4-2023

Marine Law Symposium: Can Offshore Wind Development Have A Net Positive Impact On Biodiversity? Regulatory And Scientific Perspectives And Considerations, April 20-21, 2023

Roger Williams University School of Law

Marine Law Symposium

Thursday, April 20, 2023
11:30am - 5:00pm
RWU Law Bristol Campus
Registration Required

Can Offshore Wind Development Have a Net Positive Impact on Biodiversity? Regulatory and Scientific Perspectives and Considerations

Thursday, April 20, 2023 - Program Begins at 11:30 AM

Friday, April 21, 2023 - Program Begins at 8:00 AM

The concept of achieving "net positive impact on biodiversity" (NPI) is not new; however, the application of this concept to offshore wind development is relatively new. In the offshore wind context, there is no universal framework, consensus as to definitions, or specific regulatory scheme for integrating biodiversity goals into new projects. This symposium will explore the concept of NPI in the ocean and near coastal environment, and ask whether and how it should be integrated into offshore wind projects in the United States. The symposium will bring together scientific, regulatory, legal, and industry experts from the United States and Europe to discuss: (1) the concept of NPI generally, and specifically in the offshore wind context especially as it relates to a well-established mitigation hierarchy; (2) whether increased biodiversity is the appropriate metric and how success would be measured; (3) the existing status of various drivers—including environmental, governmental, financial, and corporate—for the NPI approach in the offshore wind development context; (4) the existing approaches to incorporating environmental benefit considerations into agency decision-making in the United States and in other countries; and, (5) technological and project specific examples of how nature-inclusive designs and environmental benefits are being applied in the United States and other countries. The symposium is intended to be future oriented, educational, neutral, and high-level.

This program has been approved for 12.5 Rhode Island MCLE credits.

HYDRATION STATION:
In an effort to reduce the use of single-use plastic bottles, please consider bringing a reusable water bottle to the Marine Affairs Institute Symposium and fill at our hydration station during the symposium.

For nearby lodging accommodations, we recommend viewing the options available here.

Co-Hosted by The Marine Affairs Institute at Roger Williams University School of Law and The Nature Conservancy

Questions | marineaffairs@rwu.edu

SPECIAL ACCOMMODATIONS:
Persons who, because of a special need or condition, would like to request an accommodation for an event should contact the Office of the Dean - Programs & Initiatives, as soon as possible, but no later than 72 hours before the event, so that appropriate arrangements can be made. lawevents@rwu.edu

April 20-21, Roger Williams University School of Law, Bristol, Rhode Island

Organizers:
The Nature Conservancy
Roger Williams University School of Law Marine Affairs Institute/Rhode Island Sea Grant Legal Program

The concept of achieving "net positive impact on biodiversity" (NPI) is not new; however, the application of this concept to offshore wind development is relatively new. In the offshore wind context, there is no universal framework, consensus as to definitions, or specific regulatory scheme for integrating biodiversity goals into new projects. This symposium will explore the concept of NPI in the ocean and near coastal environment, and ask whether and how it should be integrated into offshore wind projects in the United States. The symposium will bring together scientific, regulatory, legal, and industry experts from the United States and Europe to discuss: (1) the concept of NPI generally, and specifically in the offshore wind context especially as it relates to a well-established mitigation hierarchy; (2) whether increased biodiversity is the appropriate metric and how success would be measured; (3) the existing status of various drivers—including environmental, governmental, financial, and corporate—for the NPI approach in the offshore wind development context; (4) the existing approaches to incorporating environmental benefit considerations into agency decision-making in the United States and in other countries; and, (5) technological and project specific examples of how nature-inclusive designs and environmental benefits are being applied in the United States and other countries. The symposium is intended to be future oriented, educational, neutral, and high-level.
Additional topics the symposium will explore include:

- What is the meaning of NPI in the context of offshore wind development?
- How is NPI connected to the mitigation hierarchy and the regulatory scheme that's currently in place?
- Is it possible to achieve and measure NPI in the ocean environment in the context of offshore wind development? If yes, is it the best approach to achieving broader environmental benefits?
- What are the challenges to implementing NPI in the context of offshore wind development?
- If NPI could be implemented in the offshore wind context, what are the benefits to nature, species, and habitat? Are there risks associated with relying on NPI goals?
- Are there aspects of existing regulatory schemes or analytic approaches in the United States or abroad that could improve the way we measure and track NPI goals in offshore wind?
- How are offshore wind companies implementing NPI and working toward their biodiversity goals in the U.S. and other countries?
- Are there applications, materials, and technologies that are being developed now that could be incorporated into science plans, frameworks, and best practices for the industry?

Thursday, April 20

11:30 am - 12:15 pm
Registration, Boxed lunches available

12:30 pm - 12:45 pm
Welcome and Introductions

12:45 pm - 2:45 pm
Session 1, Part 1:
Setting the Stage: What does Net Positive Impact on Biodiversity (NPI) in the Ocean Mean as it Relates to
the Mitigation Hierarchy for Offshore Wind—Regulatory Perspectives.

Questions this panel will address:
- What is the existing regulatory framework for offshore wind projects in the United States?
- How are impacts and mitigation addressed within this framework?
- Case studies of how the existing framework enables or limits evaluation of environmental impacts and restoration/mitigation.
- Can NPI be connected to the mitigation hierarchy and the regulatory scheme that's currently in place?

Moderator: Jackie Rolleri, JD, Deputy Chief, Oceans and Coasts Section, Office of the General Counsel, National Oceanic and Atmospheric Administration.

Speakers:
- Amy Trice, Northeast Regional Ocean Council (NROC), and
- Edward (Ted) Boling, JD, Partner, Perkins Coie (remote participation); The existing regulatory framework for approving an offshore wind project and addressing mitigation through NEPA.
- Matthew Eisenson, JD, Associate Research Scholar, Sabin Center at Columbia University; How does the NEPA process evaluate impacts to species & habitat? Risks and opportunities.
- Becca Loomis, JD, Project Attorney, Natural Resources Defense Council (NRDC); Opportunities through the NCOS process/surveys to get more information upfront that can help shape siting but also inform nature positive goals relative to longer term impacts on species and overview of BOEM auction process for offshore wind leases, changes to adopt a multi-factor bidding process.
- Stephanie Vail-Muse, Regional Energy Coordinator, United States Fish and Wildlife Service (USFWS); Specific federal agency examples of how the mitigation hierarchy is applied in existing regulatory framework.
- Grover Fugate, former RI coastal zone management agency director; How states address their mitigation goals and habitat and species concerns, and role/need for adaptive management through the federal NEPA process.

2:45 pm - 3:15 pm
Networking and Refreshment Break

3:15 pm - 5:15 pm
Session 1, Part 2:
What does Net Positive Impact on Biodiversity (NPI) in the Ocean Mean as it Relates to the Mitigation Hierarchy for Offshore Wind—Science Perspectives.

Questions this panel will address:

- Is it possible to achieve NPI in the context of offshore wind?
- What are the challenges and obstacles to implementing and demonstrating success?
- Is it appropriate to talk about "net" gain?
- Is biodiversity the right metric?

Moderator: Jessica Wilkinson, Senior Policy Advisor for Energy and Infrastructure, The Nature Conservancy.

Speakers:
- Melanie Austen, Professor of Ocean and Society at Plymouth University UK, and Aisling Lannin, Head of Evidence at the Marine Management Organisation UK; Co-authors of 2021 report explaining how concept of marine net gain relates to the mitigation hierarchy.
- Sarah Cooley, Director of Climate Science, Ocean Conservancy; Global Biodiversity Framework and how net gain connects to it and the mitigation hierarchy.
- Neil Cousins, Founder and Director, Blue Dot Associates (remote participation).
- Aspen Ellis, University of California Santa Cruz; Co-author of this 2022 report regarding net gain and birds.
- Claire Fletcher, Senior Principal Consultant, Biodiversity Consultancy (remote participation).
- Kate Williams, Director, Center for Research on Offshore Wind and the Environment, Biodiversity Research Institute.

5:45 pm - 7:30 pm
Optional Dinner (Registration Required)

Friday, April 21
8:00 am - 8:30 am
Coffee & Continental Breakfast

8:30 am - 9:45 am
Session 2:
Why Set NPI Targets in Offshore Wind? Varying Policy and Science Perspectives
Questions this panel will address:
- If we could implement NPI in offshore wind, what are the benefits to nature, species, habitat?
- Are there other policy or science reasons–including financial and corporate drivers–for implementing NPI in offshore wind?

Moderator: Amber Hewett, Program Director, Offshore Wind Energy, National Wildlife Federation.

Speakers:
- Drew Carey, Vice President of Americas, Venterra; Consultant perspective.
- Neil Cousins, Founder and Director, Blue Dot Associates; Science and international lending perspective (remote participation).
- Boze Hancock, Senior Marine Restoration Scientist, The Nature Conservancy, U.S. and global projects.
- Laura Harland, Marine Net Gain Team Leader, U.K. Dept. of Environment and Fisheries and Rural Affairs, Government's perspective on environmental improvement opportunities and

Offshore Wind (remote participation).
- Atma Khalsa, Environmental Affairs Manager, Avangrid; World Bank requirements.
- Rennie Meyers, Senior Public Affairs Advisor Global Engagement & Thought Leadership, Orsted; Developer perspective.

9:45 am - 11:15 am
Session 3, Part 1:
Regulatory Opportunities: How Can NPI be Advanced in Offshore Wind Projects?
An Examination of the Solicitation Process and Other Possible Implementing Mechanisms for NPI.

Questions this panel will address:
- How are non-price criteria for ecological benefits incorporated into solicitations for offshore wind in the US and in the Netherlands?
- How are bids qualitatively evaluated through these processes?
- What are the challenges to using the solicitation process to choose projects that provide ecological benefits and improvements?

Moderator: Mark James, Visiting Assistant Professor and a Senior Energy Fellow in the Institute for Energy and the Environment, Vermont Law School.

Speakers:
- Ruud DeBruijne, Tendering Manager, Netherlands Enterprise Agency; Netherlands example from the agency empowered to issue offshore leases (remote participation).
- Martin Heinze, Economist, Bureau of Ocean Energy Management (BOEM); Auction process.
- Egbert Jansen, Pondera; Perspective of consultant preparing project bids in the Netherlands (remote participation).
- Kate McClellan Press, Senior Project Manager, New York State Energy Research and Development Authority (NYSERDA); State perspective on solicitation process.
- Remco van Sliedregt, Lead Counsel Legal and Regulatory, USA, Boskalis; Contract attorney perspective on responding to solicitations for offshore wind.
- Michael Richard, Commissioner, Maryland Public Service Commission (remote participation).

11:15 am - 11:30 am
Networking Break and Refreshments

11:30 am - 12:30 pm
Session 3, Part 2:
Regulatory Opportunities: How Could NPI be Advanced in Offshore Wind Projects?
An Examination of Existing Restoration Analysis and Mitigation Models and Their Possible Applicability to NPI.

Questions this panel will address:
- Are there aspects of existing analytic approaches or regulatory schemes that could improve the way we measure and track success of NPI goals in offshore wind?
- If so, how can we implement those approaches in any new regulatory scheme for offshore wind?

Moderator: Dr. Di Jin, Senior Scientist, Marine Policy Center, Woods Hole Oceanographic Institute (WHOI).

Speakers:
- Scott Friedman, Principal, Industrial Economics, Incorporated; Consultant NRDA trustee perspectives, specific application examples.
- Jason Kinnell, Principal Economist and Founding Partner, Veritas Economics; NRD assessments (overview of analyses).
- Michelle Mattson, Senior Project Manager, Corps Institute for Water Resources (invited).
- Aisling O'Shea, Program Administrator, Massachusetts Department of Fish and Game's In-Lieu Fee Program.

12:30 pm - 1:45 pm
Lunch (provided)

1:45 pm - 3:00 pm
Session 4:
Application Opportunities and Challenges of NPI in Offshore Wind Industry: U.S. and Beyond—Company Perspectives

Questions this panel will address:
- What are the approaches to setting and meeting NPI goals in the offshore wind space?
- What are the challenges to achieving these goals in the U.S.?
- How are offshore wind companies implementing NPI and achieving these goals in Europe and elsewhere?

Moderator: Maija Benitz, Ph.D., Assistant Professor of Engineering, Roger Williams University.

Speakers:
- Jennifer DuPont, Strategic Permitting Manager, Equinor.
- Anthony Dvarskas, Biodiversity Lead for Offshore North America, Orsted.
- Atma Khalsa, Environmental Affairs Manager, Avangrid.
- Rick Robins, Marine Affairs Manager, RWE.
- Other developers (invited).

3:00 pm - 4:30 pm
Session 5:
Technology and Innovation

Questions this panel will address:
- What are the opportunities to improve habitat and ecosystem functions offshore wind design and material selection?
- What data and monitoring are needed to demonstrate gains or improved function?
- Other challenges and limitations (cost, time, regulations, etc.)?

Moderator: Chris McGuire, Director of Massachusetts' Ocean Program, The Nature Conservancy.

Speakers:
- Adam Baske, Head of Aquaculture and Restoration, Running Tide; Biodiversity enhancement.
- Heather Kinney, Coastal Restoration Scientist, The Nature Conservancy; Reef ball deployment at Sabin Point.
- Annie Murphy, Senior Scientist, INSPIRE; Turbine reef project report & potential for CVOW monopiles to support epibenthic communities that facilitate the redistribution of carbon in the ecosystem.
- Emily Shumchenia, Director, Regional Wildlife Science Collaborative for Offshore Wind (RWSC).
- Sharon Tatman, Expert Advisor, Deltares; Symbiotic inclusive design.
- Fokko van der Goot, Senior Environmental Engineer, Boskalis; Marine construction.

4:30 pm – 4:45 pm

Conclusion and Next Steps:

- Synopsis prepared by Research Attorney at Marine Affairs Institute.
- Solicit feedback on next steps.

Can Offshore Wind Development Have a Net Positive Impact on Biodiversity? Regulatory and Scientific Perspectives and Considerations

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agency decision-making in the United States and in other countries; and, (5) technological and project specific examples of how nature-inclusive designs and environmental benefits are being applied in the United States and other countries. The symposium is intended to be future oriented, educational, neutral, and high-level. Additional topics the symposium will explore include:

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Welcome and Introductions

• **President Ioannis Miaoulis**, Roger Williams University
• **Julia Wyman**, Director, Marine Affairs Institute at Roger Williams University School of Law, Rhode Island Sea Grant Legal Program

• **Tricia Jedele**, Atlantic Coast Offshore Wind Policy Manager, The Nature Conservancy
12:45 pm - 2:45 pm

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• **Amy Trice**, Senior Program Director, Northeast Regional Ocean Council (NROC), and

Edward (Ted) Boling, JD, Partner, Perkins Coie (remote participation); The existing regulatory framework for approving an offshore wind project and addressing mitigation through NEPA.

• **Becca Loomis**, JD, Project Attorney, Natural Resources Defense Council (NRDC); Early opportunities for identifying, avoiding, and mitigating impacts: Wind Energy Area development and lease sales.

• **Matthew Eisenson**, JD, Fellow, Renewable Energy Legal Defense Initiative, Sabin Center at Columbia University; How does the NEPA process evaluate impacts to species & habitat? Risks and opportunities.

• **Stephanie Vail-Muse**, Regional Energy Coordinator, United States Fish and Wildlife Service (USFWS); Specific federal agency examples of how the mitigation hierarchy is applied in existing regulatory framework.

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Moderator: **Jessica Wilkinson**, Senior Policy Advisor for Energy and Infrastructure, The Nature Conservancy.

Content experts:
• **Melanie Austen**, Professor of Ocean and Society at University of Plymouth UK, and **Aisling Lannin**, Head of Evidence and Marine Pioneer Programme Lead at the Marine Management Organisation UK; Co-authors of a 2021 report explaining how concept of marine net gain relates to the mitigation hierarchy.

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• **Claire Fletcher**, Senior Principal Consultant, The Biodiversity Consultancy (remote participation).

• **Kate Williams**, Director, Center for Research on Offshore Wind and the Environment, Biodiversity Research Institute.

6:00 pm - 7:30 pm
Optional dinner offsite. Registration was required—registrants received an email with directions.

Can Offshore Wind Development Have a Net Positive Impact on Biodiversity? Regulatory and Scientific Perspectives and Considerations

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Speaker Biographies

Session 1, Part 1:

Setting the Stage: What does Net Positive Impact on Biodiversity (NPI) in the Ocean Mean as it Relates to the Mitigation Hierarchy for Offshore Wind—Regulatory Perspectives.

Moderator:

Jackie Rolleri is the Deputy Section Chief for the Oceans and Coasts Section for the National Oceanic and Atmospheric Administration's (NOAA) Office of General Counsel. The Oceans and Coasts Section provides legal advice to NOAA's National Ocean Service and NOAA's Office of Marine and Aviation Operations. Among other things, Jackie works on issues pertaining to national marine sanctuaries, coastal zone management, maritime heritage, and hydrographic surveying and charting.

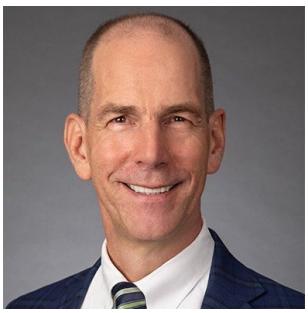
Jackie began her NOAA career in 2011 as a Presidential Management Fellow for the Office for Coastal Management where she focused on Coastal Zone Management Act matters and completed a detail to NOAA's Budget Office. In 2015, Jackie became an Attorney-Advisor for the Office of General Counsel, Oceans and Coasts Section before transferring into her current position in 2019 as the Deputy Section Chief.

In law school, Jackie interned for U.S. Senator Whitehouse and the International Section of NOAA's Office of General Counsel, and served as a Sea Grant Law Fellow. She currently serves as a member of the Marine Affairs Institute Advisory Board for Roger Williams University School of Law.

Jackie received her B.A. in biology and environmental science from Colby College, her J.D. from Roger Williams University School of Law, and her Masters of Marine Affairs from the University of Rhode Island.

Speakers:

Amy Trice is a policy expert and scientist advancing solutions that integrate marine industry, conservation, and science in ocean management decisions. She is the Senior Program Director at the Northeast Regional Ocean Council focusing on regional ocean planning and ocean and coastal management. Amy has worked extensively on integrated management policies with a depth of knowledge on U.S. domestic ocean policy, offshore wind, agency decision-making and permitting processes, ocean data, freshwater systems and stormwater infrastructure, and federal appropriations. Her research and policy expertise has informed congressional staff as well as state and federal agencies on the value of comprehensive and coordinated ocean policies for economic and ecosystem resilience. She recently collaborated with the High Level Panel for a Sustainable Ocean Economy and currently serves on the Environmental Law Institute Ocean Council. Amy graduated from the Odum School of Ecology at the University of Georgia with an MS in Ecology. Her research focused on aquatic ecosystems, analyzing food web theory and predator-prey dynamics.



Edward (Ted) Boling advises clients on the development of renewable energy generation and transmission, resource development, transportation, and infrastructure drawing on over 30 years of high-level public service. Ted served in the Council on Environmental Quality (CEQ), U.S. Department of the Interior (DOI), and the U.S. Department of Justice (DOJ) in both Democratic and Republican administrations.

As General Counsel and in counsel and associate director positions at CEQ, Ted led development of updates to CEQ NEPA regulations and guidance on mitigation and monitoring, environmental conflict resolution, and the development categorical exclusions from detailed NEPA documentation. Ted advised on ocean policy and the establishment of numerous national monuments, including the first marine national monuments in the United States and the largest marine protected areas in the world.

As a Deputy Solicitor and counsel to assistant secretaries at DOI, Ted advised on energy development on the outer continental shelf, including offshore wind power development, and authorization of solar and wind energy projects on public lands. He has provided legal and policy advice on the development of the Western Solar Plan, land management planning throughout the West and in Alaska, and the biodiversity conservation.

At DOJ, as an Honor Attorney and senior trial attorney, Ted litigated significant cases involving NEPA, endangered species, marine mammals, wetland protections, and public lands. He was involved in litigation concerning the Northwest Forest Plan, National Forest management decisions, and transportation decisions in New England

Becca Loomis is a project attorney in the Oceans Division at the Natural Resources Defense Council. She works to protect ocean ecosystems and biodiversity by promoting responsible offshore renewables and preventing harmful industrial uses. She was previously a legal fellow through a joint program between NRDC and Yale Law School, where she served as a clinical lecturer in the Environmental Protection Clinic. Becca received her JD from Yale Law School and a master's in environmental management from the Yale School of the Environment. She is based in New York.

Matthew Eisenson joined the Sabin Center in May 2022, where his work is focused on leading and expanding the Renewable Energy Legal Defense Initiative (RELDI), which uses legal research and engagement to support siting utility- and community-scale renewable energy facilities and associated transmission and storage equipment.

Before joining the Sabin Center, Matthew served for four years as an Assistant Attorney General in the Environmental Protection Bureau of the New York State Attorney General's Office. He also previously worked as a litigation associate at Cleary Gottlieb Steen & Hamilton LLP and as a law clerk for Senior U.S. District Judge Berle M. Schiller of the Eastern District of Pennsylvania. Before law school, he served as a special assistant to the President and Executive Director of the Natural Resources Defense Council.

Matthew received a J.D. from Yale Law School in 2015 and a B.A. in History, magna cum laude, Phi Beta Kappa, with distinction in the major, from Yale College in 2009.

Stephanie Vail-Muse is the Regional Energy Coordinator for the U.S. Fish and Wildlife Service Northeast Region. She coordinates the cross-program renewable energy teams for offshore wind, land-based wind, and solar energy development. The teams are comprised of Fish and Wildlife Biologists from Ecological Services, Migratory Birds, and National Wildlife Refuges programs and focus on evaluating the effects of renewable energy development on federal trust resources across 14 states from Maine to Virginia. She has over 12 years of professional experience partnering with states, Tribes, NGOs, federal and private industry in developing, conserving, managing, and evaluating the impact of socioeconomic activities on federally listed species. Stephanie is a published author for the American Fisheries Society, regularly presents at professional conferences, leads inter-disciplinary teams, and has served on several Regional Steering Committees, Subcommittees, Boards, and Environmental Technical Working Groups in both the southwest and northeast. She is passionate about conserving native species, restoring their populations, and mentoring young professionals in the field of Biology, Conservation Science, Fisheries and Wildlife.

Grover Fugate was Executive Director of the Rhode Island Coastal Resources Management Council (CRMC). In his role of 34 years, Fugate had been responsible for overseeing the development of all policies and programs for the state's coastal program. He recently was the project manager the Council's new Shoreline Change Special Area Management Plan (SAMP) which is a forward-looking plan at how climate change is impacting Rhode Islands shoreline and developing appropriate responses to this threat and protecting the state's coastal infrastructure. Previous to this he was the project lead for the Rhode Island Ocean Special Area Management Plan (Ocean SAMP) which is still considered today the gold standard for Marine Spatial Planning and is internationally recognized. The Ocean SAMP is also the first federally approved ocean plan. During this time, Grover oversaw the permitting and construction oversight of the Nation's first offshore wind farm-the Block Island project. In addition to his duties as Executive Director, he also served as the state Co-Lead to the Ocean Planning initiative for the Northeast Regional Ocean Council and also was the state Co-Lead for the Regional Planning Body, established under President Obama's Executive Order on the National Ocean Policy.

Session 1, Part 2:

What does Net Positive Impact on Biodiversity (NPI) in the Ocean Mean as it Relates to the Mitigation Hierarchy for Offshore Wind—Science Perspectives.

Moderator:

Jessica Wilkinson is Senior Policy Advisor and the North America Renewable Energy Team Lead at The Nature Conservancy. She works in the Conservancy's North America Climate Mitigation Program on accelerating the deployment of renewable energy deployment to support climate, conservation, and community goals.

Before joining The Nature Conservancy, Wilkinson was a Senior Policy Analyst at the Environmental Law Institute in Washington, D.C., where she oversaw the Institute's program of wetlands research and training and state biodiversity policy. Jessica holds a Master of Environmental Management from Yale University, School of the Environment and a BA in Environmental Science from Barnard College, Columbia University.

Speakers:

Melanie Austen is Professor of Ocean and Society at the University of Plymouth where she is also Director of its Centre for Systems Thinking: Ocean, Land and Society. She has pioneered international and national marine natural capital and ecosystem services research for 20+ years with 120+ publications. She has led collaborative, interdisciplinary research in relevant projects, including on coastal communities in SE Asia (GCRF Blue Communities), economic impact from change in marine life across the EU (FP7-266445, VECTORS) and SW UK 'Natural Capital' (SWEEP). She currently leads the UKRI Centre for Doctoral Training in Sustainable Management of Marine Resources, which is training the next generation of transdisciplinary marine researchers and practitioners. She is a member of the boards of the UK Government agencies Natural England and the Joint Nature Conservation Committee (JNCC), was on the UK Government's Natural Capital Committee, and served a 3-year term as the first Chief Scientific Advisor to the UK government's Marine Management Organisation; she is Chair of the Partnership of the UNESCO Biosphere Reserve in North Devon, UK.

Dr. Aisling Lannin is Head of Scientific Evidence and Evaluation at MMO. She has a PhD in fisheries biology and management, with extensive time working at sea and in European fisheries laboratories. She has 15 years' experience applying UK Government marine and fisheries policy using interdisciplinary science. She managed a UK Marine Protected Area (MPA) and co-wrote an ecosystem based MPA management plan hailed as a UK exemplar. She has provided scientific advice for stakeholder identification of MPAs and marine license applications at Natural England. Aisling co-designed the MMO's scientific evidence delivery system and co-wrote the Evidence Strategies. Her work in the MMO has been focused on applying science to marine decision making in fisheries, conservation, regulation of environmental impacts from development and implementing of a marine planning system. This has required advising and steering research programmes across the UK within and outside government as well as designing and commissioning bespoke research to fulfil scientific evidence needs for the MMO. Aisling led the Marine Pioneer programme for Defra and the MMO, a collaborative and participative exploration of applying a natural capital approach in two coastal and marine areas in England.

Dr. Sarah Cooley is the Director of Climate Science at Ocean Conservancy, in Washington DC. She was the Coordinating Lead Author on the Oceans and Coastal Ecosystems chapter in Working Group II of the IPCC's 6th Assessment Report. Dr. Cooley was trained as an ocean carbon cycle scientist and numerical modeler, then moved into interdisciplinary science and policy. She focuses on both ocean climate impacts and ocean-based climate solutions. Follow her on Twitter at @CO2ley

Neil Cousins is an international marine biodiversity advisor with 24+ years' experience. He has been resident as a working marine scientist in the UK, Hong Kong and Oman; and has worked on projects in 39 countries across Africa, Middle East, Europe, Northern Asia, Southeast Asia, South Asia and Australasia. He is currently the Founder and Director of Bluedot Associates Ltd, a specialist marine biodiversity consultancy.

He has vast experience in delivering best practice marine biodiversity assessments, developing and implementing mitigation strategies, baseline research and monitoring. He also has extensive experience in designing and implementing marine restoration, marine spatial planning and integrated coastal zone management. He has been engaged globally on delivering assessments for high-profile projects financed by various IFIs in line with safeguard standards, including PS 6. He provides marine biodiversity technical due diligence support to IESC teams on international projects funded by IFIs. He also helps IFIs to support governments to structure, tender and implement projects. He helps organizations to develop biodiversity strategies and marine net gain approaches. He also provides technical support to intergovernmental organizations, such as the Secretariat of the CBD. He has provided advice across a wide range of sectors with a focus on marine renewable energy (offshore wind, tidal, wave, floating solar), green and brown-field ports and shipping, oil and gas, and a broad spectrum of coastal hinterland developments.

He has produced freely available tools and guidance, including for thematic topics (e.g., underwater sound) and to help in the interpretation of safeguard standards for marine biodiversity (e.g., marine spatial scales of analysis in relation to IFC PS 6). He is also an educator, including acting as a visiting lecturer at three UK Universities, delivering training events (including for IFI staff) and supporting capacity building through the sharing of knowledge using Bluedot as a platform. Finally, he directly supports and helps fund the delivery of community-led conservation projects in Africa and Europe.

Aspen Ellis is a PhD student and NOAA Dr. Nancy Foster Scholar focusing on seabird conservation in the UCSC Ecology & Evolutionary Biology Department. Aspen has been working on avian research and management projects for over 10 years and holds a B.S. from the University of Michigan. Her work in the department focuses on assessing the impacts of offshore wind energy development on seabirds in the California Current Ecosystem and evaluating the efficacy of feasible mitigation measures. Utilization of renewable energy resources is essential to reduce the severity of climate change, but construction of infrastructure in marine environments may pose new risks for marine wildlife. Through her research, Aspen's goal is to facilitate renewable energy development while ensuring that seabird populations aren't jeopardized.

Claire Fletcher is a Senior Principal Consultant and Renewables Lead at The Biodiversity Consultancy, with fourteen years' experience working in business and biodiversity across multiple sectors, globally. Claire's background is in marine ecology, with several years of carrying out fieldwork in the UK offshore wind and aggregate extraction sectors. She is experienced in offshore and onshore ecological assessment for natural resources projects in the renewables, oil & gas and aggregate extraction/mining sectors. Claire specializes in working with clients to develop long-term strategies for biodiversity, across the project or product lifecycle – including identifying biodiversity risk and materiality and developing action plans to set targets and mitigate impacts. She works closely with international lenders, such as the International Finance Corporation, to complete project-level due diligence and align projects with lending requirements (e.g., IFC PS6). Claire has also worked intensively with both lenders and NGOs to prepare sector-level guidance for good practice approaches to biodiversity planning, management, and mitigation.

Kate Williams is the Director of the Center for Research on Offshore Wind and the Environment (CROWE) at the Biodiversity Research Institute (BRI) in Maine, USA. She has worked on renewable energy and wildlife issues since 2010, with a particular focus on 1) assessing birds' offshore distributions and movements, and 2) working with stakeholder groups to identify research priorities and inform environmentally responsible offshore wind energy development

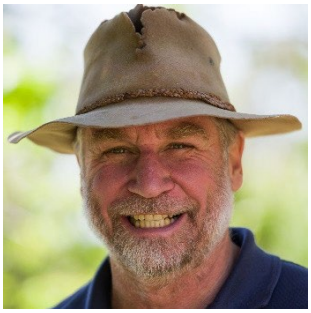
Session 2:

Why Set NPI Targets in Offshore Wind? Varying Policy and Science Perspectives

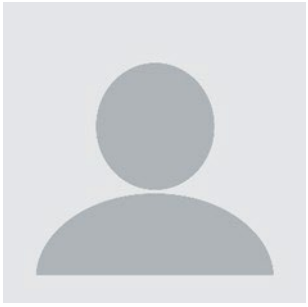
Moderator:

Amber Hewett is the National Wildlife Federation's Offshore Wind Energy Program Director. For more than a decade, she has worked to advance state and federal policies that will both help launch a robust U.S. offshore wind industry on all coasts, and ensure wildlife, habitat, and communities are protected throughout every stage of development. She lives in Newburyport, MA and graduated from the University of Massachusetts Amherst.

Speakers:



Boze Hancock is the Senior Marine Restoration Scientist for TNC's Global Oceans Team, based at the University of Rhode Island's Graduate School of Oceanography. Boze has over 30 years of experience in marine research, working on the ecology, fisheries, management and restoration of coastal marine resources and habitats. For many years he worked in the tropical and temperate Indian and Southern Oceans of Western Australia, leading research into the fisheries ecology of marine invertebrates, primarily molluscs. Since 2004 Boze has been involved in marine habitat restoration in the US and globally, to 2007 with the NOAA Restoration Center and subsequently with TNC's Global Oceans Team. He focuses on restoration of the 'critical coastal habitats', shellfish and coral reefs, salt marsh, seagrass, mangroves and giant kelp. An ongoing emphasis is quantifying the ecosystem services provided by restored habitats, from job creation and stimulating the economic resilience of coastal communities to coastal protection, fish production, nutrient mitigation and water quality improvement. Boze provides technical support to project managers and teams within TNC and partner organizations. He also helps provide the science to support and scale up marine habitat restoration. Since 2014 he has been instrumental in developing, and continues to support, marine programs based on habitat restoration, in China, Hong Kong, Australia, New Zealand, Europe and the UK, as well as projects in the US.



Laura Harland Laura Harland is the team leader for Marine Net Gain, within the Marine and Fisheries Division of the UK Department for Environment Food and Rural Affairs. Working on marine scientific and policy issues for over 10 years, her current role is to support the development of policy on marine net gain in England.

The Department for Environment Food and Rural Affairs is responsible for improving and protecting the environment. We aim to grow a green economy and sustain thriving rural communities. We also support our world-leading food, farming and fishing industries.

Atma Khalsa is an ecologist and impact assessment practitioner with over 15 years of experience in the offshore wind, oil and gas, and infrastructure sectors. He has led teams to successful permitting of over 35 major offshore projects in 25+ countries, including scoping and management of environmental and socioeconomic surveys, technical modeling, stakeholder engagement, environmental and social impact assessment, mitigation and management planning, and monitoring. Atma leads the Avangrid Renewables offshore environment team, working across the US portfolio.

Rennie Meyers is the Sr. Public Affairs Advisor for Oceans and Biodiversity for Orsted, where she manages policy engagement related to ocean health and biodiversity across the company's global portfolio after working in Federal Affairs for the Americas region. Previously, she has worked in the National Science Foundation's Division of Ocean Sciences, in Congress for the House Committee on Transportation and Infrastructure Subcommittee on Coast Guard and Maritime Transportation, in architecture firms, in science communication non-profits, and in bakeries. She has been a Thomas J Watson Fellow, Climate and Security Fellow, and SeaGrant Marine Policy Fellow with the National Oceanographic and Atmospheric Administration, and holds degrees from Reed College (B.A., Environmental Studies & History, 2015) and the University of Rhode Island (M.A., Marine Affairs, 2018).

Drew Carey co-founded INSPIRE Environmental in 2015 and as CEO has built a world-class team of marine scientists into the leading benthic assessment firm in offshore wind. His experience in growing the U.S. market with critical consulting support includes leading a landmark seven-year study of the effects of offshore wind on commercial fish and lobster, recreational fishing, and benthic habitats. His technical contributions include a synthesis of the artificial reef effect of offshore wind structures, Nature Inclusive Design and as part of the ICES Working Group on Marine Benthal and Renewable Energy Developments is leading a focus on non-invasive monitoring approaches. Over a twenty-year period in applied marine science, he and his team have developed innovative approaches to collecting and presenting visual data in interactive decision-making tools now widely used for offshore wind permitting, cable routing and site management. Drew received a Ph.D from the University of St. Andrews, Scotland in marine ecology and geology.

Session 3, Part 1:

Regulatory Opportunities: How Can NPI be Advanced in Offshore Wind Projects?

An Examination of the Solicitation Process and Other Possible Implementing Mechanisms for NPI.

Moderator:

Mark James Mark James is a Visiting Assistant Professor and a Senior Energy Fellow in the Institute for Energy and the Environment. Prior to joining the VLS faculty, Mark was a Global Energy LL.M Fellow at Vermont Law School between 2014 and 2016.

Mark's teaching and research focus on accelerating a just, clean energy transition. He teaches courses on implementing energy policy in a decarbonized world and the laws and policies governing oil and gas. His current research projects include investigating how states can integrate and evaluate non-price criteria in offshore wind solicitations and how to use economic tools to facilitate the early retirement of coal-fired generation.

Mark earned his B.Sc. in Ecology, with honors, from the University of Toronto and his J.D., with an environmental specialization, from the University of Ottawa.

Speakers:

Ruud de Bruijne is programme manager Offshore Wind energy and Energy System at the Netherlands Enterprice Agency (RVO). This agency is part of the Ministry of Economic Affairs and Climate policy (MinEAC).
In the Offshore Wind energy programme RVO is responsible for the site investigations, the permit tenders, communication and stakeholder management. Ruud works on this programme with a team of 25 professionals and in close cooperation with the MEAC, Rijkswaterstaat and TSO TenneT.

In the programme Energy System, he works with a working group and advisory board for the Minister for Energy and Climate on the pathways to a climate neutral energy system in 2050.

He is experienced in the development of wind energy, both on- and off shore, smart grids and decentralized - distributed electricity generation.

His career started at a utility, worked as energy consultant, and joined one of RVO's predecessors in 1987. Some of his previous activities: Manager of e-Decentraal (an interest group for decentralized energy supplies); Secretary National Platform for Transition to a Sustainable Electricity Supply; Coordinator of the EU ERA-NET SmartGrids; Coordinator of RVO's on- and offshore wind activities; Expert support for the European Commission; Member of the Irish Energy Investment Advisory Committee, vice chair of the EU Platform electricity grids (SmartGrids) and ExCo member IEA Implementing Agreement Renewable Energy Technology Deployment.

Egbert Jansen has over 15 years of experience as a project manager of medium and large scale projects. Starting his career for an EPC contractor in the oil and gas and the chemical industry, he learnt to comply with high industry and regulatory standards.

Egbert joined Pondera in 2018 and in his current position as team leader of the contracting team, Egbert is involved in tender management, contract management and construction management of offshore wind farms across Europe and Asia. Besides his involvement in offshore wind project, Egbert is also involved in research and development projects such as large scale energy storage projects, and an offshore hydrogen production demonstrator plant.

Mr. Remco van Sliedregt is Senior Legal Counsel at Boskalis Offshore Energy, a business division of offshore services and dredging contractor Boskalis of the Netherlands. He has worked as an in-house legal counsel on a range of onshore and offshore wind farms in Europe over the past ten years. Since 2020, his focus has been exclusively on the US offshore wind market, negotiating cable transport & installation contracts with several wind developers. Since 2022 he has been supporting the project start-up of the US offshore wind contracts that will be executed by Boskalis between 2023 and 2026.

Prior to working at Boskalis, Remco worked as inhouse counsel at energy utility and wind developer Vattenfall, supporting the development, construction and operation of onshore and offshore wind farms in the Netherlands, UK and Germany. In this capacity, he was part of the Vattenfall team developing bids for the first round of offshore wind tenders for the Borssele wind farm zone in the Netherlands in 2016.

Remco is a graduate from Leiden Law School in the Netherlands. Before starting university, he lived in Fort Kent, Maine for a year as an exchange student. Hence the soft spot for the US. As a bit of a counterbalance to the "copper and steel" environment he works in, he enjoys contributing to local biodiversity initiatives, such as the creation of a "food forest" in a forgotten corner of his local city park.

Kate McClellan Press, as a Senior Project Manager with the Environmental Research team at NYSERDA, Kate works closely with the Offshore Wind program to advance responsible development of offshore wind. She chairs the New York State Offshore Wind Environmental Technical Working Group, bringing together stakeholders and developing strategies to address the environmental challenges of offshore wind energy development. Kate has 15 years of experience working on marine science and conservation and, as a National Science Foundation IGERT fellow, conducted research on the potential impacts of offshore wind development on marine life. Kate has a Master's of Environmental Management from Duke University's Nicholas School of the Environment.

Michael T. Richard was first appointed to the Maryland Public Service Commission in January 2016 and reappointed in 2020. Prior to his appointment, he served as Deputy Chief of Staff to Governor Larry Hogan, advising the Governor on a portfolio of issues and helping to manage cabinet agencies that included Agriculture, Energy, Environment, Lottery and Gaming, Natural Resources and Transportation.

Commissioner Richard worked for more than 10 years at the Nuclear Energy Institute as Legislative Programs Director and Congressional Information Program Director. He then served in Governor Robert Ehrlich's administration as Deputy Secretary of Appointments and as Director of the Maryland Energy Administration.

In 2005, he was appointed to a post at the U.S. Department of Energy—first serving as Executive Director of the Secretary of Energy Advisory Board and later as Deputy Assistant Secretary for Congressional and Intergovernmental Affairs where his issues included nuclear energy, radioactive waste management, and legacy environmental remediation. In 2008, Commissioner Richard was hired by Westinghouse Electric Company as Director of Government and International Affairs. He rejoined Maryland state government in 2015.

Commissioner Richard is a past President of the Organization of PJM States, Inc. (OPSI) and currently serves as its Treasurer, is a member of the Committee on Energy Resources and the Environment for the National Association of Regulatory Utility Commissioners (NARUC), and was appointed by Governor Hogan as the Commission's representative on the Washington Metropolitan Area Transit Commission (WMATC), where he serves as Vice-Chairman.

Commissioner Richard earned his B.A. from Brigham Young University in Provo, Utah, and an M.B.A. from the University of Maryland, College Park. He attended a French language program at L'Université Laval in Québec City, Canada. Commissioner Richard lives in Fort Washington, Maryland.

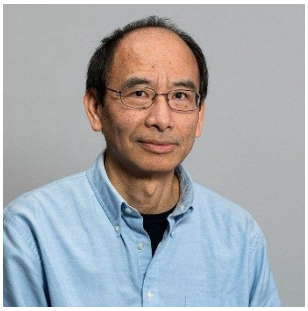
Martin Heinze is a Branch Chief of the Leasing Economics Coordination Branch supporting the Bureau of Ocean Energy Management's conventional and renewable energy programs. He has more than 20 years of public land management and policy experience with the Department of the Interior. His policy work has focused on economic, regulatory and socioeconomic analyses for offshore energy development. Marty received a MA Economics from George Mason University and MBA from Brenau University. He has also worked in public sector consulting and served in the United States Marine Corps.

Session 3, Part 2:

Regulatory Opportunities: How Could NPI be Advanced in Offshore Wind Projects?

An Examination of Existing Restoration Analysis and Mitigation Models and Their Possible Applicability to NPI.

Moderator:



Dr. Di Jin Dr. Di Jin is a Senior Scientist at the Marine Policy Center of the Woods Hole Oceanographic Institution. He holds a Ph.D. in Economics-Marine Resources from the University of Rhode Island. He specializes in the economics of marine resources management and marine industries. Dr. Jin has substantial research experience with the commercial fishing and aquaculture industries, the offshore wind and oil and gas industry, the marine transportation industry, and coastal management problems. His papers have been published in *Ecological Economics*, *Marine Resource Economics, Ocean and Coastal Management* and other journals. He currently serves as specialty chief editor, Marine Affairs and Policy, *Frontiers in Marine Science.*

Speakers:

Jason Kinnell is President and Founding Partner of Veritas Economics (Veritas). He specializes in conducting energy and environmental economic research. He has evaluated the commercial, recreational, community, supply chain, power-system, and economic impacts of offshore wind development from the Gulf of Maine to North Carolina. He has also conducted environmental economic assessments and benefit-cost analyses for regulatory compliance, natural resource damage assessments, and exposure assessments at more than a hundred sites throughout the United States and Europe.

His environmental economics experience has focused on estimating changes in commercial and recreational fisheries, evaluating potential mitigation measures, and assessing the community impacts of offshore wind development. He has conducted more than 40 commercial fishery valuations and more than 80 recreational fishery valuations at sites in the Atlantic and Pacific Ocean, Gulf of Mexico, Great Lakes, and U.S. inland lakes and rivers. He has conducted natural resource damage assessment and restoration (NRDAR) evaluations, exposure assessments, 316(a) and (b) compliance submittals, and property value diminution at more than a hundred sites throughout the United States and Europe. He has estimated the benefits, costs, and economic impacts of regulatory compliance alternatives; estimated the economic benefits and social costs of environmental regulations and restoration decisions; and designed, administered, and analyzed the results of more than 20 complex scientific surveys. He has conducted socioeconomic and economic impact analysis at numerous sites throughout the country to evaluate the socioeconomic and community impacts of off-shore wind facilities; siting new oil drilling facilities; closing industrial facilities such

as mines, pulp and paper mills, and electricity power plants; reducing harmful algal blooms; implementing remedial alternatives for Superfund sites; and implementing dam management alternatives.

His energy economics experience has focused on evaluating the economic, financial, and power system impacts associated with changes in the United States' power supply. His experience ranges from modeling the economic, financial, and power system impacts of constructing and commissioning new power plants to the system-level impacts of potential policies that will affect the entire US power system. He has also evaluated the supply chain and economic impacts associated with developing new electricity sources including offshore wind development in the Gulf of Maine and new nuclear generation in the Midwest.

In addition to his supply-side analysis, Mr. Kinnell also has extensive experience evaluating electricity demand. Mr. Kinnell has combined advanced customer contact and survey research techniques with sophisticated econometric and simulation modeling to estimate residential demand response and load change potential by market segment, hour, and census block. Mr. Kinnell has used this information to develop market strategies that induce adoption of alternative rates (e.g., time of use and demand charges) that are cost-effective and achieve utility objectives. Mr. Kinnell has also developed custom software to evaluate the adoption of new technologies including alternative electricity service plans, residential and community solar, and electric vehicles.

The results of Mr. Kinnell's research have been used by and/or presented and submitted to the U.S. House of Representatives, Electric Power Research Institute (EPRI), U.S. Environmental Protection Agency (USEPA), National Oceanic and Atmospheric Administration (NOAA), U.S. Dept. of the Interior (DOI), U.S. Fish & Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), National Park Service, Federal Energy Regulatory Commission (FERC), Alaska Energy Authority (AEA), and numerous state regulatory agencies.

Michelle Mattson is an ecologist with over 25 years of professional experience in ecosystem restoration, site assessment, and regulatory compliance as a consultant and Corps' regulator. Michelle is a compensatory mitigation subject matter expert (SME) supporting national and regional training courses and has spent her career in the field working with restoration teams to design, install and monitor restoration projects and programs. At the Corps' Institute for Water Resources (IWR), Michelle works with the Regulatory Team to support compensatory mitigation training, policy development, and with other entities such as the Sustainable Rivers Program (SRP), IWR's New Horizons Program, and United Stated Africa Command (AFRICOM) to move ecosystem restoration and climate change adaptation forward to varying degrees. SRP provides funding to Corps Districts to evaluate, test, and implement operational changes at existing infrastructure to improve environmental responses. Michelle is on the program team evaluating proposals and supporting location-based teams. IWR New Horizon's Program is designed to provide small amounts of funding to explore new ideas, research, and policy solutions to address future Corps needs 5, 10, and 20 years down the road. AFRICOM works with foreign governments to help evaluate issues such as water security, climate change adaptation, flood risk response, and many other regional issues. In all, Michelle enjoys working with teams to tackle complex problems and find creative solutions.

Aisling O'Shea is the Program Administrator for the Massachusetts Department of Fish and Game (DFG) In-Lieu Fee (ILF) Program. DFG is the sponsor of this state-wide program that provides compensatory aquatic resource mitigation through preservation, enhancement and restoration projects. Aisling manages ILF program development and implementation, including mitigation project selection and funding, collaboration with federal, state and other partners, and evaluation of ILF program outcomes. Her prior work, with more than 20 years working on environmental policy and planning in MA, focused on environmental impact review, permitting, sustainable land use, climate change mitigation and resiliency initiatives.

Session 4:

Application Opportunities and Challenges of NPI in Offshore Wind Industry: U.S. and Beyond—Company Perspectives

Moderator:

Dr. Maija Benitz (she/her/hers) is an Assistant Professor of Engineering at Roger Williams University, where she has taught since 2017. Prior to joining RWU, she taught at the Evergreen State College and Colorado College. She completed her doctoral work jointly in the Multiphase Flow Simulation Lab and the Wind Energy Center at UMass Amherst where she performed computational fluid dynamics models of the hydrodynamic loads and motions of floating platforms for offshore wind turbines. At RWU she teaches a range of courses, including Ocean Hydrodynamics and Sustainable Energy Systems. In the latter, her students collaborate with education majors to teach local fourth graders about wind energy as part of the RWU KidWind Community Engagement Project. Her research focuses on offshore wind energy, oyster growth, community engagement, and engineering education.

Speakers:

Atma Khalsa is an ecologist and impact assessment practitioner with over 15 years of experience in the offshore wind, oil and gas, and infrastructure sectors. He has led teams to successful permitting of over 35 major offshore projects in 25+ countries, including scoping and management of environmental and socioeconomic surveys, technical modeling, stakeholder engagement, environmental and social impact assessment, mitigation and management planning, and monitoring. Atma leads the Avangrid Renewables offshore environment team, working across the US portfolio.

Rick Robins serves as Marine Affairs Manager for RWE and leads the company's engagement and communications with maritime stakeholders, including marine fisheries. Rick has decades of experience in commercial fisheries development, seafood processing, and fisheries management, previously serving as a member of Virginia Marine Resources Commission and chairing the Mid-Atlantic Fishery Management Council. He has been proactively engaged in the intersection between offshore wind and marine fisheries, serving as a fisheries liaison and engaging in state and federal processes to develop and advance best management practices. Rick actively leads RWE's fisheries engagement in support of its projects in the New York Bight and offshore California.

Dr. Paul Phifer is the Permitting and Development Director for Attentive Energy, which is a subsidiary of TotalEnergies and is developing an offshore wind facility in the New York Bight. Prior to joining TotalEnergies, Paul served as the Permitting Manager for Atlantic Shores Offshore Wind – a Joint Venture between Shell New Energies and EDF-Renewables – for 2.5 years, stationed out of the Boston, Massachusetts office. During this time, Paul was responsible for all the federal, state, and local permits required for three Offshore Wind Lease Areas.

Prior to joining Atlantic Shores, Paul spent 20 years working for the US federal government, at both the US Fish and Wildlife Service and the US Department of State. At the US Fish and Wildlife Service, Paul managed a large team working across 13 states and the District of Columbia on environmental permitting, including issues associated with endangered species and ecological restoration. With the US Department of State, Paul negotiated environmental treaties at the United Nations on genetically modified organisms and invasive species.

Paul holds a PhD in Conservation Biology from the University of Minnesota as well as a B.A . in Philosophy from the Boston College of Massachusetts.

As the Permitting & Development Director at TotalEnergies for the Attentive Energy – New York Bight offshore wind project, Paul will lead the offshore wind permitting and external affairs strategies to ensure delivery of key project milestones. He will be responsible for scoping, development, and management of the project's permitting schedule, budget, risk management to secure federal, state, and local permits for offshore wind projects. He will also be responsible for development and execution of critical external affairs and outreach strategies, including community and stakeholder engagement, governmental affairs, as well as overall public positioning within the market.

Anthony Dvarskas currently leads Ørsted's strategy for implementing its commitment to a net-positive impact on biodiversity for all offshore North American projects commissioned from 2030. He joined Ørsted from the UN Economic and Social Commission for Asia and the Pacific, where he assisted countries in developing their environmental statistics programs, and before that worked as Chief Scientist with the New York State Office of the Attorney General's Environmental Protection Bureau. Previously, he was an assistant professor at Stony Brook University, where he researched ecosystem services integration into coastal planning decisions. Prior to joining Stony Brook, Anthony worked as a statistician in the Environmental-Economic Accounting section of the United Nations Statistics Division and as an Environmental Economist with the Office of Response and Restoration at NOAA. He received his PhD in Marine Sciences from the University of Maryland

Jennifer DuPont is the Technical Environmental Affairs Manager at Equinor Wind US. She and her team are responsible for managing portfolio-level environmental issues and opportunities related to Equinor's offshore wind developments including marine sound/noise reduction measures, net positive impact and other sustainability initiatives, environmental mitigation and monitoring programs, regional environmental research investments, survey work, and onshore remediation. Jennifer has a PhD in Marine Science from the University of South Florida and a Masters in Sustainable Energy from Johns Hopkins University. She has worked in the energy industry for over 15 years, managing biodiversity and environmental research, environmental impact assessments, and mitigation/monitoring programs across the globe including projects in Russia, Qatar, Papua New Guinea, Alaska, and the Gulf of Mexico.

Session 5:

Technology and Innovation

Moderator:

Chris McGuire directs the Ocean Program for The Nature Conservancy in Massachusetts. He is focused on implementing collaborative solutions to pressing fisheries and ocean conservation challenges. Chris co-leads monitoring projects in the New England groundfish fishery, has been the principal investigator on research focused on iconic species like Atlantic cod and halibut, and is a leading voice for the Conservancy's work on offshore wind. Before joining the Conservancy in 2011 he was a research vessel captain for more than a decade. He has a B.A. from Connecticut College, earned a Master's in Marine Affairs from the University of Rhode Island, and holds a 1600 Ton US Coast Guard Ocean Master's License.

Speakers:

Sharon Tatman is an Expert Advisor & Research Coordinator North Sea at Deltares with 25+ years of experience in applied marine research. She has a background in oceanography, satellite earth observation and data / information management but in recent years has started to focus more on the societal aspects of marine environmental research, working with governmental organizations and industries together with other research institutes. Previously she held the role of Head of Resilience & Planning in the Marine & Coastal Systems Unit at Deltares and was responsible for the operational and strategic management of a team of 30-40 scientists and engineers. Currently she splits her time between project management and research programming of North Sea-related research projects.

Her current research focuses on providing knowledge and decision-support to the Dutch government a.o. on ecosystem (cumulative) impacts, spatial planning and nature-inclusive design related to the offshore renewable energy transition. She is an expert on stakeholder engagement and science-policy interaction of the North Sea. Furthermore, at Deltares she is responsible for the research programming and management of Deltares' worldwide Seas & Coasts research portfolio.

Annie Murphy Dr. Annie Murphy is a marine ecosystem ecologist with expertise in sediment carbon and nitrogen cycling, microbial ecology, shellfish aquaculture, and marine environmental change. Her expertise lies at the interface between benthic community ecology and biogeochemistry with a specific interest in the response of aquatic ecosystems to anthropogenic disturbances. After completing her doctorate at Virginia Institute of Marine Science and a postdoc at Northeastern, Dr. Murphy joined INSPIRE Environmental. As a senior scientist, Dr. Murphy develops and executes research and monitoring programs aimed at understanding the ecology and multi-faceted function and value of coastal and offshore benthic (seafloor) habitats, and how these may be affected by human activities. Specifically, she has developed hypothesis-driven benthic monitoring plans aimed at assessing changes to the benthic environment in response to the installation and operation of several offshore wind projects along the US east coast

Heather Kinney is the Coastal Restoration Scientist at the Rhode Island chapter of The Nature Conservancy. She works closely with local, state, and federal partners to support coastal research, data collection, management, and habitat enhancement practices across the state. Heather has a Master of Arts in Marine Affairs from the University of Rhode Island and a BS in Marine Biology from Roger Williams University. Before her time at the Nature Conservancy, Heather worked in the aquaculture industry at a local oyster farm which furthered her passion for protecting New England marine ecosystems and the people whose livelihoods depend on them. Her desire to help foster the connection between people and nature drew her to The Nature Conservancy and has allowed her to work on projects that do just that, such as the first artificial reef using Reef Balls™ in Rhode Island.

Jamie Lescinski is Boskalis Offshore Energy's Business Development Director for US Offshore Renewables and oversees the Providence US Renewable office. Jamie has been working in the maritime industry for roughly two decades on research, technology innovation, consultancy and construction aspects of the business across all project phases, from concept initialization through construction execution. She received her Masters of Ocean Engineering from Oregon State University and subsequently was a coastal engineering researcher with the USGS Coastal Sciences group focused on hydrodynamic and sediment dynamics modeling. In 2006, Jamie joined Deltares to strengthen their coastal morphodynamic team focused on engineering projects related to marine hydrodynamics, nearshore morphology, plume dynamics and Building with Nature solutions. Since 2014, Jamie has been representing Boskalis in primarily design-and-construct-type projects across five continents for projects ranging from offshore wind farms to greenfield ports to new island developments. She was the Monaco 3D Printed Reef Pilot project manager in the multi-party collaboration where a more sustainable artificial reef material was developed and utilized in the design, construction, and installation of the world's largest 3D-printed reef units in the Larvatto Marine Reserve, Monaco. Between 2016 and 2020, Jamie was the Design and Engineering Manager of the Tuas Terminal Phase 2 project, the Singapore Mega Port design and construct project of the third terminal, in both the tender and construction phases, as well as the tender Design Manager of the Pulau Tekong Polder project in northeast Singapore. With Jamie's current role, she has a US team leadership function and supporting role to Boskalis's commercial, tender and execution teams active on US offshore wind developments. Boskalis will be active in the transport and construction scopes on four of the US offshore wind farm lease areas for the coming three years.

Adam Baske is a collaborative and innovative Senior Leader with more than 20 years of government (NOAA), non-profit (Pew Charitable Trusts, Sea Education Association), and industry experience in the ocean realm. He has an intimate understanding of fisheries management, shellfish aquaculture, coastal restoration and seafood supply chains, combined with a personal passion for healthy oceans and coastal communities. At Running Tide, Adam is building the tools to enhance coastal ocean health with restorative species along with the tools to quantify those ecosystem services.

Emily Shumchenia is the Director of the Regional Wildlife Science Collaborative for Offshore Wind (RWSC; rwsc.org) and Manager of the Northeast Ocean Data Portal (www.northeastoceandata.org). RWSC was co-created by federal agencies, Atlantic coast states, offshore wind companies, and environmental NGOs to coordinate with each other and the research community around data collection and monitoring related to offshore wind and wildlife along the U.S. Atlantic coast. RWSC is hosted by the two Regional Ocean Partnerships on the Atlantic Coast - the Northeast Regional Ocean Council (NROC) and Mid-Atlantic Regional Council on the Ocean (MARCO). As Director, Emily is responsible for leading the development of an RWSC Science Plan, which will describe shared priorities and opportunities for coordination, as well as building collaborative funding strategies to implement the Science Plan. To do this work, Emily and RWSC staff have engaged hundreds of experts throughout the region. Since 2014, Emily has coordinated and led the NROC-MARCO Marine Life Work Groups, which together developed one of the most comprehensive libraries of marine life spatial data products in the U.S. Emily holds a Ph.D. in oceanography from the University of Rhode Island.

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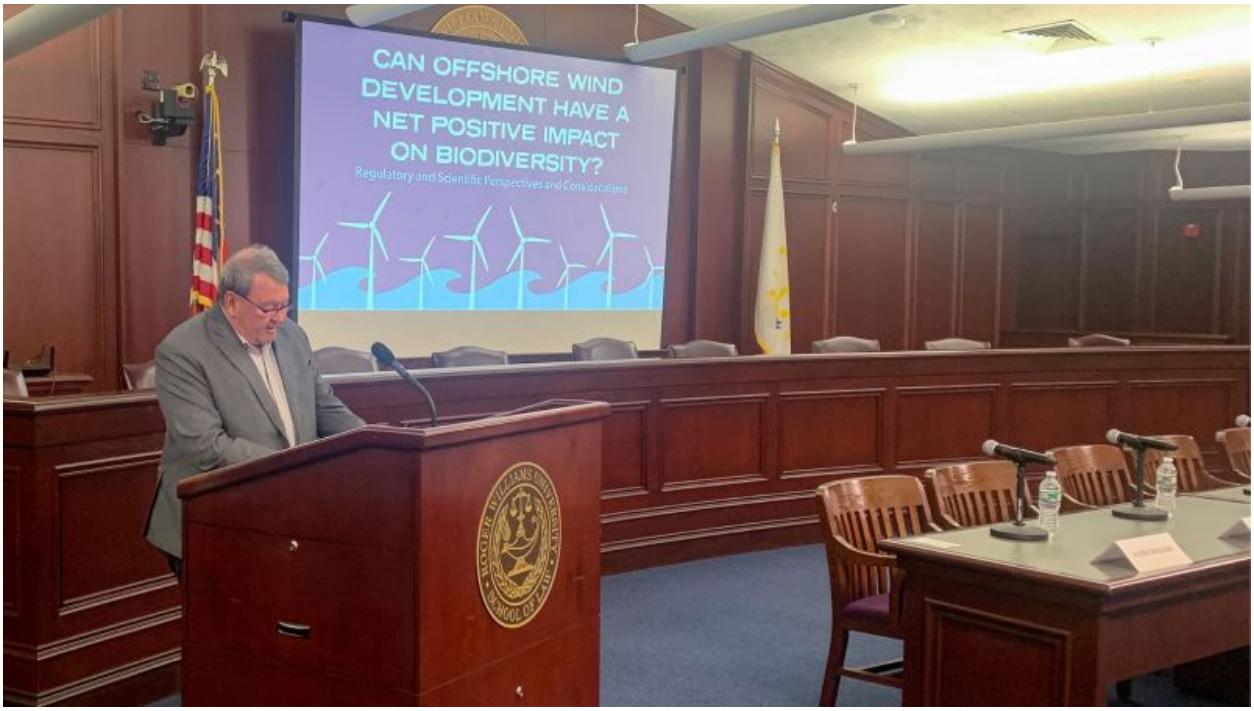
This year's Marine Law Symposium explored the question: Can Offshore Wind Development Have a Net Positive Impact on Biodiversity? Hosted by the Roger Williams University School of Law's Marine Affairs Institute, The Nature Conservancy and the Rhode Island Sea Grant the symposium brought together a global panel of scientists, developers, regulatory and legal experts to discuss opportunities for incorporating biodiversity goals into offshore wind energy development. As a leader in ocean and coastal education, RWU drives conversations, ideas and action in the blue economy for Rhode Island and our region, working together to create solutions to our environment's most urgent challenges.

📸: RWU President Ioannis Miaoulis kicking off the Marine Law Symposium with his opening remarks.

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Regulatory and Scientific Perspectives and Considerations
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