society of London*

18:45 Project Ocean: Fish meets fashion

Llewellyn, F, *Zoological Society of London*; **Koldewey, H**, *Zoological Society of London*

19:00 England's new Marine Conservation Zones - an evidence-based and phased approach to completing an MPA network.

Wells, S, *Independent Consultant*; **Davies, J**, *Joint Nature Conservation Committee*; **Payne, O**, *Joint Nature Conservation Committee*

19:15 Innovation in Marine Communication

Day, A, *West Coast Aquatic*; **Lafolley, D**, *IUCN*; **Davis, J**, *Marine Affairs Research Education*; **Jeffrey, A**, *MPApps.net*; **Musard, O**, *French Marine Protected Areas Agency*; **Vick, C**, *Sylvia Earle Alliance, Mission Blue*





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C18. CONTRIBUTED SESSION: ESTUARY RESTORATION

CARRON B ROOM

Friday, 15 August, 17:30 to 19:30

- 17:30 Biodiversity, ecosystem functioning and value of restored saltmarshes in the Eden Estuary, Fife**
Wade, K, *Sediment Ecology Research Group, Scottish Ocean Institute, School of Biology, University of St Andrews*; **Golléty, C**, *Sediment Ecology Research Group, Scottish Ocean Institute, School of Biology, University of St Andrews*; **Hanley, N**, *Department of Economics, University of Stirling*; **Paterson, DM**, *Sediment Ecology Research Group, Scottish Ocean Institute, School of Biology, University of St Andrews*
- 17:45 Tracking estuary restoration in a tidal freshwater embayment, from nutrient loading reductions to bloom abatement to aquatic plant recovery**
Jones, RC, *George Mason University*
- 18:00 Water quality effects of multiple foundation species on restored oyster reefs: models and empirical results**
Gedan, KB, *University of Maryland, College Park*; **Kellogg, L**, *Virginia Institute of Marine Science*; **Breitburg, DL**, *Smithsonian Environmental Research Center*
- 18:15 Year-round use of a coastal protected area network by Brown Pelicans in the Gulf of Mexico**
Lamb, JS, *Clemson University School of Agricultural, Forest, and Environmental Sciences*; **Jodice, PGR**, *South Carolina Cooperative Fish and Wildlife Research Unit*
- 18:30 Impact of hydrocarbon and dispersant exposure on the deep-water coral *Leiopathes glaberrima***
Ruiz-Ramos, DV, *Pennsylvania State University*; **Baums, IB**, *Pennsylvania State University*
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C1. CONTRIBUTED SESSION: ADVANCING MARINE CONSERVATION THROUGH INTERNATIONAL AGREEMENTS

DOCHART A ROOM

Friday, 15 August, 17:30 to 19:00

- 17:30 Basking Shark science and conservation in the northeast Atlantic: The first signs of conservation success**
Solandt, JL, *Marine Conservation Society*; **Richardson, P**, *Marine Conservation Society*; **Witt, M**, *University of Exeter*; **Ranger, S**, *Marine Conservation Society*; **Duncan, C**, *Marine Conservation Society*; **Pikesely, SK**, *University of Exeter*
- 17:45 No reef left behind: Is management of the Mesoamerican Reef making the grade?**
McField, M *Healthy Reefs Initiative / smithsonian Institution*
- 18:00 EBSAs, Seascapes, and Hope Spots - New paradigms for conserving highly migratory species on the high seas**
Shillinger, GL, *The Leatherback Trust*; **Bailey, H**, *University of Maryland*; **Bograd, S**, *NOAA ERD*; **Paladino, F**, *Indiana Purdue - Fort Wayne University*; **Hazen, E**, *NOAA ERD*; **Spotila, J**, *Drexel University*
- 18:15 Ten years of lessons from the Seascape approach: A framework for improving ocean management at scale**
Lawrence, KS, *Conservation International*; **Farmer, V**, *Conservation International*; **Katz, L**, *Conservation International*; **Jones, A**, *Conservation International*
- 18:30 Towards an enhanced governance of Arctic fisheries, can the European Union help?**
Liu, Nengye, *University of Dundee*
- 18:45 The use and abuse of flags of convenience by the international fishing industry and other maritime sectors**
Miller, DD, *Fisheries Economics Research Unit, Fisheries Centre, University of British Columbia*; **Tooley, K**, *Fisheries Economics Research Unit, Fisheries Centre, University of British Columbia*; **Sumaila, UR**, *Fisheries Economics Research Unit, Fisheries Centre, University of British Columbia*
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FG65. Focus Group:

A DISCUSSION OF THE NEEDS FOR MODELING AND ASSESSMENT TO UNDERSTAND WHALE-WATCHING IMPACTS

DOCHART B ROOM

Friday, 15 August, 17:30 to 19:30

ORGANIZER(S):

Leslie New, *U.S. Geologic Survey*

*This focus group is a follow-up to the Symposium: Modelling and assessment of whale watching impacts

We will discuss the research questions and hypotheses that will benefit our understanding of whale-watching's impact on large cetaceans. We will guide the discussion to focus on the needs of various interest groups, and how these can be aligned to ensure that science can inform the policy, management and conservation of affected species. The goal is to build a strong scientific platform from which to assess the potential effects of whale-watching, as well as address those issues most important for the conservation and management of the species of concern. In uniting these objectives, we aim to make marine science matter by specifically linking cutting edge science to its practical application. Our focus group is aimed at diverse interest groups,

including, but not limited to, conservation organizations, whale-watching companies, scientists and policy makers. To ensure that participants in the group begin the discussion on the same page, they must be provided with background information on the modeling and assessment of whale-watching impacts. The broad nature of the topic makes it impractical to include that information within the focus group itself, as this would severely limit time for discussion and interaction. In combining the focus group with a symposium, we can present our audience with the needed information, while providing people with the opportunity to interact and exchange ideas in order develop actionable outputs leading to a unified approach to the assessment of whale-watching impacts.



Poster session: 7:30 P.M. to 9:00 P.M.

POSTER SESSION

EXHIBIT HALL 2

Friday, 15 August, 19:30 to 21:00

A cash bar will be available.

P.1 Transborder cetacean monitoring using ferries as platforms of observation between Tunisia and Italy: winter results of an ACCOBAMS co-funded project.

Pellegrino, G *, Ass Ketos; Aissi, M Bizerte Science Faculty; Arcangeli, A ISPRA-NAT; Kchouk, ME Ass Atutax; Moulins, A Fond. CIMA; Ruvolo, A Accademia del Leviatano; Tringali, ML Ass Ketos; Crosti, R , MATTM-ISPRA

P.2 Abundance and distribution of fish eggs in the Colombian Pacific Ocean during September 2007.

Lopez, RH *, Military University Nueva Granada; Pinto, GJ Military University Nueva Granada; Baldrich, A Universidad de los Lagos-Chile

P.3 Marine Conservation at Dongsha Atoll in the South China Sea.

Dai, CF *, National Taiwan University

P.4 Trace metals in the blood of little penguins (*Eudyptula minor*): a novel tool for assessing marine coastal pollution.

Finger, A*, Victoria University, Melbourne, Australia; Dann, P, Phillip Island Nature Park, Australia; Nugegoda, D, RMIT University, Australia; Scarpaci, C, Victoria University, Australia

P.5 Vulnerability of *Modiolus* reefs to climate change: towards understanding the genetic basis of resilience.

Mackenzie, Clara *, Heriot-Watt University

P.7 Impact of degradation on mangrove carbon stocks in Madagascar.

Teoh, Marianne *, Imperial College London; Jones, Trevor Blue Ventures Conservation; Pfeifer, Marion Imperial College London

P.8 Historical baselines for large sharks in Cape Cod, Massachusetts (USA): Putting recent observed increases into context.

McCormack, E *, Colby College ; McClenachan, L Colby College

P.9 Impact of the ocean acidification on coral larvae and the monitoring of carbonate system in a Thai reef.

Chavanich, S *, Chulalongkorn University; Chinfak, N Chulalongkorn University; Lalitpattarakit, W Chulalongkorn University; Viyakarn, V Chulalongkorn University

P.10 Feeding behaviors of Antarctic fish at Syowa Station, Antarctica and the change of climate.

Viyakarn, V *, Chulalongkorn University; Chavanich, S Chulalongkorn University; Nomura, D National Institute of Polar Research; Watanabe, K National Institute of Polar Research

P.11 The plight of one: Success of another.

Handley, JM *, Nelson Mandela Metropolitan University; Pistorius, P Nelson Mandela Metropolitan University; Brickle, P South Atlantic Environmental Research Institute

P.12 Rehabilitation as a conservation measure for endangered ice seal populations affected by the climate change and growing anthropogenic impact.

Andrievskaya, E*; Alexeev, V; Trukhanova, IS, Baltic Fund for Nature, St. Petersburg

P.13 Diversity of coastal ecosystems and proposed ecologically sensitive coastal areas of Maharashtra, India.

Apte, DA , Bombay Natural History Society, India; Bhawe, VJ Bombay Natural History Society, India; Pitale, RD Bombay Natural History Society, India; Nagale, PS Bombay Natural History Society, India; Prasade, AP *Bombay Natural History Society, India

P.24 Radioactive pollution in the South Atlantic as a possible stress factor in some incidents of penguin mortality.

Felix Maldonado *, University of Chile

P.25 Reaching conservation objectives in European Natura 2000 marine sites.

Cunha, AH *, JNCC; Cornick, L JNCC

P.26 High diversity in a functionally important priority marine habitat: 'climax' communities and management baselines.

Fariñas-Franco, JM. *, Heriot Watt University; Harries, D.B. Heriot Watt University; Mair, JM. Heriot Watt University; Moore, C. Heriot Watt University; Porter, JS Heriot Watt University; Sanderson, WG Heriot Watt University





P.27 Designating Marine Protected Areas at the Falkland Islands – the way forward?

Crofts, S *, University of Glasgow, Falklands Conservation; Bailey, D University of Glasgow; Nager, R University of Glasgow

P.28 Does marine conservation work? Evaluating the effectiveness of SACs and SPAs in the Solent and how they will respond to climate change.

White, S , Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth; Watson, G Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth; Herbert, R Faculty of Science and Technology, Bournemouth University, Talbot Campus; Farrell, P Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth; Preston, J *Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth

P.29 Population genetic structure and connectivity in *Parastichopus californicus* on the Pacific coast of Canada.

Xuereb, A , University of Toronto; Curtis, J. Pacific Biological Station; Cote, I.M. *Simon Fraser University; Guichard, F. McGill University; Bernatchez, L. Laval University; Fortin, M.J. University of Toronto

P.30 Preliminary results from an extinction risk assessment of bony fishes of the Gulf of Mexico.

Linardich, C. *, IUCN Species Programme, Marine Biodiversity Unit, Old Dominion University; Harwell, H. Christopher Newport University; Carpenter, K.E. IUCN Species Programme, Marine Biodiversity Unit, Old Dominion University; McManus, R. IUCN Species Survival Commission; Moretzsohn, F. Harte Research Institute, Texas A&M University-Corpus Christi; Wood, J. Harte Research Institute, Texas A&M University-Corpus Christi; Lacher, T. IUCN Species Survival Commission, Texas A&M University-College Station;

P.32 The Marine Aquarium Biodiversity and Trade Flow Database: A new tool for monitoring the global trade in coral reef species.

Jorgenson, AC *, Roger Williams University ; Holmberg, R Roger Williams University; Tlusty, M New England Aquarium ; Kaufman, L Boston University; Rhyne, AL Roger Williams University ; Rhyne, AL New England Aquarium

P.33 The relationship between species richness and habitat heterogeneity in kelp forest communities of Baja California, Mexico. Implications for conservation.

Montaño-Moctezuma, G *, Instituto de Investigaciones Oceanológicas. Universidad Autónoma de Baja California; Torres-Moye, G Facultad de Ciencias Marinas. Universidad Autónoma de Baja California; Aguilar-Rosas, L Instituto de Investigaciones Oceanológicas. Universidad Autónoma de Baja California; Ramírez-Valdez, A Facultad de Ciencias Marinas. Universidad Autónoma de Baja California

P.34 Ecosystem services as a tool for coastal management.

Elliff, C *, Universidade Federal da Bahia; Fernando, G Universidade Federal da Bahia;

P.35 The 800 lb grouper in the room: how do we reduce the risk of species introductions?

Holmberg, R *, University of Massachusetts Boston; Futoma, E Roger Williams University; Rhyne, AL Roger Williams University; Rhyne, AL New England Aquarium; Tlusty, M New England Aquarium; Kaufman, L Boston University Marine Program

P.36 Does local marine conservation work? A case study of bait collection.

Watson *, University of Portsmouth; J. M. Murray CEFAS, Lowestoft; M. Schaefer University of Portsmouth; A. Bonner Guardline; M. Gillingham University of Portsmouth

P.37 Geographic visualization of coral reef monitoring data in American Samoa.

Lawrence, A *, American Samoa Dept. of Marine & Wildlife Resources; Ochavillo, D American Samoa Dept. of Marine & Wildlife Resources; Reynolds, C One Water One Ocean Plc.

P.38 Integration of ecosystem services into local marine management : a participatory scenario approach.

Morisseau, F *, French Agency of marine protected areas; Dedieu, K French Agency of marine protected areas; Mongruel, R Ifremer, UMR M101, AMURE, Unité d'Economie Maritime; Martin, J. C Ifremer, UMR M101, AMURE, Unité d'Economie Maritime; Cabral, P. Ifremer, UMR M101, AMURE, Unité d'Economie Maritime; Thiébaud, E. Université Pierre & Marie Curie, Station Biologique de Roscoff; Schoenn, J. Université Pierre & Marie Curie, Station Biologique de Roscoff/ IFREMER, CRESCO, Laboratoire "Environnement et Ressources Finistère-Bretagne Nord"; Le Mao, P. , IFREMER, CRESCO, Laboratoire "Environnement et Ressources Finistère-Bretagne Nord"

P.39 Understanding the natural seasonal dynamics of seagrasses in NW Australia to determine dredging impacts.

McCallum, R *, Centre for Marine Ecosystems Research, Edith Cowan University, Joondalup, WA Australia; McMahan, K Centre for Marine Ecosystems Research, Edith Cowan University, Joondalup, WA Australia; Lavery, P Centre for Marine Ecosystems Research, Edith Cowan University, Joondalup, WA Australia; Vanderklift, M Centre for Marine and Atmospheric Research, CSIRO, Floreat, WA Australia; Haywood, M Centre for Marine and Atmospheric Research, CSIRO, Brisbane, QLD Australia

P.40 Coastal sustainability from the waterfront view of homeowners: Using fuzzy-logic cognitive mapping for participatory conservation.

Scyphers, SB*, Northeastern University; Gray, Steven A University of Massachusetts - Boston; Grabowski, Jonathan H Northeastern University; Beck, Michael W The Nature Conservancy

P.41 The biodiversity value of biogenic reef development and over-development: When should we conserve a 'reef'?

Pearce, B. *, Pelagica Ltd; Farinas-Franco, J.M. Heriot Watt University; Somerfield, P.J. Plymouth Marine Laboratory; Porter, J.S. Heriot Watt University; Mair, J.M. Heriot Watt University; Hall-Spencer, J University of Plymouth; Sanderson, W.G Heriot Watt University

P.42 Historical Contingency, Predator Recovery, and Ecosystem Management.

Adrian C. Stier *, Northwest Fisheries Science Center; Jameal F. Samhoury Northwest Fisheries Science Center; Philip S. Levin Northwest Fisheries Science Center

P.43 Quantifying trophic ecological processes using stable isotope analysis: a detrital recycling case study.

Perkins, CJ *, University of North Carolina Wilmington; Conti-Jerpe, IE University of North Carolina Wilmington; Marty, MJ University of North Carolina Wilmington; Finelli, CM University of North Carolina Wilmington



P.44 The impacts of the lionfish invasion on reef fish communities in Belize.

Hackerott, S *, University of North Carolina at Chapel Hill; Valdivia, A University of North Carolina at Chapel Hill; Cox, C. E. University of North Carolina at Chapel Hill; Bruno, J. F. University of North Carolina at Chapel Hill

P.45 First matrix model for the vulnerable population of southern right whales (*Eubalaena australis*) in New Zealand waters.

Davidson, Anthony *, Zoology Department, Otago University; Slooten, Elisabeth Zoology Department, Otago University; Rayment, William Marine Science Department, Otago University

P.46 Use of non-invasive techniques to determine population size of marine otter *Lontra felina* in two locations of Peru.

Biffi, D *, Texas Christian University; Williams, DA Texas Christian University

P.47 Integrating spatial variation in ecosystem services, resilience, and institutional capacity into marine conservation planning in the Gulf of California.

Siegel, KJ *, Oxford University Centre for the Environment; Lasch, Cristina The Nature Conservancy – Mexico and Northern Central America; Reddy, Sheila M.W. Central Science Division, The Nature Conservancy; Leslie, Heather Center for Environmental Studies & Department of Ecology and Evolutionary Biology, Brown University

P.48 Conservation insights from spatial models of nursery use in reef fishes.

Claydon JAB *, Hopkins Marine Station of Stanford University; Calosso MC Hopkins Marine Station of Stanford University; Peachey RBJ CIEE Research Station Bonaire

P.49 Adaptive capacity of soft-shell clam co-management in Maine .

O'Connor, G *, Colby College; McClenachan, L Colby College

P.50 Marine plastic debris and natural plankton communities

Mihaylova, D *, Postgraduate Student, School of Environmental Sciences, University of East Anglia, Norwich, England; Robinson, Carol Supervisor, School of Environmental Sciences, University of East Anglia, Norwich, England; Davies, Richard Supervisor, School of Biological Sciences, University of East Anglia, Norwich, England

P.51 A Comparison of the Major Drivers of Coral Reef Change in the British Virgin Islands.

Flynn, RL *, University of Rhode Island, Department of Natural Resources Sciences; Forrester, GE University of Rhode Island, Department of Natural Resources Sciences

P.52 Evaluating the management effectiveness of a Brazilian MPA over a 15 years period.

Araujo, JL *, Federal University of Pernambuco; Bernard, E Federal University of Pernambuco

P.53 The influence of physical oceanography on the behaviour of small cetaceans at the Wave Hub marine renewables site, North Cornwall.

Cox SL *, Plymouth University; Witt MJ Exeter University; Embling CB Plymouth University; Miller PI Plymouth Marine Laboratory; Hosegood PJ Plymouth University; Ingram SN Plymouth University; Godley BJ Exeter University

P.54 An integrative approach to the conservation of the Sado bottlenose dolphin in the highly human-impacted Sado estuary environment, Portugal.

Carvalho, I *, Instituto Gulbenkian de Ciência, Portugal; Martinho, F Associação para as Ciências do Mar, Tech-Labs, Campus da FCUL, Portugal; Brito, C . Escola de Mar , Tech-Labs, Campus da FCUL, Portugal; Pierce, G Centre for Environmental and Marine Studies, Department of Biology, University of Aveiro, Campus Universitário de Santiago, Portugal; Sequeira, M Instituto da Conservação da Natureza e das Florestas – ICNF, Portugal; Silva, M Center of the Institute of Marine Research & Department of Oceanography and Fisheries, University of the Azores, Portugal; Freitas, L Museu da Baleia, Portugal; Ferreira, M , Sociedade Portuguesa de Vida Selvagem, Universidade do Minho, Departamento de Biologia, Campus de Gualtar, Portugal

P.55 Using larval dispersal models and habitat spatial analysis in reserve network design in the Saudi Arabian Red Sea.

Khalil, MT *, King Abdullah University of Science and Technology; Zhen, P King Abdullah University of Science and Technology; Nanninga, G King Abdullah University of Science and Technology; Genton, M King Abdullah University of Science and Technology; Weeks, R James Cook University; Pressey, R James Cook University; Berumen, M King Abdullah University of Science and Technology

P.56 Understanding the social organization of an apex marine predator to inform conservation practices: striped dolphins in the Gulf of Corinth, Greece.

Pearson, HC *, University of Alaska Southeast; Bearzi, G. Dolphin Biology & Conservation; Bonizzoni, S. Dolphin Biology & Conservation; Santostasi, N.L. Dolphin Biology & Conservation

P.57 The jewel of the marine aquarium trade: The South Pacific, a source of unique biodiversity.

Anderson, LE *, Roger Williams University; Holmberg, R Roger Williams University; Tlusty, M New England Aquarium; Kaufman, L Boston University; Rhyne, A L Roger Williams University; Rhyne, A L New England Aquarium

P.58 Movement of Grouper spp around Red Sea reefs.

McNeill, DC *, University of Glasgow; Bailey, D.M. University of Glasgow; Vivienne Main University of Glasgow; Inga Dehnert Open Ocean Centre, Dahab

P.59 Fine-scale population structure of two anemones (*Stichodactyla gigantea* and *Heteractis magnifica*) at two reefs in Kimbe Bay, Papua New Guinea.

Gatins, R *, Red Sea Research Center, King Abdullah University of Science and Technology, Thuwal, Kingdom of Saudi Arabia; Saenz-Agudelo, P Red Sea Research Center, King Abdullah University of Science and Technology, Thuwal, Kingdom of Saudi Arabia; Scott, A National Marine Science Center, Southern Cross University, NSW, Australia; Berumen, ML Red Sea Research Center, King Abdullah University of Science and Technology, Thuwal, Kingdom of Saudi Arabia

P.60 Striped dolphin abundance in the Gulf of Corinth, Greece: dataset simulations help improve sampling design.

Santostasi NL *, Dolphin Biology & Conservation; Bonizzoni S Dolphin Biology & Conservation; Bearzi G Dolphin Biology & Conservation



P.61 Marine spatial planning for the attention of conservation gaps in Costa Rica.

Martínez-Fernández, D *, Consolidating Costa Rica's Marine Protected Areas SINAC-UNDP-GEF; Montero-Cordero, A. Forever Costa Rica Association; Sancho, J. National System of Conservation Areas; Ruiz, P. Coastal Marine Biodiversity and Climate Change Adaptation; Castillo, P. Forever Costa Rica Association; Geppert, S. Coastal Marine Biodiversity and Climate Change Adaptation; Schlönvoigt, M. Coastal Marine Biodiversity and Climate Change Adaptation

P.62 External drivers of change and opportunities for Ecosystem Stewardship in artisanal fishing communities inside Marine Protected Areas in south Brazil.

Park, T-H *, University of Ghent; Rodrigo Pereira Medeiros Center for Marine Studies. Universidade Federal do Paraná

P.63 Influence of socio-economic dimensions and fishers' attitudes on uptake of By-catch Reduction Devices in a south Brazilian small-scale shrimp fishery.

Vessaz, F*, University of Ghent; Rodrigo Pereira Medeiros Centro de Estudos do Mar, Universidade Federal do Paraná; D'Orey, G, Gaivão Portella Centro de Estudos do Mar, Universidade Federal do Paraná

P.64 Understanding cumulative impacts of coastal development on seagrass using land-use change scenarios and Bayesian networks.

Auge, AA *, ARC CoE Coral Reef Studies; Woodberry, O Bayesian Intelligence; Reid, B ARC CoE Coral Reef Studies; Pressey, RL ARC CoE Coral Reef Studies; Brodie, JE TropWater; Dale, A The Cairns Institute; Yorkston, H Great Barrier Reef Marine Park Authority; Nicholson, AE, Monash University

P.65 Restoration of Biodiversity in estuarine ecosystems of Kali estuary, Karnataka, India.

Nayak, VN *, Department of Marine Biology, Karnataka University PG Centre, Karwar, Karnataka, India; Bhandary, MJ Dept. of Botany, Government First Grade College, Karwar – 581 301, Karnataka, India

P.66 Mangrove Status and Restoration Efforts in the Estuaries of West coast of Karnataka, India

Bhandary, MJ *, Dept. of Botany, Government First Grade College, Karwar, India; Shanthakumar, NL Conservator of Forests, Canara Circle, Sirsi, Karnataka, India; Nayak, VN Karnatak University Post Graduate Centre, Karwar, India

P.67 Seagrass habitat modification – an acceptable anathema?

Stafford-Bell, RE *, Victoria University, Melbourne, Australia; Robinson, RW Victoria University, Melbourne, Australia; Chariton, AA CSIRO, Australia

P.68 The Importance of Marine Fisheries and Ecosystems for Food Security in China.

Ling Cao *, Stanford University; Roz Naylor Stanford University

P.69 Comparison of maturation reaction norms in Scottish whiting (*Merlangius merlangus*) populations.

Burns, N.M. *, University of Glasgow

P.70 Using history to reset the shifted baselines of Turkish and Cypriot fishers.

Ulman, A *, Sea Around Us

P.71 Ecological and management consequences of the positive relationship between range size and abundance in highly mobile large pelagics.

Tremblay-Boyer, L*, UBC Biodiversity Research Centre, Canada; Harley, S, Secretariat of the Pacific Communities, New Caledonia; Pilling, G, Secretariat of the Pacific Communities, New Caledonia

P.72 Towards a classification scheme for external injuries of marine mammals.

Luksenburg, JA *, George Mason University

P.73 Participatory video for advocacy, capacity building and awareness raising in community-based coastal marine management.

Slade, L *, Mwambao Coastal Community Network Tanzania; Thani, A. Mwambao Coastal Community Network Tanzania; Haji, H Mwambao Coastal Community Network Tanzania

P.74 Documentation and development of management strategies for the conservation of marine biodiversity of the coast of Karnataka, India.

r k singh *, karnataka biodiversity board; v n nayak karnataka biodiversity board

P.75 Actor Participation and Institutional Linkage Evolution in Co-Management.

Widodo, H *, Coral Triangle Center

P.76 Unanticipated effects of 'sustainable' fishings; how claw removal affects stone crab (*Menippe spp.*) behavior and survival.

Duermit, L *, College of Charleston; Wilber, D Bowhead Technical and Professional Services

P.77 Feeding selection of a corallivorous and herbivorous parrotfish on a Panamanian coral reef.

Scott, AR *, Carleton College; Chaves, L Simon Fraser University; Marty, MJ University of North Carolina, Wilmington; Ormond, C Simon Fraser University; Nerness, A University of St. Thomas

P.78 Identification of thermal refugia in the Gulf of Thailand

Sutthacheep, M *, Yeemin, T; Pengsakun, S; and Samsuvan, W, Marine Biodiversity Research Group, Department of Biology, Faculty of Science, Ramkhamhaeng University, Thailand

P.79 Monitoring of oil pollution on coral communities in the Eastern Gulf of Thailand

Yeemin, T *, Sutthacheep, M; Suebpala, W; and Sangmanee, K Marine Biodiversity Research Group, Department of Biology, Faculty of Science, Ramkhamhaeng University, Thailand

P.80 Exploring innovative management for the red spiny lobster fishery in the Galápagos Islands.

Debevec, T *, Eddy, NE; Johnson, LA; Sim, J; and Westfall, K, Bren School of Environmental Science & Management

P.81 A case study on European hake gillnet fisheries in the southern Sea of Marmara: Comparison of catch rates and catch composition with different mesh sizes.

Deniz, T., Istanbul University, Faculty of Fisheries; Ateş, C. Muğla Sıtkı Koçman University, Faculty of Fisheries; Göktürk, D. *Istanbul University, Faculty of Fisheries; Uzer, U. Istanbul University, Faculty of Fisheries

P.82 An evaluation of the effects of fishing on the population structure of *Cittarium pica*, the West Indian Top Shell, in the British Virgin Islands and Puerto Rico.

Macfarlan, R.J.A. , PhD Candidate, University of Rhode Island, Natural Resources Science; Forrester, Graham *Prof. University of Rhode Island, Natural Resources Science

P.83 Quantifying recreational shore-angling catches around Malta (Central Mediterranean): insights for management and conservation.

Sandra Agius Darmanin *, Conservation Biology Research Group; Adriana Vella Conservation Biology Research Group

P.84 Payments for Ecosystem Services in developing world fisheries.

Annabelle Bladon *, Imperial College London

P.86 Aquatic tourism development in Nigeria protected areas panacea to global warming: Old Oyo National park as case study.

Ojo,S.O *

P.87 Year-round spatial overlap between energy infrastructure and Brown Pelican movements in the Gulf of Mexico.

Lamb, Juliet S. *, Clemson University, Clemson, SC; Jodice, Patrick G.R. U.S. Geological Survey, South Carolina Cooperative Fish and Wildlife Research Unit, Clemson, SC

P.88 East coast marine mammal acoustic study: using multiple modalities to assess habitat usage by harbour proposes and bottlenose dolphins

Palmer, KJ *, University of St. Andrews; Brookes, K Marine Scotland: Science; Rendell, L University of St. Andrews

P.89 Tourist attitudes towards captive marine mammal attractions in the Turks and Caicos Islands.

Wassermann, S *, School for Field Studies - Center for Marine Resource Studies; Hind, E School for Field Studies - Center for Marine Resource Studies

P.90 Degree of contamination and threats of benthic litter in Salvador, BA, Brazil.

Fernandino, G *, Universidade Federal da Bahia; Elliff, C Universidade Federal da Bahia

P.91 From sand to reef; recycling glass bottles as settlement substrata in the Caribbean.

Ramos, FJ *, Divers Team; Rincón, NM Universidad Nacional de Colombia, Sede Caribe

P.92 Estimation of seasonal blubber stores of Bristol Bay beluga whales (*Delphinapterus leucas*) using high-resolution ultrasound.

Pasi, CJ *, Alaska Pacific University; Cornick, LA Alaska Pacific University; Goertz, C Alaska SeaLife Center; Huntington, KB Alaska Veterinary Pathology Services; Norman, S MarineMed; Quakenbush, L Alaska Department of Fish and Game; Hobbs, R Alaska Fisheries Science Center

P.93 Population genetic study for conservation of the endangered species, *Ellobium chinense*.

Jumin Jun *, National Institute of Biological Resources; JunHyunjong Kil National Institute of Biological Resources; Jeongeun Ban National Institute of Biological Resources; Jeong-Nam Yu National Institute of Biological Resources; Hyunkyung Oh National Institute of Biological Resources

P.94 Genetics and Ecological studies of *Luciogobius pallidus* from Jeju Island in Korea for establishing a conservation strategy.

Yu J-N *, National Institute of Biological Resources; Kim B-J National Institute of Biological Resources; Kim S National Institute of Biological Resources; Oh K National Institute of Biological Resources; Lim CE National Institute of Biological Resources

P.95 Philopatric behaviour in NE Atlantic Spurdog (*Squalus acanthias*), a regionally critically endangered elasmobranch .

Thorburn, JA *, College of Life Sciences & Medicine, Univeristy of Aberdeen; Neat, F Marine Scotland Science; Bailey,DM Institute of Biodiversity Animal Health and Comparative Medicine, University of Glasgow; Noble, LR College of Life Sciences & Medicine, Univeristy of Aberdeen; Jones, CS College of Life Sciences & Medicine, Univeristy of Aberdeen

P.96 Monitoring coastal-marine birds in the Costa Rican northern caribbean through community integrating and inter-institutional processes.

Bonilla, S *

P.97 Comparing volunteer and professionally-collected monitoring data shows that citizen scientists can detect long-term change on coral reefs.

Forrester, G *, University of Rhode Island; Conetta, D University of Rhode Island; Forrester, L University of Rhode Island; Kintzing, E University of New Hampshire; Jarecki, L University of Rhode Island; Baily, P Association of Reef Keepers

P.98 The first participatory marine megafauna by-catch assessment in Maio, Cape Verde.

Lopes, K , Maio Biodiversity Foundation; Passos,L Maio Biodiversity Foundation; Lee-Brooks,K *Fauna and Flora International; Magileviciute,E Maio Biodiversity Foundation; Dutra,A Maio Biodiversity Foundation; Koenen,F Maio Biodiversity Foundation

P.99 Maximizing mangrove forest conservation through multi-scale stakeholder engagement in citizen science.

Cousins, JA *, Earthwatch Institute; Huxham, M Edinburgh Napier University

P.100 Using citizen scientists to strengthen scientific, educational and conservation impacts in coral reef conservation

Cousins, JA *, Earthwatch Institute; Smith, DJ University of Essex

P.101 Engaging Island Developers and Dive Operators in Marine Protected Area Design: Lessons from Cambodia.

Phallin.Chea *, Fauna & Flora International; Berry Mulligan Fauna & Flora International; Sophie Benbow Fauna & Flora International

P.102 Establishing and building capacity of Fishers Sighting Network to assess distribution and diversity of marine mammal along coastal Cameroon.

Aristide Kamla Takoukam *, African Marine Mammal Conservation Organization; Ngafack Paul, Rodrigue African Marine Mammal Conservation Organization; Nguessu Njanjouo, Ghislain African Marine Mammal Conservation Organization; Lucy Keith Diagne Sea to Shore Alliance; Tim Collins Wildlife Conservation Society;





SY16. SYMPOSIUM:
FROM AD HOC REGIONAL SYSTEMS OF MPAS TO ECOLOGICAL NETWORKS

LOMOND AUDITORIUM
Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):

Joachim Claudet, *National Center for Scientific research (CNRS)* and **Francois Guilhaumon**, *Research Institute for Development (IRD)*

How to make an effective ecological network from an ad hoc regional system? This symposium aims at presenting and discussing ways to optimizing such MPA implementations, based on real world examples. This symposium is a continuation of two symposia on MPA networks that were held at IMCC1 and IMCC2, respectively. The aim of the first one was to present different types of MPA networks worldwide and discuss empirical ways of evaluation to assess if the whole is greater than the sum of its parts. In the second one, we presented a typology of MPA networks, spanning from ad hoc system of MPAs to ecological networks, going through representativity, management and social networks. In this symposium, we will focus on the Mediterranean Sea as a case study but methods and conclusions are no specific to the Mediterranean and the symposium can be appealing to a broad audience. Participants will firstly present an assessment of the existing regional system of MPAs in the Mediterranean, looking at different components of marine biodiversity. Then, examples will be discussed on how to reach the Aichi 10% target while aiming at maximizing different properties of networks: representativity of different biodiversity components, connectivity and efficiency through time taking into account potential climate change impacts on species distributions. Additional talks will show how these networks can be improved if over-imposed by management and social networks.

08:30 Optimizing MPA networks based on ecological and fisheries pressure criteria to reach the Aichi 10% target

Claudet, J, *CRILOBE - CNRS*; **Daeden, J**, *LIENSs - University of La Rochelle*; **Mouillot, D**, *ECOSYM - University of Montpellier*

08:45 Representing taxonomic, phylogenetic, and functional diversity: new challenges for Mediterranean marine protected areas

Guilhaumon, F, *Laboratoire Écologie des Systèmes Marins Côtiers UMR 5119, CNRS, IRD, IFREMER, UM2, UM1, France*; **Albouy, C**, *Département de biologie, chimie et géographie, Université du Québec, Canada*; **Claudet, J**, *National Center for Scientific Research, USR 3278, CNRS-EPHE CRILOBE, University of Perpignan, France*; **Ben Rais Lasram, F**, *Laboratoire Écosystèmes et Ressources Aquatiques UR03AGRO1, Institut National Agronomique de Tunisie, Tunisia*; **Douzery, EJR**, *Institut des Sciences de l'Évolution, UMR 5554, CNRS, UM2, France*; **Mouquet, N**, *Institut des Sciences de l'Évolution, UMR 5554, CNRS, UM2, France*; **Araújo, MB**, *Division of Ecology and Evolution, Imperial College London, United Kingdom*; **Mouillot, D**, *Laboratoire Écologie des Systèmes Marins Côtiers UMR 5119, CNRS, IRD, IFREMER, UM2, UM1, France*

09:00 Conservation planning considerations in systems with high heterogeneity

Giakoumi S, *University of Queensland*

09:15 Extending networks of protected areas to optimize connectivity and population growth rate

Andrello, M, *LPED - IRD - Aix-Marseille Université & LECA - Université Grenoble 1, France*; **Nilsson Jacobi, M**, *Chalmers University, Sweden*; **Manel, S**, *LPED - IRD - Aix-Marseille Université & AMAP - CIRAD, Montpellier, France*; **Thuiller, Wilfried, W**, *LECA - Université Grenoble 1, France*; **Guilhaumon, F**, *ECOSYM - IRD - Université Montpellier 2, France*; **Mouillot, D**, *ECOSYM - Université Montpellier 2, France*

09:30 Large-scale conservation planning in a multinational marine environment: cost matters

Mazor, T, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*; **Giakoumi, S**, *Hellenic Centre for Marine Research, Institution of Marine Biological Resources and Inland Waters, Agios Kosmas, Greece*; **Kark, S**, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*; **Possingham, H**, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*

09:45 The role of social networks: from science to taking management action or how to make science matter

Webster, C, *Scientific Officer - MedPAN*; **Romani, M**, *Executive Secretary - MedPAN*; **Claudet, J**, *CRILOBE, CNRS*

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FG34. FOCUS GROUP:
TRICKS FOR THE TRADE: IDENTIFYING AND OVERCOMING BARRIERS TO SPATIAL PLANNING

ALSH ROOM
Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):
Anne Guerry, Mary Ruckelshaus and Gregg Verutes: *Natural Capital Project*

Nearly 150 countries have coastlines, many of which are working to obtain additional benefits from their oceans and coasts while preserving the natural capital that underpins those benefits. Coastal and marine planning promises to do just that, but is far from easy. Challenges include narrowing objectives, aligning appropriate authorities, prioritizing data collection, and synthesizing information. There is great demand for credible, practical approaches and tools for marine planning. Informed by experience in spatial planning in Belize, Canada, the USA, and elsewhere, we have built a beta-version of an open-source, science-driven tool to help overcome barriers to spatial planning in marine and coastal systems. It includes models for exploring how various activities affect a range of benefits derived from marine and coastal systems, valuation of ecosystem services, and optimization of diverse benefits. At the focus group, we will solicit input from planners, scientists, and other stakeholders to shape our continuing work on the tool. We will ask participants to articulate barriers to spatial planning, explore how tools might help overcome some of those, and envision novel solutions to remaining challenges. Outcomes will include: an improved tool for spatial planning that serves the needs of a wider community, development of new international collaborations for the exchange of experiences and ideas, and a peer-reviewed paper addressing barriers, opportunities, and lessons learned.

SY83. SYMPOSIUM:
HUMAN-WILDLIFE CONFLICT: COMPLEXITY IN THE MARINE ENVIRONMENT

BOISDALE ROOM
Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):
Megan M. Draheim, *Virginia Tech Center for Leadership in Global Sustainability*; **Julie-Beth McCarthy,** *Independent Researcher*;
E.C.M. Parsons, *George Mason University Department of Environmental Science and Policy*; **Francine Madden,** *Human-Wildlife Conflict Collaboration (HWCC)*

While human-wildlife conflict (HWC) has long been recognized as a serious conservation threat within the conservation community, there have been few opportunities for the sharing of lessons learned and best practices, both between the terrestrial and marine communities as well as cross-taxonomically within the marine community. HWC has classically been defined as a situation where wildlife impacts humans negatively, and where humans likewise negatively impact wildlife, but there is growing consensus that the conflict between people about wildlife is as important as the conflict between people and wildlife. HWC not only affects the conservation of one species in a certain area, but also impacts a community's and individuals' desires to support conservation programs in general. This symposium will explore the complexity of HWC in the marine environment through a series of case studies that highlight the use of the levels of conflict model, an analytical tool adapted by the Human-Wildlife Conflict Collaboration and derived from the peace-building field that has direct application to marine conservation work (www.humanwildlifeconflict.org). The talks will also explore complementary frameworks for understanding such situations. HWC is a frequent reason why marine conservation initiatives fail or flounder; this symposium highlights multiple ways to think about and address HWC when working with stakeholder groups on marine conservation issues.

08:30 Conch, clean water and conflict: How conflict transformation training changed my approach to multi-stakeholder conservation.

Booker, CJ, *Community Conch*; **Madden, F,** *Human-Wildlife Conflict Collaboration*

09:00 Human-wildlife conflict and the role of religion at the identity-level of conflict transformation

McCarthy, J-B, *Independent Scholar*

09:15 Levels of marine human-wildlife conflict: a whaling case study

Parsons, E.C.M., *George Mason University*

09:30 Hawaiian Monk Seals: Labels, Names, and Stories in Conflict

Sprague, RS *NOAA National Marine Fisheries Service Pacific Islands Regional Office*; **Megan M. Draheim,** *Virginia Tech Center for Leadership in Global Sustainability*



SY89. SYMPOSIUM:
MAKING CITIZEN SCIENCE MATTER

CARRON A ROOM
Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):

John A. Cigliano, *Cedar Crest College*; **Heidi Ballard**, *University of California—Davis*; **Tina Phillips**, *Cornell Lab of Ornithology*; **Jake Levenson**, *Conserve.IO*; **Sarah Foster**, *Project Seahorse*

The number of projects that engage the public in scientific research (i.e, citizen science) has dramatically increased in recent years. Worldwide, marine-based citizen science projects exist that provide opportunities for individuals to engage in marine conservation-related activities, such as monitoring reef systems, categorizing whale calls, and tracking marine debris. While marine citizen science projects have had positive impacts on marine conservation through education and research, the use of citizen science to advance marine conservation lags behind its use for terrestrial and freshwater conservation. Moreover, using citizen science to influence management and policy in marine systems is still relatively uncommon outside of fisheries contexts. The purpose of this symposium is to provide evidence that citizen science is an effective and rigorous method for advancing marine conservation and management. The symposium will consist of an overview of citizen science and case studies of citizen science projects that have successfully fulfilled their conservation-related goals and outcomes. Discussion will focus on how to design and implement a marine citizen science program. The symposium will also set the foundation for an accompanying focus group that will bring together practitioners and researchers who are experienced in developing and running marine citizen science projects to generate guiding principles on how to make citizen science matter for marine conservation.

*A focus group follows this symposium: Making citizen science matter (Carron A Room: 11 A.M. -1 P.M. and 3 - 5 P.M.)

08:30 Overview - Public participation in marine and coastal research and monitoring: linking citizen science with conservation outcomes

Ballard, HL, *University of California, Davis*; **Phillips, T**, *Cornell Lab of Ornithology*

08:45 Making citizen science matter for California's Marine Protected Areas: engaging diverse knowledge producers in monitoring for adaptive management

Meyer, R, *California Ocean Science Trust*; **Freitag, A**, *California Ocean Science Trust*

09:00 Making citizen science matter for queen conch (*Strombus gigas*) in Belize

Cigliano, JA, *Cedar Crest College*; **Kliman, RM**, *Cedar Crest College*

09:15 Flukebook: Connecting stakeholders in cetacean conservation science through powerful web-based tools and social media

Levenson, J, *United States Department of Interior, Bureau of Ocean Energy Management, USA*; **Gero, S**, *Aarhus University, Denmark*; **Harris, E**, *Caribbean Association of Whale Watch Operators, Dominica WI*; **Huber, R**, *Organization of American States, USA*; **Holmberg, J**, *Wild Me, USA*

09:30 Lessons from a decade of collaborative research for whale sharks

Holmberg, J, *Wild Me*; **Arzoumanian, Z**, *Wild Me*

09:45 LiMPETS- Engaging youth in citizen science, connecting students to their coastal resources through the scientific process

Wasser, A, *Pacific Grove Museum of Natural History*; **Dean, A**, *Farallones Marine Sanctuary Association*; **Nickels, A**, *Farallones Marine Sanctuary Association*

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SY60. SYMPOSIUM:
MARINE CONSERVATION AND SEAFOOD SECURITY: LINKING SUSTAINABILITY WITH ETHICS

CARRON B ROOM
Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):

Mimi Elizabeth Lam, *University of British Columbia* and **Carl Walter Matthias Kaiser**, *University of Bergen*

Marine science has focused on the sustainability of fisheries and aquaculture, but despite this, fisheries continue to decline, marine conservation is threatened, and global seafood security is jeopardized. We posit that to make today's marine science matter, it must be combined with practical ethics to address societal goals and values. Ethics are the moral principles governing individual and group behavior and thus influence the equitable distribution of benefits and harms related to shared resources. Determining how marine resources are used, distributed, and conserved requires both rigorous science and practical ethics, as science-based assessments of the sustainability of resource management and policy decisions are often entangled with far-reaching ethical implications. We assemble an international and interdisciplinary panel from the natural and social sciences to explore the connections between the sustainability and ethics of seafood production systems. They will present research methodologies to evaluate the sustainability and ethics of seafood production, case studies to highlight the diversity of local ethics and global systems, and approaches to connect marine science with the public and policymakers. Framing fisheries and aquaculture



sustainability around ethics is likely to have more salience with the public and policy-makers, as it considers not only marine ecosystems, but also the human communities affected by resource management and policy decisions.

*A focus group follows this symposium: Seafood security and food ethics: Transforming marine science into marine policy (Carron A Room: 11 A.M. -1 P.M.)

08:30 Seafood Ethics and Sustainability: Implications for Marine Conservation

Lam, ME, *University of British Columbia*

08:45 Conserving Fish by Evaluating the Ethics and Sustainability of Fisheries

Pitcher, TJ, *Fisheries Centre, UBC*

09:00 A practical ethics approach to exploring the globalised trade of aquaculture products

Bremer, S, *University of Bergen*

09:15 Valuing Global Seafood: The Science-Society Dialogue

Kaiser, CWM, *University of Bergen*

09:30 Engaging Stakeholders and Publics in the Sustainability of Seafood Debate: Participatory Ethics as a Way Forward

Millar KM, *University of Nottingham*

09:45 Role of marine governance in seafood security and ethics

Stead, SM, *Newcastle University*



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FG92. FOCUS GROUP:

CAPACITY DEVELOPMENT FOR COMMUNICATING MARINE SCIENCE AND MONITORING: A LISTENING SESSION

DOCHART A ROOM

Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):

Kate Graves, Gabby Ahmadi, Louise Glew and Helen Fox: *World Wildlife Foundation*

Marine protected areas are a key conservation tool for promoting healthy oceans in support of more sustainable livelihoods. The aim of this focus group is to discuss capacity development for marine scientists from developing countries who are conducting research and monitoring on MPAs and their ecological and social impacts. In this session we will consider the following: what are the main needs for scientists working with raw data in order to analyze it, articulate and present results in creative ways, and disseminate the key recommendations to multiple audiences, including scientific outlets? Discussing and learning about these capacity needs will feed into a pilot program with professional development opportunities for marine scientists. The focus group will consist of a series of facilitated discussions and break-out sessions.

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SY56. SYMPOSIUM:

INTERACTIONS BETWEEN BIRDS AND WIND TURBINES: UNDERSTANDING COLLISION RISKS IN THE MARINE ENVIRONMENT

DOCHART B ROOM

Saturday, 16 August, 8:30 to 10:30

ORGANIZER(S):

Liz Humphreys, *British Trust for Ornithology*; **Ian Davies,** *Marine Scotland*; **Sjoerd Dirksen,** *Bureau Waardenburg*; **Lucy Wright,** *British Trust for Ornithology*; **Aonghais Cook,** *British Trust for Ornithology*; **Karen Krijgsveld,** *Bureau Waardenburg*; **Ruben Fijn,** *Bureau Waardenburg*

The risk of collision with operating turbine blades is considered to be one of the most important effects in assessing the potential impacts of offshore wind farms upon bird populations. Understanding those factors which determine the likelihood of a direct bird strike is paramount to quantifying possible mortality rates through collision risk modeling (CRM). Birds may either alter their flight paths around wind farms or actively divert away from rotating blades and this is collectively known as avoidance behavior. CRM is particularly sensitive to the avoidance rates used, and improved estimates are critically required to better inform recommendations. This is of particular concern to industry as the calculated risk of birds colliding with turbines has contributed to the delay in the consent process or, in some cases, has resulted in applications being turned down. This symposium will bring together the current state of knowledge in terms of quantifying avoidance, other key assumptions in CRM, and the range of CRM approaches that are available and how this information is assessed by the relevant regulatory bodies.

08:30 A review of avian collision risk modelling

Masden, EA, *Environmental Research Institute*

08:45 Application of results from collision risk modelling in the consenting process for offshore wind farms

Davies, IM, *Marine Scotland Science*; **Bennet, FJ,** *Marine Scotland Science*; **Wilson, JM,** *Marine Scotland Science*

- 09:00 Combining multiple datasets in order to quantify flight height distributions**
 Johnston, A, *BTO*; Cook, A, *BTO*; Wright, L, *BTO*; Humphreys, E, *BTO*; Burton, N, *BTO*
- 09:15 Modelling the flight heights of breeding seabirds from GPS tracking data: implications for assessing collision risk with offshore wind farms**
 Ross-Smith, V, *BTO*; Johnston, A, *BTO*; Thaxter, C, *BTO*; Bouten, W, *University of Amsterdam*; Burton, N, *BTO*
- 09:30 Avoidance behaviour of birds around offshore wind farms**
 Krijgsveld, KL, *Bureau Waardenburg*; Fijn, RC, *Bureau Waardenburg*; Collier, MP, *Bureau Waardenburg*; Poot, MJM, *Bureau Waardenburg*; Dirksen, S., *Bureau Waardenburg*
- 09:45 Seabird attraction and increased collision risk at a Belgian offshore wind farm**
 Vanermen, N, *INBO, Belgium*; Onkelinx, T, *INBO, Belgium*; Courtens, W, *INBO, Belgium*; Van de walle, M, *INBO, Belgium*; Verstraete, H, *INBO, Belgium*; Stienen, EWM, *INBO, Belgium*
- 10:00 Night-time obstruction lighting for offshore wind farms - different countries, different rules? A case for the night-migrating birds.**
 Blew, J, *BioConsult SH GmbH & Co. KG*; Nehls, G, *BioConsult SH GmbH & Co. KG*
- 10:15 The Offshore Renewables Joint Industry Programme (ORJIP) bird collision avoidance study**
 Ellis, I, *NIRAS Consulting Ltd*; Skov, H, *DHI Water Environments Ltd*; Desholm, M, *Århus University*; Ward, RM, *NIRAS Consulting Ltd*
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COFFEE BREAK
 10:30 to 11:00



Late morning session: 11:00 A.M. to 1:00 P.M.

SY44. SYMPOSIUM:

SUSTAINING SMALL-SCALE FISHERIES: INVESTIGATING THE CONSEQUENCES OF DECREASED ACCESS TO FISH

LOMOND AUDITORIUM

Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):

Katherine Seto, *University of California Berkeley* and **Jack Kittinger**, *Stanford Center for Ocean Solutions*

One of the predominant challenges in ocean conservation is that of sustaining the benefits of marine fisheries in the face of rapidly changing oceans and declining global stocks. While three billion people rely on fish for at least 15% of their protein, these benefits are particularly critical to coastal developing states, where 100% of individuals who are dependent on marine fisheries for their livelihoods are found. Although small-scale fishers are often characterized as the most vulnerable, very little work has been done to empirically understand the impacts of declining fish availability on these communities. These knowledge gaps also have a wide range of implications for conservation and sustainability (e.g. switching to alternative livelihoods vs. increasing fishing effort or technology). In this symposium, we will explore how theories of access, property rights, and governance can be used to illuminate the social and ecological constraints to fisheries sustainability. This symposium seeks to synthesize lessons learned from various small-scale fisheries systems in order to understand how fishers and their communities are responding to changes in access and rights to marine resources. By investigating the adaptations, trade-offs, and spillover effects of declining access in small-scale fisheries, we can better understand pathways toward social and ecological sustainability.

- 11:00 Implications of local management on ecosystem service flows and distribution: A case study of the Velondriake locally managed marine area, Madagascar**
 Oleson, KLL, *UH Manoa, Blue Ventures Conservation*
- 11:15 Exploring futures for small-scale reef fisheries: Caribbean community visions and governance implications.**
 Fitzsimmons, C, *Newcastle University, UK*; Turner, RA, *University of the West Indies, Barbados*; Forster, J, *Newcastle University, UK*; Young, SE, *Newcastle University, UK*; Peterson, A, *University of the West Indies, Barbados*; Gill, D, *University of the West Indies, Barbados*; Mahon, R, *University of the West Indies, Barbados*; Stead, SM, *Newcastle University, UK*
- 11:30 On Access and Adaptive Capacity: lessons from small-scale fishing cooperatives in Baja California Sur, Mexico**
 Finkbeiner, E, *Hopkins Marine Station, Stanford University*; Crowder, L, *Stanford University*
- 11:45 Assessing the economic viability of small-scale fisheries - a global study**
 Schuhbauer, A, *Fisheries Economic Research Unit, Fisheries Centre, University of British Columbia*; Sumaila, R, *Fisheries*

Economic Research Unit, Fisheries Centre, University of British Columbia; Chuenpagdee, R, Department of Geography, Memorial University of Newfoundland; Miller, D, Fisheries Economics Research Unit (FERU), The University of British Columbia*

12:00 Local Fish, Global Fish: Small scale-industrial competition and the impacts for food security and sustainability in West Africa

Seto, KS, *Department of Environmental Science, Policy, and Management, University of California at Berkeley*

12:15 The emergence of co-management governance and challenges of controlling access in Hawaiian coral reef fisheries

Ayers, AL, *Department of Urban & Regional Planning, University of Hawai'i at M'noa; Kittinger, JN**, *Center for Ocean Solutions, Stanford University & Conservation International's Hawai'i Fish Trust*

SY6 SYMPOSIUM:

THE GLOBAL OCEAN BIODIVERSITY INITIATIVE

ALSH ROOM

Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):

David Johnson, *GOBI Secretariat/Seascope Consultants* and **Henning von Nordheim**, *BfN Germany*

This symposium is by the Global Ocean Biodiversity Initiative (GOBI) Secretariat on the Convention on Biological Diversity's Ecologically or Biologically Significant Marine Areas (EBSAs). In particular we would like to provide information on the development of the EBSA process and future prospects; discuss the relationship between EBSAs and MPAs; and their potential as a basis for marine spatial planning in offshore areas. Given that the process of describing and identifying EBSAs was agreed by the CBD Conference of Parties in 2010 and, since then, Regional EBSA Workshops have taken place for more than 75% of the world's oceans, this proposal fits well in the Congress theme of Advancing Marine Conservation through International Treaties. The timing of IMCC, following three Regional EBSA Workshops proposed for the Spring of 2014 and the technical meeting of CBD (SBSTTA 18) in June 2014, but before the next Conference of the Parties (CBD COP10), means that the session is highly topic- and policy-relevant (i.e. making marine science matter).

11:00 The first global effort to describe ecologically or biologically significant areas in the ocean: inputs, results and next steps

Halpin, PN, *Duke University; Bax, N*, *CSIRO; Cleary, J*, *Duke University; Curtice, C*, *Duke University; Donnelly, B*, *Duke University; Dunn, D*, *Duke University; Dunstan, P*, *CSIRO*

11:15 Using Ecologically or Biologically Significant Areas (EBSA) to Implement Ecosystem Based Management.

Piers Dunstan, *CSIRO Marine and Atmospheric Research; Nicholas Bax*, *CSIRO Marine and Atmospheric Research*

11:30 Important Marine Mammal Areas (IMMA): supporting global strategic conservation planning processes

Tetley, M.J., *Whale and Dolphin Conservation - WDC: IUCN Joint Marine Mammal Protected Area Task Force; Hoyt, E.*, *Whale and Dolphin Conservation - WDC: IUCN Joint Marine Mammal Protected Area Task Force; Notarbartolo di Sciarra, G.*, *Tethys Research Institute: IUCN Joint Marine Mammal Protected Area Task Force*

11:45 Towards marine spatial planning in the deep seas

Thomas, HL, *UNEP World Conservation Monitoring Centre*

12:00 Synergy between EBSAs and PSSAs

Johnson, DE, *GOBI Programme Coordinator*

WS80 SYMPOSIUM:

COMPLETIVE OUTREACH IN THE 21ST CENTURY: WHY WE NEED CONSERVATION MARKETING

BOISDALE ROOM

Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):

Andrew Wright, *George Mason University; Diogo Verissimo*, *Durrell Institute of Conservation and Ecology (DICE) University of Kent; Kathleen Pilfold*, *Edmonton Alberta*

Conservation efforts generally rely on public support. In turn, public support requires issue awareness and the subsequent willingness to act upon it. Conservation outreach seeks to support policy action by influencing public behavior to benefit a given cause. Conservation practitioners are struggling more and more to achieve this in a world with increasing demands on the public's attention by the now-constant availability of entertainment. These problems are further confounded by the discovery that the perceptions of the public may make people less open to appeals from conservation practitioners directly (Bashir et al. 2013). Those seeking to influence the perceptions and behavior of the public must thus seek new methods and techniques for reaching the public. Similarly, conservation advocates must be creative in how they solicit social change to avoid being considered militant activists to the detriment of their own efforts. Marketing professionals use techniques to convince the public to buy particular products by developing relationships or creating positive associations with the particular item or service. Despite their malevolent reputation in conservation circles, the same techniques (proven for consumer product marketing) can be used to influence public



behavior regarding conservation matters. This is likely to be even more important in advancing marine conservation efforts to which the public typically relate less than they do with more visible terrestrial problems.

*A focus group follows this symposium: Building an SCB working group on conservation marketing (Boisdale Room: 1:00-3:00 P. M.)

11:00 An introduction to conservation marketing

Wright, AJ, *George Mason University*

11:15 Branding a Species without a Branding Iron: How to Inform Policy and Management, and Ultimately Catalyze Change Using Basic Marketing Principles

Pilfold, K; Ventre, K

11:45 Evaluating conservation flagships and flagship fleets

Verissimo, D, *Durrell Institute of Conservation and Ecology, University of Kent*; **Fraser, I**, *School of Economics, University of Kent*; **Girao, W**, *AQUASIS- - Associacao de Pesquisa e Preservacao de Ecossistemas Aquaticos*; **Campos, AA**, *AQUASIS- - Associacao de Pesquisa e Preservacao de Ecossistemas Aquaticos*; **Smith, RJ**, *Durrell Institute of Conservation and Ecology, University of Kent*; **MacMillan, D**, *Durrell Institute of Conservation and Ecology, University of Kent*

12:00 "Cute and cuddly boys, cute and cuddly" - how simply changing animal names can impact conservation concern

Scott, CA, *Department of Environmental Science & Policy, George Mason University*; **Parsons, ECM**, *Department of Environmental Science & Policy, George Mason University*

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FG90. FOCUS GROUP:

MAKING CITIZEN SCIENCE MATTER

CARRON A ROOM

Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):

Ryan Meyer, *California Ocean Science Trust*; **Amy Freitag**, *California Ocean Science Trust*; **Tina Phillips**, *Cornell Lab of Ornithology*; **Heidi Ballard**, *University of California-Davis*; **John A. Cigliano**, *Cedar Crest College*; **Jake Levenson**, *Conserve.IO*; **Tyler Stiem**, *Project Seahorse*; **Sarah Foster**, *Project Seahorse*; **Ann Wasser**, *Pacific Grove Museum of Natural History-LiMPETS*

*Two-Part Morning-Afternoon Focus Group (**Part 1:** 11:00 A.M. -1:00 P.M., **Part 2:** 3:00-5:00 P.M.). This focus group follows-up to the symposium Making Citizen Science Matter (Carron A Room, 8:30-10:30 A.M.)

The number of projects that engage the public in scientific research (i.e, citizen science) has dramatically increased in recent years. Worldwide, many marine-based citizen-science projects exist that provide opportunities for individuals to engage in marine conservation-related activities, such as monitoring reef systems, categorizing whale calls, and tracking marine debris. Citizen science projects have generally impacted marine conservation by focusing on education and research outcomes. But citizen science, which has been called people-powered conservation, can be an effective method to impact marine conservation more broadly by, for example, influencing management and policy, improving stewardship, or strengthening a sense of community. This focus group will bring together practitioners and researchers experienced in citizen science to generate guiding principles on how to make citizen science matter for marine conservation and management. The focus group will start with an overview of citizen science and a summary of the associated symposium, followed by a case study demonstrating how a marine citizen science project was developed (iSeahorse). We will build on the discussion from the symposium to develop a typology of marine conservation outcomes that can be effectively addressed using citizen science and scientists. Using results from the focus group, we will develop toolkits for each of the typologies to address marine conservation issues through citizen science.

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FG78. FOCUS GROUP:

SEAFOOD SECURITY AND FOOD ETHICS: TRANSFORMING MARINE SCIENCE INTO MARINE POLICY

CARRON B ROOM

Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):

Tony J. Pitcher, *University of British Columbia* and **Mimi E Lamb**, *University of British Columbia*

*This focus group follows-up to the symposium: Marine Conservation and Seafood Security: Linking Sustainability with Ethics (Carron B Room: 8:30-10:30 A.M.)

This focus group is focused on communicating marine science in a way that matters not only to research scientists, but also to practitioners, policy-makers and the public. Following a joint symposium on marine conservation and seafood security, it will be co-facilitated by an ecologist, a journal editor, and a communications consultant. The focus group will distill from the symposium-generated dialogue clear policy guidelines and criteria for what makes seafood production systems both sustainable and ethical. It will develop a template for a research synthesis and policy paper and re-frame the conclusions into a story that will stick, to be disseminated in the popular media and as a policy paper. Often, scientists lack the training and experience in communicating their science in a way that is understandable and engaging to non-scientists, but these are precisely the skills that can make science matter. This focus group will hone these skills by example, using the scientific products of a joint symposium to develop an engaging story line for research and popular media outputs. Participants will be guided through the process of

transforming good science into a good story for researchers, practitioners, policy-makers, and the public. The sustainability and ethics of seafood production will resonate with all groups, as it captures emerging research that is integral to the culture and economies of many local communities, with global ramifications for seafood security policy.

SY73 SYMPOSIUM:
ASSESSING AND MANAGING DATA-LIMITED FISHERIES AND ECOSYSTEMS

DOCHART A ROOM
Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):
Rod Fujita, *EDF*

Most fisheries without scientific assessments also lack effective management, and are not living up to their conservation, economic, and social potential. The large amounts of data necessary to conduct a formal scientific assessment are often not available for fisheries, so they remain unassessed and many remain essentially unmanaged, continuing to underperform or even collapse. Similarly, if nothing is known about the effects of fisheries on ocean ecosystems, it is difficult to manage those effects. Marine Protected Areas can be effective, but are often difficult to scale up. New regulatory tools, such as ecosystem based harvest limits, are needed to protect ecological processes and structure at scales consistent with the large spatial scales over which fishing is often prosecuted. In this Symposium, we will present a framework for assessing and managing data-limited fisheries and ecosystems that allows scientists, managers, and stakeholders to choose appropriate data-limited methods and to apply the results in a systematic way in order to generate useful science-based guidance for adaptive management that can improve as information improves. Speakers will also describe a variety of such methods, including an exciting new tool based on an analysis of coral reef ecosystem health metrics and thresholds of fish abundance, and participants will engage in an exercise aimed at articulating performance indicators for a fishery of their choice for use in adaptive management.

11:00 Introduction and overview by Jake Kritzer and Willow Battista: integrated framework for Assessing and managing data limited stocks and ecosystems.

Kritzer, J, *Environmental Defense Fund*, **Battista, W**, *Environmental Defense Fund*

11:15 The Comprehensive Assessment of Risk to Ecosystems (CARE), and CARE lite

Battista, W, *Environmental Defense Fund*; **Fujita, R**, *Environmental Defense Fund*; **Karr, K***, *Environmental Defense Fund*

11:30 Ecosystem Tipping Points and Harvest Control.

Karr, KA*, *Environmental Defense Fund*; **Fujita, R**, *Environmental Defense Fund*; **Halpern, B**, *Bren School of Environmental Science and Management*; **Kappel, C**, *National Center for Ecological Analysis and Synthesis*; **Crowder, L**, *Center for Ocean Solutions*; **Selkoe, K**, *National Center for Ecological Analysis and Synthesis*; **Alcolado, P**, *Instituto de Oceanologia, Cuba*

11:45 Assessing vulnerability of fish in the marine aquarium trade

Thornhill, DJ, *Defenders of Wildlife*; **Landesberg, CJ**, *University of Richmond*; **Dee, LE**, *University of California, Santa Barbara*; **Karr, K**, *Environmental Defense Fund*

12:00 Estimating stock status - MPA density ratio

Kritzer, J., *Environmental Defense Fund*

12:15 The evolution of length based mortality estimators and adaptive management (30 minutes)

Gedamke, T, *MER Consultants* (Presented by **Karr, KA**, *Environmental Defense Fund*)

12:45 Ecosystem tipping points and harvest control

Karr, KA*, *Environmental Defense Fund*; **Fujita, R**, *Environmental Defense Fund*; **Halpern, B**, *Bren School of Environmental Science and Management*; **Kappel, C**, *National Center for Ecological Analysis and Synthesis*; **Crowder, L**, *Center for Ocean Solutions*; **Selkoe, K**, *National Center for Ecological Analysis and Synthesis*; **Alcolado, P**, *Instituto de Oceanologia, Cuba*

FG64. FOCUS GROUP:
CHALLENGES IN QUANTIFYING THE AVOIDANCE BEHAVIOR OF BIRDS TO OFFSHORE WIND TURBINES

DOCHART B ROOM
Saturday, 16 August, 11:00 to 13:00

ORGANIZER(S):
Liz Humphreys, *British Trust for Ornithology*; **Ian Davies**, *Marine Scotland*; **Sjoerd Dirksen**, *Bureau Waardenburg*; **Lucy Wright**, *British Trust for Ornithology*

*This focus group follows-up to the symposium: Interactions Between Birds and Wind Turbines: Understanding Collision Risks in the Marine Environment (Dochart B Room: 8:30-10:30 A.M.)

The risk of collision with operating turbine blades is considered to be one of the most important effects in assessing the potential impacts of offshore wind farms upon bird populations. Understanding those factors which determine the likelihood of a direct bird strike is paramount to quantifying possible mortality rates through collision risk modeling (CRM). Birds may either alter

their flight paths around wind farms or actively divert away from rotating blades and this is collectively known as avoidance behaviour. CRM is particularly sensitive to the avoidance rates used, and improved estimates are critically required to better inform recommendations. This is of particular concern to industry as the calculated risk of birds colliding with turbines has contributed to the delay in the consent process or, in some cases, has resulted in applications being turned down. This focus group will draw from the symposium on interactions between birds and wind turbines to focus on three key questions that will be tackled through break out groups: (1) How should we define avoidance behaviour; (2) Are we using the right technology to quantify avoidance behaviour; (3) Capturing variability in avoidance rates - the evidence needed for robust CRM.



Lunch Activities: 1:00 P.M. to 3:00 P.M.

- See Workshop, Student, and Focus Group Descriptions in the front of the program.

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SEA STORIES: SCIENCE TALES FROM THE FIELD

LOMOND AUDITORIUM

Saturday, 16 August, 13:00 to 15:00

Five workshop participants from ‘Tales from the Sea: Communicating Science and Conservation through Storytelling’ will be selected to share their stories, crafted during the pre-conference workshop. This is a special live event on 16 August, and delegates are encouraged to come hear this storytelling session.

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SY3. WORKSHOP:

THE SCIENCE OF CONSERVATION COMMUNICATION: EFFECTIVE OUTREACH THROUGH THE MEDIA

ALSH ROOM

Saturday, 16 August, 13:00 to 15:00

ORGANIZER(S):

The IMCC3 Communications Committee with Communications Chair Samantha Oester & Assistant Communications Chairs David Shiffman and Karyn Traphagen

The importance of science communication has been known for decades, but communication needs to be effective to be successful. Communication-savvy scientists and communication professionals will speak on the importance of conservation communication, effective science communication and tips on working with the media. In this workshop, scientists, journalists, editors and writers will give the inside scoop on effectual and powerful communication through the media. The panel will also discuss how to connect with and build relationships with publications. The workshop will end with a panel discussion on common interview pitfalls, as well as a question-and-answer session.

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FG81. FOCUS GROUP:

BUILDING A SOCIETY FOR CONSERVATION BIOLOGY WORKING GROUP ON CONSERVATION MARKETING

BOISDALE ROOM

Saturday, 16 August, 13:00 to 15:00

ORGANIZER(S):

Andrew Wright, George Mason University; Diogo Verissimo, Durrell Institute of Conservation and Ecology; Kathleen Pilfold

This follows on from the Compleitive Outreach in the 21st Century: Why We Need Conservation Marketing symposium. We believe that there is sufficient interest in this area to support a full working group within the SCB. We also believe that this will generate a needed forum for discussion on this emerging discipline and a pool of expertise that does not currently exist. Marketing agents use techniques to convince the public to buy particular products, though developing relationships or creating positive associations with the particular item or service. Despite their malevolent reputation in conservation circles, the same techniques can be used to influence public behaviour regarding conservation matters, rather than re-inventing the wheel. This is likely to be even more important in advancing marine conservation efforts to which the public typically relate less than they do with more visible terrestrial problems.

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WS43. WORKSHOP:
VALUING OUR SEAS FOR MARINE CONSERVATION: MAKING MARINE ECOSYSTEM SERVICE ASSESSMENT AND VALUATION MATTER FOR MARINE CONSERVATION PLANNING

DOCHART A ROOM

Saturday, 16 August, 13:00 to 15:00

ORGANIZER(S):

Wendy Dodds and Steve Fletcher, *Plymouth University*

In an effort to recognise the valuable contribution of healthy marine ecosystems to human well-being, the assessment and valuation of marine ecosystem services has been applied to a variety of marine conservation situations globally and mainstreamed by The Millennium Ecosystem Assessment (2005) amongst others. However, much of the research effort surrounding the application of marine ecosystem services for marine conservation has been focused on the methods for assessment and valuation of marine ecosystem services. In contrast, there has been relatively little debate about how marine ecosystem service assessment and valuation can be integrated usefully into the process of marine conservation planning. In particular, there has been limited debate on how marine ecosystem service values are weighed against other evidence, how credibility values are awarded by marine conservation planners and other stakeholders, and how the often contested values of marine ecosystem services are communicated to the multiple audiences involved in marine conservation planning. Through sharing international experiences, this workshop will advance critical discussions concerning the benefits and constraints of applying ecosystem service assessment and valuation in marine conservation planning. This workshop will engage scientists, socio-economists, researchers and practitioners to consider how we can make marine ecosystem service science matter for marine conservation.



Afternoon session: 3:00 P.M. to 5:00 P.M.

Saturday



S1. SPEED SESSION: CLIMATE, OCEAN ACIDIFICATION, AND THE CHANGING OCEANS

LOMOND AUDITORIUM

Saturday, 16 August, 15:00 to 17:00

- 15:00 Pristine Seas: what can we learn from the last wild places in the ocean?**
Friedlander, AM, *Fisheries Ecology Research Laboratory, Department of Biology, University of Hawaii*; Ballesteros, E, *Centre d'Estudis Avançats (CEAB-CSIC), Spain*; Sala, E, *National Geographic Society*
- 15:05 Sea turtle population assessment models: comparing model structure and the value of data for estimating abundance**
Chasco, B, *Oregon State University*; Ward, E, *National Oceanic and Atmospheric Administration*; Heppell, S, *Oregon State University*; Eguchi, T, *National Oceanic and Atmospheric Administration*
- 15:10 Decision-making to facilitate habitat movements in coastal Australia**
Chamberlain, DA, *University of Queensland*; Possingham, HP, *University of Queensland*; Phinn, SR, *University of Queensland*
- 15:15 The effects of noise on distribution of cetaceans in the English Channel**
Eleman, A, *University of Southampton*
- 15:20 Socio-economic analysis of Eutrophication in coastal waters: A choice experiment study in Solent, UK**
Wattage, P, *CEMARE, University of Portsmouth*
- 15:25 Coral traits as predictors of bleaching vulnerability**
Mizerek, TL, *Macquarie University*; Madin, JS, *Macquarie University*; Baird, AH, *James Cook University*
- 15:30 Modeling blue whale (*Balaenoptera musculus*) habitat use and relative abundance: conservation implications in the Gulf of St. Lawrence, Canada**
Miller, BM, *SMRU Canada*; Ramp, CA, *Mingan Island Cetacean Study*; Lu, MS, *Texas Instruments*; Larouche, P, *Fisheries and Oceans Canada*; Sears, R, *Mingan Island Cetacean Study*; Hammond, P, *University of St. Andrews*
- 15:35 Monitoring coral reefs: carbonate budgets and their applications to assessments of reef resilience**
Murphy, GN, *University of Exeter*; Perry, C, *University of Exeter*; Simpson, S, *University of Exeter*; McCoy, C, *Cayman Islands Department of Environment*
- 15:40 Using spatial variation to monitor coastal seabird populations**
O'Hanlon, N, *University of Glasgow*
- 15:45 Galapagos marine invasives - identification, prediction and control**
Keith, I, *Charles Darwin Foundation, Galapagos*; Banks, S, *Charles Darwin Foundation, Galapagos*; Collins, K, *University of Southampton, UK*; Dawson, T, *University of Dundee, UK*; Xie, L, *North Carolina State University, USA*

15:50 Arctic conservation through international agreements

Zivian, AM, *Ocean Conservancy*

15:55 What can indicators tell us about the vulnerability of the fisheries sector to climate change in Small Island Developing States?

Monnereau, I, *University of the West Indies*; Mahon, R, *University of the West Indies*; McConney, P, *University of the West Indies*; Nurse, L, *University of the West Indies*

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CS2. CONSTRIBUTED & SPEED SESSION: EFFECTIVE CONSERVATION PLANNING

ALSH ROOM

Saturday, 16 August, 15:00 to 17:00

15:00 Britain's first marine nature reserve: why has it succeeded and why has it failed?

Hiscock, K, *Marine Biological Association of the UK*

15:15 Paving the way for ecosystem recovery: trade-offs between fisheries and other marine ecosystem services

Samhoury, J, *NOAA Northwest Fisheries Science Center*; Stier, A, *NOAA Northwest Fisheries Science Center*; Levin, P, *NOAA Northwest Fisheries Science Center*

15:20 DataMARES: Streamlining communication and collaboration in marine science

Arancibia-Colgáin, M, *Palomar College*; Moreno-Báez, M, *Scripps Institution of Oceanography, University of California San Diego*; Obregón-Noriega, V, *Centro para la Biodiversidad Marina y la Conservación, A.C.*; Sánchez-Rodríguez, A, *para la Biodiversidad Marina y la Conservación, A.C.*; Aburto-Oropeza, O., *Scripps Institution of Oceanography, University of California San Diego*

15:25 Close the high seas to fishing?

White, C, *California Polytechnic State University, San Luis Obispo*; Costello, C, *University of California, Santa Barbara*

15:30 Patterns of anthropogenic threats to seabirds in the North Pacific

Rockwood, RC, *Scripps Institution of Oceanography, University of California, San Diego*; Ballance, IT, *Southwest Fisheries Science Center, NMFS, NOAA*; Halpern, BS, *Bren School of Environmental Science and Management, University of California, Santa Barbara*; Watson, R, *Institute of Marine and Antarctic Studies, University of Tasmania*

15:35 Foraging habitat selection and diving depth of Wedge-tailed and Tropical Shearwater as tool for marine conservation in the western Indian ocean

Calabrese, L, *Island Conservation Society, Seychelles*; Cecere, JG *ISPRA - Institute for Environmental Protection and Research, Italy*; Rocamora, G, *Conservation Society, Seychelles*; Catoni, C, *Ornis italica, Italy*; Bretagnolle, V, *Centre d'Etudes Biologiques de Chizé, Centre Nationale Recherche Scientifique, France*

15:40 Perceptions of reef health and support for coral reef management in three Caribbean UK Overseas Territories (UKOTs)

McLoughlin, NC, *Newcastle University*; Mottram, P, *Newcastle University*; Young, S, *Newcastle University*; Fitzsimmons, C, *Newcastle University*

15:45 ARION: a PAM system for real time bottlenose dolphin monitoring in the Portofino MPA

Alessi, J, *Università degli Studi di Genova*; Bianchi, CN, *Università degli Studi di Genova*; Bozzini, G, *Università degli Studi di Genova*; Brunoldi, M, *Università degli Studi di Genova*; Cappanera, V, *Portofino MPA*; Casale, A, *Università degli Studi di Genova*; Corvisiero, P, *Università degli Studi di Genova*; Fanciulli, G, *Portofino MPA*

15:50 Long-term Monitoring on Ecological Impact in Marine Environment

Choi, J, *Korea National Park Service*; Lee, G, *Korea National Park Service*; Jung, J, *Korea National Park Service*; Kim, J, *Korea National Park Service*; Lee, C-I *Korea National Park Service*

15:55 What has behavioural ecology to do with marine conservation?

Benvenuto, C, *University of Salford*

16:00 Why should mesophotic reefs (30-150 m) be protected? Genetic connectivity insight into a Hawaiian damselfish found on shallow and mesophotic reefs

Tenggardjaja, KT, *University of California, Santa Cruz*; Bowen, BW, *Hawaii Institute of Marine Biology*; Bernardi, G, *University of California, Santa Cruz*

16:05 After the indicator is chosen: Progress towards the recovery target for Pacific herring (*Clupea pallasii*) in Puget Sound, USA

Francis, TB, *University of Washington Tacoma, Puget Sound Institute*; Levin, PS, *NOAA Northwest Fisheries Science Center*; Sheton, AO, *NOAA Northwest Fisheries Science Center*

16:10 Elicitation of experts' knowledge to inform marine conservation planning

Jobstvogt, N, *University of Aberdeen*

16:15 Fishing effects, recovery patterns and management strategies for long-lived and structural precious corals

Montero-Serra, I, *Departament d'Ecologia, Universitat de Barcelona, Spain.*; Linares, C, *Departament d'Ecologia, Universitat de Barcelona, Spain.*; García, M, *Institut de Ciències del Mar, CSIC, Spain*; Pancaldi, F, *Institut de Ciències del Mar, CSIC, Spain*; Frleta-Valic, M, *Institut de Ciències del Mar, CSIC, Spain*; Merad, D, *LSIS UMR CNRS 7296, Centre National de*



la Recherche Scientifique, France; **Drap, P**, LSIS UMR CNRS 7296, Centre National de la Recherche Scientifique, France; **Garrabou, J**, Institut de Ciències del Mar, CSIC, Spain

16:20 Describing regional fish connectivity patterns: Integration of post-larval otolith sclerochronology information in larval dispersal models

Muntoni, M, Department of Life and Environmental Science, University of Cagliari, Italy; **Rocklin, D**, Department of Ecology and Hydrology, University of Murcia, Spain; **Raventos Klein, N**, Barcelona Otolith Reading Services, CEAB-CSIC, Spain; **Beuvier, J**, Mercator Océan - CNRM-GAME, UMR 3589 Météo-France CNRS, France; **García Charton, JA**, Department of Ecology and Hydrology, University of Murcia, Spain; **Murenu, M**, Department of Life and Environmental Science, University of Cagliari, Italy;

16:25 A flicker of hope: Inter-nesting of green turtles near oil and gas refineries in Terengganu

Mustafa, SRS, WWF-Malaysia

16:30 Pelagic sex: using sperm competition theory to infer mating systems in a suite of eastern tropical Pacific dolphins

Thornton, AE, Scripps Institution of Oceanography

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S3. SPEED SESSION: FOOD SECURITY AND THE OCEANS

BOISDALE ROOM

Saturday, 16 August, 15:00 to 17:00

15:00 Incentivizing selective fishing under catch shares in the US West Coast Groundfish Fishery

Kuriyama, PT, University of Washington; **Branch, TA**, University of Washington

15:05 Persian Gulf is potentially a habitat for Nudibranchia by considering the 7 new records of Iranian Nudibranchia along with the 21 previous reports

Moradi, M, Marine Biotechnology Research Center, Bushehr University of Medical Sciences Bushehr, Iran; **Janfaza, S**, PhD candidate, Department of Agricultural Sciences and Natural Resources, University of Mazandaran, Sari, Iran; **Janfaza, E**, PhD candidate, Isfahan university, Isfahan

15:10 Population structure of pilot whale (*Globicephala melas*) in Atlantic waters assessed using genetic markers and ecological tracers

Monteiro, S, Centro de Biologia Molecular e Ambiental (CBMA) & Departamento de Biologia, Universidade do Minho, Portugal; Sociedade Portuguesa de Vida Selvagem; **Ferreira, M**, Centro de Biologia Molecular e Ambiental (CBMA) & Departamento de Biologia, Universidade do Minho, Portugal; Sociedade Portuguesa de Vida Selvagem; **Vingada, JV**, Centro de Biologia Molecular e Ambiental (CBMA) & Departamento de Biologia, Universidade do Minho, Portugal; Sociedade Portuguesa de Vida Selvagem; **Santos, MB**, Instituto Español de Oceanografía Centro Oceanográfico de Vigo, Spain; **López, A**, Coordinadora para o Estudio dos Mamíferos Mariños (CEMMA). Spain; **Brownlow, A**, Wildlife Unit, SAC Veterinary Science Division, UK; **Moffat, CF**, Marine Scotland Aberdeen, Marine Laboratory, UK; **Piertney, S**, School of Biological Sciences (Zoology), University of Aberdeen, UK

15:15 Distribution of Symbiodinium sp. in the temperate intertidal sea anemone *Anthopleura elegantissima* and their response to temperature stresses

Ricci, C

15:20 Using environmental risk assessments to inform large-scale sourcing of wild-caught seafood

Geers, TM, New England Aquarium; **Tlusty, M**, New England Aquarium; **Cho, M**, New England Aquarium; **Taylor, E**, New England Aquarium; **Tausig, H**, New England Aquarium

15:25 Are we swimming against the tide? Coastal development threatens a nominated Ramsar site along eastern Brazil

Siciliano, S, Escola Nacional de Saúde Pública/FIOCRUZ; **Tavares, DC**, Universidade Estadual do Norte Fluminense; **Moura, JF**, Leibniz-Zentrum für Marine Tropenökologie

15:30 Testing the Deep Reef Refugia Hypothesis

Fieseler, CM, Curriculum for the Environment and Ecology, The University of North Carolina at Chapel Hill; **Castillo, KD**, Department of Marine Sciences, The University of North Carolina at Chapel Hill; **Gleason, A**, Department of Physics, University of Miami

15:35 Human deforestation outweighs future climate change impacts of sedimentation on coral reefs

Maina, J, Center for Environmental Decisions (CEED), University of Queensland

15:40 Identification of natural and introduced population of *Mytilus mussels* from New Zealand based on new SNP markers.

Zbawicka, M, Institute of Oceanology of Polish Academy of Sciences; **Westfall, KM**, Vör Marine Research Centre at Breiðafjörður Iceland; **Gardner, J**, Victoria Univ Wellington New Zealand; **Wenne, R**, Institute of Oceanology of Polish Academy of Sciences

15:45 Identifying and valuing cultural ecosystem services: an application in the context of marine food web conservation

Baulcomb, C, SRUC; **Fletcher, R**, UNEP-WCMC; **Lewis, A**, Wild Economics; **Akoglu, E**, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale; **Robinson, L**, University of Liverpool; **von Almen, A**, Lord Green Real Estate Strategies; **Hussain, S**, UNEP; **Glenk, K**, SRUC

15:50 Estimating Red Snapper Harvest by Charter Boats in the Gulf of Mexico

Vianey, LB, *Iowa State University*; **Kaiser, MS**, *Iowa State University*

15:55 Involving fishers in marine science opens the door to community conservation action

Samoilys, MA, *CORDIO East Africa*; **Kawaka, J**, *CORDIO East Africa*; **Maina, GW**, *The Nature Conservancy*; **Oluoch, S**, *CORDIO East Africa*; **Murunga, M**, *CORDIO East Africa*

16:00 An Interim Framework for Assessing the Population Consequences of Disturbance

King, SL, *SMRU Marine and Centre for Research into Ecological and Environmental Modelling*; **Schick, RS**, *Centre for Research into Ecological and Environmental Modelling*; **Donovan, C**, *DMP Statistics*; **Booth, CG**, *SMRU Marine*; **Burgman, M**, *Australian Centre of Excellence for Risk Analysis, The University of Melbourne*; **Thomas, L**, *Centre for Research into Ecological and Environmental Modelling*; **Harwood, J**, *SMRU Marine and Centre for Research into Ecological and Environmental Modelling*;

16:05 Improving high seas and deep seas governance through technology.

Thiele, T, *University of Cambridge*

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FG90. FOCUS GROUP:

MAKING CITIZEN SCIENCE MATTER

CARRON A ROOM

Saturday, 16 August, 15:00 to 17:00

ORGANIZER(S):

Ryan Meyer, *California Ocean Science Trust*; **Amy Freitag**, *California Ocean Science Trust*; **Tina Phillips**, *Cornell Lab of Ornithology*; **Heidi Ballard**, *University of California-Davis*; **John A. Cigliano**, *Cedar Crest College*; **Jake Levenson**, *Conserve.IO*; **Tyler Stiem**, *Project Seahorse*; **Sarah Foster**, *Project Seahorse*; **Ann Wasser**, *Pacific Grove Museum of Natural History-LiMPETS*

*Two-Part Morning-Afternoon Focus Group (**Part 1:** 11:00 A.M. -1:00 P.M., **Part 2:** 3:00-5:00 P.M.). This focus group follows-up to the symposium Making Citizen Science Matter (Carron A Room, 8:30-10:30 A.M.)

The number of projects that engage the public in scientific research (i.e, citizen science) has dramatically increased in recent years. Worldwide, many marine-based citizen-science projects exist that provide opportunities for individuals to engage in marine conservation-related activities, such as monitoring reef systems, categorizing whale calls, and tracking marine debris. Citizen science projects have generally impacted marine conservation by focusing on education and research outcomes. But citizen science, which has been called people-powered conservation, can be an effective method to impact marine conservation more broadly by, for example, influencing management and policy, improving stewardship, or strengthening a sense of community. This focus group will bring together practitioners and researchers experienced in citizen science to generate guiding principles on how to make citizen science matter for marine conservation and management. The focus group will start with an overview of citizen science and a summary of the associated symposium, followed by a case study demonstrating how a marine citizen science project was developed (iSeahorse). We will build on the discussion from the symposium to develop a typology of marine conservation outcomes that can be effectively addressed using citizen science and scientists. Using results from the focus group, we will develop toolkits for each of the typologies to address marine conservation issues through citizen science.

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CS4. CONTRIBUTED & SPEED SESSION: COMMUNICATING MARINE CONSERVATION

CARRON B ROOM

Saturday, 16 August, 15:00 to 17:00

15:00 What lies beneath - probing the cultural depths of nature conservation conflict in the Outer Hebrides

Brennan, RE, *Scottish Association for Marine Science*

15:15 "The future of our oceans" infographic- creating public and industry awareness of seafood traceability

O'Meara, DL *Scripps Institution of Oceanography at University of California, San Diego*; **Zeyen, D** *Conservation International*; **Haymet, ADJ** *Scripps Institution of Oceanography at University of California, San Diego*

15:20 The Big Fish Network: An Incentive Based Approach to Citizen Science in the Maldives

Rees, RG, *Maldives Whale Shark Research Programme*; **Hancock, JW**, *Maldives Whale Shark Research Programme*

15:25 A transborder marine litter research programme undertaken in two regions between Italy and France in the Pelagos Sanctuary

Crosti, R, *MATM-ISPRA*; **Luperini, C**, *Univ. Pisa*; **Campana, I**, *Univ. La Tuscia*; **Cerri, F**, *Univ. Pisa*; **Di Clemente, J**, *Southern Denmark University*; **Paraboschi, M**, *Accademia del Leviatano*; **Refice, S**, *Legambiente*; **Trampetti, F**, *Univ. Politecnica Marche*; **Arcangeli, A**, *ISPRA*

15:30 The human dimensions of marine conservation collaborations - A comparative analysis of two collaborations in the Central Visayas, Philippines

Pietri, DM, *University of Washington, School of Environmental and Forest Sciences*

15:35 Poachers and Olive Ridley Conservation - An effective Conservation Planning

Pandit, R, *Karnataka Forest Department*



- 15:40 American sustainable fisheries for all 232 commercially valuable fish stocks**
Moir, R, *Ocean River Institute*
- 15:45 Estimate grey seal consumption in West of Scotland with limited observed data**
Trijoulet, V, *Mathematics and Statistics Department, University of Strathclyde*; Dickson, A, *Economics Department, University of Strathclyde*; Cook, R, *Mathematics and Statistics Department, University of Strathclyde*
- 15:50 Movement patterns of tropical marine fishes and implications for conservation and management**
Green, AL, *The Nature Conservancy, Brisbane, Queensland, Australia.*; Maypa, A., *Coastal Conservation and Education Foundation, Cebu City, Philippines.*; Almany, G, *Laboratoire d'Excellence 'CORAIL', USR 3278 CNRS-EPHE CRILOBE, Perpignan, France.*; Rhodes, K, *The University of Hawaii at Hilo, Hilo, Hawai'i, U.S.A.*; Weeks, R, *Australian Research Council Centre of Excellence for Coral Reef Studies, James Cook University, Townsville, Queensland, Australia.*; Mumby, P, *Marine Spatial Ecology Laboratory, School of Biological Sciences, University of Queensland, St Lucia, Queensland, Australia.*; Gleason, M, *The Nature Conservancy, Monterey, California, U.S.A.*; Abesamis, R, *Silliman University, Angelo King Center for Research and Environmental Management, Dumaguete City, Negros Oriental, Philippines*
- 15:55 Community Based Management of Invasive Lionfish in the Florida Keys**
Spencer, Erin, *National Geographic, College of William & Mary*
- 16:00 Back to nature, and for a good cause. The Reef Check Italia experience with diving volunteers**
Previati, M, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, CEA (Environmental Educational Center)*; Milanese, M, *Studio Associato Gaia snc*; Palma, M, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, UBICA s.r.l. (Underwater Biological Cartography)*; Pantaleo, U, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, UBICA s.r.l. (Underwater Biological Cartography)*; Scinto, A, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, UBICA s.r.l. (Underwater Biological Cartography)*; Turricchia, E, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, UBICA s.r.l. (Underwater Biological Cartography)*; Ponti, M, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, UBICA s.r.l. (Underwater Biological Cartography)*; Cerrano, C, *Reef Check Italia onlus, c/o DiSMar, Polytechnic University of Marche, UBICA s.r.l. (Underwater Biological Cartography)*
- 16:05 What is more important for seagrass conservation? Measuring environmental & ecological parameters in seagrass beds with different forms of protection**
Quiros, TEA, *University of California Santa Cruz*; Tershy, B, *University of California Santa Cruz*; Croll, D, *University of California Santa Cruz*
- 16:10 The intertidal zone in the Western Indian Ocean - understudied, undermanaged and with poor or no monitoring?**
Nordlund, LM, *WIO CARE, Tanzania*; de la Torre-Castro, M, *Dept. of Physical Geography, Stockholm University*; Erlandsson, J, *Vattenmyndigheten Västerhavets distrikt, Länsstyrelsen Västra Götaland*; Conand, C, *Laboratoire Ecomar, Université de La Réunion*; Muthiga, N, *Wildlife Conservation Society, Mombasa, Kenya*; Jiddawi, NS, *Institute of Marine Sciences, University of Dar Es Salaam*; Gullström, M, *Department of Ecology, Environment and Plant Sciences, Stockholm University*
- 16:15 The Importance of Mangroves to People - A Call to Action**
van Bochove, J, *UNEP-WCMC*; Sullivan, E., *UNEP-WCMC*; Nakamura, T., *UNEP/DEPI*

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CS5. CONTRIBUTED & SPEED SESSION: PARTICIPATION IN MARINE CONSERVATION SCIENCE

DOCHART A ROOM

Saturday, 16 August, 15:00 to 17:00

- 15:00 A quick stop before heading to pupping grounds? Whale sharks population structure, habitat use and connectivity patterns at Darwin Island, Galapagos Is.**
Acuña-Marrero, D, *Charles Darwin Reserach Station*; Hearn, A, *Turtle Island Research Network*; Green, J, *Charles Darwin Reserach Station*; Salinas de León, P, *Charles Darwin Reserach Station*
- 15:15 Coastal Communities, Conservation and Livelihoods**
Charles, A, *Saint Mary's University*
- 15:30 Economic Valuation of the impact on the fisheries after the appearance of lionfish in the Colombia Caribbean coral reefs**
Galvis, NH, *Fundación ICRI Colombia en Pro de los Arrecifes Coralinos*; Galvis, RH, *Fundación ICRI Colombia en Pro de los Arrecifes Coralinos*; Pardo, JC, *PESCAPUR*; Guerrero, H, *PESCAPUR*
- 15:35 Empowering local marine resource users to prepare Marine Protected Area management plans: the next step towards improving co-management effectiveness**
Klaus, R, *Shoals Rodrigues & BiK-F Senckenberg Research Institute*; Hardman, ER, *Shoals Rodrigues*; Raffin, JSJ, *Shoals Rodrigues*; Meunier, MS, *Shoals Rodrigues*; Perrine, S, *Shoals Rodrigues*; Blais, FEL, *Shoals Rodrigues*; Raffaut, R, *Shoals Rodrigues*
- 15:40 How can oil and gas companies and marine biota observers collaborate to improve marine science in Brazil?**
Leite, L, *Cambridge University*
- 15:45 Heavily Fe and Zn contaminated seaweed in the Kanayama Bay in Kii peninsula central Japan**
Ii, H, *Professor, Faculty of Systems Engineering, Wakayama University*

- 15:50 Assessing dolphin behavior with acoustics: The bottlenose dolphin *Tursiops truncatus* whistle repertoire depends on what dolphins do**
González-Leal, BP, *Universidad del Mar*; **Bazúa-Durán, C** *Facultad de Ciencias, Universidad Nacional Autónoma de México (UNAM)*
- 15:55 Fishing derbies: An unconventional tool for public engagement in invasive species control**
Green, SJ, *Oregon State University*; **Akins, JL**, *Reef Environmental Education Foundation*
- 16:00 Determining Genotypes from Blowhole Exhalation Samples of Harbour Porpoises (*Phocoena phocoena*)**
Ewa, IB, *Department of Genetics and Animal Breeding, Warsaw University of Life Sciences, Poland*; **Nowak, Z** *Department of Genetics and Animal Breeding, Warsaw University of Life Sciences, Poland*; **Foote, AD** *Centre for GeoGenetics, Natural History Museum of Denmark, Denmark*; **van Elk, C** *Dolfinarium, Netherlands*; **Wahlberg, M** *University of Southern Denmark, Denmark, and Fjord & Belt, MargrethesPlads Denmark*
- 16:05 Fishers' Local Ecological Knowledge and perceptions in Samaná, Dominican Republic**
Mclean, EL, *University of Rhode Island, Kingston, RI, USA*; **Forrester, GE**, *University of Rhode Island, Kingston, RI, USA*

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CS6. CONTRIBUTED & SPEED SESSION: MARINE RENEWABLE AND NON-RENEWABLE ENERGY

DOCHART B ROOM

Saturday, 16 August, 15:00 to 17:00

- 15:00 Increased extinction risk of the New Zealand sea lion, *Phocarctos hookeri*, caused through individual variation in vital rates**
Meyer, S, *University of Otago, New Zealand*; **Robertson, BC**, *University of Otago, New Zealand*; **Chilvers, BL**, *Department of Conservation, New Zealand*; **Krkosek, M**, *University of Toronto, Canada*
- 15:15 Cumulative sound exposure during offshore wind farm installation: implications for hearing damage in harbour seals**
Hastie, GD, *Sea Mammal Research Unit*; **Russell, DJF**, *Sea Mammal Research Unit*; **McConnell, B**, *Sea Mammal Research Unit*; **Thompson, D**, *Sea Mammal Research Unit*; **Janik, VM**, *Sea Mammal Research Unit*
- 15:20 BOEM Workshop Report: Quieting Technologies for reducing noise during seismic surveying and Pile Driving.**
CSA Ocean Sciences Inc., CSA Ocean Sciences Inc.; **Butterworth, M** *Bureau of Ocean Energy Management*
- 15:25 Importance of *Cystoseira* algal associations for mollusc fauna in the Gulf of Trieste (Northern Adriatic Sea)**
Pitacco, V, *Marine Biology Station (National Institute of Biology), Piran, Slovenia*; **Orlando-Bonaca, M**, *Marine Biology Station (National Institute of Biology), Piran, Slovenia*; **Mavrič, B**, *Marine Biology Station (National Institute of Biology), Piran, Slovenia*; **Popović, A**, *University of Primorska (FAMNIT), Koper, Slovenia*; **Lipej, L**, *Marine Biology Station (National Institute of Biology), Piran, Slovenia*
- 15:30 Role of seal colonies in the provision of carrion as a resource for scavenging seabirds.**
Quaggiotto, MM, *Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow*; **Morris, C**, *Sea Mammal Research Unit, Scottish Oceans Institute, East Sands, University of St Andrews*; **Pickett, D**, *Scottish Natural Heritage*; **McCafferty, DJ**, *Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow*; **Bailey, DM**, *Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow*
- 15:35 Marine tourism as a platform of research: studying the social structure of feeding humpback whales (*Megaptera novaeangliae*) in the Gulf of Maine.**
Weilermann, D, *Scottish Association for Marine Science, Oban, Argyll PA37 1QAT, Scotland, UK*; **Wilson, B**, *Scottish Association for Marine Science*; **Benjamins, S**, *Scottish Association for Marine Science*; **Schulte, D**, *Blue Ocean Society for Marine Conservation*; **Robbins, J**, *Provincetown Center for Coastal Studies*



COFFEE BREAK
17:00 to 17:30





Late afternoon session: 5:30 P.M. to 7:30 P.M.

Saturday



C24. CONTRIBUTED SESSION: MARINE RENEWABLE AND NON-RENEWABLE ENERGY

ALSH ROOM

Saturday, 16 August, 17:30 to 19:30

- 17:30 **Bad vibes from too much noise: Unchecked and unforeseen impacts of seismic testing on U.S. fisheries**
Young, SM, *Oceana*; Keledjian, AJ, *Oceana*
- 17:45 **Marine biodiversity offsets - lessons learned from the terrestrial realm**
Livingstone, SR, *The Biodiversity Consultancy*; Ekstrom, JE, *The Biodiversity Consultancy*; Pollard, E, *The Biodiversity Consultancy*; Pilgrim, JD, *The Biodiversity Consultancy*
- 18:00 **Marine mammals and tidal turbines: understanding true collision risk**
Sparling, CE, *SMRU Marine, New Technology Centre, North Haugh, University of St Andrews*; Booth, CG, *SMRU Marine, New Technology Centre, North Haugh, University of St Andrews*; Hastie, GD, *Sea Mammal Research Unit, Scottish Oceans Institute, University of St Andrews*; Gillespie, D, *Sea Mammal Research Unit, Scottish Oceans Institute, University of St Andrews*
- 18:15 **Robin Rigg Offshore Wind Farm, 13 years of ecological monitoring: Results, lessons learned and implications for ecosystems and future developments.**
Lancaster, J, *Natural Power Consultants Ltd*; McGregor, R, *Natural Power Consultants Ltd*; Lye G, *Natural Power Consultants Ltd*; Pendlebury, C, *Natural Power Consultants Ltd*
- 18:30 **Impact hypothesis for offshore wind farms: explanatory models for species distribution at extremely exposed rocky reefs**
Schläppy, M-L, *Ecole Polytechnique Fédérale Lausanne, 1015 Lausanne*; Šaškov, A, *KU CORPI, Coastal Research and Planning Institute, Klaipeda University*; Dahlgren, TG, *Uni Research AS, Uni Environment, Sweden*
- 18:45 **Effects on bluefin tuna behaviour of offshore wind turbine operational noise**
Espinosa, V, *Universitat Politècnica de Valencia*; Perez-Arjona, I, *Universitat Politècnica de Valencia*; Puig, V, *Universitat Politècnica de Valencia*; Soliveres, E, *Universitat Politècnica de Valencia*; Ordoñez, P, *Universitat Politècnica de Valencia*; Poveda P, *Universitat d'Alacant*; Ramis J, *Universitat d'Alacant*; de la Gandara, F, *Instituto Español de Oceanografía*;
- 19:00 **Bayesian inference of benthic infauna habitat suitability along the US west coast**
Havron, A, *Oregon State University*; Goldfinger, C, *Oregon State University*; Henkel, S, *Oregon State University*; Romsos, C, *Oregon State University*; Gilbane, L, *Bureau of Ocean and Energy Management*
- 19:15 **Population consequences of displacement from offshore wind farms: a case study for five seabird species**
Searle, KR, *Centre for Ecology and Hydrology*; Mobbs, D, *Centre for Ecology and Hydrology*; Butler, A, *Bioinformatics and Statistics Scotland*; Bogdanova, M, *Centre for Ecology and Hydrology*; Freeman, S, *Centre for Ecology and Hydrology*; Wanless, S., *Centre for Ecology and Hydrology*; Daunt, F, *Centre for Ecology and Hydrology*

C2. CONTRIBUTED SESSION: ADVANCING MARINE CONSERVATION THROUGH INTERNATIONAL AGREEMENTS

BOISDALE ROOM

Saturday, 16 August, 17:30 to 19:30

- 17:30 **Basking shark conservation in the North-East Atlantic: has it been a BIG success?!**
Gore MA, *Faculty of Life Sciences, Heriot-Watt University, Edinburgh, UK*; Ormond RFG, *Faculty of Life Sciences, Heriot-Watt University, Edinburgh, UK*
- 17:45 **Synoptic data collection on cetacean, marine birds, sea turtle, marine traffic, marine litter: a multidisciplinary collaboration in Mediterranean Sea**
Arcangeli, A, *ISPRA, Univ. Roma TRE*; Aissi, M, *Atutax*; Atzori, F, *Capo Carbonara MPA*; Azzolin, M, *Univ. Torino*; Baccetti, N, *ISPRA, COT*; Campana, I, *Accademia del Leviatano, Univ. Tuscia*; Castelli, A., *Univ. Pisa*; Cerri, F, *Univ. Pisa*;
- 18:00 **Mapping key pollutants in the English Channel region: the Channel Catchments Cluster (3C) cross-border project**
Richir, J, *Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth*; Pini, J, *Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth*; Watson, G, *Institute of Marine Sciences, School of Biological Sciences, University of Portsmouth*
- 18:15 **Ocean Acidification - An orphan problem seeking adoption**
Harrould-Kolieb, E, *University of Melbourne*
- 18:30 **From Measuring Outcomes to Providing Inputs: Governance, Management, and Local Development for Effective Marine Protected Areas**
Bennett, NJ, *University of British Columbia*; Dearden, P, *University of Victoria*

- 18:45 Managing catchment and coastal derived pollution in the Great Barrier Reef - success and failure.**
Brodie, J, *TropWATER, James Cook University*
- 19:00 Reinventing residual reserves in the sea: are we favouring ease of establishment over need for protection?**
Devillers, R, *Department of Geography, Memorial University of Newfoundland*; **Pressey, RL**, *Australian Research Council Centre of Excellence for Coral Reef Studies, James Cook University*; **Grech, A**, *Australian Research Council Centre of Excellence for Coral Reef Studies, James Cook University*; **Kittinger, JN**, *Center for Ocean Solutions, Stanford University, Woods Institute for the Environment*; **Edgar, G**, *Institute for Marine and Antarctic Studies, University of Tasmania*; **Ward, TJ**, *University of Technology Sydney*; **Watson, R**, *Institute for Marine and Antarctic Studies, University of Tasmania*
- 19:15 Prioritizing cost-effective management projects to improve water quality in the Great Barrier Reef**
Klein, C, *University of Queensland*; **Behr, J**, *University of Queensland*; **Possingham, H**, *University of Queensland*

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C8. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

CARRON A ROOM

Saturday, 16 August, 17:30 to 19:30

- 17:30 Coupled reproduction and settlement in a coastal metapopulation: evidence of low connectivity in a network of marine protected areas**
Hameed, SO, *Bodega Marine Laboratory, University of California, Davis*; **White, JW**, *University of North Carolina, Wilmington*; **Miller, SH**, *Smithsonian Environmental Research Center*; **Nickols, KJ**, *Hopkins Marine Station, Stanford University*; **Morgan, SG**, *Bodega Marine Laboratory, University of California, Davis*
- 17:45 Establishing the largest Marine Protected Area in the world: Scientific justification and management challenges for the Pitcairn Islands**
Dawson, TP, *School of the Environment, University of Dundee*; **Irving, R**, *Sea-Scope Marine Environmental Consultants*; **Koldewey, H**, *Zoological Society of London*
- 18:00 Darwin Initiative to enhance an established marine protected area system, Cayman Islands**
McCoy, C, *Department of Environment, Cayman Islands and Bangor University, Wales, UK*; **Turner, JR**, *Bangor University, Wales, UK*; **Richardson, L**, *Bangor University, Wales, UK and Department of Environment, Cayman Islands*; **Byrne, J**, *The Nature Conservancy, USA*; **Austin, T**, *Department of Environment, Cayman Islands*; **Ebanks-Petrie, G**, *Department of Environment, Cayman Islands*;
- 18:15 Measuring MPA performance, "Fit or Unfit for purpose"; an evaluation of Caymanian MPAs after 26 years on target reef fish assemblages.**
McCoy, C, *Department of Environment, Cayman Islands*; **Turner, J**, *Bangor University, Wales UK*; **Ebanks-Petrie, G**, *Department of Environment, Cayman Islands*; **Austin, T**, *Department of Environment, Cayman Islands*; **Bryne, J**, *The Nature Conservancy*; **Richardson, L**, *Department of Environment, Cayman Islands*
- 18:30 Scotland's Marine Protected Area Network: A set of guidelines for considering climate change.**
Hopkins, CH, *University of Glasgow*; **Bailey, DM**, *University of Glasgow*; **Potts, Tavis**, *SAMS*
- 18:45 Modeling Distribution of Fish Species in three Large Marine Regions using GIS and Satellite Data**
Kaimuddin, AH, *UBO/LEMAR*; **Lae, R**, *IRD/LEMAR*; **Tito de Moraes, L**, *IRD/LEMAR*
- 19:00 Recent ecological changes in the Mesoamerican Reef: What is the effect of protected areas?**
Alvarez-Filip, L, *Unidad Académica de Sistemas Arrecifales. Instituto de Ciencias del Mar y Limnología, Universidad Nacional Autónoma de México*

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C13. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

CARRON B ROOM

Saturday, 16 August, 17:30 to 19:30

- 17:30 Social disruption, adaptive capacity and conservation in the New England groundfish fishery**
Grabowski J, *Northeastern University*; **Scyphers, S**, *Northeastern University*; **Picou, S**, *University of South Alabama*
- 17:45 Developing a marine zoning framework to implement ecosystem-based management in Canada's North Pacific Coast**
Short, C, *Ministry of Forests, Lands, and Natural Resource Operations*; **Diggon, S**, *Coastal First Nations-Great Bear Rainforest*; **Smith, J**, *Birdsmith Ecological Research*; **Bones, J**, *JG Bones Consulting*; **Justice, M**, *Ministry of Forests, Lands, and Natural Resource Operations*
- 18:00 Incorporating marine connectivity into fisheries and conservation under strong asymmetry of seasonally reversing gyres in Northern Gulf of California**
Munguia-Vega, A, *PANGAS Science Coordination, Comunidad y Biodiversidad, A.C., Guaymas, Sonora, Mexico*; **Marinone, SG**, *Departamento de Oceanografía Física, Centro de Investigación Científicas y Educación Superior de Ensenada, Ensenada, Baja California, Mexico*; **Alvarez-Romero, JG**, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Townsville, QLD, Australia*; **Moreno-Baez, M**, *Center for Marine Biodiversity and Conservation, Scripps Institution of*



Oceanography, University of California San Diego, La Jolla, CA, USA; Castillo-Lopez, A, Pronatura Noroeste, A.C., Ensenada, Baja California, Mexico; Turk-Boyer, P, Centro Intercultural de Estudios de Desiertos y Océanos, Puerto Peñasco, Sonora, Mexico; Green, A, Indo-Pacific Division, The Nature Conservancy, West End, Queensland, Australia; Torre, J, Comunidad y Biodiversidad, A.C., Guaymas, Sonora, Mexico;

- 18:15 Using conservation-scapes to understand management outlooks: A comparative study of Irrawaddy dolphin bycatch in small-scale fisheries**
Whitty, TS, Center for Marine Biodiversity and Conservation, Scripps Institution of Oceanography
- 18:30 A legal and ecological perspective of 'site integrity' to inform policy development and management of Special Areas of Conservation in Europe.**
Rees, SE, Plymouth University, UK; Sheehan, EV, Plymouth University, UK; Jackson, EL, CQUniversity, Australia; Gall, SC, Plymouth University, UK; Cousens, SL, Plymouth University, UK; Solandt, JL, Marine Conservation Society, UK; Boyer, M, Matthew Boyer Solicitors, UK; Attrill, MJ, Plymouth University, UK
- 18:45 In the dark: should conservation biologists use blinding?**
Roccliffe, S, Environment Department, University of York; Hawkins, JP, Environment Department, University of York; Anderson, LG, School of Biology, University of Leeds
- 19:00 Developing a practical framework for integrating the ecosystem approach into marine planning**
Stockill, J, Marine Management Organisation
- 19:15 Putting humans back in the ecosystem: Developing human dimensions tools for large ecosystem recovery planning in Puget Sound**
Harguth, H, Puget Sound Partnership; Biedenweg, K, University of Washington - Tacoma, Puget Sound Institute; Stiles, K, Puget Sound Partnership
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C22. CONTRIBUTED SESSION: FOOD SECURITY AND THE OCEANS

DOCHART A ROOM

Saturday, 16 August, 17:30 to 19:30

- 17:30 Effects of artisanal fishing in the Galápagos Marine Reserve: the case of the regional endemic grouper *Mycteroperca olfax*.**
Salinas de León, P, Charles Darwin Foundation; Eddy, TD Dalhousie University
- 17:45 Continued low abundance of Prince William Sound herring 25 years after the Exxon-Valdez Oil Spill**
Muradian, ML, Quantitative Ecology and Resource Management, University of Washington; Branch, TA, School of Aquatic and Fisheries Science, University of Washington
- 18:00 Trends in seafood security and governance adaptive capacity for island nations futures**
Teneva, L, Stanford University; Chow, J, Conservation International's Hawai'i Fish Trust, Kittinger, JN, Stanford University
- 18:15 How behavioral economics can help save coral reefs and fisheries**
Johnson, AE, Waitt Institute; Saunders, DK, University of California Santa Barbara
- 18:30 Resurrecting maximum sustainable yield as a major conservation tool**
Appleby, TPS, Senior Lecturer in Law, University of the West of England,
- 18:45 Evaluating fisher's perceptions of management and compliance in data-poor fisheries of southeastern Africa**
McClanahan, TR, Wildlife Conservation Society; Abunge, CA, Wildlife Conservation Society
- 1900 The Bay of Biscay, a sea for all. Citizen education and citizen science for safeguarding coastal biodiversity**
Dopico, E, University of Oviedo, Spain; Borrell, Y, University of Oviedo, Spain; Miralles, L, University of Oviedo, Spain; Ardura, A, University of Klaipeda, Lithuania
- 19:15 Threats and opportunities for local management of the endangered Nassau grouper**
Calosso, MC, Hopkins Marine Station of Stanford University; Claydon, JAB, Hopkins Marine Station of Stanford University
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SY36. FOCUS GROUP:

INVESTIGATING MARINE SOCIAL-ECOLOGICAL SYSTEMS: A TRANS-DISCIPLINARY FRAMEWORK FOR A SUSTAINABLE FUTURE

DOCHART B ROOM

Saturday, 16 August, 17:30 to 19:30

ORGANIZER(S):

Pierre Leenhardt, University Pierre and Marie Curie, Joachim Claudet of the National Center for Scientific Research

Social-ecological systems (SESs) are conceptual systems that enable to depict, characterize and understand human-nature interactions from an integrative basis. Understanding how such complex adaptive systems are structured, evolve through time and respond to different pressures (e.g. respond to stressors, policy decisions or management actions) is crucial to the sustainable management of SESs. The understanding of SESs will remain limited if only framed within a single discipline. Collaborating with other disciplines is essential



to better investigate SESs and to propose a unified trans-disciplinary framework that acknowledges their full complexities. Orientations for the future investigations and management of social-ecological systems require reliable forecasts, scenarios that involve multiple modeling techniques. Development of such models will facilitate the critical process of making explicit the differing mental constructs of various users, stakeholders and managers and will illuminate the consequences of different environmental policies on SESs. This focus group will contribute to a better understanding of complexity and dynamics that characterizes SESs. The objectives of the focus group are: (1) to share experiences across disciplines, (2) to propose a unified trans-disciplinary framework for investigating SES and (3) to identify frontier research prospects in social-ecological system investigation



Evening Events

SPECIAL EVENT

Documentary & Film-Making Session Featuring BBC Ocean and Clyde Reflections

LOMOND AUDITORIUM

Saturday, 16 August, 19:30 to 21:00

ORGANIZER

Samantha Oester, *George Mason University*

This special session will feature discussions of conservation and marine documentary making. Panelists including artists, scientists and filmmakers will give tips on sharing environmental stories through film, the documentary-making process and collaborating with filmmakers.

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Morning session: 8:30 A.M. to 10:30 A.M.

MEMBERS MEETING: SCB MARINE SECTION

LOMOND AUDITORIUM

Sunday, 17 August, 8:00 to 8:30

SY18. SYMPOSIUM:

DYNAMIC OCEAN MANAGEMENT: SUPPORTING ECOLOGICAL AND ECONOMIC SUSTAINABILITY OF MARINE RESOURCES

LOMOND AUDITORIUM

Sunday, 17 August, 8:30 to 10:30

ORGANIZER(S):

Sara M. Maxwell, *Stanford University*, Rebecca Lewison, *San Diego State University*, Larry B. Crowder, *Stanford University*

Dynamic ocean management is a new approach to management of marine resources that explicitly takes the dynamic movements of the oceanographic environment, marine animals and human users into account. Many highly mobile marine species and human users follow dynamic ocean features such as fronts and eddies that change in space and time. This implies that static spatial management, such as marine protected areas with stationary boundaries, may be less effective than protections that incorporate dynamic movements through time. Therefore, to narrow the geographic and temporal scope of regulations, protected zones may need to function in near-real time and be dynamic like the processes and species they aim to protect. Further, advances in remote sensing and ship-board technology have made it possible to regulate and communicate to users the changing locations of dynamic boundaries. In this symposium, we aim to (1) launch the concept of dynamic management to the larger marine conservation community, (2) explore examples of dynamic management that exist in fisheries and shipping industries around the world, (3) codify key elements for effective adoption by managers with an emphasis on economic considerations, and (4) explore the feasibility of dynamic management in the form of mobile marine protected areas. We will explore how dynamic management can be a key tool to increasing both ecological and economic sustainability of marine resources and coastal marine communities across sectors.

08:30 Dynamic Ocean Management for a Dynamic Ocean

Crowder, LB, *Stanford University*; Maxwell, SM, *Stanford University*; Lewison, RL, *San Diego State University*; Hazen, EL, *NOAA Southwest Fisheries Science Center*; Dunn, D, *Duke University*; Bograd, S, *NOAA Southwest Fisheries Science Center*; Bailey, H, *University of Maryland Center for Environmental Science*; Hobday, A, *CISRO Australia*

08:45 Dynamic Ocean Management: new management approaches for a highly dynamic system

Lewison, Rebecca, *SDSU*; Hobday, Alistair, *CSIRO*; Maxwell, Sara, *Stanford*; Crowder, Larry, *Stanford*; Hazen, Elliott, *NOAA*; Briscoe, Dana, *Stanford*; Fossette, Sabrina, *NOAA*; O'Keefe, Cate, *SMST*;

09:00 Conservation beyond boundaries; protecting mobile marine species in European waters

Thompson, PM, *University of Aberdeen*

09:15 Building the theoretical basis for dynamic ocean management: moving on and sliding down

Dunn, DC, *Duke University, Marine Geospatial Ecology Lab*; Bjorkland, R, *Fisheries Resource Assessment and Monitoring Division, Northwest Fisheries Science Center*; Moxley, J, *Duke University, Marine Geospatial Ecology Lab*; Halpin, PN, *Duke University, Marine Geospatial Ecology Lab*

09:30 Dynamic fisheries management along the US West Coast using a multi-stakeholder coalition

Maxwell, SM, *Stanford University*; Lewison, RL, *San Diego State University*; Hazen, EL, *NOAA Southwest Fisheries Science Center*; Fossette, S, *NOAA Southwest Fisheries Science Center*; Bailey, H, *University of Maryland Center for Environmental Science*; Briscoe, DK, *Stanford University*; Bograd, S, *NOAA Southwest Fisheries Science Center*; Crowder, LB, *Stanford University*



C11. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

ALSH ROOM

Sunday, 17 August, 8:30 to 10:30

- 08:30 Developing a Red List of marine habitats in European seas**
Gubbay, S, *Consultant*; Haynes, T, *Nature Bureau*; Janssen, J, *Alterra*; Nieto, A, *IUCN*; Rodwell, J, *Consultant*
- 08:45 Vulnerability assessment of ecosystem components to human stressors: the case of a seagrass ecosystem**
Giakoumi, S, *Hellenic Centre for Marine Research, Greece*; Possingham, H, *University of Queensland, Australia*; Gobert, S, *University of Liege, Belgium*; Boudouresque, C-F *Aix-Marseille University, France*; Gambi, M-C *Stazione Zoologica*; Katsanevakis, S, *JRC, European Commission, Italy*; Lejeune, P, *Stareso Research Centre, France*; Michel, L, *Stareso Research Centre, France*
- 09:00 The potential of using data-logging acoustic receivers to study the movements and residency patterns of dugongs in port environments**
Zeh, DR, *AIMS@JCU, James Cook University*; Heupel, M, *Australian Institute of Marine Science*; Hamann, M, *James Cook University*; Babcock, R, *Commonwealth Scientific and Industrial Research Organisation*; Pillans, R, *Commonwealth Scientific and Industrial Research Organisation*; Limpus, C, *Queensland Department of Environment and Heritage Protection*; Marsh, H, *James Cook University*
- 09:15 Effective estuarine conservation: incorporating early life stages of fishes**
de Paula Costa, MD *Laboratório de Ecologia do Ictioplâncton, Instituto de Oceanografia, Universidade Federal do Rio Grande*; Possingham, HP, *ARC Centre of Excellence for Environmental Decisions, School of Biological Sciences, The University of Queensland*; Muelbert, JH *Laboratório de Ecologia do Ictioplâncton, Instituto de Oceanografia, Universidade Federal do Rio Grande*
- 09:30 Don't forget about the little guys: the global picture of seahorses in bycatch**
Lawson, JML, *Project Seahorse, Fisheries Centre, The University of British Columbia*; Foster, SJ, *Project Seahorse, Fisheries Centre, The University of British Columbia*; Vincent, ACJ, *Project Seahorse, Fisheries Centre, The University of British Columbia*
- 09:45 Historical and ecological genetics of Leopard grouper (*Mycteroperca rosacea*) in the Gulf of California**
Jackson, AM, *University of California Santa Cruz*; Munguia-Vega, A, *Comunidad y Biodiversidad A.C.*; Beldade, R, *University of California Santa Cruz*; Erisman, BE, *Scripps Institution of Oceanography, University of California San Diego*; Bernardi, G, *University of California Santa Cruz*
- 10:00 Adaptation of the control and monitoring strategy in the Coco's Island National Park in Costa Rica based on the pelagic species data found in illegal fishing**
Golfin, GD; Lopez, AG; Zanella, IC
- 10:15 Designing marine protected areas to balance community fishing needs and conserving cetaceans at risk from entanglement in fishing gears**
Smith, BD, *Wildlife Conservation Society, Ocean Giants*; Redfern, JV, *National Oceanic and Atmospheric Administration, Southwest Fisheries Science Center*; Mansur, RM, *Wildlife Conservation Society, Bangladesh Cetacean Diversity Project*; Diyan, MAA, *Wildlife Conservation Society, Bangladesh Cetacean Diversity Project*; Moore, TJ, *National Oceanic and Atmospheric Administration, Southwest Fisheries Science Center*

SY49. SYMPOSIUM:
MARINE ANIMALS IN CONSERVATION: ETHICS AND WELFARE

BOISDALE ROOM

Sunday, 17 August, 8:30 to 10:30

ORGANIZER(S):

Amanda Lombard, *Nelson Mandela Metropolitan University and University of Cape Town*

Animal welfare considerations, and the ethics we apply in conservation activities, are becoming increasingly important issues as humans place greater pressures on natural systems for resources, research, education and recreation. While adverse human impacts on ecosystems and populations receive considerable attention, the welfare of individuals is often ignored, or it is argued that individual sacrifice is ethically justified as a means to achieving improved conservation of populations. Public interest in marine conservation, however, is often raised by the plight of an individual marine creature. Individual animals in the marine realm face many challenges to their welfare, and this Symposium aims to explore the nature of these challenges, and to provide recommendations for integrating marine animal welfare science into our marine activities.

*A focus group follows this symposium: Marine animals in conservation: Ethics and welfare (Boisdale Room: 11 A.M.-1 P.M.)

- 08:30 Ethics and welfare in marine conservation: Where are we now, and where are we headed?**
Lavigne, D, *Consultant*
- 08:45 Compassionate marine conservation: Animal welfare in marine conservation practice**
Draper, CJ, *Born Free Foundation*



- 09:00 Reducing marine animal welfare problems: a sociocultural approach**
 Draheim, MM, *Virginia Tech Center for Leadership in Global Sustainability*
- 09:15 Marine Animal Welfare in Research**
 Patterson, KW, *George Mason University*
- 09:30 What have we learned from the public display of cetaceans?**
 Rose, NA, *Animal Welfare Institute*
- 09:45 Where do we go from here? The future of marine animal ethics & SCB**
 Facilitated by Parsons, ECM, SCB Marine Section

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SY70. SYMPOSIUM:

NOVEL METHODS, NEW RESULTS AND SCIENCE-BASED SOLUTIONS TO TACKLE MARINE DEBRIS IMPACTS ON WILDLIFE /CLIMATE, OCEAN ACIDIFICATION, AND THE CHANGING OCEANS

CARRON B ROOM

Sunday, 17 August, 8:30 to 10:30

ORGANIZER(S):

Thomas Good, *NOAA Fisheries*; **Britta Denise Hardesty**, *Commonwealth Scientific and Industrial Research Organisation*; **Chris Wilcox**, *Commonwealth Scientific & Industrial Research Organisation*

There is an exponentially increasing amount of human-associated rubbish in our oceans. This marine debris results in a wide range of issues from introduction of adsorbed PCBs into food webs to entanglement and subsequent mortality of threatened seabirds, fish, turtles and mammals in derelict fishing gear. While there has been a major effort afoot to publicize these issues, there remains a paucity of data and scientific research to underpin solutions to the problems. This symposium will cover research in three major areas: 1) integrated ecological and oceanographic models to that measure risk to wildlife and predict impact, 2) literature reviews and field studies that measure both the scope and intensity of the threat across species, and 3) analysis of wildlife indicators as regulatory standards for plastic concentration in the environment. The symposium speakers will focus particularly on the importance of using science to inform or underpin decision making.

* Two-part Symposium. Symposium continues 11:00 - 13:00. SY71 Carron B Room.

- 08:30 Impacts of anthropogenic debris on marine life**
 Thompson, R.C, *Marine Biology and Ecology Research Centre, Plymouth University*; Gall, S.C., *Marine Biology and Ecology Research Centre, Plymouth University*
- 08:45 Prioritizing the threat of ocean debris in marine environments**
 Mallos, NJ, *Ocean Conservancy*; Rodriguez, AG, *Ocean Conservancy*; Leonard, GH, *Ocean Conservancy*
- 09:00 The influence and efficacy of waste management policies on coastal marine debris in Australia**
 Hardesty, BD, *CSIRO*; Lawson, TJ, *CSIRO*; Maureaud, C, *CSIRO*; Wilcox, C, *CSIRO*
- 09:15 Monitoring of marine debris; demonstrating the feasibility of collecting ancillary data on marine debris during boat based surveys and ocean passages**
 Cucknell, A-C, *Marine Conservation Research International, International Fund for Animal Welfare*; Boisseau, O., *Marine Conservation Research International, International Fund for Animal Welfare*; Ryan, C., *Marine Conservation Research International, International Fund for Animal Welfare*; Moscrop, A, *Marine Conservation Research International, International Fund for Animal Welfare*
- 09:30 Extreme litter picking: Comparison of litter across seamounts**
 Woodall, LC, *Natural History Museum, London*; Rogers, AD, *University of Oxford*; Packer, M., *Natural History Museum, London*; Robinson, LF, *University of Bristol*; Paterson, G, *Natural History Museum, London*
- 09:45 Trends and analysis of ghost-fishing by derelict traps in the coastal United States**
 Courtney A, *US National Oceanic and Atmospheric Administration(1) and I.M. Systems Group(2)*; Sutton-Grier, A, *US National Oceanic and Atmospheric Administration*; Murphy, P, *US National Oceanic and Atmospheric Administration*; Bamford, H, *US National Oceanic and Atmospheric Administration*
- 10:00 Deadliest bycatch: estimating the impacts of derelict salmon gillnets on marine wildlife**
 Good, TP, *Conservation Biology Division, Northwest Fisheries Science Center, NOAA Fisheries/NMFS*; Ward, EJ, *Conservation Biology Division, Northwest Fisheries Science Center, NOAA Fisheries/NMFS*; Antonelis, K, *Natural Resources Consultants, Inc.*
- 10:15 A global risk assessment for marine debris impacts on seabirds**
 Wilcox, C, *CSIRO Wealth from Oceans Flagship*; Hardesty, D, *CSIRO Wealth from Oceans Flagship*; van Seville, E, *Climate Change Research Centre & ARC Centre of Excellence for Climate System Science, University of New South Wales, Australia*



SY76. SYMPOSIUM:
INTEGRATING LAW AND SCIENCE TO INFORM AND IMPROVE THE PRACTICE OF CUMULATIVE EFFECTS
ASSESSMENTS

DOCHART A ROOM

Sunday, 17 August, 8:30 to 10:30

ORGANIZER(S):

Megan Mach, *Center for Ocean Solutions*, **Sarah Mooney**, *Center for Ocean Solutions*, **Rebecca Martone**, *Center for Ocean Solutions*

Humans rely on the ocean for many services, including food, transportation, and energy, but obtaining those benefits often results in adverse impacts to marine systems. Accurately accounting for such impacts can be challenging because it is difficult to quantify the cumulative effects of multiple human activities on marine communities and subsequent social and economic changes. Despite a common consensus that identifying and quantifying cumulative effects is critical to environmental sustainability, a disconnect among legal requirements, scientific approaches, and current impact assessment methods, hinders practitioners' abilities to improve cumulative effects assessments. In this symposium we seek to foster a dialogue between scientists, lawyers, and practitioners to discuss options to better align the state of the law and science with management actions regarding cumulative effects. A focus group following the symposium will engage scientists and practitioners to develop a clarified definition of ecological significance for use in marine management. The focus group will also work towards establishing a working definition of baseline that is informed by science, is usable under current law, and can be implemented in practice. This joint symposium and focus group will provide a unique opportunity for scientists to collaborate with practitioners and legal experts, and to explore solutions to the barriers posed by current approaches to cumulative effects assessments.

*A focus group follows this symposium: Using the current state of science and law to inform the determination of baselines and ecological significance for cumulative effects assessments (Dochart A Room: 11 A.M.-1 P.M.)

08:30 Assessing a mess of cumulative effects: Scientific perspectives on overcoming challenges for environmental management

Mach, M, *Center for Ocean Solutions*; **Murray, CC**, *World Wildlife Federation-Canada*; **Martone, R**, *Center for Ocean Solutions*

08:45 Room for improvement? Addressing the legal challenges associated with cumulative effects analyses in U.S. environmental assessments

Reiter, SM; **Prahler, EE**; **Erickson, AL**; **Melius, ML**; **Bennett, M**; and **Caldwell, ME**, *Center for Ocean Solutions*

09:00 A strategic approach to the management of cumulative effects in English inshore and offshore waters

Taylor, RL, *Marine Management Organisation*; **Hallam, DH**, *Marine Management Organisation*

09:15 Where science and the law intersect: The practice of incorporating cumulative effects into environmental assessments around the Pacific

Foley, M, *United State Geological Survey*; **Prahler, E**, *Center for Ocean Solutions*; **Mease, L**, *Center for Ocean Solutions*; **Martone, R**, *Center for Ocean Solutions*; **Erickson, A**, *Center for Ocean Solutions*; **Morrison, T**, *University of Queensland*; **Wojcik, D**, *Stanford University*; **Caldwell, M**, *Center for Ocean Solutions*;

09:30 Synergies and challenges: Integrating law and science to inform practice of cumulative effects assessments

Martone, RG, *Center for Ocean Solutions, Stanford University*; **Mach, ME**, *Center for Ocean Solutions, Stanford University*; **Wedding, L**, *Center for Ocean Solutions, Stanford University*; **Erickson, AL**, *Center for Ocean Solutions, Stanford University*; **Mease, LA**, *Center for Ocean Solutions, Stanford University*; **Mooney, SM**, *Center for Ocean Solutions, Stanford University*; **Foley, MM**, *UC Santa Cruz, Institute of Marine Sciences*; **Caldwell, ME**, *Center for Ocean Solutions, Stanford University*

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SY25. SYMPOSIUM:
CORAL REEF CONSERVATION PRIORITIES GIVEN CHANGING GLOBAL AND LOCAL REALITIES: FOCUS ON THE
CORAL TRIANGLE

DOCHART B ROOM

Sunday, 17 August, 8:30 to 10:30

ORGANIZER(S):

Maria Beger, *University of Queensland*; **Alan White**, *The Nature Conservancy*; **Alison Green**, *The Nature Conservancy*; **Jennifer McGowan**, *University of Queensland*

The emergence of novel marine communities is an inevitable outcome of global and local change. Coral reef ecosystems are at the forefront of transformation, driven by the global degradation of coral cover, extinctions, and species range shifts and by many local destructive uses. The resulting changed coral reef ecosystems are defined by new species and abundance combinations, also transforming the productivity, accessibility and values of coral reefs, and it is likely that people will gain fewer benefits from altered reefs due to the associated lower fish diversity and productivity. Correspondingly, our management and conservation efforts need to be adapted, as many broadly designed coral marine reserve networks require re-evaluation within an ecological and social context of altered reef ecosystems. We focus on the Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security

(CTI-CFF) as a multi-lateral coral reef conservation initiative, which has the potential to address the plight and conservation of coral reefs from a broader planning and design perspective. Marine reserve networks can influence rates of transformation. This symposium (and focus group) aims to develop ideas that can expand and refine existing conservation efforts to think about future steps towards adapting coral reef conservation. Particular focus will be on developing a set of socio-economic conservation objectives and design principles to match ecological objectives.

*A focus group follows this symposium: Develop coral reef conservation priorities given changing global and local realities: Focus on the Coral Triangle (Dochart B Room: 11 A.M.-1 P.M.)

08:30 The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security: Progress towards the establishment of effective marine protected areas

White, AT, *The Nature Conservancy*; **Green, AL***, *The Nature Conservancy*

08:45 Linking present and future objectives to identify coral reef conservation priorities in the Coral Triangle

Beger, M, *University of Queensland*; **McGowan, J**, *University of Queensland*; **Treml, E**, *Melbourne University*; **White, AT**, *The Nature Conservancy*; **Green, A**, *The Nature Conservancy*; **Wolff, NH**, *University of Queensland*; **Mumby, P**, *University of Queensland*; **Possingham, H**, *University of Queensland*

09:00 Lessons from the Coral Triangle Initiative Support Program

Christie, PJ, *School of Marine and Environmental Affairs, University of Washington, Seattle, WA, USA*; **Pollnac, RB**, *Department of Marine Affairs, University of Rhode Island, Kingston, RI, USA*; **Stevenson, TC**, *School of Marine and Environmental Affairs, University of Washington, Seattle, WA, USA*; **Pietri, DN**, *School of Environmental and Forest Sciences, University of Washington, Seattle, WA, USA*

09:15 Seagrass associated fauna dominates fisheries catch in the Coral Triangle

Unsworth, R, *Swansea University*; **Cullen-Unsworth, L**, *Cardiff University*; **Belora, P**, *FORKANI*

09:30 Ridge to Reef Resource Management Planning in the Solomon Islands: Progress and lessons for the Coral Triangle.

Atu, WT, *The Nature Conservancy*; **Peterson, N**, *The Nature Conservancy*; **Hamilton, R**, *The Nature Conservancy*; **Pita, J**, *The Nature Conservancy*; **James, R**, *The Nature Conservancy*; **White, A**, *The Nature Conservancy*;

09:45 Integrating social, economic and environmental dynamics in marine spatial prioritisation

Possingham, HP, *The University of Queensland*; **Beger, M**, *The University of Queensland*; **Klein, C**, *The University of Queensland*; **Mazor, T**, *The University of Queensland*; **McGowan, J**, *The University of Queensland*; **Tulloch, V**, *The University of Queensland*; **Saunders, M**, *The University of Queensland*; **Brown, C**, *The University of Queensland*;

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COFFEE BREAK
10:30 to 11:00



Late morning session: 11:00 A.M. to 1:00 P.M.

SY45. SYMPOSIUM:

MANAGING IMPACTS OF DEEP-SEA RESOURCE EXPLOITATION

LOMOND AUDITORIUM

SUNDAY, 17 August, 11:00 to 13:00

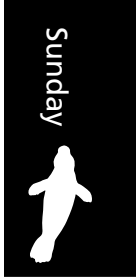
ORGANIZER(S):

Phillip Weaver, *Seascope Consultants*; **Lenaick Menot**, *Ifremer*; **Vikki Gunn**, *Seascope Consultants*

The deep ocean below 200 meters is the largest habitat for life on Earth. It covers two-thirds of the planet but less than 1% has been sampled, hence we remain largely ignorant of how deep-ocean ecosystems change in space and time, both naturally and in response to human activities. Nonetheless, there is accelerating economic interest in the deep ocean. Increasing global demand for energy and mineral resources has led to industrial extraction deeper and further offshore than ever before. The EU-funded project MIDAS addresses fundamental environmental issues relating to the exploitation of deep-sea mineral and energy resources. These new industries will have significant impacts on deep-sea ecosystems, in some cases extending over hundreds or thousands of square kilometers. MIDAS will assess the nature and scales of the potential impacts. Knowledge of the impacts will be used to address the key biological unknowns, such as connectivity between populations, impacts of the loss of biological diversity on ecosystem functioning, and how quickly the ecosystems will recover. The symposium will provide an overview of the objectives and recent progress made by the project and how these will be used to guide recommendations for best practice. European and international regulatory organizations will be engaged to take these recommendations into legislation.

11:00 Managing the impacts of deep sea mining

Jones, DOB, *National Oceanography Centre*; **Billett, DSM**, *National Oceanography Centre*; **Murphy, K**, *Environmental Resources Management*; **Lloyd, C**, *Environmental Resources Management* (Presented by **Weaver, P**, *Seascope Consultants*)



11:15 Challenges and progress in determining the toxic effects of deep-sea mining activities.

Hauton, C, *University of Southampton*; **Shillito, B**, *Université Pierre et Marie Curie*; **Martins, I**, *University of the Azores*; **Bebianno, M**, *Universidade do Algarve*; **Vanreusel, A**, *Universiteit Gent*; **Menot, L**, *IFREMER*; **Canals, M**, *Universitat de Barcelona*; **Gambi, C**, *CONISIMA, Polytechnic University of Marche*

11:30 Open versus fragmented marine benthic habitats, relevant spatial scales to conservation in the face of mineral mining in the deep sea

Colaco, A, *IMAR-University Azores*; **Carreiro Silva, M**, *IMAR-University Azores*; **Glover, A**, *Natural History Museum London*; **Juliano, M**, *IMAR-University Azores*; **Martinez, P**, *DZMB-Forschungsinstitut Senckenberg*; **Menot, L**, *Ifremer*; **Paterson, G**, *Natural History Museum London*; **Pradillon, F**, *IFREMER*

11:45 Effects of mineral and hydrocarbon exploitation on deep-ocean ecosystem functioning and services

Sweetman, AK, *International Research Institute of Stavanger, Norway*; **Jones, DOB**, *National Oceanography Center, UK*

12:00 Resilience of benthic deep-sea ecosystems to mining-related disturbances: Towards predictions of the spatio-temporal scales of mining impacts in the deep sea

Kaiser, S, *DZMB, German Centre for Marine Biodiversity Research, Senckenberg am Meer, Wilhelmshaven, Germany*; **Martinez-Arbizu, P**, *DZMB, German Centre for Marine Biodiversity Research, Senckenberg am Meer, Wilhelmshaven, Germany*; **Gollner, S**, *DZMB, German Centre for Marine Biodiversity Research, Senckenberg am Meer, Wilhelmshaven, Germany*/NIOZ (Royal Netherlands Institute for Sea Research), *Ecosystem Studies, Yerseke, Netherlands*; **Menot, L**, *IFREMER, Institut français de recherche pour l'exploitation de la mer, Brest, France*; **Colaço, A.**, *University of the Azores, Portugal*; **Jones, DOB**, *National Oceanography Centre, Southampton, UK*; **Janssen, A**, *DZMB, German Centre for Marine Biodiversity Research, Senckenberg am Meer, Wilhelmshaven, Germany*; **Mohrbeck, I**, *DZMB, German Centre for Marine Biodiversity Research, Senckenberg am Meer, Wilhelmshaven, Germany*; **Van Oevelen, D**, *NIOZ (Royal Netherlands Institute for Sea Research), Ecosystem Studies, Yerseke, Netherlands*

12:15 Progress in developing international regulatory frameworks for deep-sea mineral exploitation: addressing risk, uncertainty and precaution

Gjerde, K, *Wycliffe Management*

Sunday

Smith Fellows
www.smithfellows.org

The David H. Smith Conservation Research Fellowship Program seeks to develop future world leaders and entrepreneurs who are successful at linking conservation science research and application.

Fellowships provide two years of post-doctoral support to outstanding early-career scientists affiliated with a United States institution and can begin in early to mid 2015.

Applications for the Smith Fellows Class of 2015 are due **12 September 2014**. Visit www.smithfellows.org for proposal guidelines. Questions may be directed to smithinfo@smithfellows.org.

Apply now!
Past Smith Fellows conducted research in these conservation biology topic areas:

- Genetics
- Fire Ecology
- Freshwater Ecology
- Marine Ecology
- Climate Change
- Geographical Planning
- Arctic Ecology
- Social Science
- Genetics
- Forestry

Study site for Postdoc

A partnership between the Cedar Tree Foundation and the Society for Conservation Biology

SY9. SYMPOSIUM:
APPLYING CONSERVATION AGREEMENTS, PES SCHEMES, AND INCENTIVES: LESSONS LEARNED FROM A BUSY
THREE YEARS

ALSH ROOM

SUNDAY, 17 August, 11:00 to 13:00

ORGANIZER(S):

Linwood Pendleton, *Duke University*; **Christopher LaFranchi**, *OneReef Worldwide Stewardship*; **Jason Scorse**, *Monterey Institute of International Studies*

At the IMCC2 meeting in Canada, we discussed emerging options for capturing the value of marine natural capital. Payment for environmental services, tools that incorporate incentives, and long-term conservation agreements are designed to help address above mentioned circumstances. Three years later, we have real world experience about the options proposed in our last meeting. We will review those experiences. What are the latest theories on how to develop these tools? What has been discovered through efforts to pioneer their use? This symposium convenes a diverse group of practitioners, scientists and economists to investigate the evidence so far.

11:00 Challenges of taking conservation agreements to scale

Nielsen, Eduard, *Conservation International*

11:30 Show me the conservation: recent experience with marine conservation agreements

LaFranchi, Christopher L., *OneReef Worldwide Stewardship*

12:00 Discussion

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FG53. FOCUS GROUP:
MARINE ANIMALS IN CONSERVATION: ETHICS AND WELFARE

BOISDALE ROOM

Sunday, 17 August, 11:00 to 13:00

ORGANIZER(S):

Amanda Lombard, *Nelson Mandela Metropolitan University and University of Cape Town*; **Chris Draper**, *Born Free*; **Chris Parsons**, *George Mason University*; **David Lavigne**, *Independent Scientist*; **Katheryn Patterson**, *George Mason University*; **Megan Draheim**, *Virginia Tech Center for Leadership in Global Sustainability*; **Naomi Rose**, *Animal Welfare Institute*; **Philippa Brakes**, *Whale and Dolphin Conservation Society*

*This focus group follows-up to the symposium Marine Animals in Conservation: Ethics and Welfare (Boisdale Room: 8:30-10:30 A.M.)

Animal welfare considerations, and the ethics we apply in conservation activities, are becoming increasingly important issues as humans place greater pressures on natural systems for resources, research, education and recreation. While adverse human impacts on ecosystems and populations receive considerable attention, the welfare of individuals is often ignored, or it is argued that individual sacrifice is ethically justified as a means to achieving improved conservation of populations. Public interest in marine conservation, however, is often raised by the plight of an individual marine creature. Individual animals in the marine realm face many challenges to their welfare, and this Symposium aims to explore the nature of these challenges, and to provide recommendations for integrating marine animal welfare science into our marine activities. We have a combined symposium and focus group. The symposium will address conceptual issues and provide case studies on hot topics, and the focus group will build on these issues and capture lessons in a summary document with guiding principles which can then contribute towards existing and emerging policies. Although none of the 71 questions proposed as specific topics of interest to the congress directly deals with ethics and welfare, most of them are subsumed by this topic. We believe that a combined Symposium and Focus group will help to elevate the status of ethics and welfare in marine science, and show why it matters.

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SY5. SYMPOSIUM:
CATALYZING FISHERIES SUSTAINABILITY THROUGH CERTIFICATION AND ECO-LABELING SCHEMES

CARRON A ROOM

SUNDAY, 17 August, 11:00 to 13:00

ORGANIZER(S):

Nicolas Gutierrez, *Marine Stewardship Council*; **David Agnew**, *Marine Stewardship Council*; **Simon Bush**, *Wageningen University*; **Jake Rice**, *Canada Department of Fisheries and Oceans*

Marked-based incentives have been conceived to promote the development of sustainable fishing practices and reduce impacts on ecosystems. Of these, certification and eco-labeling has been the most prominent and fastest growing, requiring fisheries to comply with a set of provisions designed to achieve healthy stocks, minimize environmental impacts and promote effective



management. These voluntary certification schemes may strengthen stakeholder engagement in management and governance, information gathering and marine conservation. Also, sustainability standards may be used as the gold standard for fisheries best practices by governments and NGOs, shaping national and international policies. However, this growth has led to a debate around the actual effectiveness of certification in promoting sustainable fish stocks and other direct and indirect consequences of using fisheries certification as a market-based instrument for marine conservation. Since this debate is gaining momentum, additional clarity is needed on the ecological impacts of fisheries certification and its relevance for marine conservation. The following topics will be presented: (a) ecological, economic, and political effects of certification; (b) role of certification in shaping marine conservation policies; (c) Needs and opportunities for improvements in certification; (d) Characteristics of eco-labeling schemes as indicators of fisheries sustainability.

11:00 Can certification contribute to the global fisheries solutions?

Agnew, D, *Standards Director, MSC*

11:15 Assessment of 7 seafood ecolabels for their compliance with the FAO Guidelines for certification

Helen Packer, *Wageningen University*

11:30 Eco-certification and continuing improvement - Hope or Hype?

Rice, JC, *Fisheires and Oceans Canada*

11:45 Seafood Sustainability and Ecolabeling: Economic Implications

Roheim, Cathy, *University of Idaho*

12:00 Using MSC eco-certification to promote sustainable fisheries in Mexico

Bourillón, L, *Comunidad y Biodiversidad, AC (COBI)*; **Torre, J**, *Comunidad y Biodiversidad, AC (COBI)*; **Ribot, C**, *Comunidad y Biodiversidad, AC (COBI)*; **Cabrera, A**, *Comunidad y Biodiversidad, AC (COBI)*; **Sáenz, A**, *Comunidad y Biodiversidad, AC (COBI)*

12:15 The South African experience with MSC certification

Butterworth, DS, *Dept of Maths & Applied Maths University of Cape Town*

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SY71 SYMPOSIUM:

NOVEL METHODS, NEW RESULTS AND SCIENCE-BASED SOLUTIONS TO TACKLE MARINE DEBRIS IMPACTS ON WILDLIFE /CLIMATE, OCEAN ACIDIFICATION, AND THE CHANGING OCEANS

CARRON B ROOM

Sunday, 17 August, 11:00 to 13:00

ORGANIZER(S):

Thomas Good, *NOAA Fisheries*; **Britta Denise Hardesty**, *Commonwealth Scientific and Industrial Research Organisation*; **Chris Wilcox**, *Commonwealth Scientific & Industrial Research Organisation*

There is an exponentially increasing amount of human-associated rubbish in our oceans. This marine debris results in a wide range of issues from introduction of adsorbed PCBs into food webs to entanglement and subsequent mortality of threatened seabirds, fish, turtles and mammals in derelict fishing gear. While there has been a major effort afoot to publicize these issues, there remains a paucity of data and scientific research to underpin solutions to the problems. This symposium will cover research in three major areas: 1) integrated ecological and oceanographic models to that measure risk to wildlife and predict impact, 2) literature reviews and field studies that measure both the scope and intensity of the threat across species, and 3) analysis of wildlife indicators as regulatory standards for plastic concentration in the environment. The symposium speakers will focus particularly on the importance of using science to inform or underpin decision making.

* Two-part Symposium. Symposium follows from 8:30 - 10:30. SY70 Carron B Room.

11:00 The OSPAR Ecological Quality Objective on plastics ingested by fulmars

Van Franeker, JA, *IMARES*; **The SNS Fulmar Study Group**, *c/o IMARES*

11:15 Modelling the risks of debris ingestion by endangered species: a sea turtle case study

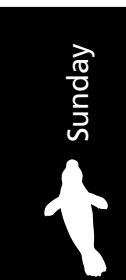
Schuyler, QA, *University of Queensland*; **Wilcox, C**, *Commonwealth Scientific and Industrial Research Organisation*; **Wedemeyer, K**, *Texas A&M University*; **Balazs, G**, *Pacific Islands Fisheries Science Center*; **van Sebille, E**, *University of New South Wales*; **Hardesty, BD**, *Commonwealth Scientific and Industrial Research Organisation*

11:30 Caught in ghost nets; identifying a way to reduce mortality of regionally endangered sea turtle populations.

Dethmers KEM, *North Australia Marine Research Alliance (NAMRA), Australia*; **Adnyana IBW**, *Faculty of Veterinary Sciences, Udayana University, Indonesia*; **Limpus CJ**, *Department of Environment and Heritage Protection, Australia*; **Williams DK**, *Australian Institute of Marine Science (AIMS), Australia*; **FitzSimmons NN**, *School of Environment, Griffith University, Australia*; **Keogh JS**, *Research School of Biology, The Australian National University (ANU), Canberra ACT 0200, Australia*; **Whiting SD**, *Department of Parks and Wildlife, Australia*

11:45 Scientific basis for an ecological quality objective in sea turtles within the Marine Strategy Framework Directive

Darmon, G, *CEFE-CNRS, Montpellier, France*; **Miaud, C**, *CEFE-CNRS, Montpellier, France*; **Gambaiani, D**, *CESTMED, seaquarium du Grau du Roy, France*; **Dell'Amico, F**, *CESTM/ Aquarium de La rochelle, France*; **Claro, F**, *MNHN, France*;



Galgani, F, IFREMER, LER/PAC, Bastia, France

12:00 Perceived and demonstrated ecological impacts of marine debris

Rochman, CM, UC Davis; **Browne, MA**, UC Santa Barbara; **Underwood, AJ**, University of Sydney; **Thompson, RC**, University of Plymouth; **van Franeker, JA**, IMARES; **Amaral-Zettler, L**, Woods Hole/Brown

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FG77. FOCUS GROUP:
USING THE CURRENT STATE OF SCIENCE AND LAW TO INFORM THE DETERMINATION OF BASELINES AND ECOLOGICAL SIGNIFICANCE FOR CUMULATIVE EFFECTS ASSESSMENTS

DOCHART A ROOM
Sunday, 17 August, 11:00 to 13:00

ORGANIZER(S):
Megan Mach, Sarah Mooney and Rebecca Martone, Center for Ocean Solutions

*This focus group follows-up to the symposium: Integrating Law and Science to Inform and Improve the Practice of Cumulative Effects Assessments (Dochart A Room: 8:30-10:30 A.M.)

Despite a general consensus that understanding the effects of human activities on the environment requires assessing cumulative effects, inconsistent and often fragmented methods for evaluating and mitigating cumulative effects pervades the law, science, and practice of cumulative effects assessments. Our interdisciplinary symposium will set the foundation for identifying how current scientific, legal, and practitioner perspectives consider the impacts of multiple stressors. Our focus group will build on this foundation by addressing the existing legal and scientific barriers of defining ecological significance and the use of environmental baselines in practice, two of the greatest barriers identified for cumulative effects assessments. To overcome the pervasive inconsistency in determining and applying significance and baselines, the focus group will work to identify actionable methods or best practices informed by science, and usable under the law and in practice. This joint symposium and focus group will provide a unique opportunity for scientists to collaborate with practitioners and legal experts, and to explore solutions to the barriers posed by current approaches to cumulative effects assessments. The novel solutions developed during this session make marine science matter by translating the best available science into recommendations that are salient and can be implemented by practitioners.

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FG28. FOCUS GROUP:
DEVELOP CORAL REEF CONSERVATION PRIORITIES GIVEN CHANGING GLOBAL AND LOCAL REALITIES: FOCUS ON THE CORAL TRIANGLE

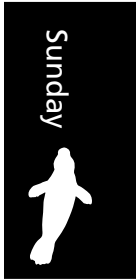
DOCHART B ROOM
Sunday, 17 August, 11:00 to 13:00

ORGANIZER(S):
Maria Beger, University of Queensland

*This focus group follows-up to the symposium: *Coral reef conservation priorities given changing global and local realities: Focus on the Coral Triangle* (Dochart B Room: 8:30-10:30 A.M.)

This focus group will bring together a smaller group of experts to tackle the theoretical framework for managing transforming coral reefs, and to establish criteria for their assessment (such as which novel combinations of species are more robust, which are more or less valuable for biodiversity and sustainable use), and socio-economic factors. The focus group will tackle two main questions: (a) How can we integrate ecological and social conservation objectives to tackle changing reef futures and make them accessible to policy makers? (Particular focus will be on developing a set of socio-economic conservation objectives and design principles to match ecological objectives.) (b) What are the main information needs to plan and implement marine conservation and management for transforming reefs at different spatial scales (regional to local)? For example, expanding recent work for fishes, what are optimal spatial and temporal scales of conservation actions for invertebrate species?

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WS29. WORKSHOP:
BUILDING AWARENESS AND SUPPORT FOR OCEAN PLANNING WITH OCEAN FRONTIERS FILMS

LOMOND AUDITORIUM
Sunday, 17 August, 13:00 to 15:00

ORGANIZER(S):
Karen Anspacher-Meyer, *Green Fire Productions*

We hear too often how difficult it is to speak effectively about ocean planning so that people not only understand it, but also become supportive. The award-winning film series Ocean Frontiers has broken new ground on this communication challenge with a plainspoken style of storytelling that has proven extremely effective toward increasing understanding and support for ocean planning. Film makes it possible to take complex science and marine conservation information and translate it through story and vastly increase the understanding and support for complicated topics like ocean planning. Of people surveyed after watching Ocean Frontiers, 85% express not only a better understanding about ocean planning, but the intention to participate in ocean planning. In this workshop, you'll watch the latest film, Ocean Frontiers II: A New England Story for Sustaining the Sea, hear from the film producer what messages resonate most with audiences, how to effectively incorporate science so that lay audiences understand it, how to weave varied perspectives together for a cohesive message and storyline as well as proven strategies for most effectively reaching and influencing targeted audiences with films, including social media. A Q&A discussion will follow to share questions and ideas among workshop participants and discuss ideas for applying these concepts to their own situations. Ocean Frontiers DVDs and a screening toolkit will be available to all participants.

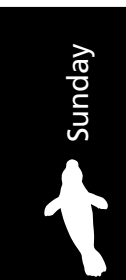
SY75. WORKSHOP:
SCIENCE TO ACTION: HOW TO MAKE IT HAPPEN

ALSH ROOM
Sunday, 17 August, 13:00 to 15:00

ORGANIZER(S):
Leah Karrer, *Global Environment Facility*

This workshop will provide practical insight regarding how to make the link from science to conservation action. The symposium will open with a presentation on the challenges of linking the two disparate worlds of scientists and decision-makers. Practical guidance will be provided on how decision-makers can make this link, including the importance of identifying and communicating knowledge needs to scientists (e.g. facilitating workshops to identify knowledge gaps related to conservation objectives), establishing a research ethic (e.g. requiring presentations on results for research permits), motivating collaboration (e.g. grants, in-kind contributions) and soliciting key messages and recommendations from the scientists. Similarly, tips will be provided to scientists on how they can feed their science into decision-making, such as distilling their results into key messages and engaging in decision-making forums (e.g. MPA planning groups). The symposium will then focus on practical tools for translating science into conservation action. Based on experiences around the world, one example will be provided for each of the following types of tools: e-newsletters (Conservation International), synthesis products (Integration and Application Network University of Maryland), matching-making between global experts and local conservation projects (GEF), training (NOAA), webinars (EBM Tool Network Nature Serve), social media, twinning between projects (GEF) and websites (Open Channels).

- 13:00 How linking science to policy has changed over 15 years: A behind-the-scenes look at producing MPA News and OpenChannels**
Davis, JB, MPA News, OpenChannels
- 13:15 Using Science to Inform Marine Resource Management in Timor-Leste**
Pinto, R, Conservation International; Esters, N, Conservation International
- 13:30 The GEF IW: LEARN Project: Supporting Global Environment Facility's Singular Approach to Translate Science into Policy**
Hamid, M, United Nations Office for Project Services (GEF IW:LEARN)
- 13:45 The "How Tos" of Connecting Scientists & Decision-makers**
Karrer, L, Global Environment Facility
- 14:00 From understanding to action - Effecting knowledge-based governance within an International Waters context**
Vousden, DH, UNDP Agulhas and Somali Current Large Marine Ecosystems Project, Grahamstown, South Africa
UNDP GEF Agulhas and Somali Current Large Marine Ecosystems Project, ASCLME House, PBAG 1015, 18 Somerset Street, Grahamstown, South Africa



14:15 A participatory visual approach to integrating science into decision making

Kelsey, RH, *University of Maryland Center for Environmental Science*; **Wicks, EC**, *University of Maryland Center for Environmental Science*; **Dennison, WC**, *University of Maryland Center for Environmental Science*; **Costanzo, SD**, *University of Maryland Center for Environmental Science*

STUDENT EVENT:

WANT TO SAVE THE WORLD? HERE'S HOW: SKILL SETS ALL MARINE CONSERVATIONISTS SHOULD HAVE

BOISDALE ROOM

Sunday, 17 August, 13:00 to 15:00

Capacity: 200 students

WORKSHOP:

COMPASS MESSAGE BOX WORKSHOP: LEARNING TO COMMUNICATE THE "SO WHAT" OF YOUR SCIENCE

CARRON A ROOM

Sunday, 17 August, 13:00 to 15:00

ORGANIZER(S):

Heather Mannix, *COMPASS*

Capacity: 75 Delegates

To communicate effectively with both peer and non-peer audiences requires that you as scientists master two essential and interrelated skills: 1) knowing your audience, and 2) clearly conveying the "so what" of your science. In this 2-hour workshop led by COMPASS, you will learn how to think about your audience's needs, and practice pulling relevant messages from your own research. You will learn to use a tool called the Message Box to sharpen your ability to distill your complex knowledge into the key messages that can engage audiences such as journalists, policymakers, or others who are not subject matter experts. Peer-to-peer exercises offer opportunity to practice delivering your message, as well as to give and receive feedback.

WS1. WORKSHOP:

INCORPORATING ISSUES OF MARINE CONSERVATION INTO THE CLASSROOM: A LESSON-SHARING SESSION

DOCHART A ROOM

Sunday, 17 August, 13:00 to 15:00

ORGANIZER(S):

Sean R. Tracy, *George Mason University*

In order to increase the understanding of marine conservation, current issues must be prevalent in everyday society. This begins by integrating those conservation studies into public education programs. The goal of this workshop is to establish an information-sharing session for providers of education/outreach, or for those just interested in education, to discuss and develop ways to include marine conservation in the classroom. Student education experiences must be comprehensive across the disciplines and marine conservation studies often become single tracked into higher level science courses only. This means that only a small group of students is reached and they often view the issues through the lens of sciences, but there are historical and economic contexts that must not be ignored. We, as educators must reach a larger audience and connect disciplines because issues of marine conservation bridge all aspects of society. In this session we will share ideas for how educators can draw on these connections to build a holistic, educative experience for students of all levels. When people understand the broader reach of an issue, they are more apt to be engaged citizens.



Afternoon session: 3:00 P.M. to 5:00 P.M.

C27. CONTRIBUTED SESSION: PARTICIPATION IN MARINE CONSERVATION

LOMOND AUDITORIUM

Sunday, 17 August, 15:00 to 17:00

15:00 A European Shark Tagging Programme and the importance of volunteers in ongoing scientific research into shark populations

Burrett, I, *Scottish Sea Angling Conservation Network*; **Thorburn, JA**, *The University of Aberdeen*; **Wright, E**, *Scottish Shark Tagging Programme*



- 15:15 A lucid dream: community articpation in the marine protected area (MPA) establishment process in Indonesia**
Baitoningsih, W, *Leibniz Center for Tropical Marine Ecology (ZMT)*
- 15:30 A Latin America cohort of Fisheries Replenishment Zones Pride campaigns: social marketing and technical assistance for community-based marine conservation.**
Arrivillaga, A, *Rare*; Rafael Calderon, *Rare*; Anzueto, M, *Rare*; Conde, S, *Rare*; Mendez, U, *Rare*; van Rooij, T, *Rare*
- 15:45 Learning in dialogue: Future scientists and stakeholders analyze together the state of fisheries in Uruguay**
Artecona, F, *Facultad de Ciencias*; Bergós, L, *Unidad de Enseñanza, Facultad de Ciencias*; Cardozo, J, *Unidad de Enseñanza, Facultad de Ciencias*; García, M, *Facultad de Ciencias*; Grattarola, F, *Unidad de Extensión, Facultad de Ciencias*; Gutiérrez, J, *Facultad de Ciencias*; Martigani, F, *Unidad de Educación Permanente, Facultad de Ciencias*; Szephegyi, MN, *Department of Geography, University of Cambridge*; Vida Silvestre Uruguay;
- 16:00 Sustainability of marine protected areas: the role of governance, social capital and participation**
Hogg, KE, *Universidad de Murcia*; Semitiel-Garcia, M, *Universidad de Murcia*; Noguera-Mendez, P, *Universidad de Murcia*
- 16:15 The largest artificial reefs deployment program of Brazil: a tool for marine conservation and sustainability of fishing resources**
Bumbeer-Couto, JA, *Universidade Federal do Paraná*; Brandini, FP, *Universidade de São Paulo*; Cattani, AP, *Associação MarBrasil*; Robert, MC, *Associação MarBrasil*; Santos, LO, *Associação MarBrasil*; Silva, AS, *Instituto Federal do Paraná*
- 16:30 On the EDGE of Existence: prioritising Coral species for conservation**
Short, R, *Zoological Society of London*; Waterman, C, *Zoological Society of London*; Koldewey, H, *Zoological Society of London*; Couchman, O, *Zoological Society of London*
- 16:45 Using place-based research to engage Indigenous citizens in marine conservation in the Pacific Northwest**
Augustine, S, *Northwest Indian College*; Cardinal, N, *Parks Canada*; Dallimore, A, *Royal Roads University*; Hallatt, S, *Capital Regional District*; Hatch, M, *Northwest Indian College*; Smith, N, *Parks Canada*

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SY42. SYMPOSIUM:

FOREIGN SCIENTISTS IN SMALL ISLAND DEVELOPING STATES: THE CHALLENGES OF PERFORMING RELEVANT RESEARCH, IMPACTING POLICY AND INFORMING PRACTICE

ALSH ROOM

Sunday, 17 August, 15:00 to 17:00

ORGANIZER(S):

Edward Hind, *The School for Field Studies*; Steven Alexander, *University of Waterloo*

Small island developing states (SIDS) are some of the most vulnerable to impacts of overfishing, climate change, invasive species and ocean acidification. They are also often the least equipped to mitigate such impacts. Marine research and management institutions in SIDS regularly suffer from underfunding, low staffing, and a lack of training/resources with which to support monitoring and enforce policy. It is logical then that they would welcome the presence of foreign scientists equipped with some of the materials and expertise needed to better manage marine environments. This symposium probes that assumption. Participants will first hear from scientists from SIDS or who work in them as foreign residents or visitors. Each will tell of how the marine research undertaken in SIDS by foreign researchers is not always effective, either due to the challenge of integrating into intimate scientific communities, a lack of scientific communities to integrate with, research schedules allowing little time for collaboration and outreach, or restricted knowledge of local research needs founded on limited capacity to communicate with stakeholders. The second half of the symposium will be a guided discussion, asking participants to share their experiences of multinational research collaborations in SIDS and contribute recommendations for overcoming such barriers and improving future collaborations. The recommendations will be published as a letter in a peer-reviewed conservation journal.

- 15:00 The importance of conducting bottom-up research in small island developing states: experiences of a foreign scientist resident in the Turks and Caicos**
Hind, EJ, *The School for Field Studies*

- 15:15 Combatting the lionfish invasion through collaborative research, education and outreach in The Bahamas.**
Green, S, *Oregon State University*, Smith, N, *Simon Fraser University*

- 15:30 Roles for science in community-driven management - Lessons from the Barbuda Blue Halo Initiative**
Johnson, AE, *Waite Institute*

- 15:45 A new research initiative in the Indian Ocean**
Sweet, MJ, *University of Derby*

- 16:00 Confronting modern marine conservation challenges in Cuba**
Whittle, DJ, *Environmental Defense Fund*; Kritzer, JP, *Environmental Defense Fund*



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C12. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

BOISDALE ROOM

Sunday, 17 August, 15:00 to 17:00

- 15:00 How effective are Caribbean MPAs?**
Bruno, JB, *UNC Chapel Hill*; Cox, CE, *UNC Chapel Hill*; Valdivia, A, *UNC Chapel Hill*; McField, M, *Healthy People Initiative*; Fieseler, C, *UNC Chapel Hill*
- 15:15 Evaluating a new strategy to restore parrotfish populations in Belize**
Cox, C, *University of North Carolina at Chapel Hill*; Bruno, J, *University of North Carolina at Chapel Hill*
- 15:30 Setting conservation targets in marine ecosystems: a socio-ecological approach**
Levin, P, *NOAA Fisheries*; Rehr, A, *NOAA Fisheries*; Williams, G, *NOAA Fisheries*; Norman, K, *NOAA Fisheries*; Harvey, C, *NOAA Fisheries*
- 15:45 Darwin Initiative to strengthen the world's largest Marine Protected Area, Chagos Archipelago**
Turner, JR, *Bangor University, Wales UK*; Sheppard, C, *University of Warwick, UK*; Koldewey, H, *Zoological Society of London*
- 16:00 Fishing impacts on benthic ecosystems: Evidence requirements for effective fisheries management in Marine Protected Areas (MPAs)**
Pardoe, H, *Natural England*; Velterop, R, *Natural England*; Fisher, R, *Natural England*; Duffy, M, *Natural England*
- 16:15 Updating nursery sensitivity maps for British waters**
González-Irusta, JM, *Marine Scotland Science*; Aires, C, *Marine Scotland Science*; Watret, R, *Marine Scotland Science*; Wright, PJ, *Marine Scotland Science*
- 16:30 Is fishing really worth more than biodiversity? A case study in the oceanic eastern tropical Pacific**
Martin, SL, *Scripps Institution of Oceanography*; Ballance, LT, *NOAA Fisheries*; Groves, T, *University of California San Diego*
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C6. CONTRIBUTED SESSION: COMMUNICATING MARINE CONSERVATION

CARRON A ROOM

Sunday, 17 August, 15:00 to 17:00

- 15:00 Communicating the importance of identifying source populations for sea turtles caught in fisheries.**
Stewart, KR, *Ocean Foundation/ NOAA*; Dutton, PH, *NOAA NMFS*
- 15:15 Patterns of anthropogenic threats to seabirds in the North Pacific.**
Rockwood, RC, *Scripps Institution of Oceanography, University of California*; Ballance, LT, *Southwest Fisheries Science Center*; Halpern, BS, *Bren School of Environmental Science and Management, University of California*; Watson, R, *Institute of Marine and Antarctic Studies, University of Tasmania, Australia*
- 15:30 Lessons learned from social marketing campaigns for marine resource management in Madagascar**
Gildas Andriamalala, *Blue Ventures Conservation*; Brian Jones, *Blue Ventures Conservation*; Frances Humber, *Blue Ventures Conservation*
- 15:45 Potential applicability of persuasive communication to light-glow reduction efforts: a case study of marine turtle conservation**
Kamrowski, RL, *James Cook University*; Sutton, SG, *James Cook University*; Tobin, RC, *James Cook University*; Hamann, M, *James Cook University*
- 16:00 How individuals and communities observe, experience and adapt to our changing marine environment: a case study**
Brock, RJ, *NOAA National Marine Protected Areas Center*
- 16:15 Understanding the dynamics and decline of the Hervey Bay, Australia whalewatch industry through passenger surveys**
Kaufman, G, *Pacific Whale Foundation*; Kaufman, P, *Pacific Whale Foundation*
- 16:30 Marine connections through web streaming interfaces**
Irvine, M, *University of Victoria*; Mijung, K, *University of Victoria*
- 16:45 Mobilizing more effective support for marine conservation**
Johns, DM, *Portland State University and Marine Conservation Institute*



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SY41. SYMPOSIUM:
OPPORTUNITIES FOR IMPROVING GLOBAL MARINE CONSERVATION THROUGH INTERNATIONAL TREATIES

CARRON B ROOM
Sunday, 17 August, 15:00 to 17:00

ORGANIZER(S):

Dalal Al-Abdulrazzak, *University of British Columbia*

The speed and scale of human impacts on marine species, such as climate change and exploitation for international markets, coupled with lack of enforcement, make it especially difficult to protect marine species beyond areas of national jurisdiction. Yet as the number of multilateral treaties continues to grow, the declining state of the world's oceans suggest that these treaties are largely failing to fulfill their missions and achieve meaningful protection. This panel combines scholars and policy practitioners to explore opportunities to improve conservation through international agreements, such as the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and United Nations Framework Convention on Climate Change (UNFCCC). Panelists will examine a range of issues, including loopholes in the treaties, phrases such as common but differentiated responsibilities, consensus and rational use that have been disagreed over or misinterpreted, and other factors that have inhibited conservation. We will look to past successes in international environmental treaties, such as the Montreal Protocol to identify new incentives to ratify or (free-ride) agreements. The growth of international treaties represents the widespread interest in conserving global oceans. However, overcoming existing problems with their implementation is essential for success.

15:00 Rational or Irrational? The use of marine resources under CCAMLR

Blood-Patterson, E, *New York University* ; **Jacquet, J**, *New York University*

15:15 Opportunities to incorporate marine conservation into climate change policy

Al-Abdulrazzak, D, *University of British Columbia*

15:30 Lessons from the land: Identifying and conserving vulnerable species traded in international luxury markets

McClenachan, L, *Colby College*; **Dulvy, N**, *Simon Fraser University*; **Cooper, A**, *Simon Fraser University*

15:45 United States government engagement in international treaties designed to conserve or sustainably manage living marine resources

Galland, GR, *Scripps Institution of Oceanography*

16:00 No more time to waste: the case for a high seas biodiversity agreement

Hocevar, JD, *Greenpeace USA*; **Dorey, C**, *Greenpeace International*; **Tsenikli, S**, *Greenpeace International*; **Mackenzie, W**, *Greenpeace UK*

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SY84. SYMPOSIUM:
THE OTHER 95%: BRINGING MARINE INVERTEBRATES INTO MARINE PROTECTED AREA SCIENCE

DOCHART A ROOM
Sunday, 17 August, 15:00 to 17:00

ORGANIZER(S):

Kyle M. Gillespie, *University of British Columbia Fisheries Centre*

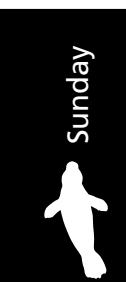
Marine protected areas (MPAs) are a popular conservation tool with many benefits, however, reports of their successes are largely based on recovery of fish – a small fraction of all ocean taxa. The other 105% of marine animal life “the invertebrates” are almost completely overlooked in MPA science. This is especially true for non-coral species, where preliminary evidence indicates that recovery patterns do not mirror those of fish. These taxa are essential in the proper functioning of ecosystems and of major significance in global seafood markets and small scale fisheries. A handful of scattered and infrequent studies that have tracked recovery patterns in select species, yet most non-coral invertebrates are absent from MPA literature. This dearth of information on recovery dynamics and community and population trends is impeding the ability of MPA managers to track and improve the conservation of most ocean species. This symposium will integrate the experiences of leading MPA biologists to put invertebrates on the radar screens of MPA practitioners. Speakers will be asked to explicitly address an agenda that focuses on tracking biological change in species outside of fish and corals, the current knowledge on how invertebrates drive recovery processes and the best practices for integrating invertebrate recovery patterns into MPA management. Through this discussion we hope to begin to overcome the conservation challenges facing this under-represented yet crucial 95%.

15:00 The ecosystem impacts of invertebrate fisheries

Eddy, TD, *Dalhousie University, Canada*; **Coll, M**, *IRD, France*; **Fulton, EA**, *CSIRO, Australia*; **Lotze, HK**, *Dalhousie University, Canada*

15:15 Population changes of sea cucumbers and sea urchins in coral reef closures and implications for reef ecology and management

Muthiga NA, *Wildlife Conservation Society*; **McClanahan TR**, *Wildlife Conservation Society*; **Conand C**, *University La Réunion*, ; **Eriksson H**, *WorldFish Center*



- 15:30 The other 95%: the ecology and recovery patterns of marine invertebrates in marine protected areas**
 Gillespie, KM, *University of British Columbia*; Vincent, ACJ, *University of British Columbia*
- 15:45 Conservation of the little things that run the ocean**
 Lundquist, CJ, *NIWA*; Hewitt, JE, *NIWA*
- 16:00 Mediterranean marine reserves play a crucial role in understanding the response of benthic communities to climate change**
 Linares, C, *Departament d'Ecologia, Universitat de Barcelona, Spain*; Ballesteros, E, *Centre d'Estudis Avançats de Blanes (CSIC), Spain*; Cebrian, E, *Centre d'Estudis Avançats de Blanes (CSIC), Spain*; Díaz, D, *Instituto Español de Oceanografía, CI Moll de Ponent Spain*; Garrabou, J, *Institut de Ciències del Mar, CSIC, Spain*; Hereu, B, *Departament d'Ecologia, Universitat de Barcelona, Spain*; Kersting, DK, *Departament d'Ecologia, Universitat de Barcelona, Spain*; Teixidó, N, *Institut de Ciències del Mar, CSIC, Spain*
- 16:15 Periodic closures as a community management catalyst: Fishery, economic, and management benefits of periodic octopus fishery closures.**
 Oliver, TA, *University of Hawaii*; Oleson, KLL, *University of Hawaii*; Ratsimbazafy, H, *Blue Ventures Conservation*; Raberinary, D, *Blue Ventures Conservation*; Benbow, S, *Blue Ventures Conservation*; Harris, A, *Blue Ventures Conservation*

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C23. CONTRIBUTED SESSION: FOOD SECURITY AND THE OCEANS

DOCHART B ROOM

Sunday, 17 August, 15:00 to 17:00

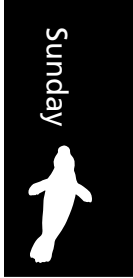
- 15:00 Resolving the debate over the global status of marine fisheries**
 Branch, TA, *University of Washington*
- 15:15 On the wrong side of the law: Vulnerability of adults in an artisanal marine turtle fishery**
 Stringell, TB, *University of Exeter*; Clerveaux, WV, *TCI Government*; Godley, BJ, *University of Exeter*; Phillips, Q, *Dept. Environmental & Maritime Affairs, TCI*; Ranger, S, *Marine Conservation Society*; Richardson, PB, *Marine Conservation Society*; Sanghera, A, *Marine Conservation Society*; Broderick, AC, *University of Exeter*;
- 15:30 Mobulidae Fishery in the Bohol Sea: An assessment of its sustainability**
 Freeman, A, *Swansea University*; Ponzo, A, *Physalus NGO*; Verdote, DM, *Physalus NGO*; Acebes, JV, *The Ruffor Foundation*
- 15:45 The contribution of subsistence fisheries to marine conservation in indigenous contexts**
 Mulrennan, ME, *Concordia University*
- 16:00 Impacts of nearshore fisheries on monk seals in the main Hawaiian Islands**
 Gobush, KS, *NOAA NMFS PIFSC and Save The Elephants*; Henderson, JR, *NOAA NMFS PIFSC*; Wurth, T, *NOAA NMFS PIFSC*; Becker, B, *NOAA NMFS PIFSC*; Littnan, CL, *NOAA NMFS PIFSC*
- 16:15 Co-management of fisheries resources by afro-descendant communities of the Colombian Pacific coast**
 Herrón, PA, *BIOREDD+ Programa of USAID Colomb*; Espinosa, S, *BIOREDD+ Programa of USAID Colomb*; Arcos, AL, *BIOREDD+ Programa of USAID Colomb*; Box, S, *Smithsonian Institution, Spatial Ecology of the Marine Protected Area Program.*
- 16:30 Joined up whiting - Making marine data more accessible.**
 Seeley, B, *Marine Biological Association*; Cotton, D, *MEDIN*; Lear, B, *Marine Biological Association*; Postlethwaite, C, *MEDIN*; Hughes, E, *Marine Biological Association*
- 16:45 Marine Conservation Benefits of the FAO's Guidelines on Small-scale Fisheries**
 Charles, A, *Saint Mary's University*



COFFEE BREAK

17:00 to 17:30

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Late afternoon session: 5:30 P.M. to 7:30 P.M.

SPECIAL EVENT: DIVERSITY WORKSHOP AND FORUM

CARRON A ROOM

Sunday, 17 August, 17:30 to 19:30

ORGANIZER(S):

Eleanor Sterling and Leslie Cornick

This workshop will follow up on a comparable event at the North American Conservation Congress in Montana. We will focus specifically on diversity questions, themes, activities, and ways forward in the SCB at large, the Marine Section, and Marine Science and Conservation broadly. The goal will be to develop a list of specific strategies and activities that can be undertaken by the Marine Section Board and its members in order to foster increased diversity in the section and across the discipline. Please contact workshop organizer Leslie Cornick (lornick@alaskapacific.edu) with questions.



Evening Events

SPECIAL EVENT: NO MERMAIDS DON'T EXIST!

Panel on impact of fake documentaries on public understanding

LOMOND AUDITORIUM

Sunday, 17 August, 19:30 to 21:30

ORGANIZER(S):

Andrew David Thaler and David Shiffman

Recently, educational TV channels have aired documentaries claiming that mermaids exist, and that megalodon sharks are still alive. This has had a major and negative impact on public understanding of marine science and conservation. Two ocean scientists on the front lines of science communication will share horror stories from the trenches, as well as communications strategies for ocean scientists and conservationists to confront these misconceptions.

MIXER

Feelin' Druth? Then gee urself a bevvv!

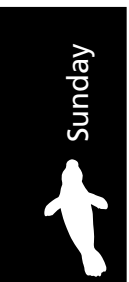
THE GROSVENOR

24 Ashton Lane, Glasgow (~ 30 min. walk)

Sunday, 17 August, 20:00 to close

Welcome to the twinkling lights and cobbled street of Ashton Lane! Get ready to party all night at the Grosvenor cafe, where drinks will be flowing for student friendly prices! You're sure to have an amazing time meeting new friends and enjoying everything the Scottish Nightlife can offer! So how about that bevvv? The first 200 people to purchase their ticket will get to indulge in our delicious buffet line (served from 8p.m.-10p.m.), and all will be able to enjoy special drink promotional prices. Funds raised from ticket sales will go to support future student travel grants.

Capacity: 300 delegates. Student mixer, non-students welcome. Tickets for the buffet (including discounted drinks all night) will be available at the registration desk. Reduced-rate drink-only wristbands are also available at the door, but limited quantities are available





Morning session: 8:30 A.M. to 10:30 A.M.

C17. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

LOMOND AUDITORIUM

Monday, 18 August, 8:30 to 10:30

- 08:30 Operating MPAs as a business - a case study of the Namena Marine Reserve, Fiji**
Diamond, J, *Coral Reef Alliance*; **Vasques, J**, *Coral Reef Alliance*
- 08:45 Integrating monetary and non-monetary approaches for incorporating the value of marine cultural ecosystem services into decisions**
Kenter, J, *Social-ecological systems group, Scottish Association for Marine Science*
- 09:00 A spatial analysis of changes in recreational fishing pressure on the central coast of California subsequent to MPA implementation**
Ivens-Duran, M, *California Polytechnic State University at San Luis Obispo*; **Schaffner, A**, *California Polytechnic State University at San Luis Obispo*; **Wendt, DE**, *California Polytechnic State University at San Luis Obispo*
- 09:15 Adaptively managing marine protected areas for resilience through collaborative learning and research partnerships**
O'Leary, JK, *Stanford University, Hopkins Marine Station*; **Tuda, A**, *Kenya Wildlife Service*; **Brumbaugh, D**, *Center for Biodiversity and Conservation, AMNH*
- 09:30 Behavioral and ethnographic approaches to fishing effort in small-scale fisheries in Indonesia: aiding marine policy design and conservation**
Ramenzoni, V, *The University of Georgia, NOAA*
- 09:45 Sustainable marine decision-making through plan-led management in English Seas**
Burgess, SN, *Marine Management Organisation*
- 10:00 Traditional ecological knowledge and conservation of endangered marine species: case study of *Hippocampus ingens* "pacific seahorse" in Peru.**
Quiñe, M, *Laboratoire d'Excellence "CORAIL", USR 3278 CNRS EPHE UPVD, Centre de Recherche Insulaire et Observatoire de l'Environnement (CRIOBE), CBETM - Université de Perpignan, France*
- 10:15 Baselines and comparisons of coral reef fish assemblages in the central Red Sea**
Kattan, A, *Red Sea Research Center, King Abdullah University of Science and Technology (KAUST)*; **Berumen, ML**, *Red Sea Research Center, King Abdullah University of Science and Technology (KAUST)*

SY55. SYMPOSIUM:

CONNECTING PEOPLE AND ECOSYSTEMS: HOW RECOGNIZING, DEMONSTRATING AND CAPTURING ECOSYSTEM SERVICE VALUES CAN SUPPORT CONSERVATION AND DEVELOPMENT

ALSH ROOM

Monday, 18 August, 8:30 to 10:30

ORGANIZER(S):

Steven Lutz, *GRID-Arendal*; **Jackie Alder**, *UNEP*; **Tundi Agardy**, *Forest Trends*; **Christian Neumann**, *GRID-Arendal*; **Marianne Kettunen**, *IEEP*

Ecosystem services in the coastal and marine environment are receiving growing scientific and political attention. Science has helped us assess ecosystem services, anticipate future outcomes regarding ecosystem services delivery, and place economic value on coastal and marine habitats for the myriad services they provide. Paralleling significant effort being currently focused on economic valuation, we will explore other ways that ecosystem service information can be incorporated into marine spatial planning, MPA design, and ecosystem-based management more generally. Collectively, this information can be a powerful tool to reconcile the fields of environmental conservation and economic and social development, as ecosystems are now understood as Green Capital, a prerequisite to sustainable development. The symposium and focus group will draw on experience and approaches of a broad range of projects and initiatives: TEEB for Oceans & Coasts, Forest Trends Marine Ecosystem Services (MARES) Program, Blue Solutions (a project by GIZ, GRID-Arendal, IUCN and UNEP), the Global Environment Facility's (GEF) Blue Forests Project, the IEEP's Assessment Guide Social and Economic Benefits of Protected Areas. The symposium and focus group aim to provide guidance as to how to design, implement and communicate science on marine and coastal ecosystem services, so it becomes a significant driver for coastal and marine conservation and the overall well-being of coastal communities.



*A focus group follows this symposium: Connecting people and ecosystems: How recognizing, demonstrating and capturing ecosystem service values can support conservation and development (Alsh Room: 11 A.M. -1 P.M.)

08:30 Socio-economic benefits of marine protected areas (MPAs) - combining conservation objectives with the sustainable use of "blue" natural capital

Kettunen, M, *Institute for European Environmental Policy (IEEP)*; **ten Brink, P**, *Institute for European Environmental Policy (IEEP)*

08:45 Blue Solutions: Inspiring approaches to integrating marine and coastal ecosystems into development planning

Neumann, C, *GRID-Arendal*

09:00 Payments for ecosystems to advance marine conservation and management

Agardy, T, *Sound Seas*

09:15 Building blue carbon projects, an introduction

Lutz, S, *GRID-Arendal*

09:30 TEEB for oceans and coasts

Pacheco, A, *Division of Environmental Policy Implementation United Nations Environment Programme*; **Miller, D**, *'The Economics of Ecosystems and Biodiversity' United Nations Environment Programme*

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SY88. SYMPOSIUM:

COMPLEMENTING MPAS IN THE MANAGEMENT OF SMALL-SCALE FISHERIES: OTHER TOOLS AND APPROACHES

CARRON A ROOM

Monday, 18 August, 8:30 to 10:30

ORGANIZER(S):

Jennifer Selgrath and Kyle Gillespie, *Project Seahorse, Fisheries Centre, University of British Columbia, Canada*

We need effective approaches for management and conservation to make resource users like small-scale fisheries more sustainable in the > 1010% of the ocean that remains unprotected. Community established marine protected areas (MPAs) have become the conservation tool of choice in many coastal regions, particularly in developing countries where small-scale fisheries predominate. MPAs have led to many successes, but key MPA limitations (e.g. small size, limited overflow of biomass, inadequate enforcement) have made large scale conservation difficult to achieve in the absence of other management tools. Conservation and management efforts would benefit from a forum to think broadly about alternative approaches to MPAs and to complement and support the scattered efforts to implement other management measures. There are enormous opportunities for the sharing and development of alternative management practices. During the Complementing MPAs symposium (and focus group), we will integrate the experiences of leading conservation practitioners and academics working in small-scale fisheries management around the world. Speakers will be asked to explicitly address an agenda that focuses on three areas of fisheries management in a small-scale, resource limited context: fishing gear, institutions, and spatial measures (beyond MPAs). We will discuss the problems faced and best practices for developing and implementing tenable and innovative management approaches.

*A focus group follows this symposium: Complementing MPAs in the management of small-scale fisheries: Other tools and approaches (Carron A Room: 11 A.M.-1 P.M.)

08:30 Justifying the need for action on gear intensification in small-scale fisheries

Selgrath, JC, *Project Seahorse, The University of British Columbia*; **Gergel, SE**, *The University of British Columbia*; **Vincent, AV**, *Project Seahorse, The University of British Columbia*

08:45 A Collaborative Effort to Understand the Linkages of Small-scale Fisheries and Ecosystem Processes

Moreno-Báez, M, *Scripps Institution of Oceanography, University of California San Diego*; **López-Sagastegui, C**, *University of California Riverside*; **Mascareñas-Osorio, I**, *Centro para la Biodiversidad Marina y la Conservación, A.C.*; **Cota-Nieto, JJ**, *Centro para la Biodiversidad Marina y la Conservación, A.C.*; **Victoria M. Jiménez Esquivel**, *Centro para la Biodiversidad Marina y la Conservación, A.C.*; **Erisman, B**, *Scripps Institution of Oceanography, University of California San Diego*; **Aburto-Oropeza, O**, *Scripps Institution of Oceanography, University of California San Diego*

09:00 Small is beautiful, a case study on restoring small scale fisheries in Indonesia

Pet-Soede, L, *WWF*; **Muthofa, I**, *WWF*; **Habibi, A**, *WWF*; **Meutia, M**, *WWF*; **Estradivari, WWF**; **Wijonarno, A**, *WWF*; **Ahmadia, G**, *WWF*

09:15 Developing a toolkit for sustainable management of small-scale fisheries - The Barbuda Blue Halo example

Johnson, AE, *Waite Institute*



Monday

SY8. SYMPOSIUM:
ADVANCING THE INTEGRATION OF CONNECTIVITY PROCESSES INTO MARINE CONSERVATION PLANNING

CARRON B ROOM

Monday, 18 August, 8:30 to 10:30

ORGANIZER(S):

Rebecca Weeks and Bob Pressey: *ARC Centre of Excellence for Coral Reef Studies, James Cook University*

Explicit consideration of connectivity in marine conservation planning has been impeded by a paucity of empirical data, and a lack of specific, quantitative objectives. New empirical data, acquired through novel techniques such as genetic parentage and seascape analysis, have advanced our understanding of complex ecological connectivity processes. We are now in a position to advance conservation and develop new tools for spatial conservation prioritization that move beyond ensuring representation of static biodiversity features to also consider dynamic connectivity processes. Approaches include those that define patch-specific connectivity objectives (e.g. for larval recruitment to individual marine protected areas) and network analytical approaches. These new tools can be used to test the efficacy of rules of thumb in achieving quantitative, ecologically informed objectives, with lessons for the many areas without empirical connectivity data. Finally, improved understanding of ecological connectivity processes can be applied to explore interactions with policy and governance networks for resource management. This symposium will demonstrate how we can make marine science matter by developing innovative approaches to integrate cutting-edge connectivity science into conservation planning for marine reserve networks. The research presented is grounded in real conservation and management initiatives in Papua New Guinea, Philippines, Australia and Solomon Islands.

08:30 Empirical advances in understanding larval connectivity in marine populations

Williamson, DH, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia*; **Almann, GR**, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia*. & *Centre National de la Recherche Scientifique (National Center for Scientific Research), France*; **Berumen, ML**, *Red Sea Research Center, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia*; **Harrison, HB**, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia*; **Planes, S**, *Centre de Recherches Insulaires et Observatoire de l'Environnement, French Polynesia*; **Saenz-Agudelo, P**, *Red Sea Research Center, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia*; **Thorrold, SR**, *Biology Department, Woods Hole Oceanographic Institution, USA*; **Jones, GP**, *ARC Centre of Excellence for Coral Reef Studies & School of Marine and Tropical Biology, James Cook University, Australia*

08:45 Realized patterns of larval dispersal and the design of marine reserve networks in the Philippines

Abesamis, RA, *Silliman University-Angelo King Center for Research and Environmental Management*; **Saenz-Agudelo, P**, *King Abdullah University of Science and Technology*; **Bernardo, LPC**, *Tokyo Institute of Technology*; **Berumen, ML**, *King Abdullah University of Science and Technology*; **Jadloc, CRL**, *Silliman University-Angelo King Center for Research and Environmental Management*; **Villanoy, CL**, *University of the Philippines-Marine Science Institute*; **Alcala, AC**, *Silliman University-Angelo King Center for Research and Environmental Management*; **Russ, GR**, *James Cook University*;

09:00 Planning marine protected area networks for both feature representation and connectivity

Bode, M, *University of Melbourne*; **Pressey, R**, *James Cook University*; **Weeks, R**, *James Cook University*; **Williamson, D**, *James Cook University*; **Jones, G**, *James Cook University*; **Hopf, J**, *James Cook University*;

09:15 Strategies in scheduling marine conservation plans in a networked system

Kininmonth, SJ, *Stockholm University*; **Weeks, R**, *James Cook University*; **Abesamis, R**, *James Cook University*; **Berger, M**, *University of Queensland*; **Treml, E**, *University of Melbourne*; **Williamson, D**, *James Cook University*; **Pressey, R**, *James Cook University*; **Bodin, Å**, *Stockholm University*;

09:30 Towards better integration of seascape connectivity in marine conservation

Olds, AD, *University of the Sunshine Coast*; **Connolly, RM**, *Griffith University*; **Pitt, KA**, *Griffith University*; **Maxwell, PS**, *Griffith University*; **Albert, S**, *University of Queensland*

09:45 Towards explicit objectives for connectivity in marine conservation planning

Weeks, R, *Australian Research Council Centre of Excellence for Coral Reef Studies*; **Pressey, RL**, *Australian Research Council Centre of Excellence for Coral Reef Studies*

10:00 Analysing the (mis)fit between institutional and ecological networks of the Coral Triangle

Treml, EA, *Department of Zoology, University of Melbourne, Victoria, Australia*; **Bodin, Å**, *Stockholm Resilience Centre, Stockholm, Sweden*; **Fidelman, P**, *Sustainability Research Centre, University of the Sunshine Coast, Maroochydore Queensland, Australia*; **Kininmonth, S**, *Stockholm Resilience Centre, Stockholm, Sweden*; **Ekstrom, J**, *Natural Resources Defense Council, San Francisco, California, United States*



Monday

SY24. SYMPOSIUM:
THE REAL FISHERIES CATCH OF THE WORLD: THE SUM OF NATIONAL RECONSTRUCTIONS

DOCHART A

Monday, 18 August, 8:30 to 10:30

ORGANIZER(S):

Dirk Zeller, Daniel Pauly and D.M. Knip: *Sea Around Us project, Fisheries Centre, University of British Columbia, Vancouver, Canada*

What do we know about global fisheries? Essentially, all we know is what member countries choose to report to the Food and Agriculture Organization of the United Nations (FAO). However, research conducted over the last 10 years by the Sea Around Us project of the University of British Columbia shows that the FAO data are profoundly deficient, such that policy decisions based on its numbers are fundamentally misleading. For example, while the FAO suggests a world catch of 70-80 million tonnes with a slow decline since the 1990s reflecting a period of stability, the Sea Around Us project shows that catch have been rapidly declining since the 1980s, a feature previously masked by over-reporting from China. In addition, most countries tend to under-report their small-scale fisheries catch, which are underestimated by 30-60% for developed countries and 100-500% for developing countries. Overall, there are many countries in the world whose catch is 2-5 times higher than they report to the FAO, as assessed by careful reconstructions of their historic catch from independent sources. The Sea Around Us project has performed such reconstructions for all maritime countries of the world, providing a complete picture of the real fisheries catch of the world, which will be presented in this symposium. This new knowledge of global fisheries catch will contribute to the conservation of marine ecosystems and help ensure the food security of the 1 billion people living in coastal communities.

08:30 The real fisheries catch of the world: global implications of reconstructions.

Pauly, D, *Sea Around Us, Fisheries Centre, The University of British Columbia*

08:45 Reconstructing the marine fisheries catch of countries in the North and the South: the findings

Zeller, D, *Sea Around Us, Fisheries Centre, The University of British Columbia*

09:00 Lots of boats and fewer fish: how Senegal will use reconstructed catch data.

Camille JPM, *Ministry of Fisheries and Maritime Affairs, Senegal*

09:15 Ghana's marine fisheries catches: historic reconstruction for 1950 to 2010 and current economic impacts

Nunoo, FKE, *Dept. of Marine & Fisheries Sciences, University of Ghana, Legon, Accra; Asiedu, B,* *School of Natural Resources, University of Energy and Natural Resources, Sunyani, Ghana; Amador, K,* *Marine Fisheries Research Division, Ministry of Fisheries and Aquaculture Development, Tema, Ghana; Belhabib, D,* *Sea Around Us Project, UBC Fisheries Centre, Vancouver, Canada; Lam, V.,* *Fisheries Economics Research Unit, UBC Fisheries Centre, Vancouver, Canada; Sumaila, R,* *Fisheries Economics Research Unit, UBC Fisheries Centre, Vancouver, Canada; Paula, D,* *Sea Around Us Project, UBC Fisheries Centre, Vancouver, Canada*

09:30 Catch evasion and fish smuggling in Western Africa: from the Nile to the Cape of Good Hope

Belhabib, D, *Sea Around Us Project, UBC*

09:45 Method in the madness: the global database of the real fisheries catch of the world

Lam, VWY, *Sea Around Us, Fisheries Centre, The University of British Columbia*

10:00 Deconstructing the notion of available surpluses for Distant Water Fleets using catch reconstructions

Le Manach, F, *UMR 212 EME Ecosystèmes Marins Exploités, Institut de Recherche pour le Développement*



Monday

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FG91. FOCUS GROUP:

MOVING BEYOND PAPER AGREEMENTS: CATALYZING CONSERVATION ACTION BY NATIONAL GOVERNMENTS

DOCHART B ROOM

Monday, 18 August, 8:30 to 10:30

ORGANIZER(S):

Sarah Foster and Amanda Vincent, *Project Seahorse, John A. Cigliano,* *Cedar Crest College*

For international treaties, international plans of action, species at risk legislation, cross-boundary agreements etc. to be more than just paper agreements, they have to result in conservation and management action by national governments. For example, effective implementation of marine species listings on the international trade convention CITES requires effective national adaptive management plans. In another example, species assessed as threatened under the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) still require government agreement to legally protect them before there is any mandate for management or conservation action. This focus group will explore how marine scientists can catalyze action by national governments so that we can move beyond paper and towards real outcomes and impacts. The goal is to highlight win-win approaches to implementation, which consider the need for resource management and conservation while accounting for the political, social or economic factors that concern national governments. Six panelists will be invited to start the discussion with 10-minute presentations on their experience working with national governments highlighting success stories and lessons learned. These will be followed by a moderated discussion largely lead by questions and comments from the audience.



COFFEE BREAK
10:30 to 11:00



Late morning session: 11:00 A.M. to 1:00 P.M.

C14. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

LOMOND AUDITORIUM

Monday, 18 August, 11:00 to 13:00

- 11:00 Data gaps and scientific needs on biological and biophysical impacts to offshore sand shoals from dredging and renewable energy projects**
Culbertson, JB, Bureau of Ocean Energy Management, Department of the Interior; **Michel, J**, Research Planning, Inc.; **Bejarano, AC**, Research Planning, Inc.; **Peterson, CH**, University of North Carolina, Chapel Hill; **Voss, C**, University of North Carolina, Chapel Hill
- 11:15 A study of the temporal variation in reef fish assemblages in New Caledonia and recommendations for optimal sampling of marine protected areas**
Powell, A, French Institute for the Exploitation of the Sea (IFREMER); **Pelletier, D**, French Institute for the Exploitation of the Sea (IFREMER); **Mallet, D**, French Institute for the Exploitation of the Sea (IFREMER); **Roman, W**, French Institute for the Exploitation of the Sea (IFREMER)
- 11:30 Foraging seabirds inform marine spatial planning in the Gulf of Mexico**
Poli, C, School of Agricultural Forest and Environmental Sciences, Clemson University; **Jodice, PGR**, U.S. Geological Survey, South Carolina Cooperative Fish & Wildlife Research Unit, Clemson University
- 11:45 Living Museums in the Sea: a globally valid model for protection of biological and cultural resources through sustainable tourism**
Beeker, C, Indiana University; **Johnson, C**, Indiana University; **Maus, M**, Indiana University; **Budziak, A**, Project AWARE
- 12:00 All hands on deck: Building science capacity and political will through MPA monitoring and evaluation**
Whiteman, EA, California Ocean Science Trust; **McAfee, S**, California Ocean Science Trust
- 12:15 MaPP: a co-led provincial and First Nations' government marine planning process for ecosystem-based management in the North Pacific Coast of Canada**
Diggon, S, Coastal First Nations - Great Bear Rainforest; **Short, C**, Ministry of Forests, Lands, and Natural Resource Operations; **Bones, J**, JG Bones Consulting; **Justice, M**, Ministry of Forests, Lands, and Natural Resource Operations; **Smith, J**, Birdsmith Ecological Research
- 12:30 What cultural ecosystem services are provided by the sea?**
Hall, Clare, SRUC; **Fletcher, Ruth**, UNEP-WCMC; **Lewis, Amy**, Wild Economics; **Sower, Christopher**, Unaffiliated; **von Almen, A**, Lord Green Real Estate Strategies; **Baulcomb, C**, SRUC; **Hussain, S**, UNEP;
- 12:45 Using a coral reef mitigation bank and innovative coral nursery for off-site impacts to restore marine managed areas**
Gulko, DA, Hawaii Division of Aquatic Resources; **Cullison, K**, Hawaii Division of Aquatic Resources; **Cavazos, MV**, Hawaii Division of Aquatic Resources; **Forsman, Z**, Hawaii Division of Aquatic Resources; **Koltan-Zajackowski, K**, Hawaii Division of Aquatic Resources

FG52. FOCUS GROUP:

CONNECTING PEOPLE AND ECOSYSTEMS: HOW RECOGNIZING, DEMONSTRATING AND CAPTURING ECOSYSTEM SERVICE VALUES CAN SUPPORT CONSERVATION AND DEVELOPMENT

ALSH ROOM

Monday, 18 August, 11:00 to 13:00

ORGANIZER(S):

Jennifer Selgrath and Kyle Gillespie, Project Seahorse and the University of British Columbia

*This focus group is a follow-up to the Symposium: Connecting People and Ecosystems: How Recognizing, Demonstrating and Capturing Ecosystem Service Values Can Support Conservation and Development (Alsh Room: 8:30-10:30 A.M.)

Ecosystem Services in the coastal and marine environment are receiving growing scientific and political attention. Science has



Monday

helped us assess ecosystem services, anticipate future outcomes regarding ecosystem services delivery, and place economic value on coastal and marine habitats for the myriad services they provide. Paralleling significant effort being currently focused on economic valuation, we will explore other ways that ecosystem service information can be incorporated into marine spatial planning, MPA design, and ecosystem-based management more generally. Collectively, this information can be a powerful tool to reconcile the fields of environmental conservation and economic and social development, as ecosystems are now understood as Green Capital, a prerequisite to sustainable development. The symposium and focus group will draw on experience and approaches of a broad range of projects and initiatives, including: TEEB for Oceans & Coasts, Forest Trends Marine Ecosystem Services (MARES) Program, Blue Solutions (a project by GIZ, GRID-Arendal, IUCN and UNEP), the Global Environment Facility's (GEF) Blue Forests Project, the IEEPs Assessment Guide Social and Economic Benefits of Protected Areas. The symposium and focus group aim to provide guidance as to how to design, implement and communicate science on marine and coastal ecosystem services, so it becomes a significant driver for coastal and marine conservation and the overall well-being of coastal communities.

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**FG87. FOCUS GROUP:
COMPLEMENTING MPAS IN THE MANAGEMENT OF SMALL-SCALE FISHERIES: OTHER TOOLS AND APPROACHES**

**CARRON A ROOM
Monday, 18 August, 11:00 to 13:00**

*ORGANIZER(S):
Maria Beger, University of Queensland*

*This focus group is a follow-up to the Symposium: Complementing MPAs in the Management of Small-Scale Fisheries: Other Tools and Approaches (Carron A Room: 8:30-10:30 A.M.)

We need effective approaches for management and conservation to make resource users like small-scale fisheries more sustainable in the > 99% of the ocean that remains unprotected. Community-established marine protected areas (MPAs) have become the conservation tool of choice in many coastal regions, particularly in developing countries where small-scale fisheries predominate. MPAs have led to many successes, but key MPA limitations (e.g. small size, limited overflow of biomass, inadequate enforcement) have made large scale conservation difficult to achieve in the absence of other management tools. Conservation and management efforts would benefit from a forum to think broadly about alternative approaches to MPAs and to complement and support the scattered efforts to implement other management measures. There are enormous opportunities for the sharing and development of alternative management practices. During the Complementing MPAs focus group and symposium, we will integrate the experiences of leading conservation practitioners and academics working in small-scale fisheries management around the world. Speakers will be asked to explicitly address an agenda that focuses on three areas of fisheries management in a small-scale, resource limited context: fishing gear, institutions, and spatial measures (beyond MPAs). We will discuss the problems faced and best practices for developing and implementing tenable and innovative management approaches.

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C4. CONTRIBUTED SESSION: CLIMATE CHANGE, OCEAN ACIDIFICATION, AND THE CHANGING OCEANS

**CARRON B ROOM
Monday, 18 August, 11:00 to 13:00**

11:00 Climate change for mussel reefs hangs by a thread.

Kent, FEA, Heriot-Watt University; Last, K, Scottish Association for Marine Science; Sanderson, WG, Heriot-Watt University

11:15 Ecological traits and climate velocity explain range shifts in a climate warming hotspot

Sunday, JS, University of British Columbia; Bates, AE, University of Southampton; Pecl, GT, University of Tasmania; Frusher, S, University of Tasmania; Hobday, AJ, CSIRO Marine and Atmospheric Research; Hill, N, University of Tasmania; Holbrook, N, University of Tasmania; Edgar, GJ, University of Tasmania;

11:30 The effects of coral declines and fisheries on reef structural processes and coral reef habitat.

Januchowski-Hartley, FA, University of Exeter; Perry, C, University of Exeter; McClanahan, TR, Wildlife Conservation Society

11:45 Multiple stressors in a warming ocean: Using thermal performance curves to improve predictions of non-additive outcomes

Kroeker, KJ, University of California, Davis; Harley, CDG, University of British Columbia; Bible, JM, University of California, Davis; Cheng, BS, University of California, Davis; Kordas, RL, University of British Columbia; Miller, SH, University of California, Davis;

12:00 Using a novel, multidimensional coral health index (CHI) to assess human and natural impacts on Maldivian coral reefs

Lewis, LS, Scripps Institution of Oceanography; Harris, JL, Scripps Institution of Oceanography; Smith, JE, Scripps Institution of Oceanography; Sandin, SA, Scripps Institution of Oceanography

- 12:15 Anthropogenic facilitation and impacts of invasive Asian shore crab around Long Island, NY, USA.**
Freeman, AS, *Adelphi University*; **Blakeslee, A.**, *Long Island University Post*; **Fowler, A.**, *South Carolina DNR*; **Frischeisen, A.**, *Adelphi University*; **Kulins, S.**, *Adelphi University*; **Taub, E.**, *Adelphi University*;
- 12:30 Tough as a rock-boring urchin: adult *Echinometra mathaei* from the Red Sea show high resistance to ocean acidification over long term exposures**
Hazan, Y., *Ben Gurion University of the Negev, Israel and the Interuniversity Institute for Marine Sciences in Eilat, Israel*

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C7. CONTRIBUTED SESSION: COMMUNICATING MARINE CONSERVATION

DOCHART A ROOM

Monday, 18 August, 11:00 to 13:00

- 11:00 Incorporating modelled data confidence in marine planning**
Peckett, FJ, *Plymouth University Marine Institute*; **Glegg, GA**, *Plymouth University Marine Institute*; **Rodwell, LD**, *Plymouth University Marine Institute*
- 11:15 Addressing the challenges of monitoring the dugong (*Dugong dugon*) and its seagrass habitats in Malaysia**
Rajamani, L., *Centre for Marine and Coastal Studies, Universiti Sains Malaysia, USM, Penang, 11800, Malaysia*; **Marsh, H.**, *School of Earth and Environmental Sciences, James Cook University, Townsville, Queensland, 00117J, Australia*
- 11:30 The best protected places in the sea: MPAtlas.org provides tools to analyze global marine protected area coverage**
Pike, EP, *Marine Conservation Institute*; **Moffitt, RE**, *Marine Conservation Institute*; **Shugart-Schmidt, K.**, *Marine Conservation Institute*; **Drozd, L.**, *Marine Conservation Institute*; **Morgan, LE**, *Marine Conservation Institute*
- 11:45 SeaStates.G20 2014: How much of your seas are governments really protecting?**
Moffitt, R. E., *Marine Conservation Institute*; **Shugart-Schmidt, K.**, *Marine Conservation Institute*; **Pike, E.P.**, *Marine Conservation Institute*; **Drozd, L.**, *Marine Conservation Institute*; **Morgan, L.E.**, *Marine Conservation Institute*; **Norse, E. A.**, *Marine Conservation Institute*;
- 12:00 The role of social media in the management and monitoring of the invasive lionfish in the Caribbean**
Ali, FA, *University of Southampton; CIEE Research Station Bonaire*
- 12:15 A new approach to delivering fisheries management in English European Marine Sites.**
Solandt, JL, *Marine Conservation Society*; **Luk, S.**, *Clientearth*; **Gregerson, S.**, *Clientearth*; **Moore, M.**, *Marine Conservation Society*; **Appleby, T.**, *University of the West of England*
- 12:30 Predicting environmentally sustainable behaviour in the restaurant industry- A sustainable seafood case study**
Dolmage, K; **Macfarlane, V.**, *Vancouver Island University*; **Alley, J.**, *University of Victoria*

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C15. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

DOCHART B ROOM

Monday, 18 August, 11:00 to 13:00

- 11:00 Species distribution modelling (SDM) in the marine environment: simple in theory, complex in practice**
MacLeod, C.D., *GIS In Ecology, Glasgow*; **Bannon, S.M.**, *Institute of Biological and Environmental Sciences (IBES), University of Aberdeen*; **Pierce, G.J.**, *Institute of Biological and Environmental Sciences (IBES), University of Aberdeen, Aberdeen*
- 11:15 Toward deep-sea conservation: Defining natural population structure in hydrothermal-vent-associated species**
Thaler, AD, *Southern Fried Science*; **Plouviez, S.**, *Duke University Marine Lab*; **Carlsson, J.**, *University College Dublin*; **Schultz, TF**, *Duke University Marine Lab*; **Van Dover, CL**, *Duke University Marine Lab*
- 11:30 Individual and population level foraging consistency in Campbell Albatross: Implications for marine spatial planning**
Sztukowski, LA, *Marine Biology & Ecology Research Centre, University of Plymouth*; **Weimerskirch, H.**, *Centre d'Etudes Biologiques de Chizé*; **Thompson, DR**, *National Institute of Water and Atmospheric Research Ltd.*; **Torres, LG**, *Oregon State University*; **Sagar, PM**, *National Institute of Water and Atmospheric Research Ltd.*; **Cotton, PA**, *Marine Biology & Ecology Research Centre, University of Plymouth*; **Votier, SC**, *Environment and Sustainability Institute, University of Exeter*;
- 11:45 Marine protected area networks: Assessing whether the whole is greater than the sum of its parts**
Grorud-Colvert, K., *Oregon State University*; **Claudet, J.**, *University of Perpignan*; **Tissot, B.**, *Humboldt State University Marine Laboratory*; **Caselle, J.**, *University of California, Santa Barbara*; **Carr, M.**, *University of California, Santa Cruz*; **Day, J.**, *Great Barrier Reef Marine Park Authority*; **Friedlander, A.**, *University of Hawai'i*; **Lester, S.**, *University of California, Santa Barbara*



Monday

12:00 Long-range movement of humpback whales and their overlap with anthropogenic activity in the South Atlantic Ocean

Rosenbaum, HC, 1) *Ocean Giants Program, Global Conservation Program, Wildlife Conservation Society* 2) *Sackler Institute for Comparative Genomics, American Museum of Natural History*; **Maxwell, SM**, 1) *Marine Conservation Institute*; 2) *Stanford University, Hopkins Marine Station*; **Kershaw, F**, *Department of Ecology, Evolution & Environmental Biology, Columbia University*; **Mate, B**, *Department of Fisheries and Wildlife, Marine Mammal Institute, Coastal Oregon Marine Experiment Station, Hatfield Marine Science Center, Oregon State University*

12:15 Protection from fishing and the response of reef fish community functional traits to climate variability over 20 years

Bates, AE, *National Oceanography Center Southampton*; **Stuart-Smith, R**, *University of Tasmania*; **Barrett, N**, *University of Tasmania*; **Edgar, G**, *University of Tasmania*

12:30 Learning lessons from environmental impact monitoring programmes: The Hong Kong dolphin population and the Hong Kong Zhuhai Macau Bridge construction

Porter, LJ, *The University of St. Andrews*

12:45 Population complexity of the humpback whale: implications for managing biologically meaningful units at multiple scales

Kershaw, F, *Dept. of Ecology, Evolution & Environmental Biology, Columbia University*; **Rosenbaum, HC**, 1) *Ocean Giants Program, Global Conservation Program, Wildlife Conservation Society*; 2) *Sackler Institute for Comparative Genomics, American Museum of Natural History*



Lunch Activities: 1:00 P.M. to 3:00 P.M.

SPECIAL EVENT:

SCIENCE IN THE CLYDE: LOCAL INSIGHT ON INTERNATIONAL ISSUES

LOMOND AUDITORIUM

Monday, 18 August, 13:00 to 15:00

ORGANIZER(S):

Natalie Welden

The Firth of Clyde is a complex and dynamic system subject many anthropogenic pressures. Intensely studied for over a century, it has yielded internationally important insights into many marine issues. In this session, sponsored by the Firth of Clyde Forum, we provide an introduction to the fascinating oceanography, wildlife, and industrial and urban environments of the Clyde. We will be joined by a number of local researchers to explore examples of the varied research being carried out in the Clyde Sea and to discuss the benefits of this research to other systems and studies.

Monday



Afternoon session: 3:00 P.M. to 5:00 P.M.

C16. CONTRIBUTED SESSION: EFFECTIVE CONSERVATION PLANNING

LOMOND AUDITORIUM

Monday, 18 August, 15:00 to 17:00

15:00 A shifting budget of grazing and production: Functional responses of a coral reef community to herbivore protection

Kelly, ELA, *Scripps Institution of Oceanography*; **Sparks, RT**, *Hawaii Division of Aquatic Resources*; **Williams, ID**, *NOAA Coral Reef Ecosystem Division*; **Smith, JE**, *Scripps Institution of Oceanography*

15:15 Understanding and accounting for the limitations of biophysical maps in conservation planning: a risk assessment framework for practitioners.

Hamel, MA, *ARC Centre of Excellence for Coral Reef Studies*; **Pressey, RL**, *ARC Centre of Excellence for Coral Reef Studies*; **Andréfouët, S**, *Institut de Recherche pour le Développement*; **Devillers, R**, *Memorial University of Newfoundland*; **Keith, D**, *University of New South Wales*

15:30 Using Marine Protected Areas to achieve seabird recovery

Walton, P, *RSPB Scotland*; **Brydson, K**, *RSPB Scotland*; **Whyte, A**, *RSPB Scotland*

15:45 Applying empirical estimates of marine protected area effectiveness to assess conservation plans

Ban, NC, *School of Environmental Studies, University of Victoria*; **McDougall, C**, *Haida Fisheries Program - Council of the Haida Nation and Central Coast Indigenous Resource Alliance*; **Beck, M**, *School of Environmental Studies, University of Victoria*; **Salomon, A**, *School of Resources and Environmental Management, Simon Fraser University*; **Cripps, C**, *Central Coast Indigenous Resource Alliance*

- 16:00 Evaluating fish population connectivity combining larval dispersal models and genetics for MPAs network design.**
Rocklin, D, *University of Murcia, Department of Ecology and Hydrology, Spain*; **Muntoni, M**, *University of Cagliari, Department of Life and Environmental Science*; **Muñoz, I**, *University of Murcia, Department of Ecology and Hydrology, Spain*; **Beuviel, J**, *Mercator Ocean - CNRM-GAME UMR CNRS, France*; **García Charton, JA**, *University of Murcia, Department of Ecology and Hydrology, Spain*
- 16:15 Promoting effective governance of the Channel Ecosystem**
Shellock, RJ, *Plymouth University*; **Fletcher, S**, *Plymouth University*; **Glegg, G**, *Plymouth University*; **Carpenter, A**, *Plymouth University*
- 16:30 SeaSketch: world-wide software service for marine spatial planning**
McClintock, W, *University of California Santa Barbara*
- 16:45 Challenges of marine protected areas around Lombok, Indonesia**
Lazuardi, ME, *Coral Triangle Center*

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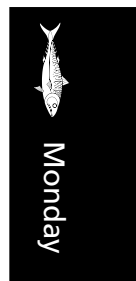
C21. CONTRIBUTED SESSION: FOOD SECURITY AND THE OCEANS

ALSH ROOM

Monday, 18 August, 15:00 to 17:00

- 15:00 Innovative measures in the Canadian Pacific groundfish bottom trawl fishery greatly reduce coral and sponge catch**
Bodtker, KM, *Living Oceans Society*; **Wallace, S**, *David Suzuki Foundation*; **Driscoll, JD**, *Living Oceans Society*; **Turris, B**, *Canadian Groundfish Research and Conservation Society*; **Mose, B**, *Deep Sea Trawlers Association*
- 15:15 Impact of local fisheries on coastal dolphin populations and associated community-based conservation actions in southwest Madagascar**
Cerchio, S, *Wildlife Conservation Society*; **Andrianarivelo, N**, *Wildlife Conservation Society*; **Andrianantenaina, BN**, *Wildlife Conservation Society*
- 15:30 Community-based marine protected area in Papua New Guinea provides long-term protection of grouper populations**
Waldie, PA, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia*; **Almany, GR**, *Centre National de la Recherche Scientifique, France*; **Cinner, JE**, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia*; **Hamilton, RJ**, *The Nature Conservancy, Australia*; **Potuku, T**, *The Nature Conservancy, Papua New Guinea*; **Rhodes, KL**, *College of Agriculture, Forestry and Natural Resource Management, The University of Hawaii, USA*; **Robinson, J**, *ARC Centre of Excellence for Coral Reef Studies, James Cook University, Australia*;
- 15:45 Experimental removal of the introduced grouper, roi (*Cephalopholis argus*) in Hawaii: a community-based approach to coral reef ecosystem restoration**
Giddens, J, *University of Hawaii*; **Friedlander, A**, *University of Hawaii*; **Conklin, E**, *The Nature Conservancy*; **Wiggins, C**, *The Nature Conservancy*; **Stamoulis, K**, *University of Hawaii*; **Donovan, M**, *University of Hawaii*
- 16:00 Measuring good governance for coral reefs: Perceptions of Caribbean communities**
Turner, RA, *Centre for Resource Management and Environmental Studies, University of the West Indies, Barbados*; **Fitzsimmons, C**, *School of Marine Science & Technology, Newcastle University, UK*; **Forster, F**, *School of Marine Science & Technology, Newcastle University, UK*; **Mahon, R**, *Centre for Resource Management and Environmental Studies, University of the West Indies, Barbados*; **Peterson, A**, *Centre for Resource Management and Environmental Studies, University of the West Indies, Barbados*; **Stead, SM**, *School of Marine Science & Technology, Newcastle University, UK*;
- 16:15 Accounting for land-sea interactions to minimize impacts of expanding palm oil on coral reef ecosystems and fisheries**
Tulloch, VJD, *Australian Research Council Centre of Excellence for Environmental Decisions, School of Biological Sciences, University of Queensland, Australia*; **Brown, CJ**, *The Global Change Institute & Marine Spatial Ecology Lab, School of Biological Sciences, The University of Queensland, Australia*; **Klein, CJ**, *Australian Research Council Centre of Excellence for Environmental Decisions, School of Biological Sciences, University of Queensland, Australia*; **Possingham, HP**, *Australian Research Council Centre of Excellence for Environmental Decisions, School of Biological Sciences, University of Queensland, Australia*
- 16:30 Effect of fine scale habitat characteristics on the population density of gadoid fishes**
Elliott, S, *University of Glasgow*; **Bailey, D**, *University of Glasgow*; **Heath, M**, *University of Strathclyde*; **Turrell, B**, *Marine Scotland Science*

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C29. CONTRIBUTED SESSION: VARIOUS TOPICS IN MARINE CONSERVATION

BOISDALE ROOM

Monday, 18 August, 15:00 to 17:00

- 15:00 Retrospective analysis of U.S. Endangered Species Act listing decisions reveals consistent standards for extinction risk**
Boyd, C, Southwest Fisheries Science Center, National Marine Fisheries Service; **Taylor, B**, Southwest Fisheries Science Center, National Marine Fisheries Service
- 15:15 Are ship strikes sustainable for the population of sperm whales in the Canary Islands?**
Fais, A., *Biología, Ecología Marina y Conservación (BIOECOMAC), Dept. Animal Biology, La Laguna University, Canary Islands, Spain.*; **Lewis, T**; **Zitterbart, D**, *Ocean Acoustics Lab, Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Germany.*; **Martínez, O.**, *Biología, Ecología Marina y Conservación (BIOECOMAC), Dept. Animal Biology, La Laguna University, Canary Islands, Spain.*; **Aguilar Soto, N.**, *Biología, Ecología Marina y Conservación (BIOECOMAC), Dept. Animal Biology, La Laguna University, Canary Islands, Spain.*
- 15:30 The importance of social and cultural adaptation in locally managed marine areas in Vietnam, case study Trao reef**
Abelshausen, B, *Vrije Universiteit Brussel*; **Vanwing, T**, *Vrije Universiteit Brussel*; **Le Xuan, T**, *Hanoi University of Education*
- 15:45 Reef fish biodiversity and community patterns in the Saudi Arabian Red Sea**
Roberts, M, *King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*; **Thurrold, S**, *Woods Hole Oceanographic Institution*; **Berumen, M**, *King Abdullah University of Science and Technology, Thuwal, Saudi Arabia*
- 16:00 Testing MPA resilience after a submarine volcanic eruption**
Hernández, JC, *Biodiversidad, Ecología Marina y Conservación. Dpto. Biología Animal, Edafología y Geología. UDI Ciencias Marinas. Facultad de Biología. Universidad de La Laguna, Tenerife, Spain*; **Salinas, P**, *Charles Darwin Research Station, Galapagos Islands, Ecuador*; **Mendoza, JC**, *Biodiversidad, Ecología Marina y Conservación. Dpto. Biología Animal, Edafología y Geología. UDI Ciencias Marinas. Facultad de Biología. Universidad de La Laguna, Tenerife, Spain*; **Hereu, B**, *Departament d'Ecologia, Universitat de Barcelona, Barcelona, Spain.*; **Lazzari, N**, *Biodiversidad, Ecología Marina y Conservación. Dpto. Biología Animal, Edafología y Geología. UDI Ciencias Marinas. Facultad de Biología. Universidad de La Laguna, Tenerife, Spain.*; **Clemente, S**, *Biodiversidad, Ecología Marina y Conservación. Dpto. Biología Animal, Edafología y Geología. UDI Ciencias Marinas. Facultad de Biología. Universidad de La Laguna, Tenerife, Spain*;
- 16:15 The scientific value of scientific whaling**
Cote, IM, *Simon Fraser University*; **Favaro, C**, *Simon Fraser University*
- 16:30 Key research questions of global importance for cetacean conservation**
Produced during the 2013 International Marine Conservation Think Tank

C3. CONTRIBUTED SESSION: CLIMATE, OCEAN ACIDIFICATION, AND THE CHANGING OCEANS

CARRON A ROOM

Monday, 18 August, 15:00 to 17:00

- 15:00 Assessing the role of intertidal seagrass meadows as coastal carbon sink in Scotland**
Potouroglou, M, *Edinburg Napier University*; **Diele, K**, *Edinburg Napier University*; **Huxham, M**, *Edinburg Napier University*
- 15:15 Ecological implications of introductions and invasions; the dominance of a novel introduced seaweed over a known invasive seaweed.**
Pawluk, KA, *University of Victoria*; **Cross, SE**, *University of Victoria*
- 15:30 Do residents of UK overseas territories (UKOTs) perceive Climate Change as a threat?**
Scott, A, *Newcastle University*; **Taylor, B**, *Newcastle University*; **Young, S**, *Newcastle University*; **Fitzsimmons, C**, *Newcastle University*
- 15:45 The paradoxical roles of climate stressors on disturbance and recovery of coral reef ecosystems at Little Cayman Island**
Manfrino, C, *Central Caribbean Marine Institute & Kean University, School of Environmental and Sustainability Sciences*; **Foster, G**, *Central Caribbean Marine Institute*; **Foster, K**, *Little Cayman Research Centre, Central Caribbean Marine Institute*
- 16:00 Rapid, high definition, automated underwater sensing of coral reef ecosystems: The Catlin Seaview Survey**
Neal, Benjamin Paul, *Global Change Institute, University of Queensland*; **Beijbom, Oscar**, *University of California San Diego*; **Mitchell, Greg**, *University of California San Diego*; **Gonzalez-Rivero, Manuel**, *Global Change Institute, University of Queensland*; **Hoegh-Guldberg, Ove**, *Global Change Institute, University of Queensland*
- 16:15 Building the Atlas of Coral Resistance: Mapping Coral Thermal Tolerances across Water Quality Gradients**
Oliver, TA, *University of Hawaii*; **Logan, C**, *California State University Monterey Bay*; **Barshis, D**, *Old Dominion University*; **Gates, R**, *University of Hawaii, HIMB*

Monday

- 16:30 Assessing the vulnerability of the marine bird community in the western North Sea to climate change and other anthropogenic impacts**
 Burthe, SJ, *CEH*; Wanless, S, *CEH*; Newell, M, *CEH*; Butler, A, *BIOSS*; Daunt, F, *CEH*
- 16:45 A manatee population in transition: Potential implications of a warming climate**
 Littles, CJ, *University of Florida*; Pilyugin, S, *University of Florida*; Frazer, T, *University of Florida*

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C28. CONTRIBUTED SESSION: PARTICIPATION IN MARINE CONSERVATION SCIENCE / COMMUNICATING MARINE CONSERVATION

CARRON B ROOM

Monday, 18 August, 15:00 to 17:00

- 15:00 Reconciling environmental protection and sustainable resource use through citizen science in the upper Gulf of California**
 Lopez-Sagastegui, C, *UCMEXUS, UC Riverside*; Moreno-Baez, M, *Scripps Institution of Oceanography, UC San Diego*; Mascareñas-Osorio, I, *Centro para la Biodiversidad Marina y Conservación*; Domínguez-Pérez, A, *Gulf of California Marine Program*; Hinojosa, G, *Centro para la Biodiversidad Marina y Conservación*; Erisman, B, *Scripps Institution of Oceanography, UC San Diego*; Aburto-Oropeza, O, *Scripps Institution of Oceanography, UC San Diego*
- 15:15 Compliance variables influencing the ecological performance of Marine Protected Areas in North Sulawesi, Indonesia**
 Velasquez JP, *Leibniz Center for Tropical Marine Ecology*; Ferse, S, *Leibniz Center for Tropical Marine Ecology*; Glaser, M, *Leibniz Center for Tropical Marine Ecology*; Kaligis, F, *Sam Ratulangi University*
- 15:30 Citizen scientist divers monitor California's MPAs and inform marine conservation**
 Freiwald, J, *Reef Check Foundation*
- 15:45 Establishing base-line values for killer whale distribution and habitat use in a climate-sensitive biodiversity hotspot, the Galápagos Marine Reserve**
 Smith, KJ, *Genetics Interdisciplinary Program, Texas A&M University, College Station, Texas, USA*; Alava, JJ, *School of Resource & Environmental Management, Faculty of Environment, Simon Fraser University, British Columbia, Canada*; Fundación Ecuatoriana para el Estudio de Mamíferos Marinos (FEMM), *Guayaquil, Ecuador*; Merlen, G, *Galápagos National Park, Puerto Ayora, Santa Cruz, Ecuador*; Packard, J, *Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas, USA*; Palacios, D, *Marine Mammal Institute, Oregon State University, Oregon USA*
- 16:00 Citizen science in urban rivers: building conservation capacity for the Critically Endangered European eel**
 Piper, R, *Zoological Society of London*; Pecorelli, J, *Zoological Society of London*; Barker, J, *Zoological Society of London*; Mowat, S, *Zoological Society of London*
- 16:15 Adapting a marine debris K-12 citizen science program from the US for use in schools in Indonesia**
 Abbott, JM, *Bodega Marine Lab, University of California, Davis*; Bean, J, *Bodega Marine Lab, University of California, Davis*; Hameed, S, *Bodega Marine Lab, University of California, Davis*; Trockel, D, *Bodega Marine Lab, University of California, Davis*; Williams, SL, *Bodega Marine Lab, University of California, Davis*
- 16:30 Angels need guardians too: conserving the last European Angel Shark stronghold in the Canary Islands**
 Barker, J, *Zoological Society of London*; Piper, R, *Zoological Society of London*
- 16:45 Celtic Seas Partnership: helping achieve Good Environmental Status in our seas**
 Oates, J, *WWF-UK*; Dodds, L, *WWF-UK*

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C26. CONTRIBUTED SESSION: MARINE TOURISM

DOCHART A ROOM

Monday, 18 August, 15:00 to 17:00

- 15:00 What motives a 'swim-with" tour industry to comply?**
 Scarpaci, C, *Victoria University*; Howes, L, *Victoria University*; Stafford-Bell, R, *Victoria University*; Cowling, M, *Victoria University*; Smith, K, *Victoria University*
- 15:15 Whales on a watch out. Meta-analyses of whalewatching impact studies: differences and similarities in disturbance responses among species**
 Senigaglia, V, *University of Aberdeen, Institute of Biological and Environmental Sciences, UK*; Christiansen, F, *Centre for Integrative Ecology, School of Life and Environmental Sciences, Deakin University, Australia*; Bejder, L, *Murdoch University Cetacean Research Unit, School of Veterinary and Life Sciences, Western Australia*; Gendron, D, *Centro Interdisciplinario de Ciencias Marinas, Instituto Politecnico Nacional A.P. 592, Mexico*; Lundquist, D, *University of Otago, Department of Anatomy, New Zealand*; Noren, D, *Conservation Biology Division, Northwest Fisheries Science Center, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, USA*; Schaffar, A, *Opération Cétacés, New Caledonia*; Smith, J, *Naked Whale Research, USA*; Williams R., *Scottish Oceans Institute, University of St Andrews, UK*; Lusseau D., *University of Aberdeen, Institute of Biological and Environmental Sciences, UK*



Monday

15:30 Using Photo-ID in the Philippines to describe the largest aggregation of whale sharks in South East Asia through dedicated research effort and citizen science

Araujo, G, *Physalus NGO*; **So, CL**, *Physalus NGO*; **Lucey, A**, *Physalus NGO*; **Labaja, J**, *Physalus NGO*; **Snow, SJ**, *Physalus NGO*; **David, DN**, *WWF-Philippines*; **Ponzo, A**, *Physalus NGO*;

15:45 An agent-based model on the effects of dive tourism on Koh Tao, Thailand Using computer simulation as sustainable management tool

Fei,W, *PhD student of ZMT, Bremen*; **Hauke,R**, *Supervisor in ZMT, Bremen*

16:00 Self sustainable ecotourism activities with community participation in coastal Karnataka, India

Ramesh, S, *Deputy Conservator of Forests, Honavar, Karnataka, India*

16:15 The implementation of spatial ecologicimic model as the tool for assessing the tourism management conflict of a small island

Sutisno, D, *Geospatial Information Agency*

16:30 Developing a code of conduct for interacting with manta rays - The science behind human interactions

Lee-Brooks, K, *Head of Operations*; **Murray, A**, *Operations Manager*; **Lynam, R**, *Expeditions Manager*; **Atkins, R**, *Manta Trust Patron*; **Ender, I**, *Expeditions Leader*

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COFFEE BREAK
17:00 to 17:30



Late afternoon session: 5:30 P.M. to 7:30 P.M.

CLOSING COMMENTS: DR. RANSOM MYERS MEMORIAL LECTURE

A vision to save the world's marine species

Elliott Albert Norse, *Founder and Chief Scientist, Marine Conservation Institute*

LOMOND AUDITORIUM

Monday, 18 August, 17:30 to 19:

Learning to save the diversity of life in a perilous, complex, anthropocentric world has taken Elliott Albert Norse 25 years of academic training in marine biology, ecology, biogeography and oceanography, then 36 years on-the-job learning about psychology, economics, politics and fundraising. He has learned from inspiring people, including Society for Conservation Biology Founder Michael Soulé, marine scientists such as Jane Lubchenco, Les Watling and Callum Roberts, SCB Marine Section President John Cigliano, Marine Conservation Institute President Lance Morgan and his greatly admired and profoundly missed friend RAM. He has seen how natural and social scientists in government, professional societies and advocacy organizations shape marine conservation with new ideas, books, symposia, coalitions, targeted outreach to key audiences and political work behind the scenes. But he also knows that marine life is more imperiled than when he began, that ignorance and short-sightedness are our worst enemies, and that only by working together, far more effectively can we save our living oceans. He is the Founder and Chief Scientist for Marine Conservation Institute.



Monday



Evening Events

SPECIAL EVENT!

Closing Party at The Arches (see the front of the program for more details)

Monday, 18 August, 19:30 til late

The IMCC3 organizers decided to forgo the usual, expensive and staid end-of-conference banquets. Instead, we have arranged an enormous party for everyone. The venue is The Arches, a series of Victorian brickwork vaults underneath central station reminiscent of a gothic cathedral undercroft. (It's sort of place where cool (not sparkly) vampires might hang out). This historic, preserved site is one of Glasgow's most famous and hip nightclubs.















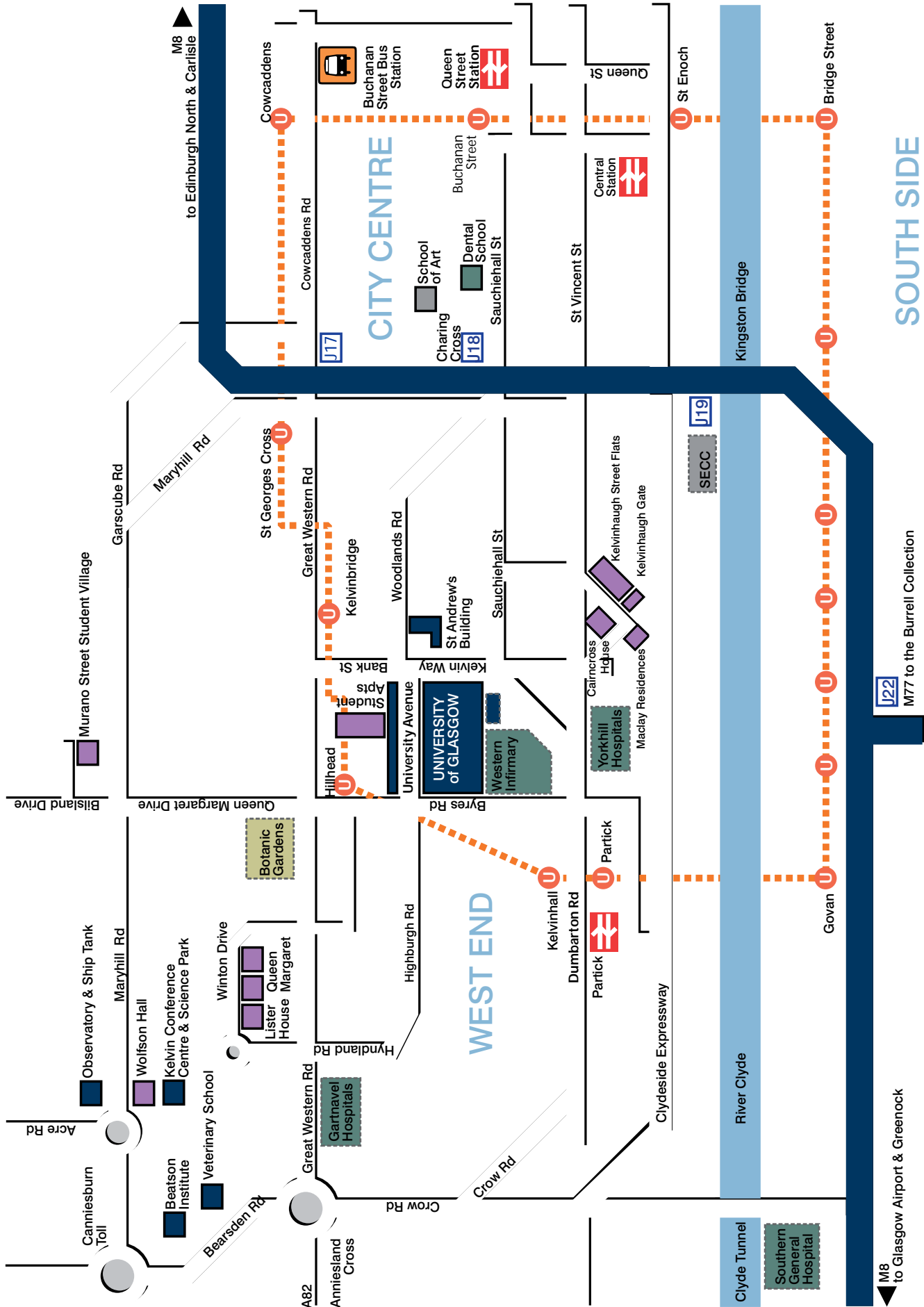




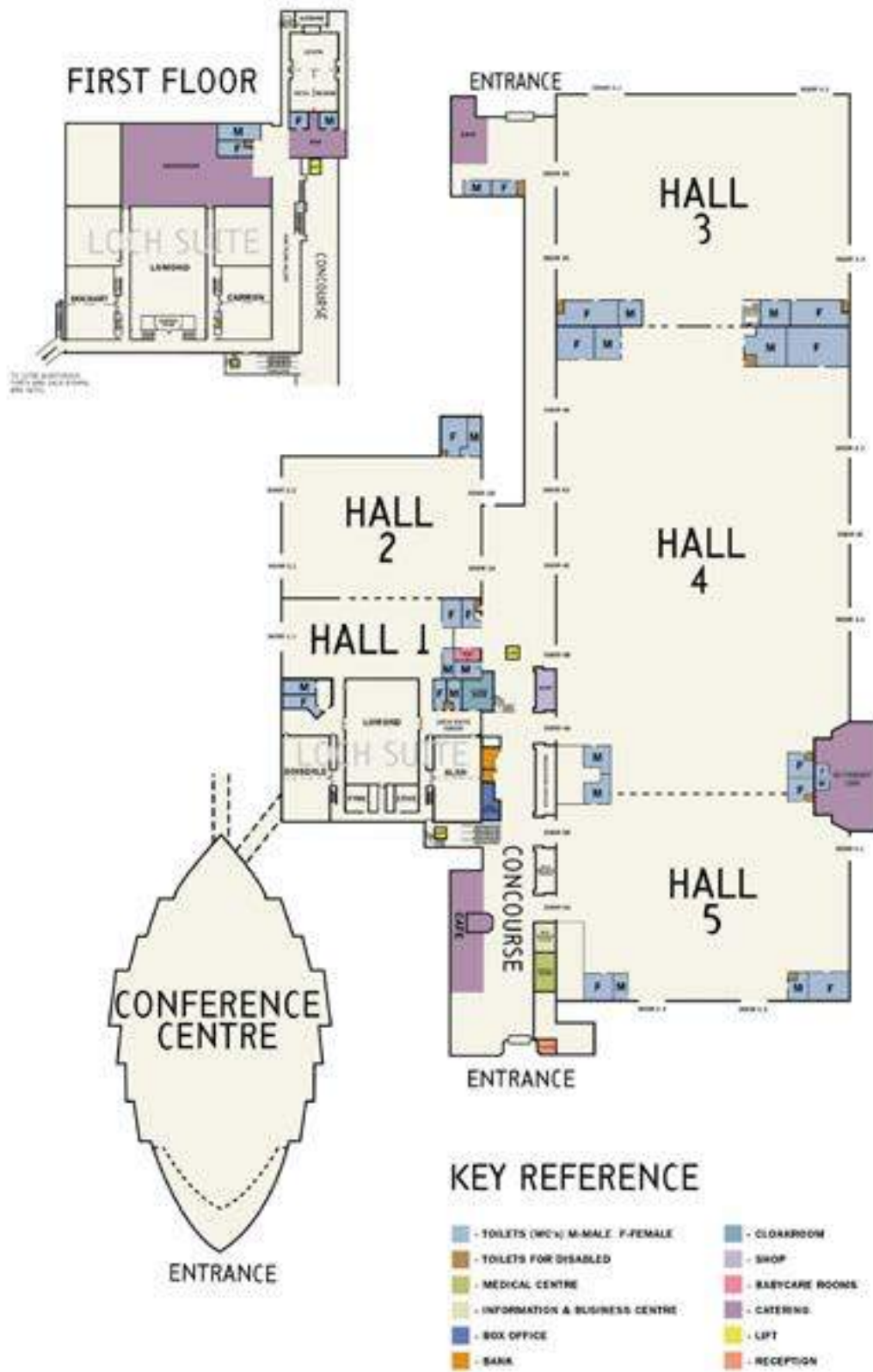


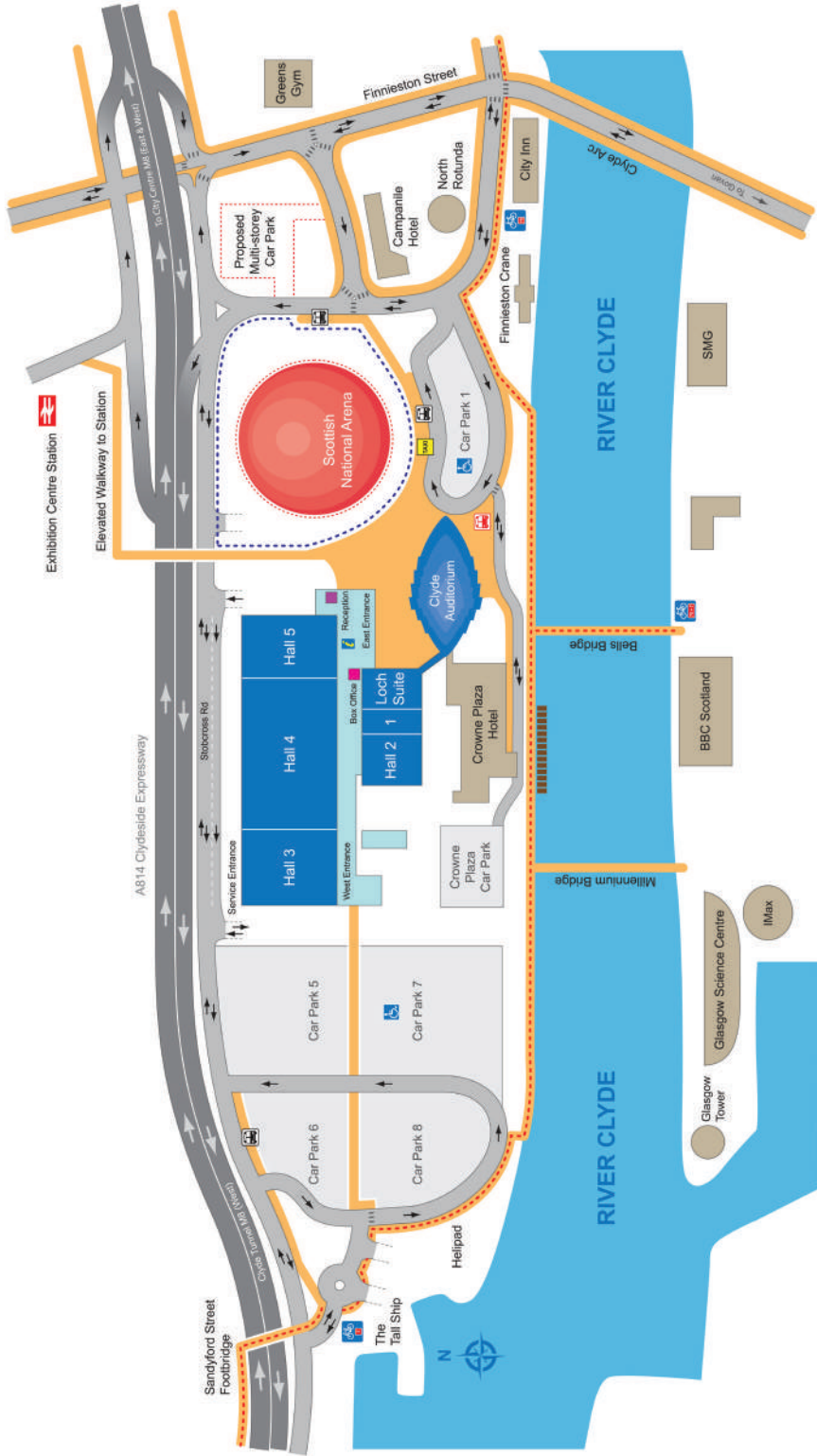
Accommodation Services	Visitor attractions and buildings opened to the public	MRC Social & Public Health Sciences Unit
D14-72 Great George St	(A1) Visitor Centre	Music
A24 - Main Building	(A2) Catering Facilities	Neuroscience & Psychology, Institute of
D8 Adam Smith Building	(U) Underground	Nursing & Health Care
D13 - Foundation	(I) Information	Occupational Health
E14 - St Andrew's	(T) Telephones	Office Training Corps
Building 11 Elton St	(To) Toilets	Research Institute
A1 - James Watt	(F) Footpaths	Philosophy
A2 - James Watt	(BS) Bus Stop	Physiographic Unit
E13 - 68 Oldfield Av	(CP) Car Parking	Physics & Astronomy School
A3 - Thomson Building	(OT) One Way Traffic	Planning Office
D2 - Gregory Building		Public Health
C7 - 13 Thurso St		Purchasing Office
C10 - 77-87		Queen Margaret Union
D2 - University Gdns		Radiation Protection Service
D5 - 9 University Gdns		Radiation Protection Service
D6 - St Alexander Stone		Recruitment & International Office
Building		Research & Enterprise
A12 - Main Building		Research & Enterprise
B3 - Graham Kerr		Robert Clerk Centre for
Building		Technological Education
BHF Glasgow Cardiovascular		Robinson Building
Centre (Glasgow Biomedical Research Centre)		Robing Room
Graham Kerr Building		Safety & Environmental Protection Services
Sr Graeme Davies Building		Scottish Literature
B7		Social Sciences, College of (Admin)
B13		Sport & Recreation Services
A13		Staff Development Service
A9 - West Quadrangle		Stair Building
Cardiovascular & Medical Sciences		St Andrew's Building
Building		St Andrew's Building
Central Services		St Andrew's Building
Central Services		St Andrew's Building
Carnegie Room		St Andrew's Building
Catholic Chaplaincy		St Andrew's Building
Cells & Gaelic		St Andrew's Building
Central & East European Studies		St Andrew's Building
Central Room Bookings		St Andrew's Building
B8 - Estate &		St Andrew's Building
B9 - Estate &		St Andrew's Building
B10 - Main Building		St Andrew's Building
B11 - 15 Southpark		St Andrew's Building
B12 - 15 Southpark		St Andrew's Building
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B19 - 8-9 Lybank Gdns		St Andrew's Building
B20 - 8-9 Lybank Gdns		St Andrew's Building
B21 - 8-9 Lybank Gdns		St Andrew's Building
B22 - 1 Bank Lane		St Andrew's Building
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B24 - Main Building		St Andrew's Building
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SECC HALLS PLAN





	Trees & Flora		Existing SECC Buildings
	National Cycle Routes		Existing SECC Concourse Area
	Construction Hoarding		Scotland's National Arena
	Under Construction		Existing Buildings
	National Cycle Routes		Internal Roads
	Bus Stop		A614 Clyde-side Expressway
	Taxi Rank		River Clyde
	Exhibition Centre Station		Pedestrian Footpath
	Tour Bus Stop		Pedestrian Crossing
	Box Office		Reception
	Position		Information

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