



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.

2017/2018 PARTNERSHIP UPDATE

April 1, 2017 to March 31, 2018

***OceanCanada* is generously supported by a Social Sciences and Humanities Research Council (SSHRC) Partnership Grant**



Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada

Canada



INTRODUCTION AND BACKGROUND

This is the fourth annual update of the *OceanCanada* Partnership (OCP), a 6-year research project funded by the Social Sciences and Humanities Research Council (SSHRC) of Canada. *OceanCanada* is analyzing social, cultural, economic and environmental knowledge about the Arctic, Atlantic and Pacific. We are taking stock of current knowledge of Canada's coastal-ocean regions, including threats to and challenges and opportunities for effective stewardship of our oceans. We are building scenarios of possible futures for our coastal-ocean regions, and creating a national dialogue to build a shared vision for the future. We have six Working Groups (WGs): Atlantic, Arctic, Pacific, Knowledge Mobilization (KM), National Data and Integrated Scenarios (NDIS), and Law and Policy. The WGs are now linked by three Cross-Cutting Themes (CCTs): Access to Resources, Changing Oceans, and Governance. These foster communication between our members and address the overarching issue of ocean health and community well-being in all three regions. Currently we have 20 formal partners (initially 15); 106 members (initially 56), and our target of supporting 40 highly qualified personnel (HQP) by the end of the Partnership in 2020 has been surpassed by 10, for a total of 50.

The kinds of dialogues, discussions, debates, and research that we are undertaking would be impossible without the Partnership grant. Since 2014, we have produced 188 publications, 9 working papers, 6 policy briefs, and 8 reports related to our mandate. Our members have given 275 presentations and the KM WG has developed 12 films. We have been mentioned or have appeared 281 times in various popular media, and held several workshops and meetings. We have trained a significant number of HQP and early-career scholars whose research interests align with *OceanCanada*'s mandate. We initiated a public speaker series in 2017 and achieved awards for our research. Other key knowledge mobilization accomplishments include developing a new website and new *OceanCanada* atlas (both ongoing), using social media platforms (Facebook and Twitter), and instituting a DMP through the use of Dataverse at UBC, which are all designed to give *OceanCanada* a public presence. We have also begun developing an app, *Aquanomics*, to provide the public with greater access to information about Canada's oceans in specific regions.



OVERVIEW OF WORKING GROUP AND CROSS-CUTTING THEME ACTIVITIES FOR 2017/2018

National Working Groups

National Data and Integrated Scenarios

The National Data and Integrated Scenarios Working Group (NDIS) is continuing work on scenario development, *Canadian Oceans Scenarios and Pathway*, and held a workshop in January 2018 where members of all WGs and CCT leads attended to move this important component of *OceanCanada* work forward. The WG plans to have a first draft of a manuscript based on this work by late summer 2018. In collaboration with *OceanCanada* partner, Oceana-Canada, it is also continuing the study of the socio-economic implications of rebuilding Canada's overfished seafood stocks. NDIS held a workshop with various stakeholders, with a strong representation from First Nations representatives, where it identified depleted stocks to be studied from both the Atlantic and Pacific oceans. A third effort by NDIS is the ongoing work on a special issue of *Ecology and Society*. This work is a key example of a cross-cutting study on the ecological, economic, policy and legal implications of several of Canada's transboundary management arrangements in regards to changing oceans as sea surface temperatures rise. NDIS is also contributing to the ongoing Arctic Monitoring and Assessment Programme (AMAP) report with the contribution, "On Arctic multi-scale ocean acidification scenarios and projections." A first draft of a paper on the values derived from Canada's oceans has been completed and is being revised.

Law and Policy

Law and Policy activities have largely centred on conference presentations and continuing research and planning in preparation for nine articles for the project "Transboundary Fisheries Governance in an Era of Changing Oceans" (in cooperation with NDIS). In February 2018, Central hosted a workshop at UBC on the development of the special issue for this project. Two doctoral students have continued as HQP Research Assistants in the project, and they participated in a panel session, presenting project results to date, at the MARE Conference in Amsterdam in July 2017. In addition, one JD student was employed as a summer research assistant in support of this work and the Principled Fisheries Governance component in general.

Planning continued for an Oceans Law and Policy Conference to be held at George Washington Law School in May 2018. In collaboration with the Environmental Law Institute, Oceana, National Oceanic and Atmospheric Administration (NOAA) and the GW Law School, the conference will bring together leading law and policy experts and practitioners to address the challenges of managing offshore renewable energy and oil and gas developments, international fisheries conservation, marine mammal protection, deep seabed mining and the conservation of marine biodiversity beyond national jurisdiction.



Knowledge Mobilization

HQP Hillary Beattie worked with Bella Bella community members and KM WG co-lead Ian Mauro on a documentary film titled *Glwa: Resurgence of the Ocean-Going Canoe*, which the team premiered in Bella Bella and in Toronto at the largest Indigenous film festival in the world, the ImagineNative Film and Media Arts Festival. In the upcoming year, team members will submit two research articles to peer-reviewed journals, which will conclude this subproject. KM HQP Natalie Baird worked with the Pangnirtung Youth Centre and the Hamlet Office and filmmaker David Poisey in Pangnirtung to understand Inuit Qaujimajatuqangit (Inuit Traditional Knowledge) regarding oceans and climate change through video and art-making. The team is currently processing the video material, sorting and translating the interviews, and editing the footage into short films. HQP Vincent L'Hérault began work on a film involving the effects of climate change in the Magdalen Islands, interviewing fishermen, sealers, municipal officials, and various other stakeholders. This is the only French language research that has taken place as part of *OceanCanada*, making a critical contribution to the partnership and its intention to be a truly national initiative. Ian Mauro continued to work on the film *Beyond Climate*. The film was completed in early January 2018 and submitted to Hotdocs, North America's largest documentary film festival. Ian Mauro was invited to brief the SSHRC Executive about his video-based research program and linkages with knowledge mobilization. He has been working with their Communications Director to organize a SSHRC sponsored video and knowledge mobilization event at Congress 2018 that will, in part, feature *OceanCanada*-related research.

Regional Working Groups

Arctic

The Carleton University team's major contribution to the project was a new version of the Inuit Sea Ice (SIKU) Atlas. The Arctic WG has expanded the content of the Arctic Oceans Atlas to include two new components, an Inuit Place Names Atlas and a Nunavut Coastal Resource Inventory Atlas. Both of these are close to completion, with additional funding from the Government of Nunavut, the Kitikmeot Heritage Society, and the Slave River Coalition. The WG been cooperating with Oceans North Canada who are completing a hard copy Atlas of the Arctic Ocean which should be published in spring 2018. The WG has provided hard copy versions of some of their maps for publication in that atlas, and will be presenting both atlases at the *OceanCanada* 2018 Conference in Halifax. Several communities and organizations are providing community-based atlases to include as components of the Arctic Ocean Atlas. In September 2017 the WG brought them together in a three-day workshop to share experiences and explore possible new functionalities for Nunaliit.

At McMaster University, the WG has made major advances in partnership building within its community-level project in Chesterfield Inlet. HQP Sarah Newell, David Kattigatsiak of Chesterfield Inlet, and WG co-lead Nancy Doubleday submitted a SSHRC Partnership Engage application for this project. The WG at McMaster has focused its efforts on two priorities: 1) adding to the fine-grained analysis of community-level experience of practical needs for participation in ocean management; and 2) the



cultivation and training of HQP, achieved through field work in Chesterfield Inlet, and support of student research with the potential for contributing to *OceanCanada's* cross-cutting themes. Professor Chris Myrh, a communications specialist and digital artist, has joined the McMaster team.

Pacific

This past year, the Pacific WG has focused its efforts and funding on supporting the Access cross-cutting theme in two ways: by providing partial funding support for a postdoctoral fellowship for Nathan Bennett, and by supporting the workshop that the Access CCT held in Vancouver in June 2017; and research and a workshop co-hosted by Natalie Ban on the social impacts of MPAs. Progress also continues on small projects by WG members. A few examples include:

- A survey questionnaire, sampling plan, and data analysis plan on purchasing seafood in selected Canadian cities to measure consumer preferences related to certain seafood features. The main objective of the survey will be to contribute to assessing the market feasibility of developing and growing alternative seafood businesses in BC and elsewhere in Canada. (Allison Witter, HQP)
- Continued work on issues of access, community well-being, and fishermen and community viability. A key milestone was the convening of fisheries and community stakeholders on Pacific access issues. (Devlin Fernandes, Ecotrust)
- Understanding the effects of sea otter reestablishment on ecosystem service benefits derived by coastal communities on the west coast of Vancouver Island. (Edward Gregr, Adjunct, UBC)
- Continued coordination of the Local Environmental Observer (LEO) Network in Coastal British Columbia (leonetwork.org), which is enabling diverse knowledge holders to share observations of unusual environmental change. (Tom Okey, Adjunct, UVic)

Atlantic

The Atlantic WG 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). In doing so, 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 include HQP developing research projects, formalized arrangements with new partners, engagement in new initiatives related to core *OceanCanada* themes (e.g., taking stock, developing scenarios), on-going development of previously identified initiatives, and engagement with postdoctoral fellows to support aspects of the WG research plan. A significant component of activities over the past year has been to catalyse and implement initiatives to support the Governance cross-cutting theme, and provide support where possible to other cross-cutting theme activities.



CCT Activities – Access to Resources, Governance, and Changing Oceans

Our CCTs conducted the following activities throughout the year, as noted above in the descriptions of Working Group activities. To summarize:

- The Access CCT held a workshop in June 2017 which led to the publication of “Coastal and Indigenous community access to marine resources and the ocean: a policy imperative for Canada” in *Marine Policy*.
- NDIS held a workshop on Scenario Modelling with participants from across *OceanCanada’s* CCTs. A collaborative paper based on the workshop is currently being prepared which focuses on the process of developing multi-scale scenarios for changing Canadian oceans.
- NDIS and Law and Policy are collaborating on a special issue on transboundary governance in *Ecology and Society*.

PUBLIC EVENTS

In February 2017 (Year Three), we began a series of public events in conjunction with our partner, Ocean Wise Conservation Association. During the series, titled *Charting a Sustainable Course: Exploring Canada’s Fisheries*, four events were held: “History of Aboriginal, Recreational and Commercial Fisheries on the Northwest Coast and Implications for the Future” (February 7, 2017); “Current Issues and Future Projections for Local, Aboriginal, Recreational and Commercial Fisheries” (April 11, 2017); “How Climate Change and Pollution are Affecting our Oceans” (September 12, 2017); and “Making Sustainable Choices” (November 7, 2017). This series was so successful that we will continue having these types of events till the end of the Partnership. For 2018, we are planning to have events involving different partners. The first event, “Conserving Our Shorelines: Creating Solutions Through Collaboration, is being planned for April 17 with our partner World Wildlife Fund-Canada. We hope to have three additional events over Year 5, and continue the series in Year 6.



2017/2018 OCEANCANADA RESEARCH COMMITTEE

Dr. U. Rashid Sumaila, Project Director and National Data and Integrated Scenarios Working Group Co-Lead



Dr. Sumaila is Professor and Director, Fisheries Economics Research Unit and the *OceanCanada* Partnership at the University of British Columbia. He specializes in bioeconomics, marine ecosystem valuation and the analysis of global issues such as fisheries subsidies, illegal fishing, climate change and oil spills. Sumaila has authored over 215 journal articles, including in *Science*, *Nature* and the *Journal of Environmental Economics and Management*. He is winner of the 2017 Benchley Oceans Award in Science, the 2016 UBC Killam Research Prize, the 2013 American Fisheries Society Excellence in Public Outreach Award, the 2009 Stanford Leopold Leadership Fellowship and the 2008 Pew Marine Fellowship. Sumaila was named a Hokkaido

University Ambassador in 2016. He has given talks at the UN Rio+20, the WTO, the White House, the Canadian Parliament, the African Union, the British House of Lords and the St. James Palace on the invitation of Prince Charles. His research has generated a great deal of interest, and has been cited by, among others, *The Economist*, *The Boston Globe*, *New York Times*, *The Globe and Mail*, *The Wall Street Journal* and *Vancouver Sun*.

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

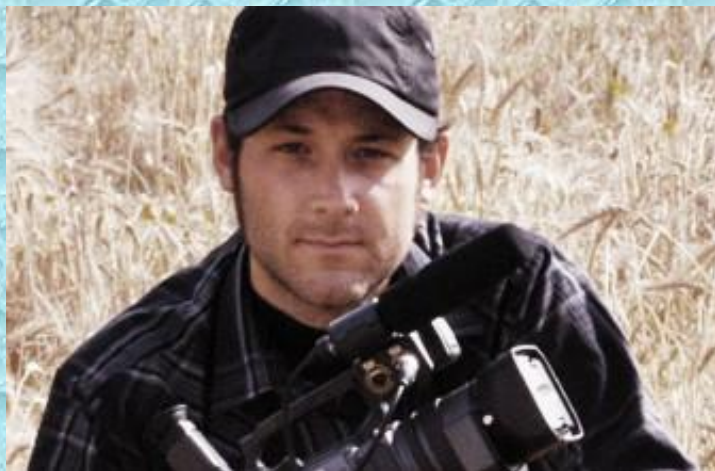


Dr. VanderZwaag is Professor of Law and Canada Research Chair in Ocean Law and Governance at the Marine & Environmental Law Institute, Schulich School of Law, Dalhousie University. He teaches international environmental law and serves as Associate Director of the Marine & Environmental Law Institute. He is past Co-director of Dalhousie's interdisciplinary Marine Affairs Program (1986-1991).

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). He is a member of the International Council of Environmental Law as well as the IUCN World Commission on Environmental Law (WCEL). From 2004-2018, he co-chaired 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 serves on the editorial boards of various journals including *Ocean and Coastal Management*, *Marine Policy*, *Ocean Yearbook* and the *Yearbook of Polar Law*. Author of over 150 papers in the marine and environmental law field, his most recent co-edited book publications are *Aquaculture Law and Policy: Global, Regional and National Perspectives* (Cheltenham, UK: Edward Elgar, 2016), *Routledge Handbook of National and Regional Ocean Policies* (London & New York: Routledge, 2015), *Polar Oceans Governance in an Era of Environmental Change* (Cheltenham, UK: Edward Elgar, 2014); *Recasting Transboundary Fisheries Management Arrangements in Light of Sustainability Principles: Canadian and International Perspectives* (Leiden: Martinus Nijhoff, 2010), *Towards Principled Oceans Governance: Australian and Canadian Approaches and Challenges* (London: Routledge Press, 2006), and *Aquaculture Law and Policy: Towards Principled Access and Operations* (London: Routledge Press, 2006).



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 is Director of Arctic Programs at Ocean Wise Conservation Association, the nonprofit organization that runs the Vancouver Aquarium among several other initiatives. He leads Ocean Wise's Arctic research, conservation and education initiatives, and works with Arctic Indigenous communities, researchers, policy-makers, educators and the general public to improve knowledge of and dialogue on this important region. He has dedicated much of the last decade toward working with Arctic Indigenous communities and scientific researchers to facilitate co-creation of research that addresses issues of local concern. A Laureate of the Arctic Inspiration Prize, Eric was a co-creator and oversees the operation of *Ikaarvik: Barriers to Bridges*, a program that works with northern Indigenous youth to be the bridge between scientific research and Arctic communities. He holds a bachelor's in Psychology, a master's in Marine Ecology and advanced graduate studies in Science Education, none of which compares to what he has learned while working with Indigenous communities across the North.





Dr. Nancy Doubleday, Arctic Working Group Co-Lead



Dr. Doubleday is Hope Chair in Peace and Health at McMaster University. She has expertise in ecological sciences, 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 establishing 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 to the

international Arctic Monitoring and Assessment Program; and participating in the University Consortium in Support of the Secretariat for the Convention on Biodiversity. She participated in the Working Group on Indigenous Peoples (Geneva), the Conferences of the Parties to the International Union for the Conservation of Nature and Natural Resources (Costa Rica, Ottawa), the International Whaling Commission (New Zealand, USA), the Finnish Initiative leading to 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 strategies for peace and health, good governance and knowledge integration. She completed an International Polar Year research project addressing impacts of a changing tree line to better understand change and adaptive capacity in social-cultural-ecological systems, and chairs the Cold Region Environments Commission of the International Geographical Union.

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

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, and a Fellow of the Royal Society of Canada. In 2013, he received the Carl Mannerfelt Gold Medal from the International Cartographic Association, and in 2014 the Killam Prize in the Social Sciences. His 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 interests in cartography and international development issues are often inter-related, including development studies with special reference to Africa, China and Latin America; regional and rural development theory and practice; sustainable development and indigenous development strategies; and technology transfer in the field of geomatics. 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. He is also actively involved in the Belmont Forum Pan-Arctic Options Project.





Dr. Natalie Ban, Pacific Working Group Co-Lead



Dr. Ban is Associate 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 60 peer-reviewed journal publications, Dr. Ban's current research focuses on identifying options for management and conservation of biodiversity while respecting people's needs and uses of resources. She served as a member of the science advisory committee of the Marine Protected Area Technical Team, and is currently involved in the research management committee of the Marine Environmental Observation, Prediction and Response (MEOPAR) Network. She 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
Access to Resources CCT Co-Lead***



Dr. Bennett is currently cross-appointed as Postdoctoral Fellow with the *OceanCanada* Partnership at the University of British Columbia and the FishMPABlue2 Project at the University of Nice. 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. Previously, he was a Banting Postdoctoral Fellow and Fulbright Visiting Scholar at the University of Washington and a Liber Ero and SSHRC Postdoctoral Fellow at UBC. 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. Recently, the Society of Conservation of Biology recognized him with an early career conservation social scientist award for his contributions.



**Dr. Derek Armitage, Atlantic Working Group Lead
Governance CCT Co-Lead**

Dr. Armitage is 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), and most recently, co-editor (with Tony Charles and Fikret Berkes) of *Governing the Coastal Commons: Communities, Resilience and Transformation* (Routledge, 2017). 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 currently serves as an editor for *Conservation Letters* and *Ecology and Society*. He is also a member of the Independent Science Panel for the Government of New Zealand's 'Sustainable Seas' initiative.





Dr. Megan Bailey, Access to Resources CCT Co-lead



Dr. Bailey is Assistant Professor with the Marine Affairs Program at Dalhousie University and Canada Research Chair in Integrated Ocean and Coastal Governance. Her work focuses on finding solutions at the intersection of markets and states to promote sustainable fishing and sustainable seafood consumption. She studies fisheries access and allocation in Nunavut and the Indian Ocean and the effectiveness and legitimacy of eco-labels and seafood traceability, and works on a number of interdisciplinary collaborations, for example, Canadian Healthy Oceans Network, Ocean Tracking Network, and *OceanCanada* Partnership. She received her PhD from the UBC Fisheries

Centre in 2012, where she sought solutions to global tuna governance through the lens of game theory and economics. She then spent three years as a Postdoc with the Environmental Policy Group at Wageningen University in the Netherlands. During this time, she helped to launch IFITT, one of the world's first full-chain seafood traceability initiatives. Megan serves on the Scientific and Technical Advisory Committee for the International Pole and Line Foundation, and is on the Board of Directors for the Fishermen and Scientists Research Society.

Dr. Carie Hoover, Governance Co-lead

Dr. Hoover is a post-doctoral Fellow at Dalhousie University. Her research project spans the Canadian Arctic addressing issues related to access and management of marine resources, including how a changing Arctic will impact access and management. Research projects in the Inuvialuit Settlement Region (western Arctic) are collaborative with the Fisheries Joint Management Committee (FJMC) and Fisheries and Oceans Canada (DFO) focusing on the Tarium Niryutait Marine Protected Area and the surrounding ecosystem to assess ecosystem indicators to be used in monitoring. These primarily revolve around belugas, the MPA focal species, but extend to



assessing multiple long-term datasets for their effectiveness as indicators, and suiting the needs of communities and management goals. In the eastern Arctic, she has been working in collaboration with the Nunavut Wildlife Management Board (NWMB) and other commercial fisheries stakeholders to update the Nunavut Commercial Fisheries Allocation Policy. In developing this policy, which aims to outline access to commercially harvested species, she has employed a consensus-based approach involving multiple Inuit organizations. She works in collaboration with researchers at Dalhousie University, University of Manitoba, DFO, Natural Resources Canada, FJMC, and the NWMB in developing research programs to identify key factors important in accessing commercial fisheries.



ADVISORY BOARD, MANAGEMENT COMMITTEE, AND RESEARCH COMMITTEE

The *OceanCanada* Advisory Board provides arm's length independent intellectual advice and support. It monitors the Partnership's progress, and provides guidance in such areas as attracting new funding, improving knowledge mobilization and extending the scope of research. Board members for Year Four were:

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 Management Committee is comprised of Project Director Rashid Sumaila, Working Group leads Derek Armitage and Phillip Saunders, and Gordon Munro. Rosemary Ommer resigned from this committee in August 2017. The Management Committee monitors research progress, addresses challenges, plans collaborative initiatives, and reviews budgets.

The *OceanCanada* Research Committee includes the Project Director and all Working Group and CCT leads (see descriptions above), and a representative from the Department of Fisheries and Oceans. It 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 committees provide direction to the Partnership, ensuring a dynamic approach to research, training, mentorship and knowledge mobilization across all activities. WG and CCT leads are responsible for group coordination and integrating Partnership activities.



OCEANCANADA PARTNERS AND COLLABORATORS

OceanCanada has established partnerships with a large number of universities, organizations and faculty members from across Canada, and has added one collaborator over the past year.

***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
Ocean Wise Conservation Association
(formerly Vancouver Aquarium Marine
Science Centre)
Saint Mary's University
Simon Fraser University
T. Buck Suzuki Environmental
Foundation
United Nations University Institute for
Water, Environment and Health
University of British Columbia
University of Victoria
University of Waterloo
University of Winnipeg
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
Sidney Fels, University of British
Columbia
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
Jennifer Silver, Guelph University (new)
Robert Stephenson, Fisheries and
Oceans Canada
Trevor Swerdfager, Fisheries and
Oceans Canada
Duncan Wilson, Port Metro Vancouver



SUMMARY OF OCEANCANADA ACTIVITIES 2017/2018

OCEANCANADA CORE AND RELATED PUBLICATIONS (OCP members highlighted)

Core publications:

Beattie H. 2017. 'What about the salmon?': a critical analysis of the Pacific Northwest LNG project in British Columbia. *Journal of Aboriginal Economic Development*. 10(2):85-99. <http://www.captus.com/information/catalogue/acco-jaed-10-2.htm>

Belhabib D, Padilla A, Sumaila UR, Pauly D. 2017. On governance in fisheries in Senegal: from top-down control to co-management. In: Nunes PALD, Svensson LE, Markandya A, editors. *Handbook on the Economics and Management of Sustainable Oceans*. Cheltenham (UK): Edward Elgar. p. 457-475. https://ideas.repec.org/h/elg/eechap/17310_23.html

Bennett NJ, Kaplan-Hallam M, Augustine G, Ban N, Belhabib D, Brueckner-Irwin I, Charles A, Couture J, Eger S, Fanning L, Foley P, Goodfellow AM, Greba L, Gregr E, Hall D, Harper S, Maloney B, McIsaac J, Ou W, Pinkerton E, Porter D, Sparrow R, Stephenson R, Stocks A, Sumaila UR, Sutcliffe T, Bailey M. 2018. Coastal and Indigenous community access to marine resources and the ocean: a policy imperative for Canada. *Marine Policy*. 87:186–193. <https://www.sciencedirect.com/science/article/pii/S0308597X17306413#!>

Bennett NJ, Teh LCL, Ota Y, Christie P, Ayers A, Day JC, Franks P, Gilli D, Gruby RL, Kittinger JN, Koehn Z, Lewis N, Parks J, Vierros M, Whitty TS, Wilhelm A, Wright K, Aburtor JA, Finkbeiner EM, Gaymer CF, Govan H, Gray N, Jarvis RM, Kaplan-Hallam M, Satterfield T. 2017. An appeal for a code of conduct for marine conservation. *Marine Policy*. 81:411-418. <https://www.sciencedirect.com/science/article/pii/S0308597X17300672>

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Climate, cinema and cartography: digital storytelling and climate change. University of Missouri.

Climate change and global conflict. University of Missouri.

Qapirangajuq: Inuit Knowledge and Climate Change. RagTag Cinema (film presentation)

Warsaw, Poland. March 9, 2018. Sumaila, Rashid.

Introductory remarks for the Oceans session, The plastic paradox: a dilemma for consumers. European Young Leaders Seminar.



Calgary, Alberta. March 2-3, 2018. Saunders, Phillip.

Management and enforcement challenges for highly migratory species: the case of Atlantic bluefin tuna. CIRL Symposium on Enforcement Issues in Canadian Wildlife Protection.

Everett, WA. March 2, 2018. Ban, Natalie.

Breaking down disciplinary boundaries: opportunities and challenges in inter- and trans-disciplinary research. Pacific Estuarine Research Society Conference.

Winnipeg, MB. February 28, 2018. Mauro, Ian; Blair, D.

Climate Atlas of Canada and Health Canada. Special Presentation for Health Canada's Associate Deputy Minister (Christine Donoghue) and Assistant Deputy Minister (Tina Green).

Wellington, New Zealand. February 21-23, 2018. Engler-Palma, Cecilia.

Ocean acidification post-Paris: gauging law and policy responses in light of emerging scientific projections. 2nd Pacific Climate Change Conference.

Brussels, Belgium. February 21, 2018. Sumaila, Rashid.

The oceans are our lives. Countdown to 2020: How Far Has the EU Come in Ending Overfishing?

Vladivostok, Russia. February 12, 2018. VanderZwaag, David.

Law of the sea and ocean governance in the Arctic: conflict, cooperation and challenges. Far Eastern Federal University Seminar.

Waterloo, ON, January 8, 2018. Doubleday, Nancy.

The Indigenous peoples of Canada, an Arctic perspective: social-cultural-ecological factors influencing their health, and access to health care. Global Transitions within Local Communities: Small Places, Big Changes. Global Health.

Québec City, QC, December 11-15, 2017. Hayes, Amos.

Mapping with Nunaliit. ArcticNet.

Québec City, QC, December 11-15, 2017. Scassa, Teresa; Taylor, Fraser; Nickels, Scott.

Towards a legal framework for the collection and sharing of Inuit Knowledge. ArcticNet.

Buenos Aires, Brazil, December 11-13, 2017. Emerson, W.; Jara, A.; Nouvian, C.; Sumaila, Rashid; Vickers, B.

Reforming perverse fisheries subsidies at MC11. Trade and Sustainable Development Symposium.

Ottawa, ON, November 30, 2017. Ban, Natalie.

Brief on Oceans Act Marine Protected Areas. Canadian House of Commons Standing Committee on Fisheries and Oceans.



Guelph, ON, November 17, 2017. Armitage, Derek.

Communities, coasts and governance. Department of Geography Speaker Series, University of Guelph.

Guam, November 13-17, 2017. Sumaila, Rashid.

Effects of climate change in the Pacific and policy/legal response options. Pacific Judicial Council 2017 Environmental Law and Science Conference.

What the science says on climate change: projected effects in the Pacific Islands. Pacific Judicial Council 2017 Environmental Law and Science Conference.

Hainan, China, November 10-11, 2017. Saunders, Phillip.

Dispute settlement in UNCLOS and the South China Sea Arbitration. Hainan University Law School.

Introduction to the law of the sea: global management of the oceans. Hainan University Law School.

Maritime boundary delimitation: overview of legal principles and simulation exercise. China-ASEAN Academy on Ocean Law and Governance, National Institute for South China Sea Studies.

Hainan, China, November 10, 2017. VanderZwaag, David.

International law and marine biodiversity conservation: tangled currents, foggy future. China-ASEAN Academy on Ocean Law and Governance, National Institute for South China Sea Studies.

The precautionary approach in coastal/ocean governance: beacon of hope, seas of confusion and challenges. China-ASEAN Academy on Ocean Law and Governance, National Institute for South China Sea Studies.

Victoria, BC, November 7, 2017. Sumaila, Rashid.

“Lost” First Nations fisheries: some economic insights. Transforming Fisheries: Respecting Indigenous Governance and Management, First Nations Fisheries Council.

Wilmington, NC, November 6, 2017. Gregr, Edward J.; Martone, R.; Chan, Kai.

Sea otters and kelp forests: real and potential transformations in blue carbon and resilience. Global Marine Science Summit, University of North Carolina.

Ottawa, ON, November 3, 2017. VanderZwaag, David.

Governance of the central Arctic Ocean: cooperative currents, restless sea. 2017 Canadian Council on International Law Conference.



Yeosu, South Korea, October 30-31, 2017. VanderZwaag, David.

The precautionary approach in coastal/ocean governance: beacon of hope, seas of confusion and challenges. Yeosu Academy of the Law of the Sea. Law of the sea and ocean governance in the Arctic: conflict, cooperation and challenges.

Inuvik, NT, October 24-26, 2017. Steiner, Nadja.

Beaufort Sea Partnership Meeting (workshop participant).

San Francisco, CA, October 26-30, 2017. Sumaila, Rashid.

Can we save the oceans from ourselves? World Conference of Science Journalists (session panelist).

Puerto Varas, Chile, October 18-21, 2017. Sumaila, Rashid.

Assessment of marine protected areas for restoring ocean health, improving fisheries management, and supporting a sustainable blue economy. Pew Fellows Program in Marine Conservation (workshop participant).

Incorporating the gender dimension in marine conservation. Pew Fellows Program in Marine Conservation (roundtable participant).

Tallinn, Estonia, October 12-13, 2017. Sumaila, Rashid.

When are subsidies harmful? Beyond 2020: supporting Europe's coastal communities (workshop participant).

Malta, October 5-6, 2017. Sumaila, Rashid.

Economics of MPAs. Our Ocean. Economic benefits from no-take marine reserves. The Malta Declaration: assessing real progress towards effective ocean protection (Our Ocean side event).

Woods Hole, MA, October 2-5, 2017. VanderZwaag, David.

Marine biosphere research for a sustainable ocean: tacking in a sea of governance challenges. Keynote address at IMBIZO 5 Conference: Marine Biosphere Research for a Sustainable Ocean: Linking Ecosystems, Future States and Resource Management, Woods Hole Oceanographic Institution.

Luxembourg, September 25-26, 2017. VanderZwaag, David.

Canada's Arctic disputes: cooperative bridges, foggy waters. Bridge Over Troubled Waters Workshop: Dispute Resolution in the Law of International Watercourses and the Law of the Sea, Max Planck Institute for Procedural Law.

Tokyo, Japan, September 23, 2017. Sumaila, Rashid.

Increase transparency in fisheries subsidies in support of Sustainable Development Goal 14: Life Below Water. Fisheries Economics and Social Science, Fisheries Science for Future Generations, The Japanese Society of Fisheries Science.



Geneva, Switzerland, September 18, 2017. Sumaila, Rashid.

Designing effective and appropriate special and differential treatment. Knowledge-Sharing Seminar on Fisheries Subsidies, International Centre for Trade and Sustainable Development, World Trade Organization (WTO).

Sagkeeng, MB, September 10, 2017. Mauro, Ian.

Traditional knowledge keepers and scientists at Turtle Lodge (roundtable participant).

Whitehorse, YT, September 7-8, 2017. Steiner, Nadja.

Multi-stressor impacts on subsistence fisheries in the western arctic bioregion – regional climate modelling and eco-physiology. Inuvialuit Game Council Meeting.

Auckland, New Zealand, September 4-8, 2017. Sumaila, Rashid.

New visions for nature and nature's contributions to people for the 21st century. International Panel on Biodiversity and Ecosystem Services (IPBES) (workshop participant).

Cape Town, South Africa, August 29-31, 2017. Sumaila, Rashid.

Climate change, fish, and people in Africa. Climate change and marine fisheries in the context of Sub-Saharan Africa, World Bank Conference.

Carrtagena, Columbia, July 23-27, 2017. Bennett, Nathan.

How can the social sciences improve conservation? International Congress for Conservation Biology, Society for Conservation Biology.

Carrtagena, Columbia, July 23-27, 2017. Kaplan-Hallam, Maery; Bennett, Nathan.

Adaptive social impact management for conservation and environmental management. International Congress for Conservation Biology, Society for Conservation Biology.

Star Island, NH, July 23, 2017. Sumaila, Rashid.

Sustainability of the global ocean. The Oceans: Protecting an International Resource, 2017 International Affairs Conference.

Washington, DC, July 19, 2017. Sumaila, Rashid.

Current state of fisheries in the South China Sea. Workshop on Environmental Issues and Fisheries Cooperation in the South China Sea, Center for Strategic and International Studies.

Amsterdam, the Netherlands, July 6, 2017. Saunders, Phillip; Engler, Cecilia; VanderZwaag, David; Koubrak, Olga; Cheung, William; Palacios-Abrantes, Juliano; Sumaila, Rashid.

Title of panel: Transboundary Fisheries Management in Changing North Atlantic and Pacific Oceans: Taking Stock, Future Scenarios.

Are transboundary fisheries management arrangements in the North Atlantic and Pacific seaworthy in changing oceans? (VanderZwaag and Koubrak)



The international law and policy seascape for managing shifting species and ecosystems (Saunders and Engler)

Current state and future scenarios for transboundary fisheries management in changing oceans: gauging the biological tides (Cheung and Palacios-Abrantes)

Changing oceans and the economics of transboundary fisheries management of major fisheries of Canada and the United States (Sumaila)

Washington, DC, July 2, 2017. Anonby, E; Hayes, Amos; Murasugi, K; Taylor, Fraser.

Mapping language with the Nunaliit Atlas framework: the languages of Iran and the Inuit language in Canada. International Cartographic Congress.

Washington, DC, July 2, 2017. Taylor, Fraser.

Some issues in mapping traditional knowledge. International Cartographic Congress.

Rome, Italy, June 28, 2017. Sumaila, Rashid.

Subsidies: small versus large-scale fisheries subsidies. Workshop on improving our knowledge on small-scale fisheries: data needs and methodologies. Food and Agriculture Organization (FAO) of the United Nations.

Rome, Italy, June 28, 2017. Teh, Lydia.

Indigenous people database. Workshop on improving our knowledge on small-scale fisheries: data needs and methodologies. Food and Agriculture Organization (FAO) of the United Nations.

Rome, Italy, June 27, 2017. Westlund, L; Cheunpagdee, Ratana.

What do we mean by small-scale fisheries? Workshop on improving our knowledge on small-scale fisheries: data needs and methodologies. Food and Agriculture Organization (FAO) of the United Nations.

Rome, Italy, June 27, 2017. Charles, Anthony.

Current data and future needs for assessing local-level conservation, stewardship and responsible fisheries in small-scale fisheries. Workshop on improving our knowledge on small-scale fisheries: data needs and methodologies. Food and Agriculture Organization (FAO) of the United Nations.

Ottawa, ON, June 14, 2017. VanderZwaag, David.

Getting Canada's Oceans Act together: progressions, depressions, questions. Oceans 20: Canada's Oceans Act.

Singapore, June 14, 2017. Sumaila, Rashid; Tun, Karenne; Waterman, Stephanie.

Future of the oceans. Commonwealth Science Conference.



Ottawa, ON, June 8, 2017. Sumaila, Rashid.

The Oceans Act's Marine Protected Areas. Canadian House of Commons Standing Committee on Fisheries and Oceans.

New York, NY, June 6, 2017. Sumaila, Rashid.

Improve high seas fisheries management and increase economic, social and ecological benefits for our oceans. Our Ocean Our Future. The UN Ocean Conference.

New York, NY, June 5, 2017. Sumaila, Rashid; Karousakis, Katia; Martini, Roger.

Towards a sustainable blue future: fiscal incentives to achieve SDG 14. The UN Ocean Conference.

New York, NY, June 5, 2017. Sumaila, Rashid; Koroilavesau, Semi; Morgan, Clarisse; Tipping, Alice.

Building disciplines on fisheries subsidies: progress and prospects. The UN Ocean Conference.

Moscow, Russia, June 3-10, 2017. Taylor, Fraser.

Arctic spatial data infrastructure. Round Table on Enhancing International Arctic Cooperation, American Centre.

Creating a cybercartographic atlas of the Bering Strait. Belmont Forum Pan-Arctic Options Annual Meeting.

Mapping the Bering Sea. Belmont Forum Pan-Arctic Options Annual Meeting.

College Park, MD, June 1, 2017. Sumaila, Rashid.

The economic benefits and impacts of sustaining the global ocean. The Role of Oceans in Earth's Life Support System, 3rd GEO Blue Planet Symposium.

Ottawa, ON, May 31-June 2, 2017. Taylor, Fraser.

Rapid technological change and the future of cartography. Keynote address at Canadian Cartographic Association Annual Meeting.

Ottawa, ON, May 11, 2017. Ban, Natalie.

Brief on MPAs. Canadian House of Commons Standing Committee on Fisheries and Oceans.

Boston, MA, April 5-9, 2017. Beattie, Hillary.

Pulling together to gather strength: telling stories of cultural resurgence and resilience in Heiltsuk territory. American Association of Geographers Annual Meeting.

Boston, MA, April 5-9, 2017. Mauro, Ian.

Canada's climate story: participatory film, geovisualization and the future of mobilizing knowledge into action. American Association of Geographers Annual Meeting.



NEW VIDEOS (<http://oceancanada.org/resources/video/>)

- ᑕᓕᓄᓐ ᑕᓄᓐᓂᓐ / Tariuq Takujanniq / The Ocean from My Eye (2018, 4:13).
- Glwa: Resurgence of the Ocean-Going Canoe, Documentary full feature film (2017, 46:48)
- Livestream replay, OceanCanada-Vancouver Aquarium Speaker Series Event, April 11 (2017, 1:24)
- *OceanCanada* Students and Postdocs (2017, 3:13)
- Visualizing Changing Oceans: Inuit Knowledge and Participatory Video (2017, 3:10)



WORKSHOPS AND MEETINGS

Rashid Sumaila participated in a workshop on ocean priorities, National Geographic Society; Washington, DC, March 18-20, 2018.

Ian Mauro presented the film, Qapirangajuq: Inuit Knowledge and Climate Change, at the RagTag Cinema; Columbia, MO, March 14, 2018.

Rashid Sumaila gave introductory remarks to the Oceans session, “The plastic paradox: a dilemma for consumers,” at the European Young Leaders Seminar; Warsaw, Poland, March 9, 2018.

Rashid Sumaila was a speaker at Ocean Luminaries, for the opening of the exhibition Unseen Oceans at the American Museum of Natural History; Washington, DC, March 2, 2018.

Rashid Sumaila participated in the Bevan Series, School of Fisheries and Aquatic Sciences, University of Washington; Seattle, WA, March 1, 2018.

Ian Mauro, Ian and D. Blair gave a special presentation, Climate Atlas of Canada and Health Canada, for Health Canada’s Associate Deputy Minister Christine Donoghue and Assistant Deputy Minister Tina Green; Winnipeg, MB, February 28, 2018.

Rashid Sumaila participated in the Ecology Seminar, Scripps Institute of Oceanography, University of San Diego; La Jolla, CA, February 20, 2018.

Nathan Bennett and Lydia Teh were panelists in the webinar: What we can do to curb social and human rights abuses in the seafood industry? The webinar was hosted by Jack Kittinger of Conservation International, with other panelists Katrina Nakamura of Sustainability Incubator, and Yoshi Ota of Washington State University and Nereus; February 13, 2018.

Natalie Ban was an invited expert to the Technical Expert Workshops on Marine Protected Areas and Other Effective Area-Based Conservation Measures for Achieving Aichi Biodiversity Target 11 in Marine and Coastal Areas. Convention on Biological Diversity; Montreal, February 6-9, 2018.

Rashid Sumaila participated in the Symposium on Law Enforcement and Science: Restoring Filipino Fisheries; Quezon City, The Philippines, January 12, 2018.

Rashid Sumaila participated in the seminar, The future of fishes and fisheries under climate change, State Oceanic Institute; Xiamen, China, January 4, 2018.



Rashid Sumaila participated in the symposium, Predicting the future oceans, Nippon Foundation; Toyko, Japan, December 20-21, 2017.

Rashid Sumaila participated in the workshop, Marine spatial planning under climate change, Conservation International; Santa Barbara, December 4-8, 2017.

Rashid Sumaila participated in the Small-Scale Fisheries Workshop hosted by the Center for Ocean Solutions; Stanford, CA, November 20, 2017.

Rashid Sumaila participated in the Fisheries Conflict Workshop hosted by Secure Fisheries, a program of One Earth Future; Broomfield, CO, November 16-17, 2017.

Nadja Steiner was a workshop participant at Beaufort Sea Partnership Meeting; Inuvik, NT, October 24-26, 2017.

Fraser Taylor and the GCRC at Carleton University hosted a 3-day workshop for Canadian Indigenous and northern research partners to further the development of the Nunaliit Atlas Framework; Chelsea, QC, September, 2017.

Ian Mauro participated in a roundtable discussion at Traditional knowledge keepers and scientists at Turtle Lodge; Sagkeeng, MB, September 10, 2017. Turtle Lodge Declaration: Gathering of Indigenous Knowledge Keepers and Scientists. <http://www.turtlelodge.org/wp-content/uploads/2017/09/Turtle-Lodge-Declaration.pdf>.

Rashid Sumaila participated in Visions for nature and nature's contributions to people for the 21st century, International Panel on Biodiversity and Ecosystem Services (IPBES), and co-author of the executive summary; Auckland, New Zealand, September 4-8, 2017.

David VanderZwaag was a member of the IUCN (International Union for the Conservation of Nature) delegation at the SDG 14 (Sustainable Development Goal 14-Oceans) Conference; New York, June 5-9, 2017.

Fraser Taylor attended the 2nd Canadian Polar Data Workshop for people involved in polar data management from across the country to share ideas and identify key priorities and commitments for coordinating the work of the polar data community. This is an important aspect of data management for the Arctic Ocean Atlas. Amos Hayes attended and made a presentation on the Nunaliit Data Management platform which we are using for the basis of the construction of the Arctic Ocean Atlas; Ottawa, May 30-31, 2017.

Access CCT workshop, on using case studies to ascertain how access to marine resources and ocean spaces impacts community well-being; UBC, June 8-9, 2017.



MEDIA COVERAGE

2018

- March 18. [New research finds reefs help protect vulnerable Caribbean fish from climate change.](#) Jamaica Observer.
- March 16. [Reefs help protect vulnerable Caribbean fish from climate change.](#) Science Daily.
- March 16. [Reefs help protect vulnerable Caribbean fish from climate change.](#) Phys.org.
- March 14. [As Alaskan waters warm, market squid extend their reach northward.](#) Undark.
- March 13. [Dollars for disaster: Daniel Pauly and Rashid Sumaila discuss how governments subsidize overfishing.](#) Oceana.
- March 2. [Fishmeal landings under fire.](#) The Fish Site.
- March 2. [The world has two years to meet marine protection goal. Can it be done?](#) National Geographic.
- February 28. [Overfishing poses risks for investors.](#) Eco Business.
- February 20. [Investing in nature outweigh costs.](#) Stockholm Resilience Centre.
- February 8. [It's fishy: rise in warm-water species found off our coasts.](#) Irish Times.
- February 5. [Why salmon eating insects instead of fish is better for environment.](#) National Geographic.
- January 31. [Shark found washed up on Delta beach.](#) Vancouver is Awesome.
- January 30. [Ocean Luminaries explore ocean mysteries at American Museum of Natural History.](#) Broadway World.
- January 29. [Red herring: the tons of fish that are caught but not eaten.](#) News Deeply.
- January 25. [The ups and downs of marine protected areas: examining the evidence.](#) Mongabay.
- January 13. [Scientists cite solutions to arrest alarming fisheries decline.](#) Philippine Canadian Inquirer.
- January 13. [Pilipinas, nanganganib maubos ang yamang dagat.](#) ABS-CBN.
- January 11. [Our oceans are suffocating!](#) Roundhouse Radio.
- January 3. [GLORES Partner Spotlight: Dr. Rashid Sumaila.](#) Marine Conservation Institute.

2017

- December 24. [The UN starts a conservation treaty for the high seas.](#) National Geographic.
- December 23. [The danger to the South China Sea fishery.](#) Asia Sentinel.
- December 21. [Experts to China: cooperate or South China Sea fisheries may collapse.](#) Mongabay.
- December 11. [Last tango in Buenos Aires: WTO faces deadline to ban fishing subsidies.](#) News Deeply.
- December 11. [Sea Change.](#) Food in Canada.



- December 1. [Nu invigs världens största marinreservat](#). Sverige Radio.
- November 30. [Canada 150: reflect and reimagine](#). Library and Archives Canada.
- November 30. [Pacific island fish migrating to cooler seas](#). SciDev.Net.
- November 30. [Se nya bilderna på kronprinsessan Victoria](#). Svensk Dam.
- November 29. [Geomatics and Cartographic Research Centre hosts Indigenous and northern research partners](#). Carleton University VPRI.
- November 29. [Expert vill förbjuda fiske på öppet hav](#). Enköpings Posten.
- November 29. [Volvo Environment Prize 2017](#). (video clip). Marklund Film AB.
- November 28. [Kronprinsessan vid The Global Ocean and the Future of Humanity](#). Kungl. Hovstaterna.
- November 27. [Världshaven i akut behov av skyd](#). Göteborgs-Posten.
- November 17. [Pacific threat: 80 per cent of fish set to be wiped out as ocean temperatures surge](#). Newsweek.
- November 17. [50-80pct of fish in Pacific Islands could disappear due to climate change](#). FIS.
- November 16. [Climate change impacts on fisheries and biodiversity of Pacific Island countries and territories](#). Science Trends.
- November 16. [Climate change could wipe out 80% of fish in the Pacific Islands](#). Huffington Post UK.
- November 13. [Blob is gone, but not forgotten for scientists studying decline in B.C. fish stocks](#). Vancouver Sun.
- November 8. [Digital stories take Indigenous knowledge to the big screen](#). SSHRC.
- November 8. [Professor says protected waters an opportunity for Indigenous empowerment](#). The Chronical Herald.
- October 27. [Things I mean to know: the sun also rises... over there](#). This American Life.
- October 25. [Protecting the future of our oceans and marine life that led to Rashid Sumaila receiving the 2017 Volvo Environmental Prize](#). Roundhouse Radio.
- October 17. [Oceanernas beskyddare tilldelas Volvos Miljöpris](#). Svensk Verktad Industri.
- October 16. [Fish feud: will changes to the West Coast salmon industry hurt or help independent fishermen?](#) BC Business.
- October 16. [Sustainable fisheries solution earns prestigious environmental prize for UBC economist](#). Vancouver Sun.
- October 16. [Sustainable fisheries solution earns prestigious environmental prize for UBC economist](#). The Province.
- October 16. [The protector of the oceans receives the Volvo Environment Prize](#). Business Insider.
- October 9. [Marine insurers join the fight against illegal fishing](#). Maritime Executive.
- October 5. [How vulnerable are fish to climate change? An algorithm might tell you](#). News Deeply.
- October 4. [La Economía Azul: se acerca una revolución industrial en los océanos](#). Latin American Science.



- October 4. [Un tercio de las especies marinas están en riesgo por el cambio climático](#). ABC.es.
- October 2. [Le temperature aumentano e i pesci sono costretti a emigrare](#). Wise Society Italia.
- October 2. [Le temperature aumentano e i pesci sono costretti a emigrare](#). LesEcos.ma.
- September 29. [Illegal fishing on the Galápagos high seas](#). Science.
- September 26. [5 things: B.C.'s climate losers and winners](#). Vancouver Sun.
- September 26. [Some marine species more vulnerable to climate change than others](#). Phys.org.
- September 21. [Going diving in the tropics? Don't eat the reef fish!](#) Phys.org.
- September 12. [Study: UBC research finds climate change might be making fish smaller](#). The Ubysey.
- September 5. [The oceans need our protection – and our lives depend on them](#). The Globe and Mail.
- August 30. [Paddling to prestigious Indigenous film festival](#). The University of Winnipeg News Centre.
- August 22. [Climate change is causing fish to shrink](#). Seeker.
- August 22. [Climate change could shrink fish by as much as 30 percent, new study claims](#). CNBC.
- August 22. [Climate change likely to shrink fish size by 30%: study](#). Economic Times of India.
- August 21. [Amid closure of B.C. salmon fisheries, study finds feds failed to monitor stocks](#). Desmog.ca.
- August 21. [Climate change may shrink the world's fish](#). National Geographic.
- August 21. [Warmer waters from climate change will leave fish shrinking, gasping for air](#). Phys.org.
- August 21. [Warming oceans will reduce fish size? here's 2 schools of thought](#). American Council on Health and Science.
- August 14. [What future for fisheries in the South China Sea?](#) Virgin Unite.
- August 8. [Climate change jaw dropper: Great white shark could one day prowl B.C. waters](#). ENN.
- August 4. [Book of Eulachon – Alhqulh Ti Sputc – presented to Nuxalkmc at community feast](#). Coast Mountain News.
- July 27. [Report says marine oil tankers less likely to spill oil than pipelines or trains](#). Global News.
- July 26. [Great white shark population booms In British Columbia as ocean temperature rises](#). International Business Times.
- July 26. [Warming Pacific means more great white sharks swimming in B.C. waters](#). CTV News.
- July 26. [Great white sharks likely to head north as water warms, prof says](#). Times Colonist.
- July 25. [Sustainability of the global ocean](#). The Sandpiper.
- July 25. [Great white sharks could swim along B.C.'s coast as oceans warm: UBC researcher](#). Global News.



- July 25. [Great white sharks could one day swim in B.C. waters: expert.](#) MSN.
- July 25. [Great white shark could come to BC, says UBC researcher.](#) Daily Hive.
- July 25. [Climate change to bring great white sharks to B.C. says UBC prof.](#) CBC News.
- July 25. [Great white sharks could one day swim in B.C. waters.](#) Metro News.
- July 24. [The future of oceans.](#) Biotechniasia.
- July 13. [Your fish and chips could be about to change massively – here’s why.](#) Birmingham Mail.
- July 11. [Your fish and chip supper could soon fall victim to climate change.](#) Chronicle Live.
- July 8. [Anchovy and chips, anyone? How shortages in the North Sea threaten traditional battered cod and haddock.](#) Daily Mail.
- July 8. [Climate change could threaten the traditional British fish and chips.](#) Sky News.
- July 8. [Expect “child’s portions” of fish and chips as climate change shrinks ocean stock.](#) The London Economic.
- July 8. [OH MY COD! Portions of chippy favourites such as cod are set to shrink 20 per cent by 2050 due to global warming, scientists claim.](#) The Sun.
- July 8. [Cherished cod and chips supper under THREAT due to North sea shortages, experts declare.](#) Express.
- July 8. [Where do seabirds search for food? Satellite-tracking gives fascinating new insight.](#) Express.
- July 8. [Anchovy and chips? Shrinking fish could see unusual offerings for sale.](#) The Irish News.
- July 8. [Have North Sea fishy favourites had their chips?](#) The Press and Journal.
- June 28. [Ocean conservation needs a Hippocratic oath – we must do no harm.](#) The Guardian.
- June 26. [Scarborough Shoal of Sansha City, Hainan province, China.](#) The Manila Times.
- June 25. [Subsidies go to big fisheries, not small-scale companies: UBC study.](#) News 1130.
- June 16. [Criminality in Africa’s fishing industry: a threat to human security.](#) ETH Zurich.
- June 10. [CBC World Report – UN Oceans Conference.](#) CBC.
- June 8. [The future of our fisheries under climate change.](#) Our Shared Seas.
- June 8. [2050: Degrees of change - Episode 2 - Snow and ice.](#) CBC.
- June 7. [Fishing subsidies harm artisanal fishermen worldwide.](#) Fish Information and Services (FIS).
- June 5. [Marine reserves help mitigate against climate change, say scientists.](#) Science Daily.
- June 5. [Should large scale fisheries get more subsidies than small scale fishing?](#) Roundhouse Radio.
- June 2. [Why Mexican fishermen are going from shark hunting to shark protecting.](#) Fusion.net.



- June 2. [Scientists launch global agenda to curb social, human rights abuses in seafood sector.](#) EurekAlert!
- June 1. [Subsidies promote overfishing and hurt small-scale fishers worldwide.](#) UBC News.
- June 1. [The shared stewardship of the South China Sea.](#) The Manila Times.
- June 1. [Subsidies promote overfishing and hurt small-scale fishers worldwide.](#) Phys.org.
- June 1. [Scientists launch global agenda to curb social and human rights abuses in the seafood sector.](#) UW Today.
- June 1. [A sea change for seafood.](#) Conservation International.
- May 23. [China's appetite for seafood is pushing global fish stocks to the brink.](#) Australia Financial Review.
- May 21. [Does marine conservation need a 'Hippocratic Oath'? UBC researcher says yes.](#) CBC News.
- May 18. [Overfishing risks collapsing global fishing industry.](#) VOA Learning English.
- May 12. [China cracks down on coastal fisheries.](#) Science.
- May 12. [Minister Susi receives Peter Benchley Ocean awards.](#) Tempo.
- May 11. [Peter Benchley Ocean Awards 2017: a celebration of excellence in ocean conservation.](#) Ocean Currents.
- April 30. [China's appetite pushes fish population to brink.](#) Business Mirror.
- April 27. [Not just a boys' club: women hooking into fishing industry.](#) VOA News.
- April 7. [Warming oceans may lead to smaller fish.](#) Inside Science.





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