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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

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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SY70 and SY71: 2-part symposium on the IMCC3 Sunday, August 17th, 2014

**Novel methods, new results and science-based solutions
to tackle marine debris impacts on wildlife**

Room: Carron B 2014-08-17; 08:30 - 10:30 and 11:00 - 13:00

**SY71.1 11:00 The OSPAR Ecological Quality Objective on plastics ingested
by fulmars. *Van Franeker, J.A. *, IMARES; The SNS Fulmar Study Group c/o IMARES;***

Abstract: Efficient decision making in marine environmental policy requires clear descriptors of status and trends of important environmental parameters. For this reason North Sea Ministers in 2002 decided to request OSPAR to develop a system of Ecological Quality Objectives (EcoQOs) in which fixed monitoring approaches with associated targets for acceptable ecological quality had to be developed. OSPAR addressed the issue of marine litter by an EcoQO which monitors the abundance of plastic debris in the stomachs of a seabird, the Northern Fulmar. Such monitoring was already operational in the Netherlands, and was extended to the whole North Sea after 2002, and has seen spin-off projects using the same methodology elsewhere in the Atlantic and Pacific. The approach has been copied as a marine litter indicator in the European Marine Strategy Directive, using other monitoring species where necessary. OSPAR has defined the EcoQO target for the North Sea as the situation where the percentage of fulmars with more than 0.1 gram of plastic in the stomach is below 10%. Dutch data show that abundance and composition of plastic has changed since the 1980s. Currently over 60% of Fulmars from the North Sea exceed the 0.1 gram limit, only 5% has no plastic at all, and the EcoQO target is only approached in remote arctic environments. Fulmars are an effective messenger to policy, stakeholders and general public of the urgent need to reduce marine littering.

SY71.5 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;*

Abstract: Marine debris is a global conservation issue, raising concerns regarding ecological impacts. We examined the evidence regarding impacts of marine debris via a systematic review of the literature across 13 levels of biological organization (subatomic particle, atom, small molecule, macromolecule, molecular assemblage, organelle, cell, tissue, organ, organ system, organism, population and assemblage) to determine the perceived and demonstrated impacts. There were 347 perceived impacts across all levels of biological organization. Many were hypothesis-driven studies, wherein > 80% were demonstrated impacts largely due to plastic debris. Overall, impacts were largely demonstrated at suborganismal levels of biological organization due to microdebris (< 1 mm), while impacts at higher levels of organization (i.e. organism and above) were largely due to macrodebris (> 1 mm). Decision-makers globally are requesting evidence of ecological harm to build effective policies. While we agree that further information is needed to fill research gaps and provide assessments of ecological risk, there are several lines of evidence that marine debris causes impacts across multiple levels of organization, including ecological. Moreover, current work shows that some debris is persistent, bioaccumulative and toxic. Thus, we think that there is enough evidence to take a precautionary approach by beginning to mitigate now before there is irreversible harm.