

SUSTAINABLE OCEAN SUMMIT

*“The Ocean Sustainable Development Goal (SDG 14):
Business Leadership and Business Opportunities”*



29 Nov - 1 Dec 2017
➤ **Halifax, Canada**

Sustainable Ocean Summit 2017: 29 November - 1 December, Halifax, Canada



Welcome to the 2017 Sustainable Ocean Summit – the fifth international, cross-sectoral ocean industry conference on “Corporate Ocean Responsibility”.

With the generous support of the SOS 2017 sponsors and the assistance of many media partners and endorsing organizations, the SOS brings together senior representatives from a diverse range of ocean industries around the theme of “The Ocean Sustainable Development Goal (SDG 14): Business Leadership and Business Opportunities”.

The SOS 2017 theme recognizes:

- The growth of the Ocean Economy and its contribution to food, energy, transport, communications and other needs of society as part of the U.N. SDG process/Agenda 2030.
- The role of the Ocean Business Community over the next 15 years, and beyond, in ensuring ocean sustainable development.

This conference has attracted those interested in industry leadership and collaboration to address ocean sustainability, science and stewardship. You are in the company of like-minded colleagues from shipping, oil and gas, fisheries, aquaculture, ports, mining, finance, renewable offshore energy, tourism, marine technology and other industries, as well as representatives from other key ocean stakeholders.

Please make the most of this opportunity to get to know your peers in other sectors, and other stakeholder groups, who share your interest to understand and act on risks and opportunities of ocean sustainable development.

The SOS 2017 focuses on:

- Ocean Business Community leadership in achieving the U.N. “Ocean” Sustainable Development Goal (SDG) 14.
- Business Growth and Investment opportunities through Ocean Sustainable Development.
- Building on the results and momentum of the U.N. Ocean/SDG 14 Conference (June 2017), the “Our Ocean” conference (October 2017) and other ocean events of 2017.

The results of this SOS 2017 will feed into WOC and ocean business community efforts to address ocean sustainable development and the Sustainable Development Goals of the UN.

An increasing number of leadership companies worldwide are distinguishing themselves by becoming WOC Members. If you aren't yet member, we encourage you to learn more about the WOC, talk to our members at the SOS, and become a part of this growing leadership alliance.

Sincerely

Paul Holthus

CEO, World Ocean Council

SUSTAINABLE OCEAN SUMMIT

SCHEDULE AT A GLANCE

TUESDAY 28 NOVEMBER

08:00	13:00	WOC Board Meeting (WOC Board Members only)
13:00	14:30	WOC Board & WOC Members Lunch
14:30	18:00	WOC Members Meeting
16:30	19:00	Delegates Registration and Sponsor Exhibits Installation
18:00	20:00	Welcome Reception : WOC Members and SOS Participants - <i>At McInnes Cooper Offices</i>

DAY 1 - CONFERENCE

WEDNESDAY 29 NOVEMBER

08:30	10:00	Opening Plenary Session: Blue Sky Thinking for a Blue Ocean and Blue Economy	p10
10:00	10:30	Morning Break	
10:30	12:00	Plenary Session: Ocean Executive Forum: The Signature SOS Panel of CEOs from Across the Sectors	p11
12:00	13:30	Lunch Special Address by Minister MacLellan	
13:30	15:00	Plenary Session: Ocean 2030: Ocean Industry Projections and the Future of the Ocean Economy	p11
15:00	15:30	Afternoon Break	
15:30	17:00	Parallel Sessions: 1. Aquaculture: Advancing Sustainable Aquaculture in a Multi-Use Ocean 2. Maritime Clusters: Innovation and Collaboration for Ocean Sustainable Development	p12
17:00	17:30	Evening Break	
17:30	19:00	Workshop: WOC Young Ocean Professionals (YOP) and MIT Solve - Identifying Innovation Challenges For Ocean Sustainability	p13
19:30	22:00	SOS Reception and Dinner	

DAY 2 - CONFERENCE

THURSDAY 30 NOVEMBER

08:30	10:00	Plenary Session: The Digital Ocean, Big Ocean Data and Ocean Cloud Computing	p14
10:00	10:30	Morning Break	
10:30	12:00	Parallel Sessions: 1. Coastal Infrastructure, Extreme Weather Events, Green Infrastructure, and Blue Carbon 2. Biofouling and Invasive Species: Addressing the Threat through Industry Collaboration	p15
12:00	13:30	Lunch	
13:30	15:00	Parallel Sessions: 1. Synergies in Shipping and Sustainability: International Collaboration on Green Shipping Programs 2. Ocean Energy : Scaling Up Low Carbon Energy Sources from the Sea	p16
15:00	15:30	Afternoon Break	
15:30	17:00	Parallel Sessions: 1. The Law of the Sea New Legally Binding Instrument on Biodiversity in Areas Beyond National Jurisdiction 2. Arctic Sustainable Development: Vessel Traffic and Maritime Infrastructure Projections and Scenarios	p17
17:00	17:30	Evening Break	
17:30	19:00	Workshops: 1. Social License for the Blue Economy: What It Is and How Companies Can Achieve It ? 2. Roundtable: Ocean NETs: CO2 Sequestration Via Ocean-Based Negative Emissions Technologies (NETs)	p18
19:00	21:30	SOS Networking Dinner	

DAY 3 - CONFERENCE

FRIDAY 1 DECEMBER

08:30	10:00	Parallel Sessions: 1. Marine Sound: Tackling a Global Problem through Industry Leadership and Collaboration 2. From Local Enterprise to Global Seafood Markets: Real Business Solutions for Fishery Sustainability	p19
10:00	10:30	Morning Break	
10:30	12:00	Plenary Session: Financing Ocean Sustainable Development	p20
12:00	13:30	Lunch - Closing Day Comments	
13:30	15:00	Parallel Sessions: 1. Ship Strikes and Marine Mammals: Practical Solutions for Ocean Industries 2. Smart Ocean-Smart Industries: Advancing Ocean Industry Data Collection	p21
15:00	15:30	Afternoon Break	
15:30	17:00	Parallel Sessions: 1. Dark Ships: Advancing Ocean Governance and Maritime Security 2. Addressing Cross-Sectoral Conflicts/Developing Synergies: Offshore Wind Energy and Fisheries	p22

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DAY 1 - CONFERENCE

WEDNESDAY 29 NOVEMBER

**8:30 - 10:00
ROOM 1
PLENARY SESSION**

OPENING PLENARY

Blue Sky Thinking for a Blue Ocean and Blue Economy

Blue Sky Thinking: "Creative ideas that are not limited by current thinking or beliefs"

- What kind of far sighted (blue sky) thinking is needed to develop and achieve a global vision for ocean sustainable development that balances the needs for ocean economic goods and services, the need to maintain a healthy, productive ocean and the challenges of overall planetary sustainability?
- What is the role of ocean business community leadership and collaboration in developing and achieving this vision?
- What should other stakeholders be doing to foster and facilitate industry's long-term role in ocean sustainable development?

Chair/Moderator

- Paul Holthus, CEO, World Ocean Council

Speakers/Panel

Keynote Presentations

- Ken Paul, Director of Fisheries and Integrated Resources, Atlantic Policy Congress of First Nations Chiefs Secretariat

First Nation welcome and presentation

- James Michel, former President, Seychelles
 - Serge Segura, Ambassador for the Oceans, France
 - Wendy Watson Wright, CEO, Ocean Frontier Institute
 - Cristiana Pasca Palmer, Executive Secretary, Convention on Biological Diversity (CBD)
 - Vinay Patwardhan, Chief Operating Officer, Tai Chong Cheang (TCC) Steamship Co. (H.K.) Limited
- Total Combustion and Emission Remediation (Reduce, Reverse and Recover)*

Commentators

- Peter Hinchliffe, Secretary General, International Chamber of Shipping
- Jim Cannon, CEO, Sustainable Fisheries Partnership

MORNING BREAK 10:00 - 10:00



- What is the ocean industry CEO perspective on ocean economic activity for the next 15 years?
- What opportunities and risks do ocean industry CEOs think that these scenarios create for each sector for the next 15 years? For the ocean economy and ocean business community overall? For the ocean itself?
- How do CEOs view the Sustainable Development Goals (SDGs) in relation to projected ocean economic activity and future risks and opportunities?

Chair/Moderator

- Christine Valentin, Chief Operating Officer, World Ocean Council

Speakers/Panel

- *Oil and Gas*: Mike Utsler, Chief Operating Officer, Woodside Energy
- *Fisheries*: Ian Smith, CEO, Clearwater Seafoods
- *Shipping*: Ben Christian, Vice President – Marine Services, TOTE Services
- *Ship Registries*: Scott Bergeron, CEO, Liberian International Ship and Corporate Registry
- *Ocean Energy*: Reenst Lesemann, CEO, Columbia Power Technologies
- *Indigenous Corporations*: Bernd Christmas, CEO, Gitpo STORMS
- *Aquaculture*: Donna Lanzetta, CEO, Manna Fish Farms
- *Ports*: Karen Oldfield, President and CEO, Halifax Port Authority
- *Ocean Data/Technology*: Joe Turner, CEO, Exocetus Autonomous Systems

LUNCH BREAK 12:00 - 13:30
SPECIAL ADDRESS BY MINISTER MACLELLAN

- What is the future of industry activity in key ocean economic sectors?
- What are the key trends, geographies, assumptions, opportunities, and constraints for each sector in the coming 15 years, the time frame of the U.N. SDGs?
- What opportunities and risks do these scenarios create for each sector? For the ocean economy and ocean business community overall? For the ocean itself?

Chair/Moderator

- Claire Jolly, Head, Innovation Policies for Space and Oceans, Directorate for Science, Technology and Innovation, OECD

Speakers/Panel

- *Shipping*: Kathy Metcalf, President and CEO, Chamber of Shipping of America
- *Seabed Mining*: Samantha Smith, Director, Blue Globe Solutions
- *Submarine Cable*: Alasdair Wilkie, CTO, Deep Blue Cable
- *Oil and Gas*: Romain Provost, General Delegate Middle East and Renewables, Evolen
- *Offshore Wind Energy*: Joe Martens, Director, New York Offshore Wind Alliance
- *Ocean Energy*: Annie Dallman, Vice-Chair, Ocean Energy Systems (OES), International Energy Agency (IEA)
- *Fisheries*: Marc Taconet, Senior Fishery Officer, Branch Head, Statistics and Information Branch (FIAS), UN Food and Agriculture Organization (FAO)
- *Aquaculture*: Melanie Siggs, Director of Strategic Engagements, Global Aquaculture Alliance (GAA)
- *Human Habitation on the Ocean*: Rutger-de-Graaf van Dinther, Founder Blue 21; Rotterdam University of Applied Sciences

AFTERNOON BREAK 15:00 - 15:30

**15:30 - 17:00
ROOM 1
PARALLEL SESSION**

FOOD SECURITY: SUSTAINABLE FISHING AND AQUACULTURE
Aquaculture: Advancing Sustainable Aquaculture in a Multi-Use Ocean

- How has the aquaculture industry evolved in our increasingly multi-use ocean? where will it be in 30 years?
- What are the barriers to sustainable aquaculture expansion and what is needed to help expand and accelerate sustainable aquaculture?
- Can aquaculture meet future global human protein demands sustainably in an increasingly crowded, multi-use ocean and assist in implementing the SDGs?

Chair/Moderator

- Donna Lanzetta, CEO, Manna Fish Farms

Speakers/Panel

- Donna Lanzetta, CEO, Manna Fish Farms
The Ocean Aquaculture Imperative
- Jerry Schubel, President and CEO, Aquarium of the Pacific
Public Perceptions and Permitting: Loosening the Gordian Knot
- Neil Sims, Co-CEO, Kampachi Farms
Sustainable Aquaculture – What is holding us back? What do we need to grow?
- Avrim Lazar, Convener, Global Salmon Initiative
The Global Salmon Initiative – An Experimental Business Leadership Model Using Collaboration to Drive Sustainable Improvements in Aquaculture
- Mike Meeker, CEO, StormSafe Submersibles
Technology and Innovation for Aquaculture

**15:30 - 17:00
ROOM 2
PARALLEL SESSION**

OCEAN KNOWLEDGE, RESEARCH AND TECHNOLOGY
Maritime Clusters: Innovation and Collaboration for Ocean Sustainable Development

- What are the conditions and characteristics that lead to Maritime Cluster success?
- How can Maritime Clusters best contribute to sustainable development and the SDGs?
- What are the opportunities for collaboration among Maritime Clusters in support of sustainable development - at national, regional and global scales?

Chair/Moderator

- Eric Hansen, President, Economic Transformations Group

Speakers/Panel

- Eric Hansen, President, Economic Transformations Group
Maritime Clusters: Global Collaboration for Leadership in Ocean Sustainable Development
- Stewart Frusher, Director, Centre for Marine Socioecology, Cross Cutting Theme Leader – Climate Change, Institute for Marine and Antarctic Studies (IMAS), University of Tasmania
Delivering Innovation in Seafood and Marine Renewable Energy Production: Tasmania Center of Excellence
- Joshua Berger, Director of Maritime, State of Washington
Maritime BLUE: 2050 Vision for a Sustainable Maritime Industry
- Matt Hebb, AVP Government Relations and Economic Development, Dalhousie University; Chair of the Board, Halifax Partnership
Canada's Ocean Supercluster

EVENING BREAK 17:00 - 17:30

**17:30 -19:00
ROOM 1
WORKSHOP**

**WORKSHOP
WOC Young Ocean Professionals (YOP) and MIT Solve - Identifying
Innovation Challenges For Ocean Sustainability**

- Cross-sectoral, interactive and dynamic discussions: what are the sustainability goals for the global ocean community, the barriers and stakeholders, and the key challenges that need to be tackled to meet those goals?
- How to drive impact on global challenges through open innovation and partnerships?
- How to catalyze and leverage sustainability in the Ocean Business Community?

Chair

- Julia Tasse, Marketing and Communications Officer, World Ocean Council; Lead, Young Ocean Professionals

Facilitator

- Alexander Dale, Community Relations Senior Officer, Sustainability, Solve, Massachusetts Institute of Technology (MIT)

Facilitator

- Interactive Discussion and Brainstorming sessions in Breakout Groups around Roundtables
- Discussions on Outcomes
- Ranking Priority Challenges
- Networking



DAY 2 - CONFERENCE

THURSDAY 30 NOVEMBER

08:30 - 10:00
ROOM 1
PLENARY SESSION

THE DIGITAL OCEAN

The Digital Ocean, Big Ocean Data and Ocean Cloud Computing: The Future of Ocean Sustainable Development

- What are the status, trends and forecasts for the development of the Digital Ocean, Big Ocean Data and the use of Cloud Computing for ocean sustainable development?
- What are the benefits (economic, sustainability, maritime security, etc.) from a Digital Ocean that produces Big Ocean Data and harnesses Cloud Computing in support of Agenda 2030, and what are the challenges to achieving these benefits?
- What are the opportunities for industry leadership and collaboration in advancing the most beneficial progress in the Digital Ocean, Big Ocean Data and Cloud Computing for ocean sustainable development - at national, regional and global scales - and what should industry do to best engage other ocean stakeholders?

Chair/Moderator

- Paul Holthus, CEO, World Ocean Council

Speakers/Panel

- Marc Fagan, CEO, EOS Data Analytics
Overview of New Earth Observation Sensors and Big Data Analytics
- Peter Mabson, President, exactEarth
Developments and Trends in Global Satellite Ocean Monitoring and Data Gathering
- Chris Coyle, Chief Strategy and Revenue Officer, Exocetus Autonomous Systems
Ocean Data Collection Needs, Opportunities and Strategies for the Business Community
- Ferial El-Hawary, Professor, Dalhousie University
Underwater Robotics: Status, Trends and Forecast
- Melissa Garren, Chief Scientific Officer, Pelagic Data Systems
Small Scale Fishing Fleets and the Digital Ocean
- Graham Stickler, President, Beyond One Eighty
Engaging Private Industry to Deliver Hope for Ocean Sustainability

MORNING BREAK 10:00 - 10:30



**10:30 - 12:00
ROOM 1
PARALLEL SESSION**

CLIMATE CHANGE AND OCEAN ACIDIFICATION

Coastal Infrastructure, Extreme Weather Events, Green Infrastructure, and Blue Carbon:
Advancing Adaptation, especially for Small Island States and Least Developed Countries

- How can the ocean business community best ensure that ports and essential coastal infrastructure are being adapted to ensure resiliency extreme events, especially in SIDS and developing countries?
- How can the ocean business community best collaborate with other key stakeholders, e.g. multilateral/bilateral development assistance, national governments, science institutions, etc.?
- What is the potential role and incentives or benefits for ocean industries in the maintenance or restoration of coastal and marine ecosystems for their Blue Carbon value?
- What is the best way to develop and implement a global, multi-stakeholder leadership alliance to ensure ports and coastal infrastructure worldwide are ready, resilient and able to minimize the impacts of extreme events on communities, businesses and economies?

Chair/Moderator

- Chris Allen, Owner, Chris Allen + Associates (CA+A)

Speakers/Panel

- Mikis Tsimplis, Professor, Oceanography and Maritime Law; Deputy Director, Southampton Marine and Maritime Institute, University of Southampton
Towards Sustainable Shipping and Resilient Ports
- Alfredo Quarto, Executive director and Co-founder, Mangrove Action Project
Global Perspective on the Value of Mangroves, Their Loss, Threats and Solutions
- Charles Colgan, Director of Research, Center for the Blue Economy, Middlebury Institute of International Studies at Monterey
Innovative Finance Solutions for Approaches to Coastal Adaptation
- Steve Crooks, Co-Founder, Silvestrum Climate Associates
Utilizing Coastal Ecosystems for Adaptation and Mitigation in National Determined Contributions (NDCs) to CO2 Reduction

**10:30 - 12:00
ROOM 2
PARALLEL SESSION**

MARINE POLLUTION

Biofouling and Invasive Species: Addressing the Threat through Industry Collaboration

- How can diverse ocean industries collaborate to understand and address the shared problem of biofouling and the introduction of invasive species?
- What opportunities exist with science, government and industry to create a common research and development platform on the causes, prevention and removal of biofouling?
- What are the proposed and new regulations regarding the potential importation and spread of non-indigenous marine species and can a pan-industry platform be developed to minimize business risks of biosecurity problems?

Chair/Moderator

- Paul Holthus, CEO, World Ocean Council

Speakers/Panel

- Sonia Gorgula, Senior Policy Advisor, Ministry of Agriculture and Water Resources, Australia
Biofouling Issues, Guidelines, Regulation, Government Perspectives
- Stein Kjølberg, Global Sales Director - Hull Performance Solutions, Jotun Performance Coatings, Jotun A/S
Biofouling Prevention: State of the Art, Trends, Challenges, Opportunities, Collaboration
- Laurance Langdon, General Manager, HullWiper
Biofouling Treatment: State of the Art, Trends, Challenges, Opportunities, Collaboration
- John Alonso, Assistant Technical Adviser GloFouling, Marine Environment Division, International Maritime Organization (IMO)
Introducing the GloFouling Project
- Paul Holthus, CEO, World Ocean Council (WOC)
Engaging the Ocean Business Community in the GloFouling Project

LUNCH BREAK 12:00 - 13:30

13:30 - 15:00
ROOM 2
PARALLEL SESSION

CONSERVATION AND ECOSYSTEM BASED MANAGEMENT

Synergies in Shipping and Sustainability: International Collaboration on Green Shipping Programs and Infrastructure

- How can collaboration help the maritime industry to realize greater benefits from green shipping programs and infrastructure, while maintaining flexibility?
- What are the opportunities to create efficiencies for ports, shipping lines and shippers in the implementation and uptake of these programs and infrastructure, and how can environmental rating systems and data management providers facilitate those efficiencies?
- Who could lead and maintain a collaboration on this scale and how can we ensure that the range stakeholders are engaged and minimize the risk of developing multiple solutions to solve the same problem?

Chair/Moderator

- Craig Carter, Director of Marketing and Customer Service, Thordon Bearings

Speakers/Panel

- Lee Kindberg, Director, Environment and Sustainability, Maersk Line
Port Environmental Initiatives: The Vessel Perspective
Green/Sustainable Shipping Programs
- David Bolduc, Executive Director, Green Marine
- Anuj Chopra, Vice President, RightShip Americas, RightShip
- Peter Ellis, Executive Director, Clear Seas Centre for Responsible Marine Shipping
Shipping Industry Commentators

13:30 - 15:00
ROOM 1
PARALLEL SESSION

ECONOMIC BENEFITS TO SIDS AND LDCs

Ocean Energy: Scaling Up Low Carbon Energy Sources from the Sea, with a View Towards SIDS and LDCs

- What has Canada done to lead the way in marine renewable energy development?
- Spotlight on the Bay of Fundy - Developer/Customer perspectives: What have been the challenges and what are the expected benefits?
- How can ocean renewable energy development benefit SIDS and LDCs?
- What are the investment opportunities for expanding and accelerating offshore wind and ocean renewable energy in SIDS and LDCs?

Chair/Moderator

- Reenst Lesemann, CEO, Columbia Power Technologies

Speakers/Panel

- Tony Wright, General Manager, Fundy Ocean Research Center for Energy (FORCE)
Exploring Responsible Tidal Energy Development: The 'FORCE' Experience
- Alisdair McLean, Country Manager, Canada, Open Hydro Naval Energy
Developing a Tidal Energy Project in Bay of Fundy
- Brad Buckham, University of Victoria, West Coast Wave Initiative
Risk Mitigation: The Means to Match Marine Renewable Energy Potential with Remote Community Needs
- Bill Staby, CEO, Resolute Marine Energy
Wave Energy Desalination – Meeting SDG Goals

AFTERNOON BREAK 15:00 - 15:30

**15:30 - 17:00
ROOM 1
PARALLEL SESSION**

OCEAN GOVERNANCE INCLUDING UNCLOS
The Law of the Sea New Legally Binding Instrument on Biodiversity in Areas Beyond National Jurisdiction (BBNJ): What Will It Mean for Ocean Industries ?

- What is the final version of the legally binding BBNJ agreement that was developed in 2016-17?
- What is the process for formal consideration and adoption of the BBNJ agreement by the U.N. General Assembly (UNGA)?
- How can and should ocean industries engage with other ocean stakeholders, including governments, as the BBNJ agreement moves to and through the UNGA?

Chair/Moderator

- Peter Hinchliffe, Secretary General, International Chamber of Shipping

Speakers/Panel

- Charlotte Salpin, Legal Officer, Division for Ocean Affairs and Law of the Sea (DOALOS), United Nations Office of Legal Affairs
Outcome of the BBNJ Preparatory Committee and Next Steps
- Elizabeth McIsaac, Associate, McInnes Cooper
The Impact of "Due Regard" on Ocean Industries
- Robin Warner, Professor, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong
BBNJ: Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA)
- Susanna Fuller, Marine Conservation Co-ordinator, Ecology Action Centre
BBNJ: Area Based Management Tools, including Marine Protected Areas (MPAs)
- Fred Kingston, Executive Secretary, Northwest Atlantic Fisheries Organization (NAFO)
BBNJ and Existing Regional Bodies: The Perspective of the Northwest Atlantic Fisheries Organization (NAFO)
- William Sharpe, Barrister and Solicitor, ROUTE Transport & Trade Law
Water Column Structures Governance
- Andreas Kaede, Attorney, Haver & Mailänder Rechtsanwälte
Technology Transfer under UNCLOS: Advantages, Limits and Risks of Licensing

**15:30 - 17:00
ROOM 2
PARALLEL SESSION**

CONSERVATION AND ECOSYSTEM BASED MANAGEMENT
Arctic Sustainable Development: Vessel Traffic and Maritime Infrastructure Projections and Scenarios

- What kinds, levels, locations and patterns of vessel traffic from all sectors is projected for the Arctic through 2030, and what scenarios will affect this?
- What infrastructure development and long term investment will be necessary for these changes in vessel traffic?
- What are the environmental, business and investment risk and opportunities associated with maritime infrastructure development and increased vessel traffic in the Arctic?

Chair/Moderator

- Paul Berkman, Coordinator, Arctic Options and Pan-Arctic Options Projects; Professor of Practice in Science Diplomacy, Fletcher School of Law and Diplomacy, Tufts University

Speakers/Panel

- *Shipping*: Bruce Harland, Vice President, Crowley Maritime
- *Cruise Tourism*: Birger Vorland, Captain, Crystal Serenity, Crystal Cruises
- *Expedition Tourism*: Alana Faber, Vice President, Operations and HR, Adventure Canada
- *Investment*: Jacques Demers, Chairman and Managing Partner, Agawa Partners
- *Coast Guard*: Representative, Canadian Coast Guard
- *Conservation*: Melissa Nacke, Specialist, Arctic Shipping and Marine Conservation, WWF Canada
- *Research*: Greg Fiske, Senior Geospatial Analyst, Research Associate, Woods Hole Research Center

EVENING BREAK 17:00 - 17:30

**17:30 - 19:00
ROOM 1
WORKSHOP**

OCEAN GOVERNANCE INCLUDING UNCLOS

Social License for the Blue Economy: What It Is and How Companies Can Achieve It ?

- What are the sector specific and cross sectoral factors relevant to social license in the Blue Economy?
- What is a strategic, cross sectoral and systematic assessment of the social license challenges and opportunities within the Blue Economy?
- How can the sharing of information on best practices and lessons learned by different sectors in addressing social license be facilitated through case studies and interactive discussions?
- What are the approaches for a collaborative and systematic approach to addressing, monitoring and maintaining a social license for the Blue Economy, and its component industries?

Chair/Moderator

- Michelle Voyer, Australian National Centre for Oceans Resources and Security (ANCORS), University of Wollongong
- Judith van Leeuwen, Environmental Policy Group, Department of Social Sciences, Wageningen University

Speakers/Panel

What is Social License?

History of the social license concept and existing knowledge; Social license and the Blue Economy

- Michelle Voyer, Australian National Centre for Oceans Resources and Security (ANCORS), University of Wollongong
- Judith van Leeuwen, Environmental Policy Group, Department of Social Sciences, Wageningen University

Social License Challenges and Opportunities: Case studies

- *Fisheries*: Dannie Hanson, Vice President, Sustainability, Louisbourg Seafoods
- *Seabed Mining*: Samantha Smith, Director, Blue Globe Solutions
- *Offshore Energy*: Bill Staby, CEO, Resolute Marine
- *Shipping*: Peter Hinchcliffe, Secretary General, ICS Shipping

Interactive Discussion/Breakout Groups

- Who? Sector by sector consideration of primary interest groups where social license challenges or opportunities exist (e.g. neighbours, regional community, NGOs/conservation groups, human rights NGOs, other marine users)
- Impacts? Sector by sector consideration of primary social and environmental impacts of concern to interest groups (e.g. noise, air quality, use conflict, environmental/biodiversity impacts, benefit sharing, labour rights)
- How? Approaches to addressing social license, is CSR enough? What innovative approaches could be adopted to build community trust and increase legitimacy?

**17:30 - 19:00
ROOM 2
WORKSHOP**

CLIMATE CHANGE AND OCEAN ACIDIFICATION

Ocean NETs: CO2 Sequestration Via Ocean-Based Negative Emissions Technologies (NETs)

- What are the requirements of the International Climate Agreement (Paris 2015) for negative emission technologies (NET's) to remove atmospheric CO2 to meet planetary safe limits for global temperatures?
- What are the potential ocean-based NETs, what science is available on them and what are the risks and benefits of Ocean NETs?
- What is needed to advance careful, science-based consideration of Ocean NETs as a potentially viable, important means to address increasing atmospheric CO2?

Chair/Moderator

- John Ridley, Managing Director, Ocean Nourishment

Speakers/Panel

- John Ridley, Managing Director, Ocean Nourishment
- Paul Holthus, CEO, World Ocean Council

Format

- Presentation on Ocean-Based Negative Emissions Technologies (Ocean NETs)
- Presentation on WOC Ocean NET Platform concept
- Open forum discussion facilitated by moderator

DAY 3 - CONFERENCE

FRIDAY 1 DECEMBER

08:30 - 10:00

ROOM 1

PARALLEL SESSION

MARINE POLLUTION

Marine Sound: Tackling a Global Problem through Science-Based Industry Leadership and Multi-Stakeholder Collaboration

- What are the needs and opportunities for cross-sectoral ocean industry leadership, innovation and synergies in addressing anthropogenic sound in the marine environment?
- How to best create and implement an international, multi-stakeholder “platform” on marine sound as the structure and process to bring together industry, science, government, intergovernmental organizations and NGOs?
- How can such a platform best catalyze collaboration among ocean industries and with other stakeholders, coordinate development of a shared priorities and agenda for action and work to advance practical, cost-effective solutions, practices, policies and regulation to address ocean noise based on good science?

Chair/Moderator

- Michel Andre, Director, Applied Bioacoustics Laboratory, Universitat Politècnica de Catalunya
- John Young, Director, Marine Environment, DHI Water and Environment

Speakers/Panel

Marine Sound: Overview, State of the Knowledge, Gaps and Priorities

- Michel Andre, Director, Applied Bioacoustics Laboratory, Universitat Politècnica de Catalunya
- John Young, Director, Marine Environment, DHI Water and Environment

Case Studies

- David Bolduc, Executive Director, Green Marine
Shipping and Ports: Creating Criteria and Verification to Address Marine Sound
- Johnathon Davey, Executive Director, Seafood Industry Victoria
Seismic Surveys and Fisheries: The Australian Experience in Science and Dialogue and Best Practices
- Mark Wochner, CEO, AdBm Technologies
Offshore Wind Energy: Best Practices in Addressing Marine Sound Impacts

Creating a Global Marine Sound Issue Platform

- Paul Holthus, CEO, World Ocean Council

Stakeholder Perspective/Commentary

- *Science:* Jesse Ausubel, International Quiet Ocean Experiment (IQOE)
- *Marine Acoustics Sector:* Jim Theriault, Senior Scientist, Ocean Environmental Consulting
- *Intergovernmental/Treaty Organization:* Joseph Appiott, Associate Programme Officer, Convention on Biological Diversity (CBD)
- *NGO:* Michael Jasny, NRDC

Moderated Discussion on Global Marine Sound Issue Platform



**08:30 - 10:00
ROOM 2
PARALLEL SESSION**

FOOD SECURITY: SUSTAINABLE FISHING AND AQUACULTURE

From Local Enterprise and Sustainability Practices to Global Seafood Markets: Real Solutions for Fishery Sustainability, Ghost Gear and Traceability in a Multiple Use Ocean

- How can ocean health improve through practices adopted by vertically integrated fishing operations, smaller-scale fisheries and by removing ghost gear?
- What is the role of sustainability certification and seafood traceability in these solutions?
- What do fishing industry and non-governmental organization leaders see as the threats to or impacts on sustainable fishing from other ocean sectors?

Chair/Moderator

- Jay Lugar, Program Director – Canada, Marine Stewardship Council (MSC)

Speakers/Panel

- Martin Sullivan, CEO, Ocean Choice International
Sustainable Seafood and Ocean Health – Operating Responsibly in a Challenging Environment and Market
- Lori Kennedy, Co-owner, Louisbourg Seafoods
Consumer Confidence and Ocean Health in a Sustainable, Traceable Chain of Custody
- Aaron Irving, Executive Chair, National Aquaculture Council, Australia; Executive Officer, Pearl Producers Association
Australia's Sustainable Pearl Industry – Responsible Fishing and Aquaculture, Collaboration with Other Marine Users and Marine Environmental Stewardship
- Lynn Kavanagh, Manager, Global Ghost Gear Initiative, World Animal Protection
Showcasing Best Practice Guidelines and Circular Economy Solutions to the Problem of Abandoned, Lost and Otherwise Discarded Fishing Gear
- Wendy Banta, Supply Chain Standard Manager, MSC
Traceability Standards To Support Market Recognition of Sustainable Fisheries and Healthy Oceans

MORNING BREAK 10:00 - 10:30

**10:30 - 12:00
ROOM 1
PLENARY SESSION**

OCEAN INVESTMENT PLATFORM

Financing ocean sustainable development

- What can be done to accelerate the interaction of ocean users and investors in identifying ocean sustainable development opportunities?
- How can investors better collaborate to achieve synergies and scale up investment in ocean sustainable development?
- How can ocean industries and investors best identify priorities for investment?

Chair/Moderator

- Jacques Demers, Chairman and Managing Partner, Agawa Partners

Speakers/Panel

- Marc-Andre Blanchard, Canadian Ambassador to the United Nations
- Jacques Demers, Chairman and Managing Partner, Agawa Partners
- Michael Maduell, President, Sovereign Wealth Fund Institute
- Hermann Leiningen, Managing Director, International Family Office Investments
Enterprise Strategic Client Group, Royal Bank of Canada
- Managing Partner, WAVE Equity Partners
- Bill Staby, CEO, Resolute Marine Energy

**LUNCH BREAK 12:00 - 13:30
CLOSING DAY COMMENTS**

13:30 - 15:00
ROOM 1
PARALLEL SESSION

CONSERVATION AND ECOSYSTEM BASED MANAGEMENT
Ship Strikes and Marine Mammals: Practical Solutions for Ocean Industries

- What are the scale, extent and trends regarding vessel collisions with marine mammals?
- What practices and technologies are in place to address this problem, and are they effective?
- How can shipping and other ocean industries best collaborate with other stakeholders to address the issue?

Chair/Moderator

- Henk van Muijen, Managing Director, IHC Mining BV

Speakers/Panel

- Kathy Metcalf, President and CEO, Chamber of Shipping of America
Minimizing Co-Location – Separating Gentle Giants from Steel Giants
- Christopher Taggart, Oceanography Department, Dalhousie University
Reducing Vessel-strikes to Large Whales: The Effectiveness of Science-driven Policy, Real-time Whale-alerts to Vessels, and the Role and Responsibilities of the Shipping Industry to Help Make it Happen
- Dave Wiley, Research Coordinator, Stellwagen Bank National Marine Sanctuary, NOAA
Whales and Ships: Problems, Promise, and Partners
- Mary Byrd, Community Programs Supervisor, Santa Barbara County Air Pollution Control District
Protecting Blue Whales and Blue Skies (video presentation)

13:30 - 15:00
ROOM 2
PARALLEL SESSION

OCEAN KNOWLEDGE, RESEARCH AND TECHNOLOGY
Smart Ocean-Smart Industries: Advancing Ocean Industry Data Collection, including on Ocean Acidification and Bathymetry

- What is the most effectively way to coordinate between ocean scientists and ocean industry operators in order to engage industry in data collection and sharing?
- What are the barriers to industry involvement in data collection and how can these be addressed?
- What are the priority locations, topics and technology to engage more ships and platforms of opportunity in collecting data, especially for ocean acidification and bathymetry?

Chair/Moderator

- Mark Fonseca, Vice President Science, CSA Ocean Sciences

Speakers/Panel

- Doug Wallace, Scientific Director, Marine Environmental Observation, Prediction And Response (MEOPAR) Network, Canada
Advancing Science Collaboration with Ocean Industries to Advance Data Collection from Ships and Platforms of Opportunity
- Denis Hains, Hydrographer General of Canada; Chris Hemmingway, Director Hydrography and MSDI, Ottawa Office, Fisheries & Oceans Canada – Science, Canadian Hydrographic Service
Connecting, Accessing and Using Data Bases via the Marine Spatial Data Infrastructure (MSDI)
- Denis Hains, Hydrographer General of Canada; Jacinthe Cormier, Director CHS Dartmouth NS Off
All Can Contribute to Ocean Mapping via Crowd-Source Bathymetry (CSB)
- Representative, Atlantic Towing Company
Shipping Industry Experience in Collaborating to Advance Data Collection from Ships of Opportunity
- Stefan Raimund, Scientific Consultant, SubCtech GmbH
Sailing Meets Science: Ocean Observations During the Volvo Ocean Race 2017/18
- Stephen deMora, CEO, Plymouth Marine Lab; Trustee, Partnership for Observation of the Global Oceans (POGO)
How the Ocean Observations and Science Community can Collaborate with the WOC Smart Ocean-Smart Industries Program
- Christine Valentin, Chief Operating Officer, World Ocean Council (WOC)
ARICE Project: Advancing Smart Ocean-Smart Industries in the Arctic

AFTERNOON BREAK 15:00 - 15:30

15:30 - 17:00
ROOM 2
PARALLEL SESSION

OCEAN GOVERNANCE INCLUDING UNCLOS

Dark Ships: Advancing Ocean Governance and Maritime Security by Improving Detection of Illegal or Suspicious Vessel Activities

- What is known about “Dark Ships”, i.e. shipping, fishing or other vessels that operate outside the laws and norms of responsible ocean business practices?
- What are technology, communications and other approaches that could facilitate more comprehensive information on illicit ocean activity – and what business and investment opportunities do these create?
- Is there value and potential to explore mechanisms for legitimate ocean industry operators to report suspicious vessels to appropriate authorities?
- What are the needs and benefits for better interaction, coordination and synergies among the initiatives operating in this space, and for ensuring long term resources for these efforts?

Chair/Moderator

- Eric Banel, Director, France Maritime Committee, Vice-Secretary General of the Sea

Speakers/Panel

- Stuart Kaye, Director, Australian National Centre for Ocean Resources and Security, University of Wollongong
The Use of Technology in Maritime Enforcement: Ensuring the Law Keeps Pace
- Peter Dorcas, Vice President, Business Development, exactEarth
Advanced Data Analytics to Support Real Time Alerting of Suspicious Vessel Activities
- David Frulla, Partner, Kelley Drye and Warren LLP
Emerging Coastal States’ Rights: Legal Topics Regarding Dark Vessel and IUU Fishing
- Tony Worby, Director, Oceans & Atmosphere, CSIRO
Improved Analytical Tools for Addressing Illegal, Unregulated and Unreported (IUU) Fishing

15:30 - 17:00
ROOM 1
PARALLEL SESSION

CONSERVATION AND ECOSYSTEM BASED MANAGEMENT

Addressing Cross-Sectoral Conflicts and Developing Synergies: Offshore Wind Energy and Fisheries

- What are the real and perceived conflicts between fisheries and the offshore wind industry?
- What science, experience, best practices and other information can help clarify the situation and improve the potential for cooperation and co-existence?
- What ongoing process for dialogue can best identify the issues, define the available or needed science and information and help resolve the problems associated with the interaction of these sectors?

Chair/Moderator

- Christine Valentin, Chief Operating Officer, World Ocean Council

Speakers/Panel

- *Issue Expert:* Stephanie McClellan, Director, Special Initiative on Offshore Wind, University of Delaware
Offshore Wind Energy and Fisheries Interactions: Challenges and Opportunities
- *Wind Power:* Kevin Banister, Business and Government Affairs, Principle Power
Offshore Wind Energy and Fisheries Interactions: The Wind Energy Perspective
- *Fisheries:* Dannie Hanson, Vice President, Sustainability, Louisbourg Seafoods
Cooperation On the Ocean: Shared Data and Communication
- Daniel Watt, Partner, McInnes Cooper
Fisheries Interaction with Offshore Oil and Gas: Lessons Learned for Fisheries Interactions with Offshore Wind Energy
- John Mitchel, Mayor, New Bedford
Economic Development for both Fisheries and Offshore Wind Energy



The International Business Alliance
for Corporate Ocean Responsibility

The challenge

The ocean is an interconnected global ecosystem supporting a wide range of uses. Maintaining a healthy ocean requires responsible stewardship by all users.

Concerns about the impacts of economic activity on ocean health from growing range and level of commercial use are on the rise. These concerns may limit industry access to marine areas and resources. Ocean users are increasingly being held accountable by governments and NGOs for the state of the ocean. Continued ocean access and use will increasingly require the social license to operate - above and beyond simple regulatory compliance - and participation in Sustainable Development Goals.

The best efforts by a single company or an entire sector will not be enough to address the cumulative impacts on the inter-connected marine ecosystem from growing use across the sectors. Companies dependent on the ocean can achieve business value from working with others to address shared challenges regarding sustainable development, science and stewardship.

Creating an ocean business alliance

The World Ocean Council is the only international, cross-sectoral industry leadership alliance on “Corporate Ocean Responsibility”.

The WOC brings together the diverse ocean business community (shipping, fisheries,

oil & gas, aquaculture, offshore renewables, tourism, seabed mining, marine technology, manufacturers, law, retailers, insurers, finance, etc.) to achieve the business benefits of cross-sectoral leadership and collaboration.

The WOC develops global ‘platforms’ on cross-cutting ocean business and sustainability challenges, e.g. ocean policy & governance, marine planning, marine debris, marine sound, marine mammal impacts, water pollution, data collection by industry vessels & platforms, sea level rise/extreme event impacts, priority regions (Arctic, Indian Ocean), and investment & innovation for ocean sustainable development.

The invitation

Responsible ocean companies are invited join the growing number distinguishing themselves as leaders in “Corporate Ocean Responsibility” through the WOC.

In addition to the 75+ WOC Members from the diverse ocean business community, the WOC Network includes 34,000+ ocean industry and media stakeholders around the world. The WOC is recognized or accredited by numerous U.N. agencies and other international organizations as the credible, global leadership body on ocean business and sustainability. The WOC Sustainable Ocean Summit (SOS) - 2010, Belfast; 2013, Washington DC; 2015, Singapore; 2016, Rotterdam; 2017, Halifax - is acknowledged as the international ocean business community conference on Corporate Ocean Responsibility.

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