



OCEAN
CANADA

Dedicated to building resilient and sustainable oceans on all Canadian coasts and to supporting coastal communities as they respond to rapid and uncertain environmental changes.

2015/2016 PARTNERSHIP UPDATE

April 1, 2015 to March 31, 2016

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Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada

Canada



INTRODUCTION AND BACKGROUND

This is the second annual update of the *OceanCanada* Partnership (OCP), a 6-year research project funded by the Social Sciences and Humanities Research Council (SSHRC) of Canada. OCP is dedicated to building resilient and sustainable oceans on all three Canadian coasts and to supporting coastal communities as they respond to rapid and uncertain environmental changes. Our multi-disciplinary research synthesizes social, cultural, economic and environmental knowledge about oceans and coasts nationally. Over the life of the project and beyond, we are taking stock of what we know about Canada's three oceans, building scenarios for the possible futures that await our coastal-ocean regions, and creating a national dialogue and shared vision for Canada's oceans.

Our research activities are being conducted in three phases. During *Phase One: Taking Stock*, we integrated existing information from several disciplinary areas and identified knowledge gaps in our current social, economic, policy, legal and ecological understanding of Canada's coasts and oceans. We are currently in *Phase Two: Building Scenarios*, and are mapping scenarios through advanced modelling techniques that will allow us to generate new knowledge by (i) defining plausible future scenarios of Canada's coastal-ocean interdependent social-ecological systems from the national perspective, and then (ii) comparing and 'ground-truthing' our scenarios at the local level using comparable case studies in each of the three ocean-adjacent regions of the country. These scenarios illustrate the ways in which uncertain social-ecological stressors create changes that produce social and economic impacts on jobs, cultural and social identity, ecology and the economy. Following from this, in *Phase Three: Shared Vision*, we will develop a shared vision among Canadians of different possible future states of social-ecological system interactions. At all stages, we prioritize engagement with governments, industry, communities and other stakeholders in order to employ participatory approaches to knowledge mobilization.

OUR AIMS AND MISSION

1. To effectively integrate local and national social science and ocean science research in order to optimize national-level policy planning and management, facilitate knowledge sharing across regions and integrate local and traditional knowledge into national policies.
2. To develop an enhanced understanding of the current and future social-ecological stressors affecting Canada's three coastal-ocean regions, including ocean acidification, market and cultural globalization and climate change.
3. To work collaboratively towards a pan-Canadian vision for sustainable and healthy coastal-ocean regions by 2050, fostering public awareness and promoting engaged national dialogue.



ORGANIZATION OF RESEARCH

OCP includes six Working Groups (WGs), covering two spatial scales of analysis (national and regional/local) and two cross-cutting themes (law/policy and knowledge mobilization/ community engagement). Our national cluster has three Working Groups: Law and Policy, National Data and Integrated Scenarios, and Knowledge Mobilization. Our regional/local cluster also has three Working Groups: Pacific, Arctic, and Atlantic. Our use of geographical regions, different scales and specific issues (law, policy, data, scenarios, communication) allows us to focus on collaborative and integrated research across disciplines and areas of expertise.

OVERVIEW OF WORKING GROUP ACTIVITIES FOR 2015/2016

National Data and Integrated Scenarios (NDIS)

The NDIS WG, based at the University of British Columbia, has been involved in a number of initiatives this past year: 1) taking stock of the available datasets on Canada's three oceans and developing a first version of the OCP database; 2) discussing with other WGs on developing an OCP platform for sharing and archiving data; 3) publishing a policy paper in *Marine Policy* suggesting actions that can be taken by the Canadian federal government to support the sustainability of Canadian coastal communities and the oceans that support them; 4) developing a global database of aboriginal fisheries (manuscript submitted to *PloS One*); 5) developing an innovative fuzzy logic algorithm to synthesize available data (both quantitative and qualitative) to assess the status and trends of Canada's oceans; 6) identifying and extracting data for indicators to assess the status of Canada's oceans in relation to the Aichi Targets on the conservation of biodiversity; 7) reviewing the literature on the application of scenario analysis to study potential future states of Canada's oceans, and the situations of the communities that depend on them socially, culturally and economically (manuscript submitted to *Regional Environmental Change*); 8) adapting simulation models to make projections for the future of Canada's oceans under climate change and ocean acidification; 9) in collaboration with Mitac and the Vancouver Aquarium, reviewing the literature on the potential implications of marine pollutants to the health of coastal ecosystems and communities in Canada; 10) studying the Bella Bella herring fishery to determine its economic and social contributions to different groups, in particular, women; 11) initiating the establishment of a set of indicators to evaluate the social and economic contribution of Canada's oceans to the wellbeing of coastal communities; 12) continuing to work on the contributions of small scale vs. large scale fisheries in BC; 13) initiating a collaboration with the Department of Fisheries and Oceans (DFO) to contribute to the Arctic Monitoring and Assessment Program that assesses the socio-economic impacts of ocean acidification on the Canadian Arctic.



Law and Policy

Over the past year, the Law and Policy WG at Dalhousie focused on the Aquaculture and Fisheries Law and Governance components. In Aquaculture, a workshop and publications, both in cooperation with the K. G. Jebsen Centre for the Law of the Sea at the University of Tromsø, proceeded on or ahead of schedule. The Fisheries Law and Governance component held a workshop with representatives of other *OceanCanada* Working Groups as well as other partners, and work proceeded on initial publications. Further cooperation and cross-disciplinary contacts were pursued with the Canadian Fisheries Research Network (CFRN) and other OCP partners, which will be developed in an upcoming workshop to refine and plan research outputs. Contact was made with *OceanCanada* Working Groups on possible cooperative work, and this will be pursued in the first six months of Year 3. The Integrated Governance component had no outputs planned for this period (although related outputs were completed), but initial work suggested some possible challenges to its current structure, in particular in ensuring interest and full input from other WGs.

Knowledge Mobilization

During Year Two of OCP, the Knowledge Mobilization WG, based at the University of Manitoba, made substantial progress in integrating community-based research, multi-media deliverables, public outreach, and cross partnership organizing and communications. It operates at the local, regional and national levels and has active partnerships with various working groups, universities, non-governmental organizations, and funding agencies. Year Two activities included: 1) a 30-minute version of the British Columbia climate change documentary, based on over 50 interviews with residents, scientists, policymakers, government officials and business leaders; 2) fieldwork and film documentation by Hillary Beattie, University of Manitoba Master's student, for her thesis entitled *Socio-Ecological Systems, Cultural Revitalization and Traditional Ecological Knowledge in Heiltsuk Territory: A Case Study of Tribal Canoe Journeys*; 3) community engagement in the Pacific region using multi-media tools. Similar work is planned for other regions in upcoming years, and regional videos will be weaved together into a larger, national-scale OCP documentary that will be a core product of OCP knowledge mobilization activities. In the fall of 2015, the WG began a scoping phase in the Arctic to explore opportunities for collaboration and research with communities in Nunavut.

In addition to these activities, in October 2015 Matt Carreau joined the WG to assist with *OceanCanada* communication, outreach and coordination. He has enhanced OCP's website, social media presence, and coordinated newsletters, conferences and other core OCP-related activities.



Arctic

Arctic WG researchers are at Carleton and McMaster universities. Research topics at Carleton are increasing partnerships for atlas expansion and development of a secondary data strategy for a metadata-base design. The WG is also involved in developing best practices for organizing ethics for research practices. The objectives are to have one or more studies exploring partnership building in the context of building an Arctic Ocean Atlas by expanding the existing SIKU Atlas and other projects of the Geomatics and Cartographic Research Centre (GCRC), and to develop a metadata-base design to be prepared as a model for OCP as a whole. At McMaster, with the engagement of a doctoral student in health policy, the WG has advanced discussion of community-level case studies, and participated in cross-working group activities. Outputs include presentations, journal articles, and development of guidelines for conducting ethical research as well as a metadata-base design framework. The WG is facilitating access to resources used in current and previous community engaged work for the benefit of the *OceanCanada* partnership.

Pacific

The Pacific WG, based at the University of Victoria, continued to support graduate student projects that involve local communities and industry stakeholders in conducting policy-relevant research investigating human well-being in the face of social-ecological change in Pacific coastal communities. The WG provided research funds to students through two calls for proposals. One of the funded projects resulted in two graduate students hosting a workshop in November 2015 on adaptive capacity which will lead to a publication relevant to the broader *OceanCanada* partnership. In addition, members of the Pacific WG presented at various conferences and had numerous publications related to OCP objectives.

Atlantic

The Atlantic WG operates out of the University of Waterloo and Saint Mary's University. It is continuing to foster applied research to help government agencies, communities, and other partners manage the increasing change and uncertainty associated with ocean and coastal systems (ecological, social and institutional). It is progressing on several fronts: 1) addressing key knowledge gaps about social-ecological change in ocean and coastal systems, and the implications for the wellbeing and resilience of coastal communities in the Atlantic region; 2) contributing methodologically innovative strategies for ocean and coastal planning; and 3) developing insights to support more adaptive policy and governance for issues of regional concern. Key areas of progress are in the areas of graduate student research projects, formalized arrangements with new partners, engagement in new initiatives related to core OCP themes, on-going development of previously identified initiatives, and recruitment of a post-doctoral fellow to support aspects of its research plan.



2015/2016 OCEAN CANADA RESEARCH COMMITTEE

Dr. U. Rashid Sumaila

Project Director and

National Data and Integrated Scenarios Working Group Co-Lead



Dr. Sumaila is Professor with a joint appointment at the Institute for the Oceans and Fisheries and the Liu Institute for Global Issues, and Director of the Fisheries Economics Research Unit (FERU) at the University of British Columbia. He specializes in bioeconomics, marine ecosystem valuation and the analysis of global issues such as fisheries subsidies, IUU (illegal, unreported and unregulated) fishing, and the economics of high and deep seas fisheries. Dr. Sumaila has experience working in fisheries and natural resource projects in Canada and the North Atlantic region, Norway, Namibia and the Southern African region, Ghana and the West African region,

and Hong Kong and the South China Sea. He has authored over 180 journal articles, including in the *International Journal of Science and Nature*. Dr. Sumaila is the winner of the 2013 American Fisheries Society Award for Excellence in Public Outreach, the Stanford Leopold Leadership Fellowship and the Pew Marine Fellowship. He has given talks at the UN Rio+20, the WTO, the White House, the Canadian Parliament and the British House of Lords. His research has generated a great deal of interest, and has been cited by, among others, *The Economist*, *The Boston Globe*, *International Herald Tribune*, *The Globe and Mail*, *The Wall Street Journal* and *Vancouver Sun*.

Dr. William Cheung, National Data and Integrated Scenarios Working Group Co-Lead

Dr. Cheung is Associate Professor at the UBC Institute for the Oceans and Fisheries, head of the Changing Ocean Research Unit (CORU) and co-Director of the Nippon Foundation-UBC Nereus Program. He has published more than 100 articles on the vulnerability and responses of marine ecosystems and fisheries to climate change, fishing and other human stressors, and studies the scope, options and effectiveness for mitigation and adaptation to these impacts. Specifically, he develops empirical and numerical simulation models to examine the impacts of climate change on marine biodiversity and fisheries, globally and in various regional seas. Dr. Cheung's research group hosts a large quantity of data on gridded observed (past and current) and projected (future) ocean environmental, biodiversity and fisheries data particularly in the context of global change studies.





Phillip Saunders, Law and Policy Working Group Co-Lead



Dalhousie University Schulich School of Law Associate Professor Phillip M. Saunders, Q.C., is cross-appointed to the School for Resource and Environmental Studies and is a Research Fellow at the Centre for Foreign Policy Studies. He is a Member of the Nova Scotia Bar. His teaching and research interests are in international marine and environmental law, maritime boundary delimitation, tort law, judicial remedies and international fisheries law. Professor Saunders was formerly with the International Centre for Ocean Development as Senior Policy Advisor and as Field Representative, South Pacific. He was Dean of Law at Dalhousie from 2005 to 2010.

Dr. David VanderZwaag, Law and Policy Working Group Co-Lead

Dr. VanderZwaag is Professor of Law and holds the Canada Research Chair (Tier 1) in Ocean Law and Governance at the Marine and Environmental Law Institute, Dalhousie University. He teaches international environmental law and is past Co-director of Dalhousie's interdisciplinary Marine Affairs Program (1986-1991). He serves as Associate Director of the Marine and Environmental Law Institute. He is currently a member of the IUCN's World Commission on Environmental Law (WCEL) and Co-chair of the WCEL's Specialist Group on Oceans, Coasts and Coral Reefs. He is a co-founder of the Australian-Canadian Oceans Research Network (ACORN) and has extensive research and lecturing experience in South and Southeast Asia, the South Pacific, Europe, and the Caribbean. He is an elected member of the International Council of Environmental Law, and serves on the editorial boards of various journals including *Ocean and Coastal Management*, *Marine Policy*, *Ocean Yearbook* and the *Yearbook of Polar Law*. Dr. VanderZwaag has authored over 150 papers in the marine and environmental law field. His most recent book publications are: *Routledge Handbook of National and Regional Ocean Policies* (edited with B. Cicin-Sain and M. Balgos; Routledge, 2015); *Polar Oceans Governance in an Era of Environmental Change* (edited with T. Stephens; Edward Elgar, 2014); *Recasting Transboundary Fisheries Management Arrangements in Light of Sustainability Principles: Canadian and International Perspectives* (edited with D. A. Russell; Martinus Nijhoff, 2010); *Towards Principled Oceans Governance: Australian and Canadian Approaches and Challenges* (edited with D.R. Rothwell; Routledge, 2006); and *Aquaculture Law and Policy: Towards Principled Access and Operations* (edited with G. Chao; Routledge, 2006). His educational background includes PhD (1994, University of Wales, Cardiff), LL.M. (1982, Dalhousie Law School), J.D. (1980, University of Arkansas Law School), M.Div. (1974, Princeton Theological Seminary), and B.A. (1971, Calvin College).





Dr. Ian Mauro, Knowledge Mobilization Working Group Co-Lead

Dr. Mauro is Associate Professor in the Department of Geography at the University of Winnipeg. He is a community-based researcher and filmmaker and has pioneered the



development of multi-media methodologies for the social sciences. He uses participatory video to collect, communicate and conserve local and indigenous knowledge, an approach that allows people who live on the land to tell their own stories, in their own language, and within the landscapes where their knowledge has been generated.

Eric Solomon, Knowledge Mobilization Working Group Co-Lead

Eric Solomon has more than 15 years of experience working in the field of science and environmental education and communication with museums, science centres and public aquariums in the U.S. and Canada. He has dedicated much of his career toward improving communication of complex science and environmental issues to public audiences. After serving nearly five years as the Vancouver Aquarium's Vice President of Conservation, Research and Education, his focus is now on development and implementation of integrated approaches to advancing the aquarium's mission and strategic priorities. One significant priority is creating greater public awareness of, and engagement in, the important issues facing Canada's north. Mr. Solomon holds a Bachelor's in Psychology, a Master's degree in Marine Ecology, and has done advanced graduate studies in Science Education.





Dr. Nancy Doubleday, Arctic Working Group Co-Lead



Dr. Doubleday holds the Hope Chair in Peace and Health at McMaster University. As well as having expertise in ecological sciences, she holds an LLB from Osgoode Hall, was called to the Bar of Ontario in 1982, and is a member of the Law Society of Canada. As a lawyer she has contributed to development of international and domestic law embracing human rights, health and the environment. Her experience includes: early work to establish conservation easements, environmental impact assessment, and development of co-management under comprehensive claims; amending the Canadian Constitution; contributing to the establishment of the Northern Contaminants Program; linking Inuit interests with the international Arctic Monitoring and Assessment Program; and participating in the

University Consortium in Support of the Secretariat for the Convention on Biodiversity. She also participated in the Working Group on Indigenous People(s) held in Geneva, the Conferences of the Parties to the International Union for the Conservation of Nature and Natural Resources in Costa Rica and Ottawa, the International Whaling Commission in New Zealand and the USA, the Finnish Initiative leading to the signing of the Arctic Environmental Protection Strategy, and the Arctic Council. She works at the interface of human rights and social justice, resilience and health to develop new syntheses and strategies for realizing peace and health, good governance and knowledge integration. She completed a major International Polar Year research project addressing human experience of impacts of a changing tree line to better understand change and adaptive capacity in social-cultural-ecological systems and currently chairs the Cold Region Environments Commission of the International Geographical Union.

Dr. D. R. Fraser Taylor, Arctic Working Group Co-Lead

Currently Dr. Taylor is Chancellor's Distinguished Research Professor of International Affairs, Geography and Environmental Studies and Director of the Geomatics and Cartographic Research Centre (GCRC) at Carleton University in Ottawa. He is a Fellow of the Royal Society of Canada. In 2013 he was awarded the Carl Mannerfelt Gold Medal by the International Cartographic Association and in 2014 he was the recipient of the Killam Prize in the Social Sciences. Dr. Taylor's main research interests are in the application of geospatial information management to the analysis of key socio-economic problems in national and international contexts and the presentation of results in innovative new cartographic forms. A member of the United Nations Expert Group on Global Geospatial Information Management, he introduced and continues to develop the new paradigm of cybercartography. His research interests in cartography and international development issues are often inter-related, and include: development studies with special reference to Africa, China and Latin America; regional and rural development theory and practice; sustainable development and indigenous development strategies; technology transfer in the field of geomatics; Canada's international policies in Official Development Assistance (ODA); and technology transfer. Current research includes the use of cybercartography to create a series of atlases with Inuit communities and organizations such as the Inuit Siku (sea ice) Atlas and the Nunavut Coastal Research Inventory Atlas.





Dr. Natalie Ban, Pacific Working Group Co-Lead

Dr. Ban is Assistant Professor in the School of Environmental Studies at the University of Victoria where she leads the Marine Ethnoecology Research group. Trained in geography (B.A. and M.A. in geography from McGill University), resource management and environmental studies (PhD from UBC Fisheries Centre), Dr. Ban draws upon many disciplines from natural and social sciences in her work. Through funding from both SSHRC and NSERC, as well as other granting agencies, her research interests span ethnoecology, conservation biology, marine spatial planning, conservation planning and implementation, and evaluation and mapping of cumulative impacts, mainly in marine and coastal systems. With over 50 peer-reviewed journal publications, Dr. Ban's current research focuses on identifying options for management and conservation of biodiversity whilst respecting people's needs and uses of resources. She also serves as a member of the science advisory committee of the Marine Planning Partnership, the research management committee of the Marine Environmental Observation, Prediction and Response (MEOPAR) Network, is an associate director of the Canadian Council on Ecological Areas (CCEA), and a member of Canadian Healthy Oceans Network (CHONe) II.



Dr. Nathan Bennett, Pacific Working Group Co-Lead

Dr. Bennett is currently cross-appointed as a Banting Postdoctoral Fellow at the University of Washington and a Liber Ero Postdoctoral Fellow at the University of British Columbia. As a broadly trained environmental social scientist, he chooses to primarily focus on research projects that interrogate various aspects of the complex relationship between the environment and human society with a solution-oriented lens. His research interests are broad – with projects focusing on such topics as marine protected area governance in Mexico, responses of fishing communities to environmental change in Thailand, indigenous community perspectives on conservation in Canada, marine conservation planning initiatives in North America, and the human dimensions of large-scale marine protected areas. He was a SSHRC Postdoctoral Fellow at UBC with Dr. Terre



Satterfield and Dr. Kai Chan. For his doctoral research, supported by a Trudeau Scholarship and a SSHRC Joseph Armand Bombardier Canada Graduate Scholar Award, he worked with Dr. Phil Dearden as part of Project IMPAACT and the Marine Protected Areas Research Group at the University of Victoria. His dissertation focused on various aspects of the relationship between marine protected areas, climate change, and local livelihoods on the Andaman coast of Thailand. His Master's research with Dr. Harvey Lemelin at Lakehead University focused on the role of a Canadian national park in the social, cultural, political, and economic development of the Lutsel K'e Dene First Nation in the Northwest Territories, Canada. He was given the Canadian Association of Geographers Robin P. Armstrong Award for his thesis.



Dr. Derek Armitage, Atlantic Working Group Lead

Dr. Armitage is Associate Professor in the School of Environment, Resources and Sustainability at the University of Waterloo, where he leads the Environmental Change and Governance Group. His research focuses on the human dimensions of environmental change and the formation of adaptive, multi-level governance systems. The problem of 'fit' is a central interest – how governance systems and institutions can better match the dynamics of biophysical systems, with a primary focus on coastal and ocean contexts. His publications have appeared in such journals as *Frontiers in Ecology and the Environment*, *Global Environmental Change*, *Ecology and Society*, and *International Journal of the Commons*. He is co-editor (with Fikret Berkes and Nancy Doubleday) of *Adaptive Co-Management: Collaboration, Learning and Multi-Level Governance* (UBC Press, 2007) and co-editor (with Ryan Plummer) of a volume on the relationship between adaptive capacity and environmental governance (Springer-Verlag, 2010). He has served as a consultant on a variety of projects for government agencies in Canada (Environment Canada, Fisheries and Oceans Canada, Ontario Ministry of Natural Resources, Alberta Environment), the Global Environmental Facility (World Bank), Asian Development Bank and Inter-American Development Bank. He is a Senior Fellow, Earth Systems Governance project, Adjunct Professor – Natural Resources Institute (University of Manitoba), and past Working Group Leader – Oceans Management Research Network (Canada). He serves as an editor for *Conservation Letters* and *Ecology and Society*.





ADVISORY BOARD, MANAGEMENT COMMITTEE, AND RESEARCH COMMITTEE

The *OceanCanada* Advisory Board provides independent intellectual advice and support to OCP. The Board works at arm's length from the project and monitors its overall progress in relation to established milestones and timelines. It also provides guidance on ways to strengthen and sustain the partnership – by helping to attract new funding, recruit new partners and stakeholders, improve knowledge mobilization and extend and internationalize research. The Board consists of senior scholars as well as community and national leaders with expertise across OCP's areas of intellectual inquiry.

Advisory Board Members:

Rosemary Ommer (Chair), University of Victoria

Fikret Berkes, University of Manitoba

Herb Dhaliwal, Former Minister of Department of Fisheries and Oceans (DFO)

Christopher Harvey, MacKenzie Fujisawa LLP

Russ Jones, Haida Nation

Gordon Munro, University of British Columbia

OceanCanada's organizational structure also includes a Management Committee, comprised of the Project Director Dr. Rashid Sumaila, two Working Group leaders (currently Dr. Nancy Doubleday and Dr. David VanderZwaag), Gordon Munro, and the Chair of the Advisory Board (ex officio). It meets monthly by teleconference, or as required, and monitors research progress, addresses challenges, plans collaborative initiatives and team meetings, and reviews budgets.

The *OceanCanada* Research Committee includes the Project Director and all Working Group leaders and co-leads (see descriptions above). It meets every two months via teleconference and provides the overall intellectual vision for our work as well as guidance on training and skills development of students, research assistants, and postdoctoral fellows.

Together, these three governance entities provide direction to Working Groups to ensure a consistent approach is taken to research, training, mentorship, and engagement and public outreach within all project activities.



OCEANCANADA PARTNERS AND COLLABORATORS

***OceanCanada* research is undertaken in partnership with a large number of universities, organizations and faculty members from across Canada.**

***OceanCanada* Partners**

**ARCTICConnexion
Canadian Rivers Institute
Carleton University
Dalhousie University
Ecotrust Canada
Fisheries and Oceans Canada
Friends of Port Mouton Bay
Living Oceans Society
McMaster University
Oceana Canada
Saint Mary's University
Simon Fraser University
University of British Columbia
University of Victoria
University of Waterloo
University of Winnipeg
Vancouver Aquarium Marine Science
Centre
World Wildlife Fund Canada**

***OceanCanada* Collaborators**

**Claudio F. Aporta, Dalhousie University
Fikret Berkes, University of Manitoba
Kai Chan, University of British Columbia
Ratana Chuenpagdee, Memorial University
of Newfoundland
Kevern Cochrane, Rhodes University
Herb Dhaliwal, Parliament of Canada
Robyn Forrest, Fisheries and Oceans
Canada
Sumeet Gulati, University of British
Columbia
Christopher Harvey, MacKenzie Fujisawa
LLP
Jeffrey Hutchings, Dalhousie University
Russ Jones, Council of the Haida Nation
Coleen Moloney, University of Cape Town
Gordon Munro, University of British
Columbia
Grant D. Murray, Vancouver Island
University
Rosemary E. Ommer, University of Victoria
Yoshitaka Ota, University of British
Columbia
Ian Perry, Fisheries and Oceans Canada
Robert Stephenson, Fisheries and Oceans
Canada
Trevor Swerdfager, Fisheries and Oceans
Canada
Duncan Wilson, Port Metro Vancouver**



SUMMARY OF OCEANCANADA ACTIVITIES 2015/2016

OCEANCANADA CORE AND RELATED PUBLICATIONS (OCP members highlighted)

check for accuracy and take out doi unless no other ref

Core publications:

Bailey M, Favaro B, Otto SP, Charles A, Devillers R, Metaxas A, Tyedmers P, Ban NC, Mason T, Hoover C, Duck TJ, Fanning L, Milley C, Cisneros-Montemayor AM, Pauly D, Cheung WWL, Cullis-Suzuki S, Teh L, Sumaila UR. 2016. Canada at a crossroad: the imperative for realigning ocean policy with ocean science. *Marine Policy*. 63:53-60.
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PRESENTATIONS

2016

Armitage D. 2016. Human dimensions of environmental change and governance in coastal social-ecological systems. Paper presented at: Ocean Modeling Forum. Herring Working Group; Seattle, WA.

Cisneros-Montemayor AM. 2016. Paper presented at: DFO State of the Pacific Ocean Meeting.

Sumaila UR. 2016. Economics of large scale MPAs. Paper presented at: Human Dimensions of LSMPAs Think Tank; Honolulu, HI.

Sumaila UR. 2016. MPA financing: why invest in MPAs. Paper presented at: 10X20 Initiative Conference on MPAs; Rome, Italy.

Sumaila UR. 2016. Scientific consensus on MPA financing. Paper presented at: 10X20 Initiative Conference on MPAs; Rome, Italy.

Sumaila UR. 2016. The sustainability of the global ocean. Paper presented at: Vancouver Aquarium Public Lecture; Vancouver, BC.

VanderZwaag, D. 2016. Marine species on the move in the northwest Atlantic: sea of governance challenges. Species on the Move Conference, Institute for Marine and Antarctic Studies (IMAS) and University of Tasmania, Hobart, Australia.

2015

Armitage D. 2015. Governance, institutions and adaptive capacity. Paper presented at: *OceanCanada* Pacific Working Group Adaptive Capacity Workshop; Vancouver, BC.

Cheung WWL. 2015. Impacts of global change on upwelling ecosystems and fisheries. Paper presented at: IMBIZO IV Marine and Human Systems: Addressing Multiple Scales and Multiple Stressors; Trieste, Italy.

Cheung WWL. 2015. Oceans systems under climate change. Paper presented at: ICES-PICES Workshop: Strategic Initiative on Climate Change Impacts on Marine Ecosystems; Seattle, WA.

Cheung WWL. 2015. Paper presented at: ICES-PICES Conference, Third International Symposium on the Effects of Climate Change on the World's Oceans; Santos, Brazil.

Cheung WWL. 2015. Paper presented at: Symposium on Management of Marine Ecosystems under Climate Change; Tokyo, Japan.

Cheung WWL. 2015. Responses of marine ecosystems to climate change and ocean acidification. Paper presented at: Our Common Future under Climate Change; Paris, France.



Chuenpagdee R. 2015. Governability challenge of small-scale fisheries. Paper presented at: University of Waterloo; Waterloo, ON.

Doubleday NC. 2015. Coastal-grab. Paper presented at: Community Conservation Research Network; Tofino, BC.

Hayes A. 2015. Community mapping using nunaliit. Paper presented at: Community Mapping Symposium. Concordia University; Montreal, QC.

Hayes A. 2015. Developing atlases for community priorities. Paper presented at: National Museum of Denmark; Copenhagen, Denmark.

Hayes A. 2015. Indigenous place names mapping using nunaliit. Paper presented at: Geographical Names Board of Canada; Ottawa, ON.

Hayes A. 2015. Using nunaliit for diverse and distributed knowledge management. Paper presented at: International Polar Data Forum II. University of Waterloo; Waterloo, ON.

Milko H. 2015. Keeping the next generation on the water: opportunities and barriers to continuing Aboriginal engagement with the ocean in northern British Columbia. Paper presented at: International Association for the Study of the Commons Conference; Edmonton, AB.

Milko H. 2015. Moving beyond 'observe, record, report'? Aboriginal resource guardian programs as an alternative model of marine governance. Paper presented at: Canadian Association of Geographers Annual General Meeting; Vancouver, BC.

Olmstead P. 2015. Enhancing stewardship through monetary mechanisms? A new approach for conservation finance. Paper presented at: Canadian and US Societies for Ecological Economics; Vancouver, BC.

Saunders, P. 2015. Climate change and the international law of fisheries: continuity and adaptation in legal structures. Paper presented at: Korean Maritime Institute Global Ocean Regime Conference; Jeju, Korea.

Saunders, P. 2015. Governance of aquaculture in Canada: regulation property rights and constitutional impediments. Paper presented at: Special Session on Aquaculture Law and Policy. International Conference on Aquaculture and Fisheries; Brisbane, Australia.

Saunders, P. 2015. Management of highly migratory species: coherence, chaos and creative conflict. Paper presented at: Canadian Council on International Law; Ottawa, ON.

Saunders, P. 2015. Renewable energy projects and spatial tenure in the offshore. Paper presented at: European Centre of Excellence.



Sumaila UR. 2015. Benefits of managing ocean living resources sustainably. Paper presented at: Our Oceans Conference; Valparaiso, Chile.

Sumaila UR. 2015. Challenging the 'right to fish': closing the high seas to fishing. Paper presented at: VSB Global Sustainability Class, Prince of Wales Mini Secondary; Vancouver, BC.

Sumaila UR. 2015. Connecting ocean science and policy @ the regional level. Paper presented at: Pew Marine Fellows Meeting; San Juan, Puerto Rico.

Sumaila UR. 2015. Conservation economics: close the high seas to boost global catch, equality. Paper presented at: Global Ocean Legacy; San Juan, Puerto Rico.

Sumaila UR. 2015. Conservation economics: close the high seas to boost global catch, equality. Paper presented at: Fisheries Centre Research Seminar; Vancouver, BC.

Sumaila UR. 2015. Diminishing fish stocks diminishing fortunes from the SCS. Talk presented to: Royal Geographical Society of Hong Kong; Hong Kong.

Sumaila UR. 2015. E15 policy options on oceans and fisheries. Paper presented at: Trade and Development Symposium, WTO Ministerial Meeting; Nairobi, Kenya.

Sumaila UR. 2015. The economics of high seas fisheries: what do we know and what do we need to know? Paper presented at: High Sea Symposium; Oxford, UK.

Sumaila UR. 2015. Fisheries subsidies provisions in Environment Chapter of the Trans-Pacific Partnership Agreement. Talk presented at: Congressional briefing; Washington D.C.

Sumaila UR. 2015. Global biodiversity outlook: *OceanCanada* Partnership marine scenario analysis. Paper presented at: UNESCO-IPBES Scenarios Workshop; Tokyo, Japan.

Sumaila UR. 2015. Large-scale interdisciplinary collaborative research: examples from the 'ocean trenches.' Seminar presented at: Liu Institute for Global Issues; Vancouver, BC.

Sumaila UR. 2015. Paper presented at: Boom or Bust: The Future of Fish in the South China Sea (press conference); Hong Kong.

Sumaila UR. 2015. The quest for ocean sustainability: a new role for the high seas? Paper presented at: AAAS Annual Meeting; San Jose, CA.

Sumaila UR. 2015. Social license and marine biodiversity. Paper presented at: 2015 Royal Society of Canada Symposium; Victoria, B.C.

Sumaila UR. 2015. Socioeconomic benefits of LME valuation in context of climate change. Paper presented at: PIRATA-PREFACE-CLIVAR Tropical Atlantic Variability Conference; Cape Town, South Africa.



Sumaila UR. 2015. Stop diminishing fish stocks to improve fortunes from Asia's waters. Seminar presented at: Credit Suisse; Hong Kong.

Sumaila UR. 2015. A story about community based ocean research. Paper presented at: UBC CBR Telling Stories Series, Museum of Anthropology; Vancouver, BC.

Sumaila UR. 2015. Subsidies, sustainability and inequality among fishers. Talk presented to: Board of Directors of Oceana; Valparaiso, Chile.

Sumaila UR. 2015. Subsidies weaken the sustainability of global fisheries while increasing inequality among fishers. Paper presented at: UNCTAD and ComSec AHM Meeting on Trade in Sustainable Fisheries; Geneva, Switzerland.

Sumaila UR. 2015. Why value the socioeconomic benefits of large marine ecosystem? Seminar presented at: UFRN; Natal, Brazil.

Taylor DRF. 2015. Cybercartography and traditional Inuit knowledge: some legal and ethical issues. Paper presented at: National Museum of Denmark; Copenhagen, Denmark.

Taylor DRF. 2015. Data rescue and preservation. Paper presented at: International Polar Data Forum II. University of Waterloo; Waterloo, ON.

Taylor DRF. 2015. Legal and ethical norms for incorporating traditional knowledge in polar data infrastructures. Paper presented at: International Polar Data Forum II. University of Waterloo; Waterloo, ON. (With T. Scassa)

Taylor DRF. 2015. Pan-Arctic options. Paper presented at: Holistic Integration for Arctic Coastal-Marine Sustainability. Belmont Forum; Ottawa, ON.

Taylor DRF. 2015. The trans-Atlantic platform for the social sciences and humanities. Paper presented at: National Museum of Denmark; Copenhagen, Denmark.

Teh L, Witter A. 2015. Taking stock report summary. Paper presented at: OceanAsia Expert workshop; Hong Kong.

VanderZwaag, D. 2015. Canadian ocean law and policy: leading, lagging, losing. Paper presented at: Royal Society of Canada Symposium, Canadian Marine Biodiversity: Resources, Opportunities, Responsibilities, Victoria, BC.

VanderZwaag D. 2015. Towards sustainable aquaculture: navigating international law and policy currents. Paper presented at: International Workshop on Aquaculture Law and Policy. KG Jebsen Centre for the Law of the Sea. Fridtjof Nansen Institute; Oslo, Norway. Also presented at: Special Session on Aquaculture Law and Policy. International Conference on Aquaculture and Fisheries; Brisbane, Australia.



WORKSHOPS AND MEETINGS

Monthly NDIS Working Group Meetings 2015-2016.

OCP Members Meeting in conjunction with ArcticNet Meeting. Vancouver, BC, December 7-11, 2015.

Workshop on adaptive capacity of coastal communities organized by Nathan Bennett and Charlotte Whitney, UBC. Vancouver, BC, November 19-20, 2015.

Four workshops conducted by Eric Solomon (KM-WG) geared to identifying priority environmental issues of concern to local communities. Kugluktuk, Gjoa Haven, Cambridge Bay and Pond Inlet, NU, Fall 2015.

Cross-WG Meeting: Atlantic, Arctic and Pacific Working Groups. Tofino, BC, July 2015.

Atlantic Working Group Meeting. Port Mouton, NS, July 2015.

Law and Policy Workshop, Marine and Environmental Institute, Dalhousie University. Halifax, NS, July 2015.

Meeting of OCP members from the Atlantic, Arctic and Pacific Working Groups in conjunction with Community Conservation Research Network meeting. Tofino, BC, June 2015.

Author's workshop for Aquaculture Law in Comparative Perspective. Halifax, NS, April 2015.



MEDIA COVERAGE

2016

- March 28 [How to Save Fisheries and Save Jobs Too](#). Take Part.
- March 14 [Inuvialuit ask feds for regional environment assessment of Beaufort Sea](#). CBC News.
- February 29 [Canada in 2050 could face climate extremes at current emissions levels](#). Vancouver Metro.
- February 29 [With climate change, amended Fisheries Code no guarantee for ample seafood supply: academics](#). InterAksyon.
- February 28 [Canada in 2050: land of climate-change extremes at current emissions levels](#). The Province.
- January 20 [Oceans are running out of fish – much faster than we thought](#). ZME Science.
- January 14 [Global warming could decrease B.C. First Nations' fish catch by half](#). Global News.
- January 14 [Global warming could decrease B.C. First Nations' fish catch by half](#). KUOW.org
- January 14 [Climate change could cut First Nations fisheries' catch in half](#). Vancouver Observer.
- January 13 [Scientists say climate change is threatening the lifeblood of Canada's native people](#). CTV News.
- January 13 [Scientists say climate change is threatening the lifeblood of Canada's native people](#). Washington Post.

2015

- November 26 [Consequences of Overfishing in the South China Sea](#). Bangkok Post.
- November 13 [Oceans and climate: Moveable feast](#). Science.
- November 13 [Disappearing fish stocks are a warning we need action to head off crisis in South China Sea](#). South China Morning Post.
- November 13 [HK's marine conservation efforts thwarted by politics, consumers save the day](#). Harbour Times
- November 6 [Study Shows Popular Fish Consumed in Hong Kong under Serious Threat](#). Retail News Asia.
- November 6 [Seafood for tomorrow](#). China Daily USA.
- November 6 [South China Sea fish stocks threatened](#). BBC News.
- November 4 [Study warns some South China Sea species 'close to extinction'](#). Undercurrent News.
- November 3 [Some South China Sea Fish Close to Extinction](#). Manila Times.
- November 3 [South China Sea Dispute: Fish Are On Brink of Extinction Due To Conflict Experts Say](#). International Business Times.
- October 26 [Ocean scientists call on Liberals to restore Fisheries Act, unmuzzle researchers](#). CBC.



- October 25 [Coastal community component of ocean research gets underway in Port Mouton](#). Nova News Now.
- October 18 [The race to fish: how fishing subsidies are emptying our oceans](#). The Conversation.
- October 16 [Les océans mis à mal durant l'ère Harper, selon des scientifiques](#). Radio-Canada.
- October 16 [Canada's ocean policy rapped](#). The Chronicle Herald.
- August 28 [Ocean blob brings tropical fish to B.C. coast](#).
- August 22 [Canada absent on climate change](#). Vancouver Sun.
- August 12 [Temporary ban on fishing reflects how fragile Arctic ecosystem is](#). The Conversation.
- August 3 Interview with Early Edition. CBC.
- <http://oceancanada.org/wp-content/uploads/2015/07/CBC-Radio-interview-Rashid.mp3>
- July 7 [Fish will have to find new habitats or perish if global warming is left unchecked](#). UBC Public Affairs.
- July 6 [B.C. seafood prices projected to increase](#). Vancouver Sun.
- June 18 [Beaufort's Sea's fish population at risk due to acidification](#). CBC.
- June 12 [Migrating whales bring tourists](#). NPR.
- June 4 [On World Oceans Day let's learn to treat the seas better](#). David Suzuki Foundation.
- April 15 [Crab and prawn fishing banned in Burrard Inlet in wake of fuel spill](#). The Globe and Mail.
- April 13 [Spill could tarnish Vancouver green brand](#). Vancouver Sun.
- April 13 [Canada's economy needs more diversification](#). Vancouver Observer.
- April 11 [Oil spill response in English Bay falls short of 'world class'](#). Vancouver Sun.
- April 11 [Summer tourism could be impacted by oil spill](#). News1130.
- April 11 [Who will pay for massive cleanup?](#) News1130.
- April 10 [What effect will spill have on environment, wildlife, and economy?](#) Global TV.
- April 10 [Finger pointing begins after spills into English Bay](#). Vancouver Sun.
- April 10 [Vancouver Fuel Spill](#). The Tyee.
- April 9 [Crews work to contain oil spill](#). The Globe and Mail.
- April 9 [Oil spill shows increased tanker traffic could have dire consequences](#). News 1130.



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