

## **URI Consortium for Offshore Renewable Energy (ORE) Projects, Existing International Contacts, and Publications/Technical Reports (2010 – 2018)**

### **ORE Research and Outreach Projects**

*Analysis of Effects of the Block Island Wind Farm (BIWF) on Rhode Island Recreation and Tourism Activities.* Lead/Team: J. McCann, D. Bidwell, A. Moore, H. Smith, and T. Smythe. This multi-disciplinary project uses a variety of social science methods to assess the effects of the Block Island Wind Farm on tourism and recreation activities in southern Rhode Island, resulting in a set of potential indicators that could be used to measure impact. 2016-2018. Funder: U.S. Bureau of Ocean Energy Management. Amount: \$314,300.

*Assessing Avian Fine-scale Movements Near the Block Island Wind Farm:* Lead/Team: P. Paton, J. Miller, G. Potty, R. Jamaswamy. We are assessing tern and plover flight behavior near the Block Island Wind Farm to determine exposure risk. We are attaching miniature digital VHF radio transmitters to two federally-list species, Piping Plover and Roseate Terns, and developing cutting-edge receivers to monitor flight behavior near the only active wind farm in North America. 2018-2020. Funder: U.S. Bureau of Ocean Energy Management. Amount: \$300,000

*Assessing Impacts of the Block Island Wind Farm on Recreational Saltwater Fishing.* Lead/Team: D. Bidwell, T. Smythe, T. Dalton, and J. Livermore. This study uses qualitative and quantitative data to assess effects of the Block Island Wind Farm on recreational saltwater angling. 2018-2020. Funder: Rhode Island Sea Grant. Amount: \$194,543.

*Benthic Monitoring during Wind Turbine Installation and Operation at the Block Island Wind Farm, Rhode Island.* Lead/Team: J. King and M. LaFrance-Bartley. This study gathered real-time data during the installation and initial operations of the Block Island wind turbine generators and provided benthic habitat information for U.S. Bureau of Ocean Energy Management evaluation of environmental effects of future facilities, improvement of the accuracy of models and establishment of monitoring references and mitigations. A gradient of biofouling and reef effects have been observed at the Block Island Wind Farm. 2016 – Present. Funder: HDR-U.S. Bureau of Ocean Energy Management. Amount: \$465,311.

*Design and Evaluation of Wave Energy Conversion Devices to Power Ocean Surveillance Systems and Sensor applications.* Lead: S. Grilli. This study involved numerical simulations and field experiments and used point absorption ocean wave energy harvesting buoy systems. The systems used the heave motion of the buoys to produce useful electrical power. 2005-2012. Funder: Office of Naval Research, Rhode Island Science and Technology Advisory Council, Department of Ocean Energy, and Rockwell Inc. Amount: \$630,000.

*Developing Protocols for Reconstructing Submerged Paleocultural Landscapes and Identifying Native American Archaeological Sites in Submerged Environments.* Lead/Team: J. King and D. Robinson. This project developed "best practices" for advancing the current understanding of submerged paleocultural landscape distribution on the Outer Continental, identifying paleocultural landscapes of importance to southeastern New England Tribes, and facilitating positive interactions between groups of diverse backgrounds to identify and protect sites of

cultural significance to contemporary Tribal peoples. 2012-Present. Funder: U.S. Bureau of Ocean Energy Management. Amount: \$2,000,000.

*Ecological Service Value Index (ESVI) for the Rhode Ocean Special Area Management Plan (Ocean SAMP)*. Lead: A. Grilli. Design of on Ecological Service Value Index (ESVI) and application to the Ocean SAMP area. The index was implemented as a flexible tool used to optimize the siting area of the farm (macrositing tool). 2010-2011. Funder: Department of Energy. Amount: \$ 166,000.

*Electromagnetic Field (EMF) Impacts on Elasmobranch (sharks, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables*. Lead/Team: J. King, Z. Hutchison, P. Sigray, H. He and A. Gill. This project had five major components: 1) A synthesis of existing information published subsequent to the report entitled " Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species" (Normandeau et al., 2011) on EMF and the potential effects on marine species; 2) Field surveys to characterize the EMF from two high voltage direct current (HVDC) cables; the Cross Sound Cable (CSC) and the Neptune Cable; 3) A computer model to predict the EMF generated by HVDC cables and a comparison of EMF model predictions with EMF field measurements for validation and to determine if the model could be extrapolated to higher capacity cables that are likely to be installed in the future; 4) A statistically robust field experiment that would detect potential effects of EMF from HVDC cables on the movements of marine species (American lobster, *Homarus americanus* and Little skate, *Leucoraja erinacea*) of concern; and 5) An integration, interpretation and evaluation of the multidisciplinary findings. EMFs produced effects on the behavior of lobsters and skates. It is unlikely that the effects produced by a single DC cable would translate into impacts at the population level. 2014 - 2017. Funder: U.S. Bureau of Ocean Energy Management. Amount: \$1,030,000.

*Electromagnetic Field Impacts on American Eel Movement and Migration from Direct Current Cables*. Lead/Team: J. King, Z. Hutchison, P. Sigray and A. Gill. This study provided a scientifically robust analysis of the effects of electromagnetic fields associated with the HVDC Cross Sound Cable (Long Island Sound) on the American Eel (*Anguilla rostrata*) in accordance with the following Tasks: 1) Test Methodology on American Eel; 2) Field Survey (Study) – American Eel; 3) Processing of field data; and 4) Project Management and Coordination. This study will characterize the effects on the migrational behavior of eels in test enclosures and in the wild using acoustic tracking technology. Also being investigated is whether behavioral changes would be likely to produce impacts at the population level. Funder: U.S. Bureau of Ocean Energy Management. Amount: \$694,500.

*EMF Study of the Block Island Wind Farm Export and Inter-Array Cables, New Shoreham, Rhode Island*. Lead/Team: J. King and P. Sigray. The survey design is intended to provide representative characterization of EMF levels along the sea2shore cable as well as a robust data set for statistical analysis of possible effects on marine organisms. EMF surveys are being conducted at nominal ½ km to 1-km line spacing along the cable routes based on analysis of previous geological analyses. Measurements of electric field, magnitude and frequency, and magnetic field intensity are being conducted at each survey transect. Funder: Deepwater Wind LLC. Amount: \$50,806.

*Impacts of Offshore Wind Energy on Recreational Choices: A Survey of the Block Island Tourists.* Lead: S. Trandafir. Survey methods to examine the impact of offshore wind energy production on the number of trips taken and on the choice of recreational activities conducted in Block Island. 2017 – Present. Funder: U.S. Department of Agriculture. Amount: \$30,000.

*International Marine Spatial Planning Symposium Series.* Lead: J. McCann. These multi-day symposia were provided in 2011 (South Kingstown), 2012 (Providence) and 2015 (Narragansett) to provide coastal and ocean practitioners from around the world (approximately 100 attendees for each event) with training, technical assistance, lessons learned from the Rhode Island Ocean Special Area Management Plan (Ocean SAMP) process, and networking opportunities to strengthen the overall field of existing and emerging marine spatial planning expertise. 2011, 2012, 2015. Funders: Rhode Island Sea Grant, The Gordon and Betty Moore Foundation. Amount: \$450,000.

*Investigation of Users' Preferences for and Values of Recreational Boating Activities Associated with the Block Island Wind Farm.* Lead/Team: T. Dalton, J. Livermore, J. Opaluch, R. Thompson. This study uses a stated preference approach to investigate on-the-water users' preferences for and valuation of alternative configurations of recreational boating trips associated with off-shore wind farms in and around Rhode Island waters. 2016-present. Funder: Rhode Island Sea Grant. Amount: \$79,926.

*MARine mammal Monitoring at Block Island using Acoustics (MARIMBA).* Lead: J. Miller. The project focuses on continuing the development of a underwater acoustic detection system that will classify, track and display vocalizing whales near offshore wind facilities. In 2017-2018, seniors in URI Ocean Engineering designed, built and demonstrated a cell phone network-based communication system for real time passive underwater acoustic monitoring. New buoys will be designed in collaboration with Woods Hole Oceanographic Institution for the expected depths, currents, surface waves and seafloor properties of this offshore environment. This project is anticipated to receive funding in 2018. Anticipated Funder: Deepwater Wind. Amount: \$250,000.

*Price-based Inferences into the Socio-economic Impacts of the Block Island Wind Farm.* Lead: Corey Lang. This study employed quantitative evaluation of tourism impacts of Block Island Wind Farm using short-term rental market (i.e., Airbnb). Quantitative assessment of permanent resident valuation of Block Island Wind Farm using property transaction sales data. 2018-2020. Funder: Rhode Island Sea Grant. Amount: \$270,000.

*Real-time Opportunity for Development of Environmental Observations (RODEO).* Lead: J. Miller. The study involves collecting real-time measurements of the construction and operation activities (including sound) from the first offshore wind facilities at the Block Island Wind Farm for more accurate assessments of the actual environmental effects and to inform development of appropriate mitigation measures. 2015-present. Funder: U.S. Bureau of Ocean Energy Management. Approximate Amount: \$1,500,000.

*Rhode Island Ocean Special Area Management Plan (Ocean SAMP) Design of a Southern New England Offshore Wind Demonstration Site.* Lead: A. Grilli. Optimization of the wind farm siting and layout using optimization methods (micrositing optimization). The optimization includes mitigation between wind resources, technological and ecosystem services constraints. In particular, ecological and fishery services were explored and included as constraints. 2011-2012. Funder: Department of Energy. Amount: \$130,000.

*Survey Design for Assessing Impacts of Development and Habitat Alteration on Distribution and Abundance of Birds.* Lead/Team: P. Paton and S. McWilliams. Applied quantitative modeling techniques (including density surface modeling, resource selection functions, boosted hierarchical models) to directly assess impacts of such disturbances or alterations on bird distribution and abundance; formal ‘damage assessment’ to determine financial compensation associated with effect of oil spills and offshore development on bird populations; application of bird ecophysiology to conservation; endangered species management. 2008 – Present. Funder: RI DEM. Amount: \$800,000.

*Technical Support for Marine Spatial Planning in Other States and Countries.* Lead: J. McCann. For this effort, McCann provided lessons learned from the Rhode Island Ocean Special Area Management Plan (Ocean SAMP) and other ocean planning efforts and tailored technical support, including extensive study tours and recommendations reports, to other states and countries seeking to resolve pressing coastal and ocean resources challenges and issues. McCann provided this extensive technical support to: South Carolina, Washington (State), Delaware, and New York between 2012 – 2018. Funder: Rhode Island Sea Grant and The Gordon and Betty Moore Foundation. Amount: \$100,000.

*Understanding Marine Resource User Response to Ecological Impacts of Offshore Wind Energy: A Case Study of the Block Island Wind Farm.* Lead/Team: J. Livermore, J. McNamee and T. Dalton. This interdisciplinary project investigates how the Block Island Wind Farm and its corresponding electricity transmission system to the mainland will impact the local marine ecosystem and how marine resource users will be affected by these impacts. 2016-Present. Funder: Rhode Island Sea Grant. Amount: \$56,437.

*Understanding the Relationship Between the Block Island Wind Farm and Indigenous Island Lives, Past and Present.* Lead/Team: A. Moore and J. Frazier. This project integrates historical research and contemporary interviews and ethnography to explore the indigenous experience on Block Island and the social effects of the Block Island Wind Farm and its cables on current indigenous lives and the future of indigenous community life on the island. This project will also explore the implications of offshore wind expansion for indigenous communities in greater New England. Initiated in Summer 2018 and ongoing. Funder: U.S. Department of Agriculture.

*University of Rhode Island (URI) Partnership for Energy.* Lead: M. Gold. The URI Partnership for Energy aimed at establishing an interdisciplinary team of researchers, students and outreach specialists to work in collaboration with national, state and local governments, energy providers and the business community to develop locally based solutions to energy issues. It funded Energy Fellows. 2007-2010. Funder: State of Rhode Island. Amount: \$200,000.

## **ORE International Collaborations**

Benjamin, Jonathan, PhD, Senior Lecturer, College of Humanities, Arts and Social Sciences, Flinders University, Australia. Lead/Team: J. King and D. Robinson. Benjamin is a specialist in submerged landscapes archaeology. URI served on a steering committee for Flinders University during its research design, development and application process for funding to conduct submerged landscapes archaeology in the Pilbra region of Northwest Australia. Benjamin, an underwater archaeologist, collaborated with URI on a paleocultural landscapes project, funded by the U.S. Bureau of Ocean Energy Management, for more than six years. Area of expertise: Submerged landscapes archeology.

Bay of Fundy, Canada. URI Lead: J. McCann. This effort provided marine spatial planning technical support for the Bay of Fundy, and engaged participants in a tailored study tour in 2017 regarding the Bay's pressing planning issues. The work was funded by the World Wildlife Federation-Canada. Areas of expertise: marine spatial planning expertise, coastal and ocean management technical assistance; guidance to improve the management of existing and future resources and uses.

Centre for Research into Ecological and Environmental Modelling, University of St. Andrews, Fife, UK. Lead/Team: P. Paton and S. McWilliams. This work took place from 2010 -2014 and involved integrating aerial and ship surveys of marine birds to estimate density of birds in relation to offshore wind energy siting. Area of expertise: quantitative modeling of marine bird distribution and abundance.

Dencker, Jorgen, PhM, Director of Underwater Archaeological Research (emeritus), Viking Ship Museum, Denmark. Lead/Team: J. King and D. Robinson. Dencker is a specialist in submerged landscapes archaeology and served as an advisor to a URI submerged paleocultural landscapes project, funded by the U.S. Bureau of Ocean Energy Management, for more than six years. Area of expertise: Submerged landscapes archeology.

English, Paul, Fugro Renewables, Cornwall UK. Lead/Team: J. King. English is a marine ecologist expert in impacts of offshore renewables on marine ecology, and reef effects. He has collaborated with URI on the benthic ecology studies of the Block Island Wind Farm funded by the U.S. Bureau of Ocean Energy Management (through HDR) for the last two years. Area of expertise: Marine ecology.

European Commission/European Union. Lead: J. McCann. This work in 2016 comprised a study on compiling and assessing cross-border maritime spatial planning experiences in order to assist the European Union (EU) and its member states in implementing the EU Marine Spatial Planning Directive. Area of expertise: Provision of marine spatial planning expertise.

Gill, Andrew, Pangalia Environmental, UK. Lead: J. King. Gill marine and fisheries biologist and an expert on electromagnetic field and underwater noise effects on marine organism. URI and Gill have collaborated on electro-magnetic field studies funded by U.S. Bureau of Ocean Energy Management, Deepwater Wind and National Grid for the last five years. Area of expertise: Marine and fisheries biology.

Gregory, David, PhD, Senior Scientist/Research Professor, National Museum of Denmark, Conservation Department, Copenhagen, Denmark. Lead/Team: J. King and D. Robinson. Gregory is a specialist in submerged archaeological site formation processes and in situ site monitoring and preservation, and URI has worked with him on multiple underwater projects since 2001. With funding from the U.S. Bureau of Ocean Management, this paleocultural landscapes project has been underway for more than six years. Area of expertise: Submerged archeology.

Hocker, Frederick, PhD, Director of Research, Vasa Museum, Stockholm, Sweden. Lead/Team: J. King and D. Robinson. Hocker is a nautical archaeology and public education specialist. URI has worked with Dr. Hocker on multiple underwater projects in the U.S. Denmark and Sweden. With funding from the U.S. Bureau of Ocean Management, this paleocultural landscapes project has been underway for more than six years. Area of expertise: Nautical archeology and public education.

Hutchison, Zoe, Post-doc at Cranfield University, United Kingdom. Lead: J. King. Hutchison, now at URI, is a marine biologist and expert on electromagnetic field effects on marine organisms. The UK collaboration on electro-magnetic field studies was funded by U.S. Bureau of Ocean Energy Management, Deepwater Wind and National Grid for the last five years. Area of expertise: Marine biology and electromagnetic field effects.

National Environmental Research Institute, Aarhus University, Ronde, Denmark. Lead/Team: P. Paton and /S. McWilliams. This collaborative assessment of the effect of offshore wind energy development on marine birds has been underway since 2008. Area of expertise: survey methods and experimental design for assessing the impact of offshore wind energy facilities on marine birds.

Max Planck Institute for Ornithology, Seewiesen, Germany. Lead/Team: P. Paton and /S. McWilliams. This collaboration regarding the physiology and ecology of migratory birds has been underway since 2005-present. Area of expertise: energy and nutrient costs of activity (e.g., flight, feeding) in relation to environmental change and disturbance.

MOTUS NETWORK, Bird Studies Canada; [motus.org](http://motus.org). Lead/Team: P. Paton and S. McWilliams. This collaboration on tracking offshore movements on terns and plovers has been underway since 2015. Area of expertise: migration ecology, endangered species, tracking fine-scale movements of birds near offshore wind facilities.

Norwegian Geotechnical Institute. Lead/Team: The Institute has been a part of three collaborative proposals with URI to several federal departments related to offshore wind, including the \$20 million Advanced Technology Demonstration Project in 2012. Area of expertise: marine geotechnical engineering, offshore wind energy.

Pavitt, Thomas. Participating graduate student in Erasmus Mundus Master Course on Maritime Spatial Planning, University of Azores. Lead: J. McCann. The Joint Master Course on Maritime Spatial Planning is a two-year advanced professional master program designed within the

Erasmus Mundus program. Three European universities participate, with Pavitt representing the University of Azores. McCann provided Pavitt with education, mentorship and connection to training and networking related to marine spatial planning education and workforce training efforts. In this program, students are familiarized with key issues involved in policy formulation and planning strategies for maritime space, to improve the management of resources from an environmental, economic, social and legal perspective within the framework of international maritime policies. Area of expertise: Marine spatial planning education and mentorship.

Sigray, Peter, Research Director, Swedish Defense Research Agency, Sweden. Lead: J. King. Sigray is an expert in developing sensors and surveys to measure electromagnetic fields and undersea noise related to offshore wind development. He is the inventor of sensitive sensors for these types of measurements. This collaboration on electro-magnetic field studies has been funded by U.S. Bureau of Ocean Energy Management, Deepwater Wind and National Grid for the last five years. Area of expertise: Development of sensors and surveys to measure electromagnetic fields and undersea noise related to offshore wind development.

Verhagen, Philip, PhD, Associate Professor of Humanities, Vrije University, Amsterdam, Netherlands. Lead/Team: J. King and D. Robinson. Verhagen is a specialist in computer applications and quantitative methods in archaeology, with an emphasis on GIS, spatial analysis and modelling. He is an advisor to URI's Submerged Paleocultural Landscapes Project. The collaboration has been funded by the U.S. Bureau of Ocean Management for more than six years. Area of expertise: Underwater archaeology.

Wessman, Stefan, PhD, Archaeologist/Senior Advisor, National Board of Antiquities, Helsinki, Finland. Lead/Team: J. King and D. Robinson. Wessman is a specialist in nautical archaeology and submerged cultural resource management, and URI has worked with him on underwater projects in Denmark. The collaboration has been funded by the U.S. Bureau of Ocean Management for more than six years. Area of expertise: Underwater archaeology.

Westley, Kieran, PhD, Research Associate, School of Environmental Sciences, Ulster University, N. Ireland, United Kingdom. Lead/Team: J. King and D. Robinson. Westley is a specialist in submerged landscapes archaeology, GIS, and remote sensing. He is an advisor to URI's Submerged Paleocultural Landscapes Project. The collaboration has been funded by the U.S. Bureau of Ocean Management for more than six years. Area of expertise: Underwater archaeology.

### **ORE Technical Reports/Publications**

Beuth, J. M., S.R. McWilliams, P.W.C. Paton, and J.E. Osenkowski. 2017. Habitat use and movements of common eider wintering in southern New England. *Journal of Wildlife Management* 81:1276-1286.

Bidwell, D. 2017. Ocean beliefs and support for an offshore wind energy project. *Ocean and Coastal Management*, 146, 99-108.

- Bidwell, D. 2016. Thinking through participation in renewable energy decisions. *Nature Energy*, 1. Article number 16051. doi:10.1038/nenergy.2016.51
- Boslett, A., Guilfoos, T., & Lang, C. (2016). Valuation of expectations: A hedonic study of shale gas development and New York's moratorium. *Journal of Environmental Economics and Management*, 77, 14-30.
- Carr-Harris, A., & Lang, C. (2018). Sustainability and Tourism: A Case Study of the United States' First Offshore Wind Farm.
- Dwyer, J. and D. Bidwell. 2019. Chains of trust: Lessons on public engagement from the United States' first offshore wind farm. *Energy Research & Social Science*, 47, 166-176.
- Firestone, J., D. Bidwell, M. Gardner, and L. Knapp. 2018. Wind in the Sails or Choppy Seas?: People-Place Relations, Aesthetics and Public Support for the United States' First Offshore Wind Power Project. *Energy Research & Social Science*, 40:232-243.
- Gilbert, C., H. Smith, D. Bidwell, S. Smythe, A. Moore, J. McCann, and E. Miller. 2018. Gatekeeping and communities in energy system transition: A study of the Block Island Wind Farm. Under revision at *Environmental Communication*.
- Grilli, A.R. and E.J. Shumchenia 2015. Toward wind farm monitoring optimization: assessment of ecological zones from marine landscapes using machine learning algorithms. *Hydrobiologia*, 756(1), 117-137
- Grilli, A.R. and M.L. Spaulding 2013. Offshore wind resource assessment in Rhode Island waters. *Wind Engineering*, 37: 579-594.
- Grilli, A.R., Lado, T., and M. Spaulding 2012. A protocol to include ecosystem services in a wind farm cost model. *J. Environmental Engng.* 139: 176-186.
- Grilli, A.R., Spaulding, M.L., O'Reilly, C., and G. Potty 2012. Offshore wind farm siting optimization: methodology and application to Rhode Island coastal waters. In Proc. of the 33rd Intl. Coastal Engineering Proceeding (Santander, Spain, July 2012)
- Hensel, J., Sharma, M.S.R., Baxter, C.D.P., Hu, S.-L.J. (2012). Development of a Technology Type Factor for Jacket Structures for Offshore Wind Turbines in Rhode Island, *Journal of Renewable and Sustainable Energy*, 4, 063120.
- HDR. 2018. Year 2 Benthic Monitoring during Wind Turbine Installation and Operation at the Block Island Wind Farm, Rhode Island. Final Report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. OCS Study BOEM 2018. 317 pp.



Hoagland, P., T.M. Dalton, D. Jin, J.B. Dwyer. 2015. An approach for analyzing the spatial welfare and distributional effects of ocean wind power siting: The Rhode Island/Massachusetts area of mutual interest. *Marine Policy*. 58, 51-59.

Hutchison, Zoe; Sigray, Peter; He, Haibo, Gill, Andrew; King, John; Gibson, Carol. 2018. Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2018-003. 147 pp. + Appendices.

LaFrance, Monique; King, John. Oakley, Brian. Pratt, Sheldon. 2014. A comparison of top-down and bottom-up approaches to benthic habitat mapping to inform offshore wind energy development. *Continental Shelf Research* 33. p. 24-44.

Lang, C. 2018. Assessing the efficiency of local open space provision. *Journal of Public Economics*, 158, 12-24.

Lang, C., & Cavanagh, P. 2018. Incomplete Information and Adverse Impacts of Environmental Cleanup. *Land Economics*, 94(3), 386-404.

Lang, C., Opaluch, J. J., & Sfinarolakis, G. 2014. The windy city: Property value impacts of wind turbines in an urban setting. *Energy Economics*, 44, 413-421.

Loring, P. H., P.W.C. Paton, J. E. Osenkowski, S. G. Gilliland, J-P L. Savard, and S.R. McWilliams. 2014. Habitat use and selection of black scoters in southern New England and siting of offshore wind energy facilities. *Journal of Wildlife Management* 78:645-656.

McCann, J. (2012). Developing Environmental Protocols and Modeling Tools to Support Ocean Renewable Energy and Stewardship. 2012. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA., OCS Study BOEM 2012-082, 626 pp.

McCann J. and T Smythe. 2018. In press at special edition of *Ocean and Coastal Management Journal*, M. Gilek, H. Calado, K. Gee, S. Kidd and F. Saunders, guest editors. "Achieving integration in the practice of MSP: lessons from the U.S. experience."

McCann, J. and T. Smythe. 2016. "Case Studies of Marine Spatial Planning in the U.S." (three-report series). Coastal Resources Center/RI Sea Grant, URI Graduate School of Oceanography).  
McCann, J., T. Smythe, G. Fugate, K. Mulvaney, and D. Turek. 2014. Identifying Marine Spatial Planning Gaps, Opportunities, and Partners: An Assessment. Coastal Resources Center and Rhode Island Sea Grant College Program. Narragansett, R.I. 60 pp.

McCann J. and S. Schumann, with G. Fugate, S. Kennedy, and C. Young. 2013. The Rhode Island Ocean Special Area Management Plan: Managing Ocean Resources Through Coastal and

Marine Spatial Planning. University of Rhode Island Coastal Resources Center/Rhode Island Sea Grant College Program, Narragansett, R.I.

Moore, A. 2018. Selling Anthropocene Space: Situated Adventures in Sustainable Tourism. *Journal of Sustainable Tourism*: published online 8/3/2018

Moore, A. 2015. Islands of Difference: Design, Urbanism, and Sustainable Tourism in the Anthropocene Caribbean. *Journal of Latin American and Caribbean Anthropology* 20(3): 513-532

Moore, A. 2012. The Aquatic Invaders: Marine Management Figuring Fishermen, Fisheries, and Lionfish. *Cultural Anthropology* 27(4): 667-688

Moore, A. 2010. Climate Changing Small Islands: Considering Social Science and the Production of Island Vulnerability and Opportunity. *Environment and Society: Advances in Research* 1: 116-131

National Academies of Sciences, Engineering, and Medicine, 2018. An Evaluation of the U.S. Department of Energy's Marine and Hydrokinetic Resource Assessments. Washington, DC: The National Academies Press, 154 pages.

National Academies of Sciences, Engineering, and Medicine. 2018. Atlantic Offshore Renewable Energy Development and Fisheries: Proceedings of a Workshop—in Brief. Washington, DC: The National Academies Press.

Neill Simon P. and Hashemi M. Reza. 2018. *Fundamentals of Ocean Renewable Energy; Generating Electricity from the Sea*, Academic Press, Elsevier, 336 pages. First Edition. ISBN: 9780128104484.

Newhall, A. E., Lin, Y. T., Miller, J. F., Potty, & Mason, T. 2016. Monitoring the acoustic effects of pile driving for the first offshore wind farm in the United States. *The Journal of the Acoustical Society of America*, 139: 2181-2181.

Olsen, Stephen, McCann, J. and Bartley, M. “Marine Spatial Planning in the United States: Triangulating between state and federal roles and responsibilities. (2015). *Routledge Handbook of Ocean Resources and Management*. Smith, H, Suarez de Vivero, and Agardy, T. p 507-523.

Olsen, S. B. J. McCann. G. Fugate. The State of Rhode Island’s Pioneering Marine Spatial Plan, *Marine Policy Journal*. 45 (2014) 26 - 38.

O’Reilly C., Grilli A. and G. Potty 2013. Micrositing Optimization of the Block Island Wind Farm, RI, USA. In *Proc. ASME 2013 32nd International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2013, Nantes June/9-14/2013)*.

Robinson, David; Gibson, Carol; King, John. 2018. Developing Protocols for Reconstructing Submerged Paleocultural Landscapes and Identifying Native American Archaeological Sites in

Submerged Environments: Best Practices. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA. 55 p.

Saunders, F., J. Gilek, J. McCann, T. Smythe, and other authors. In press at special edition of Ocean and Coastal Management Journal, M. Gilek, H. Calado, K. Gee, S. Kidd and F. Saunders, guest editors). “How useful is integration as a framework to analyze MSP?”

Smith, H., T. Smythe, A. Moore, D. Bidwell, J. McCann. 2018. The social dynamics of turbine tourism and recreation: Introducing a mixed-method approach to the study of the first U.S. offshore wind farm. In press at *Energy & Research Social Science*.

Smythe, T. and J. McCann. 2018. “Stakeholder Participation and Inter-Organizational Cooperation in Marine Spatial Planning: Lessons from Three U.S. Case Studies.” In press at *Marine Policy Journal*.

Sokoloski, R., E. Markowitz, and D. Bidwell. 2018. Public estimates of support for offshore wind energy: False consensus, pluralistic ignorance, and partisan effects. *Energy Policy*, 112:45-55.

ten Brink, T. and T. Dalton. 2018. Offshore Wind Impacts on Fishermen: Perceptions of the Potential Ecological Impacts of the Block Island Wind Farm. In review at *Frontiers in Marine Science*.

Thompson, R. 2005. Reporting offshore wind power: Are newspapers facilitating informed debate? *Coastal Management*. 33, 247-262.

Winiarski, K.J., D.L. Miller, P.W.C. Paton, and S. R. McWilliams. 2013. Spatially explicit model of wintering common loons: conservation implications. *Marine Ecology Progress Series* 492:273-283.

Winiarski, K.J., D.L. Miller, P.W.C. Paton, and S. R. McWilliams. 2014. A spatial conservation prioritization approach for protecting marine birds given proposed offshore wind energy development. *Biological Conservation* 169:79-88.

Winiarski, K.J., Burt, M.L., Rexstad, E., Miller, D.L., Trocki, C.L., Paton, P.W.C., McWilliams, S.R. 2014. Integrating aerial and ship surveys of marine birds into a combined density surface model: A case study of wintering Common Loons. *Condor* 116: 149-161