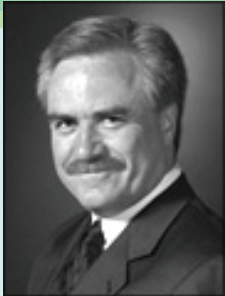


# CANADA'S OCEANS & YOU

November 16-17, 2012

## National Oceans Symposium Speaker Bios



### Dr. Mark Engstrom ~ Deputy Director, Collections and Research, ROM

Dr. Engstrom has served as the Royal Ontario Museum's Deputy Director of Collections & Research (DD C&R) since 2003, and is responsible for maintaining the integrity and quality of the Museum's intellectual capital, namely its collections and curatorial research programs. Managing an annual budget of over 8.5 million dollars and a staff of 115 curators, technicians, conservators, registrars and librarians, Dr. Engstrom is responsible for day to day operations, long term strategic planning, and integration of "back of house" curatorial operations with the Museum's initiatives in education, public programming, and exhibits. He is also responsible for maintaining the rigour and funding of the Museum's international academic research in World Cultures and Natural History. Dr. Engstrom has also coordinated the curatorial division's efforts in developing over 150,000 square feet of new public space and 20 new galleries, forming the core public content of the Michael Lee-Chin Crystal expansion project.

From 1982, Dr. Engstrom was Instructor and Assistant Professor of Biology at Angelo State University Texas until he joined the ROM in 1988 as Assistant Curator of Mammals. In 1999, he was promoted to Curator and Senior Curator, receiving academic tenure in 1998, while serving as Curator-in-Charge of the Department of Mammalogy from 1990 to 1995. From 1999 to 2002 he served as the ROM's Director of Research. He is also cross-appointed to the University of Toronto as Associate Professor of Zoology, where he has been primary supervisor for 2 Ph.D. and 11 M.Sc. students. Dr. Engstrom has held numerous research grants including from the National Science Foundation (U.S.), the Natural Sciences and Engineering Research Council of Canada, The National Geographic Society, and Conservation International. His research on the evolutionary biology and systematics of mammals has resulted in publication of over 80 scientific papers, books and book chapters.

Dr. Engstrom obtained his Ph.D. in Wildlife and Fisheries Sciences from Texas A&M University in 1982, a Master of Science Degree from Fort Hays State University, Kansas in 1978, and a Bachelor of Science degree (summa cum laude) from the University of Minnesota, Duluth in 1975.



### Dave Ireland ~ Managing Director, Centre for Biodiversity, ROM

Dave Ireland is the Managing Director of the Centre for Biodiversity at the Royal Ontario Museum. In this position, he is responsible for linking the Departments of Natural History, New Media, Education, Marketing and Communication, and Programs, with external partners, including the Centre Advisory Panel, university and college associates, and the ROM executive and Board of Trustees, toward a unified and focused goal to engage the public about the discovery and conservation of biodiversity.

Dave grew up in Huntsville, Ontario and spent much of his young adult life guiding children and adults through Algonquin Park by canoe. He planted trees to fund an undergraduate degree in biology at Mount Allison University and four years of world travel, including six-month stints in each of Central America, South-east Asia and Southern Africa.

Dave completed his Master in Science (Ecology) degree from Trent University and instructed courses in Community Ecology, Conservation Biology, and Environmental Resource Management. He was previously the Curator of Conservation and Environment at the Toronto Zoo, and the Staff Biologist and Curator of Wolves at Haliburton Forest and Wildlife Reserve. Dave received his B.Sc. in Biology from Mount Allison University.

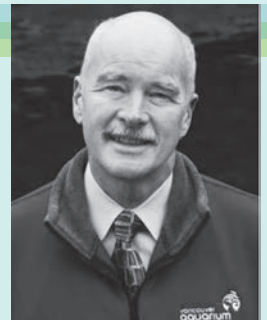
Dave is currently working on plans for ROM programming in 2013, where migratory birds and the work of ROM scientists Dr. Allan Baker will get showcased. He can be found tweeting from @greenrom and @daveireland.

### Dr. John Nightingale ~ President and CEO, Vancouver Aquarium

Dr. Nightingale has a broad professional background in aquatic sciences, specializing in using them to enhance public awareness, education and promote conservation. A professional biologist and public educator, Dr. Nightingale has been responsible for the development and operation of some of the world's best aquariums. His background and lifelong work in public communications, and both formal and informal public education, make him a leader in the current rapid development of new conservation efforts in aquariums, zoos and museums.

During his nineteen years at the Vancouver Aquarium, he has guided the expansion of the Aquarium's leadership in conservation and research while focusing operations on sustainability and solid fiscal performance.

Today, the Aquarium is globally recognized as a leader in connecting people with the natural world. It is widely respected for its education work, and is also one of the "greenest" cultural institutions in Canada, while being the only one that is financially self-sufficient - operating without an annual subsidy from Government.



### Dolf DeJong ~ Vice-President, Conservation and Education, Vancouver Aquarium

Dolf leads the Conservation and Education team who deliver the Aquariums Education Programs, Great Canadian Shoreline Cleanup, Ocean Wise Sustainable Seafood program, Arctic connections program and the Aquariums digital content. He moved to Vancouver after a period at the Royal Botanical Gardens, where he was the Director of Biodiversity Programs and oversaw the Education, Natural Lands, Science and Horticulture programs.

Dolf has significant experience with conservation projects and spent the first decade of his career working in Provincial Parks and Conservation Areas as an educator and area manager. Dolf holds a Bachelor of Science (Honours) from Brock University, a Masters of Environmental Studies from Wilfrid Laurier University and a Bachelor of Education from the University of Toronto.





photo credit: University of Victoria

## Dr. Verena Tunnicliffe ~ Professor and Canada Research Chair in Deep Oceans

Verena Tunnicliffe is a marine biologist at University of Victoria where she holds a Canada Research Chair in Deep Ocean Research. She combines a drive for ocean exploration with a passion to understand the connectivity and functions of novel communities. A lifetime of ocean exploration has stretched from coral reefs to subsea volcanoes making hundreds of dives with SCUBA and both manned and remotely operated submersibles. She has led and worked in interdisciplinary teams exploring hydrothermal systems around the Pacific and especially on Juan de Fuca Ridge where her research helped establish Canada's first MPA, the Endeavour Hot Vents Marine Protected Area. Her research in marine habitats in extreme conditions has collected over 80 new species (with eight named after her).

Working with the NOAA Ocean Exploration Program, she contributed to the rationale for the establishment of the Mariana Trench Marine National Monument and assisted in a diplomatic expedition using telepresence ocean exploration in Indonesia. Over the last decade, she helped to make the "Ocean On-line" a reality as Director of the subsea observatory, VENUS.

Through both at-sea and virtual exploration, she has encouraged many novel technological developments, especially in Canadian industry. She seeks new techniques to bring a greater depth of understanding of the ocean world to research, education and the public. Her research and discoveries lead to early election to the Royal Society of Canada in 1992 while her passion to share ocean understanding led to extensive touring as the Canada Oceans Lecturer in 2011 and 2012.

## Exploring Deep-sea Biodiversity in a Changing Ocean

The animals of the deep ocean interact in an ecosystem that depends on diversity to work efficiently. New discoveries of species and interactions help us understand how the oceans respond to changes mostly caused by human activities.

## Stingray Parasite Diversity in the Indo-West Pacific

The Indo-West Pacific Ocean is a region of high faunal diversity, endemism, and conservation concern for many marine species, including stingrays and their relatives. Collaborative fieldwork and research are revealing the diversity and geographic distributions of parasites of rays in this region, adding to our knowledge of this often underestimated aspect of faunal diversity.

Claire Healy is Associate Curator of Invertebrate Zoology at the ROM and Assistant Professor in the Department of Ecology and Evolutionary Biology at the University of Toronto. Claire's lifelong fascination with invertebrates was sparked when she first handled moon snails and explored tide pools as a child on vacation in Maine. Her interests in zoology and marine biology led her to attend the University of Connecticut, where she studied invertebrate zoology and was immediately captivated by the study of parasites, biodiversity, and systematics.

Claire's research focuses on the diversity, evolutionary history, and comparative morphology of tapeworms (parasitic flatworms, also known as cestodes). She is particularly interested in the diverse groups of tapeworms that exclusively parasitize chondrichthyan fishes (the cartilaginous fishes, including chimaeras, sharks, and rays). Claire's research entails extensive fieldwork, which has led her to discover and describe numerous species new to science from localities around the world, including Senegal, Borneo, northern Australia, and New Zealand.

Her work involves the study of morphological character evolution, ontogeny and homology, ultrastructure, molecular and morphological systematics, and host-parasite associations.



photo credit: Royal Ontario Museum

## Dr. Claire Healy ~ Associate Curator of Invertebrate Zoology, Royal Ontario Museum, and Assistant Professor, Ecology & Evolutionary Biology, University of Toronto



photo credit: WWF Canada

## Dr. Peter Ewins ~ Senior Director, Arctic Species Specialist, WWF Canada

Pete Ewins was born in Worksop, England, earned an honours degree in Zoology from Edinburgh University and went on to complete his doctorate at Oxford University in 1986.

He spent 12 years in Shetland, including a post as Assistant Warden for three years at the world famous Fair Isle Bird Observatory. His introduction to applied conservation was provided during six years working for the UK government as Nature Conservancy Council officer for Shetland. In 1990 he moved to Canada and worked until 1996 on the Great Lakes wildlife toxicology programs of the federal government's Canadian Wildlife Service, documenting levels and impacts of toxic pollutants on wildlife at the top of aquatic foodwebs.

He joined WWF-Canada, as Director of Canada's Endangered Species Program in 1996 and then directed WWF's Arctic conservation work from 2000-2006, focusing heavily on shifting the industrial development paradigm to one that provides adequately for conservation of intact ecosystems, and ecological and cultural diversity, while the opportunity still remains.

He has served on many government and non-government committees and boards, and is a public speaker on ecological and conservation biology subjects. Author of over 100 scientific papers or popular articles, and 11 book chapters, he is highly committed to effective communication of both research results and conservation challenges and solutions.

## Biodiversity and Commercial Fisheries in the North

Pete leads WWF's conservation work on Arctic species (such as polar bear, arctic whales, caribou and migratory birds) at this time of unprecedented change in these ecosystems.

## BLUEMIND: Putting The Science of Emotion Into Ocean Conservation

Dr. Wallace J. Nichols believes that the environmental movement misses the boat when it comes to ocean conservation. He proposes a makeover of the environmental movement, what he calls BLUEMIND: The Mind + Ocean Initiative, merging the fields of cognitive science and ocean exploration. His approach to conservation does not rely on guilt, shame or fear to effect change, but instead on neurological insights into the human mind and how the ocean promotes happiness. Dr. Nichols feels that the world's oceans need a "neuro-marketing" lab, as a way to change the dialogue about the "why's" supporting ocean conservation.

J. is a Research Associate at California Academy of Sciences and founder/co-director of Ocean Revolution, an international network of young ocean advocates, SEE the WILD, an international conservation travel portal and LIVBLUE, a campaign to reconnect people with our water planet. He earned his Bachelors in Biology and Spanish from DePauw University, a MEM in Environmental Policy and Economics from Duke University's Nicholas School, and his PhD in Wildlife Ecology and Evolutionary Biology from University of Arizona.

He is the author of more than fifty scientific publications and reports on ocean science and conservation, advises a motivated group of international graduate students and serves as an advisor to numerous non-profit boards and committees as part of his commitment to building a stronger, more progressive, and connected environmental community.

Lately he is working on BLUEMIND: The Mind + Ocean Initiative, and a forthcoming book on the subject with Little, Brown.

He blogs at wallacejnichols.org and lives on California's SLOWCOAST

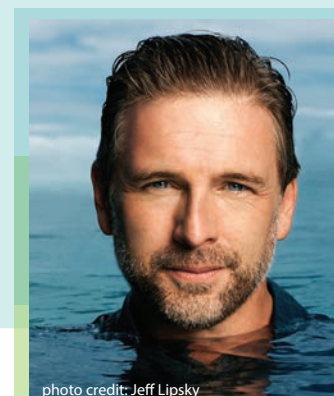


photo credit: Jeff Lipsky

## Dr. Wallace J. Nichols ~ Research Associate, California Academy of Sciences

# Eco-literacy around seafood choice and sustainable consumer behaviour

## Discussion Panel

This talk will feature panelists from three of Canada's leading non-profit groups that champion sustainable seafood initiatives in Canada along with two industry leaders that are incorporating these recommendations into their businesses. These panelists will discuss the state of our oceans as a result of our fisheries and aquaculture practices world-wide, how the sustainable seafood movement is influencing supply chains from international waterways to our retailers and restaurants in Ontario, and give consumers the tools to act by voting with their dollar.

## Panelists



### Robin Poirier

**Ocean Wise** Account Representative, Eastern Canada

Robin started in the seafood industry researching opportunities for First Nations groups in aquaculture and fisheries in British Columbia. Robin holds a BSc in Biology and an MBA in Business and Sustainability from the University of British Columbia. Robin is now the regional representative for the Vancouver Aquarium's Ocean Wise program in Ontario. She is working to grow awareness about sustainable seafood with the public throughout the region, and working with businesses to influence the sourcing of more sustainable seafood options throughout the supply chain.



### Susanna Fuller

**SeaChoice** Representative for the Ecology Action Centre

Susanna D. Fuller is the Marine Conservation Coordinator at the Ecology Action Centre in Halifax. Growing up near and on the ocean, and spending her last year of high school at sea, sustainable fisheries and ocean conservation have been a focus of Susanna's work both in academia and through policy advocacy. She has a BSc. in Aquatic Ecology from McGill and a Phd. in Marine Biology from Dalhousie University, where she studied marine sponges of the Northwest Atlantic. Susanna is on the Steering Committee of SeaChoice, the Deep Sea Conservation Coalition and coordinates the work of the High Seas Alliance - all coalitions of NGOs working towards a better future for wild fish populations and the marine environment. Susanna's favorite marine creature is the Russian Hat - a glass sponge found off the coast of Nova Scotia. When not working on sustainable seafood and fisheries policy, Susanna's "happy spot" is in front of a microscope looking at sponge spicules or on her bicycle riding along a coastal road in Nova Scotia.



### Mike DeCesare

**Marine Stewardship Council** Communications Director, Americas

Mike DeCesare leads the Marine Stewardship Council communications team in the Americas Region, engaging with media, conservation organizations, fishery and commercial partners, industry and others on sustainability issues, as well as collaborating with colleagues globally. Mike's public policy experience includes serving as Chief of Staff and Communications Director for a senior Member of the U.S. House of Representatives. In the private sector, Mike was a senior executive at a new media technology company assigned to Asia, primarily China, providing marketing and communications services that linked major U.S. corporate clients in software, aerospace and consumer products with governments and consumers. Mike also managed a regional office in the Pacific Northwest for a major public relations company. He is an avid outdoorsman and spends considerable time hiking and backpacking throughout the Northwest.



### Sal Battaglia

**Seacore Seafood** Marketing & Sustainability Director

Sal Battaglia has grown up in the seafood industry his entire life which started early in downtown Toronto at the St. Lawrence Market when he was a boy. In 2004, he started his full-time career at Seacore and quickly immersed himself in the operations, quality management, sales & marketing of the company. It was in 2008, that Seacore began to focus on sustainable seafood as it was an important part of their long-term business vision. It was then that Sal became Seacore's Director of Sustainability and began to work with the team at Seacore to develop a sustainable seafood program. Today he is proud to continue to help lead Seacore in a sustainable future in managing one of the industry's leading companies.



### Dan Donovan

**Hooked Inc** Co-owner

Dan is a graduate of the Stratford Chef School and a veteran of the Toronto restaurant scene. In 2011, he and his wife Kristin opened HOOKED, Toronto's only seafood retailer 100 per cent committed to sustainability.

## Of Whales and Men: Marine Pollution in the 21st Century

The Southern Resident killer whale population living on the B.C./Washington coast is listed as endangered by both Canadian and U.S. legislation, and recent findings by Dr. Ross and his lab show that the biomagnification of persistent organic pollutants like PCBs and PBDEs is negatively affecting their immune systems and reproductive health. Concentrations of PCBs in these whales have decreased since the 1970s, and measures are being taken by both countries to regulate PBDEs and take them off the market. However, recent legislative changes in Canada will change the way in which science and management are able to design and implement measures to protect aquatic species like killer whales from pollution.

Peter S. Ross is an environmental toxicologist based at the Institute of Ocean Sciences (Fisheries and Oceans Canada) in British Columbia, Canada. He has been carrying out research on environmental contaminants and their effects in marine mammals, fish, and their habitat for over 20 years. He holds Adjunct Professorships at Simon Fraser University and the University of Victoria. He obtained his PhD from the University of Utrecht in the Netherlands (1995), his MSc from Dalhousie University in Halifax, Nova Scotia (1990), and his BSc (Honours) from Trent University in Peterborough, Ontario (1985).

He has published over 110 international scientific articles and book chapters. He has provided advice to conservation teams in different parts of the world on several endangered marine mammals. Dr Ross also engages First Nations communities on issues surrounding safe traditional seafoods, through consultations, collaborative research and outreach efforts. Dr. Ross has figured prominently in the media, where his work on charismatic marine mammals provides a means of generating public awareness on a variety of scientific issues, and generate stakeholder support for stewardship of ocean resources.



## Dr. Peter Ross ~ Senior Research Scientist, Department of Fisheries and Oceans Canada



Jonathan is a PhD candidate at the University of Toronto and the Australian Institute of Marine Sciences. His main interest is in understanding the role apex predators (such as sharks) play in coral reef food webs and how these large mobile species can be managed within marine ecosystems.

His studies on reef shark conservation has seen him involved in multiple projects based on Ningaloo reef (Western Australia), Lizard Island (Great Barrier Reef), Palau, New Caledonia and Perth (Western Australia). These include a variety of approaches concerning movement, reef monitoring, baseline population surveys, genetic and diet studies of reef sharks and reef fish communities. He holds an Honours Bachelor of Science (Zoology Specialist) degree from the University of Toronto.

## Jonathan Ruppert ~ PhD Candidate, University of Toronto and Australian Institute of Marine Science

## Reef Shark Conservation in a Sea of Human Activity

It is estimated that 73 million sharks are being removed from the world's oceans each year through fisheries activities. While this does not bode well for shark populations, it still remains unclear what impact this has on the rest of the ecosystem. One solution to their decline may be to offer a refuge from fisheries activities through the establishment of marine parks. However, many shark species engage in long-distance movements that can cross international borders, raising concerns about how effective marine protected areas can be for shark species. The best solution may be to attribute a value to sharks that is appropriate. If this can be done, people and governments will make the right decisions to insure the long-term conservation of shark species in our oceans.

## The Evolution of Gliding in Marine Fishes: A Remarkable Evolutionary Adaptation

Gliding in fishes is a spectacular evolutionary adaptation that likely evolved to allow escape from large predatory fishes. Some flyingfish species can glide distances of more than 400 meters, while completing complex turns and aerobatic maneuvers. According to current understanding, gliding in marine fishes evolved twice: once in the extinct family Thoracopteriidae, and once in the modern family Exocoetidae. However, there are several close relatives of exocoetids that exhibit jumping behaviour, and these have been considered transitional forms in the pathway to full gliding capability. We completed a molecular phylogenetic investigation of flyingfishes and discovered that instead of representing ancestors to flyingfishes, the "transitional gliders" are independently evolving gliding ability from non-gliding relatives. This suggests that there is great evolutionary pressure to develop gliding as a predator escape mechanism.

Nathan Lovejoy spent his formative years collecting frogs in the Ottawa river and fishes in upstate Michigan. He received his MSc degree from the University of Toronto, where he studied the evolutionary biology of freshwater stingrays from the Amazon. He received his PhD from Cornell, where he completed a molecular phylogenetic and biogeographic investigation of marine and freshwater needlefishes.

He was an NSERC postdoctoral scholar at the Museum of Vertebrate Zoology, University of California, Berkeley, where he first became interested in the biology of flyingfishes. Nathan has participated in more than 20 field expeditions, including trips across South America, Africa, southeast Asia, and the Pacific Ocean.

He is now an Associate Professor at the University of Toronto Scarborough, where he supervises a molecular genetics laboratory. He and his students study the evolutionary biology of South American electric knife-fishes, stingrays, anchovies, and flyingfishes.



## Dr. Nathan Lovejoy ~ Assistant Professor Department of Biological Sciences, Department of Ecology and Evolutionary Biology, University of Toronto