John W. Virdin

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Education

Ph.D., Marine Policy, Delaware College of Earth, Ocean and Environment, Newark, DE, 2016
M.E.S., Environmental Studies, Yale School of Forestry and Environmental Studies, New Haven, CT, 1999
B.A., Political Science (cum laude), Wake Forest University, Winston-Salem, NC, 1997

Summary of Professional Experience

John Virdin has almost twenty-five years of experience in studying and advising government policies to both conserve the ocean environment and alleviate poverty throughout the tropics. His focus has been largely on supporting governments to manage fisheries to provide more food and livelihoods over the long term, eventually expanding to work on broader ocean-based economic development policies, and more recently reducing ocean plastic pollution. He directs the Oceans and Coastal Policy Program at the Nicholas Institute for Energy, Environment & Sustainability, aiming to connect Duke University's science and ideas to help policy-makers solve ocean sustainability problems. He has collaborated in this effort with the United Nations Food and Agriculture Organization, the United Nations Environment Program, the United Nations Development Program and the Organization for Economic Cooperation and Development, as well as regional organizations such as the Abidjan Convention secretariat, the Organization of Eastern Caribbean States, the Sub-Regional Fisheries Commission of West Africa and the Parties to the Nauru Agreement for tuna fisheries management in the Western Pacific. He also teaches at the Nicholas School of the Environment, where he co-created and taught an introductory course for undergraduate students to understand the role of policy in helping solve many of society's most pressing ocean conservation challenges, and a graduate course on international policies aiming to solve the problem of overfishing. His work has contributed to papers published a number of professional journals, including *Nature, Science Advances*, *Nature Food*, *Nature Ecology and Evolution*, *Global Environmental Change*, *Ambio*, *Environmental Science and Policy, Ecosystem Services, npj Ocean Sustainability, Fish and Fisheries,* and *Marine Policy,* as well as to discussions moderated in China Dialogue, the Conversation, the Economist Intelligence Unit and the Hill.

Prior to coming to Duke at the beginning of 2015, he worked for 12 years at the World Bank, helping the organization increase its funding for ocean conservation and fisheries management to more than $1 billion. His work spanned more than 20 countries and led to the development of programs that provided more than $125 million in funding for improved fisheries management in six West African states and some $40 million for fisheries and ocean conservation in at least four Pacific Island states and throughout the region. He supported and acted as program manager for the World Bank's Global Partnership for Oceans, a coalition of more than 150 governments, companies, non-governmental organizations, philanthropies and multilateral agencies that operated from 2012 through 2014.

Professional Experience

2022 – Present **Duke University Nicholas School of the Environment**
Associate Professor of the Practice (from April 2025), Assistant Professor of the Practice (2022 – 2025), Marine Science and Conservation Division

- Co-created and co-teaches a "gateway" course for undergraduate major in marine science and conservation "Future of the Ocean: from Science to Policy", and a graduate course on international policies to address overfishing
- Advises graduate students on selected topics in applied ocean policy analysis

2015 – Present **Duke University Nicholas Institute for Energy, Environment & Sustainability**
Director of the Oceans & Coastal Policy Program, Chair of the Natural Resource Policy Programs (2023 – 2024)

- *Small-scale fisheries and food security projects:* Co-Principal Investigator for a global assessment of the contributions of small-scale fisheries to sustainable development entitled "*Illuminating hidden harvests: the contributions of small-scale fisheries to sustainable development*", conducted together with the United Nations Food and Agriculture Organization and WorldFish Center
- *Ocean economy policy and strategy projects:* Applied research to identify the largest companies operating in the ocean and collaboration with the World Economic Forum, McKinsey and the Stockholm Resilience Center to engage these companies in a science-to-industry dialogue on global ocean conservation from 2022 through 2023; collaboration with the World Bank and Center for the Blue Economy to assess the policy implications of the blue economy concept for the Government of Bangladesh, collaborated with the Organization of Eastern Caribbean States Secretariat and the World Bank on defining the blue economy concept in the Caribbean
- *Global coral reef policy analysis*: Collaboration with the United Nations Environment Program to identify international and regional policies aiming to address drivers of change in coral reef ecosystems
- *Global plastic pollution policy analysis*: Collaboration with the Pew Charitable Trusts to co-lead a research team compiling a global inventory of public policy responses to plastic pollution in the oceans, and analysis of the instruments used by governments in these responses, as well as collaboration with the Organization for Economic Cooperation and Development to assess the status of United States policies to address plastic pollution

2016 – 2022 **Duke University Nicholas School of the Environment**
Adjunct Assistant Professor to the Nicholas School for the Environment

- Co-created and co-taught a course for undergraduates entitled "Managing the Oceans to Solve Global Problems"
- Advised graduate students on selected topics in applied ocean policy analysis

2012 – 2014 **World Bank**, Washington, DC
Acting Program Manager for the Global Partnership for Oceans; Senior Natural Resource Management Specialist – Advising on oceans and fisheries governance across the institution's portfolio

- *World Bank lending portfolio for oceans*: Provided technical guidance as part of a team supporting the World Bank's overall lending portfolio for sustainable oceans, including leading the development of the Pacific Islands Regional Oceanscape Program to provide a $40 million to at least 4 Pacific Island Countries and throughout

the region, supporting the expansion of the West Africa Regional Fisheries Program throughout coastal northwest Africa, and helping to conceptualize a future Caribbean Regional Oceanscape Program

- *Global Partnership for Oceans*: Helped develop the conceptual framework for the Global Partnership for Oceans, a coalition of over 150 Governments, companies, civil society organizations, foundations and multilateral agencies that operated from 2012 – 2014 to support countries to reform the institutions governing the use of the ocean under their jurisdiction

2004 – 2011 **World Bank**, Washington, DC

Senior Natural Resource Management Specialist – Developing and supporting investments to support marine conservation and improve fisheries management throughout Africa

- *West Africa fisheries management*: Led the preparation of the conceptual framework and supervision of the implementation of a $125 million investment program in 9 West African countries to help strengthen and reform the institutions governing the fisheries, including supporting surveillance and enforcement operations
- *Senegal community-based fisheries management and national marine conservation*: Led the preparation of the conceptual framework and supervision of the implementation a $9.5 million project to expand a network of support for community institutions managing defined coastal fisheries, as well as supervised investments in the management of coastal parks and protected areas
- *Strategic partnership to support fisheries governance reform across Africa:* Helped develop and then led the supervision of a 10-year, $60 million investment fund to support fisheries institutional reforms in Africa, in partnership with the United Nations Food and Agriculture Organization and World Wide Fund for Nature
- *Guinea-Bissau Network of Coastal Protected Areas*: Led the supervision of a $11.0 million project to create a national network of 5 coastal protected areas, as well as improved economic development for the rural communities living in these areas, and helped to establish a private foundation to fund the protected areas network and develop a business case for sale of 'blue carbon' credits to support the network

2001 – 2004 **World Bank**, Washington, DC

Consultant – Supporting development of a global strategy to promote sustainable fisheries

- One of the principal authors of a 2004 World Bank Fisheries Approach Paper, "*Saving fish and fishers: toward sustainable and equitable governance of the global fishing sector*", which served as the basis for the institution's re-engagement in the fisheries sector.
- Conducted analytical work on the fisheries in Senegal and Guinea-Bissau, to help the Governments develop national strategies for fisheries institutional reform
- Helped prepare a $75 million investment to support the introduction of community institutions for management of coral reef fisheries in 6 districts in Eastern Indonesia, the second phase of the government's Coral Reef Rehabilitation and Management Program

2001 – 2002 **World Resources Institute**, Washington, DC

Fellow, Biological Resources Program; Climate, Energy & Pollution Program

- Worked with the Government of Trinidad & Tobago, University of the West Indies and the Council of Presidents of Environmental NGOs, to develop a project proposal for the Global Environment Facility to promote institutions for collaborative management of coastal ecosystems in Trinidad & Tobago

2001 – 2002 **Coast Alliance**, Washington, DC
Consultant, through Yale Center for Coastal & Watershed Systems
- Conducted a study of the economic costs of development on coastal barrier island ecosystems in the United States, including a case study on leeward wetlands and mangroves in Lee County, Florida.

Winter 2000/01 **World Conservation Network (IUCN)**, Washington, DC
Consultant, Marine Program – Coastal Adaptation Responses to Climate Change
- Developed a proposal for a network of coastal ecosystem scientists collaborating to promote responses to climate change in coastal communities

October, 2000 **World Wide Fund for Nature**, Washington, DC
Consultant, Sustainable Commerce Program – Focused on Fishing Subsidies
- Conducted a study on government subsidies to the global fishing industry

2000 **World Bank**, Washington, DC
Consultant – Reviewing Community Institutions for Fisheries Management in the Pacific
- Assisted in drafting the Pacific Islands Regional Economic Report, co-authored the Coastal Management chapter assessing potential models to strengthen institutions for community management of coastal fisheries

Summer 1999 **World Bank**, Washington, DC
Summer Internship – Coastal Fisheries Management
- Research on institutions for community management of coastal fisheries in the Pacific – New Caledonia, Fiji, and New Zealand

Spring 1999 **Environmental Law Clinic**, Yale University, New Haven, CT
Consultant, IUCN Marine Program – International Fisheries Access Agreements
- Collaboration with small research team to examine international fishing access agreements between the European Union and West Africa, with respect to World Trade Organization subsidies violations

Winter 1999 **World Bank**, Washington, DC
Consultant, Rural Development Department – Supported a Global Fisheries Partnership
- Assistance in designing the proposal for a Forum for Sustainable Fisheries

Summer 1998 **World Bank**, Washington, DC
Summer Internship, Rural Development Department – Global Fisheries Management
- Helped to develop the concept for a global "Forum for Sustainable Fisheries" -- a global coalition of public/private donors, NGOs, and client countries to improve fisheries management

Program Development

John Virdin is currently responsible for development and implementation of the Nicholas Institute's program to connect the University's expertise to help decision-makers conserve ocean ecosystems and the services that they provide to people, with a focus on (i) fisheries management and food security, (ii) the broader ocean economy, (iii) oceanic plastic pollution and (iv) the role of ocean ecosystems in sequestering and storing carbon ("blue carbon"). As part of this program, he has also co-founded together

with several faculty, the university-wide "Oceans@Duke" initiative, aiming to support more interdisciplinary research and education on ocean conservation challenges.

Prior to coming to Duke, John led the development of large World Bank funding programs to support governments to better manage fisheries and conserve marine ecosystems in several countries throughout the Pacific Islands and West Africa regions, including responsibility for teams that worked with governments to assess and design policy reforms, environmental and social safeguards and potential risks to achieving stated goals.

Journal Articles

2025 Somarelli, J.A., Diana, Z.T., Rittschof, D., Dunphy-Daly, M.M., **Virdin, J**., Nowlin, M., Vincoff, S., Bossa, N., Wiesner, M., Jayasundara, N., Mendis, G., Lauer, N. ,Eward, W.C. and J.W. Arnold. 2015. A pollution crisis of synthetic plastic polymers and their hidden chemical complexity. *One Earth* 8: 101518 https://doi.org/10.1016/j.oneear.2025.101518

2025 Jueseah, A.S., Kirk, A.I., Finbeiner, E.M., Kollie, N.J., Fitzpatrick, J., **Virdin, J**., Olendo, M., Patten, E.T.S., Kannah, J.F. Boeh, W.Y., Sherif, S.A., Weyhe, A.S. and K.S. Dalton. 2025. Distant-water fleets, local consequences: lessons from a case study in Liberia. *Npj Ocean Sustainability* 4: 54 https://doi.org/10.1038/s44183-025-00153-2

2025 Harper, S.J., Williams, M., Kleiber, D., Axelrod, M., Mangubhai, S., Torell, E., Macho, G., Fakoya, K., Gopal, N., Ojea, E., Lawless, S., Franz, N., de la Torre Castro, M., Deeg, C., Gustavsson, M., Oloko, A., Atkins, M., Basurto, X., Soejima, K., Ferrer, A.J., Mancha-Cisneros, M.M., Pedroza, C., Choudhury, A., Cohen, P.J., Siegelman, B., Bradford, K., Duffy-Tumasz, A., Frocklin, S., Gee, J., Kusakabe, K., Appiah, S., Manyungwa-Pasani, C., **Virdin, J**., Sutaria, S.S., Siyanbola, O. and C. McDougall. 2025. Designing gender-inclusive data systems in small-scale fisheries. *Ambio* https://doi.org/10.1007/s13280-025-02250-5

2025 Jouffray, J.B, **Virdin, J.,** Bebbington, J., Blasiak, R., Dunchus, A., Lo Presti, M., Pare, J., Prosi, D., Quintero, J.P., Rosenthal, R., Tortora, P. and D. Vermeer. 2025. Identifying and closing gaps in corporate reporting of ocean impacts. *Nature Sustainability* https://doi.org/10.1038/s41893-025-01631-8

2025 Chalkiadakis, C., **Virdin, J.,** Kraak, M-J. and E.G. Drakou. 2025. Mapping emergent costs and benefits of ecosystem service flows in Senegal's Small-Scale Fishery Supply Chain. *Ecosystem Services* 25: 101767

2025 Bennett, A., Mason, J., Battista, W., Free, C.M., Gephart, J.A., Kleisner, K., Rice, E.D., Robinson, K.F. and **J. Virdin**. 2025. An analytical approach to explore prospects and limits of nutrition-sensitive fisheries governance under climate change. *Environmental Research: Food Systems*. **DOI** 10.1088/2976-601X/add164

2025 Basurto, X., Gutierrez, N.L., Franz, N., Mancha-Cisneros, M.M., Gorelli, G., Aguion, A., Funge-Smith, S., Harper, S., Mills, D.J., Nico, G., Tilley, A., Vannuccini, S., **Virdin, J**., Westlund, L., Allison, E.H., Anderson, C.M., Baio, A., Cinner, J., Fabinyi, M., Hicks, C.C., Kolding, J., Melnychuk, M.C., Ovando, D., Parma, A.M., Robinson, J.P.W., and S.H. Tilsted. 2025. Illuminating the multidimensional contributions of small-scale fisheries. *Nature* 637: 874-884: https://doi.org/10.1038/s41586-024-08448-z

2024 Basurto, X,, **Virdin, J.,** Franz, N., Deland, S., Smith, B., Cleary, J., Vegh, T. and P. Halpin. 2024. A global assessment of preferential access areas for small-scale fisheries. *Npj Ocean Sustainability* 3: 56 https://doi.org/10.1038/s44183-024-00096-0

2024 Campling, L., Havice, E., **Virdin, J**., Carmine, G., Andriamahefazafy, M., Barbesgaard, M., Chakravarty, S., Gorez, B., Hetherington, D., Kim, H., Mfodwo, K. and A. Standing. 2024. A geopolitical-economy of distant water fisheries access arrangements. *Npj Ocean Sustainability* 3: 26 https://doi.org/10.1038/s44183-024-00060-y

2024 Benzaken, D., Adam, J.P., **Virdin, J**. and M. Voyer. 2024. From concept to practice: financing sustainable blue economy in Small Island Developing States, lessons learnt from the Seychelles experience. *Marine Policy* 163: 106072 https://doi.org/10.1016/j.marpol.2024.106072

2024 Diana, Z.T., **Virdin, J**., Nowlin, M.B., Jayasundara, N. and D. Rittschof. 2024. Transdisciplinary doctoral training to address global sustainability challenges. *PLOS Sustainability and Transformation*: https://doi.org/10.1371/journal.pstr.0000091

2023 **Virdin, J**., Basurto, X., Nico, G., Harper, S., Mancha-Cisneros, M.d.M., Vannuccini, S., Ahern, M., Anderson, C.M., Funge-Smith, S., Gutierrez, N.L., Mills, D.J., and N. Franz. 2023. Fishing for subsistence constitutes a livelihood safety net for populations dependent upon aquatic foods around the world. *Nature Food* 4: 874-885. https://doi.org/10.1038/s43016-023-00844-4

2022 Bennett, A., Rice, E., Muhonda, P., Kuanda, E., Katengeza, S., Liverpool-Tasie, L.S.O., Belton, B., Infante, D.M., Ross, J., **Virdin, J.** and E. Gondwe. 2022. Spatial analysis of aquatic food access can inform nutrition-sensitive policy. *Nature Food* 3: 1010-1013

2022 Diana, Z., Reilly, K., Karasik, R., Vegh, T., Wang, Y., Wong, Z., Dunn, L., Blasiak, R., Dunphy-Daly, M.M., Rittschof, D., Vermeer, D., Pickle, A. and **J. Virdin**. 2022. Voluntary commitments made by the world's largest companies focus on recycling and packaging over other actions to address the plastics crisis. *One Earth* 5: 1286-1306

2022 Diana, Z., Karasik, R., Merrill, G.B., Morrison, M., Corcoran, K.A., Vermeer, D., Hepler-Smith, E., Jayasundara, N., Pare, J., **Virdin, J.**, Eward, W.C., Somarelli, J.A., Dunphy-Daly, M.M. and D. Rittshof. 2022. A transdisciplinary approach to reducing plastic pollution. *Frontiers in Marine Science*: https://doi.org/10.3389/fmars.2022.1032381

2022 Simmance, F., Nico, G., Funge-Smith, S., Basurto, X., Franz, N., Tech, S.J., Byrd, K.A., Kolding, J., Ahern, M., Cohen, P.J., Nankwenya, B., Gondwe, E., **Virdin, J**., Chimatiro, S., Nagoli, J., Kuanda, E., Thilsted, S. and D.J. Mills. 2022. Proximity to small-scale inland and coastal fisheries is associated with improved income and food security. *Nature Communications Earth and Environment* 174: https://doi.org/10.1038/s43247-022-00496-5

2022 **Virdin, J.,** Vegh, T., Akester, S., Chu, J., Baio, A., Hamilton, J., Macias, J., Matthiasson, S., Sherif, S. and D.I. Grieco. 2022. A snapshot of the economic benefits from foreign bottom trawling in coastal West Africa: A mutually-beneficial trade in services, no winners or extractivism? *Fish and Fisheries* 23: 1070-1082

2022 Diana, Z., Vegh, T., Karasik, R., Bering, J., Caldas, JDL, Pickle, A., Rittschof, D., Lau, W. and **J. Virdin**. 2022. The evolving global plastics policy landscape: an inventory and effectiveness review. *Environmental Science and Policy* 134: 34-45.

2022 **Virdin, J**., Vegh, T., Ratcliff, B., Havice, E., Daly, J. and J. Stuart. 2022. Combatting illegal fishing through transparency initiatives: lessons learned from comparative analysis of transparency initiatives in seafood, apparel, extractive, and timber supply chains. *Marine Policy* 138: 104984.

2021 Blasiak, R., Leander, E., Jouffray, J.-B. and **J. Virdin**. 2021. Corporations and plastic pollution: trends in reporting. *Sustainable Futures*: https://doi.org/10.1016/j.sftr.2021.100061

2021 Hamilton, J., Basurto, X, Smith, H. and **J. Virdin**. 2021. How does the World Bank shape global environmental governance agendas for coasts? 50 years of small-scale fisheries aid reveals paradigm shifts over time. *Global Environmental Change* 68: 102246.

2021 **Virdin, J**., Vegh, T., Jouffray, J.-B., Blasiak, R., Mason, S., Osterblom, H., Vermeer, D., Wacthmeister, H., and N. Werner. 2021. The Ocean 100: Transnational corporations in the ocean economy. *Science Advances* 7: eabc8041

2021 Bennett, A., Basurto, X., **Virdin, J**., Lin, X., Betances, S.J., Smith, M.D., Allison, E.H., Best, B.A., Brownell, K.D., Campbell, L.M., Golden, C.D., Havice, E., Hicks, C.C., Jacques, P.J., Kleisner, K., Linquist, N., Lobo, R., Murray, G.D., Nowlin, M., Patil, P.G., Rader, D.N., Roady, S.E., Thilsted, S.H., and S. Zoubek. 2021. Recognize fish as food in policy discourse and development funding. *Ambio* (2021): https://doi.org/10.1007/s13280-020-01451-4

2020 Schmaltz, E., Melvin, E.C., Diana, Z., Gunady, E.F., Rittshof, D., Somarelli, J.A., **Virdin, J**. and M. M. Dunphy-Daly. 2020. Plastic pollution solutions: emerging technologies to prevent and collect marine plastic pollution. *Environment International* 144 (2020): 106067

2020 Cisneros-Montemayor, A., Ota, Y., Bailey, M., Hicks, C.C., Khan, A.S., Rogers, A., Sumaila, U.R., **Virdin, J.** and K.K. He. 2020. Changing the narrative on fisheries subsidies reform: enabling transitions to achieve SDG 14.6 and beyond. *Marine Policy* 117 (2020): https://doi.org/10.1016/j.marpol.2020.103970

2020 Belhabib, D., Cheung, W.W.L., Kroodsma, D., Lam, V.W.Y., Underwood, P.J. and **J. Virdin**. 2020. Catching industrial fishing incursions into inshore waters of Africa from space. *Fish and Fisheries* 21(2): 379-392

2020 Bryan, T., **Virdin, J**., Vegh, T., Kot, C.Y., Cleary, J. and P. Halpin. 2020. Blue carbon conservation in West Africa: a first assessment of feasibility. *Journal of Coastal Conservation* 24: 8

2019 Patil, P., **Virdin, J**., Colgan, C.S., Hussain, M.G., Failler, P. and T. Vegh. 2019. Initial measures of the economic activity linked to Bangladesh's ocean space, and implications for the country's blue economy policy objectives. *Journal of Ocean and Coastal*

Economics 6 (2): https://doi.org/10.15351/2373-8456.1119; cross-published in *Journal of Indian Ocean Rim Studies* 3(1): 1-13

2019 **Virdin, J.**, Kobayashi, M., Akester, S., Vegh, T. and S. Cunningham. 2019. West Africa's coastal bottom trawl fishery: initial examination of a trade in fishing services. *Marine Policy* 100 (2019): 288-297

2018 Drakou, E.G., **Virdin, J.** and L. Pendleton. 2018. Mapping the global distribution of locally-generated marine ecosystem services: the case of the West and Central Pacific Ocean tuna fisheries. *Ecosystem Services* 31 (2018): 278-288

2017 Bell, J.D., Cisneros-Montemayor, A., Hanich, Q., Johnson, J.E., Lehodey, P., Moore, B.R., Pratchett, M.S., Reygondeau, G., Senina, I., **Virdin, J.** and C.C.C. Wabnitz. 2017. Adaptations to maintain the contributions of small-scale fisheries to food security in the Pacific Islands. *Marine Policy* 88 (2018): 303-314

2017 Golden, J.S., **Virdin, J**., Nowacek, D., Halpin, P., Bennear, L. and P.G. Patil. 2017. Making sure the blue economy is green. *Nature Ecology and Evolution* 1, 0017 (2017). https://doi.org/10.1038/s41559-016-0017

2013 Sander, K., Lee, J., Hickey, V., Mosoti, V., **Virdin, J**., and W. Macgrath. 2013. Conceptualizing maritime environmental and natural resources law enforcement – the case of illegal fishing. *Environmental Development*. http: //dx.doi.org/10.1016/j.envdev.2013.08.00

2000 **Virdin, J**. 2000. Co-Management of Coastal Resources in Fiji. *Coastal Management Journal* 28 (4) 325 – 337.

2000 **Virdin, J**. 2000. Coastal Management Institutions in Samoa. *Tropical Resources Institute Journal* 19: 18 – 20.

Book Chapters and Sections

2025 Keener, P., Diana, Z., Nowlin, M., Romanik, C., Schnetzer, J. and J. Virdin. An overview of ocean plastics policy and the importance of public education and engagement. In Plastics and the Sea: Occurrence and Impacts (Shumway and Ward, eds.). Academic Press.

2024 Jouffray, J.B. and J. Virdin. The Blue Acceleration in Human Use of the Ocean. In the Elgar Encyclopedia of Water Policy, Economics and Management. Koundouri, P. and Alamanos, A. eds. Pp. 256 – 260. DOI: https://doi.org/10.4337/9781802202946.00066

2023 Virdin, J., Nico, G., Franz, N., Vannuccini, S., Anderson, C., Mancha-Cisneros, M.M., Baio, A., Bennett, A., Fontenele, E., Gozzer Wuest, R., Grillo, J., Harper, S., Muhonda, P., Rice, E., Sueiro, J.C. 2023. Small-scale fisheries contributions to economic value and livelihoods. In: FAO, Duke University & WorldFish. 2023. Illuminating Hidden Harvests: the contributions of small-scale fisheries to sustainable development. Rome, FAO; Durham, USA, Duke University; Penang, Malaysia, WorldFish. https://doi.org/10.4060/cc4576en

2023 Vegh, T., Virdin, J., Diana, Z., Dixon, N., Karasik, R., Pickle, A. and R. Utz. 2023. Marine litter. OECD (ed). *OECD Environmental Performance Reviews: United States 2023*. OECD: Paris. https://doi.org/10.1787/19900090

2023 Rittschof, D., Valiyaveettil, S., Virdin, J., Li, H.-X., Diana, Z. T., eds. 2023. Emerging challenges and solutions for plastic pollution. Lausanne: Frontiers Media SA. https://doi: 10.3389/978-2-8325-2525-8

2022 Shiiba, N., M. Maekawa, T. Vegh, and J. Virdin. 2022. Tracking International Aid Projects for Ocean Conservation and Climate Action. Morgan et al. (eds). *Blue Economy and Blue Finance*. Tokyo: Asian Development Bank Institute.

2020 Patil, P., Virdin, J. and C. Colgan. 2020. The blue economy as a global initiative. Clegg et al. (eds). *The Caribbean Blue Economy*. Routledge, New York, US.

2018 Franz, N., Basurto, X., Beveridge, M., Dabbadie, L., De Young, C., Ellenbroek, A., Gentile, A., Lovatelli, A., Reantaso, M., Siar, S., Viparthi, K., Virdin, J., Watanabe, H. and L. Westlund. 2018. Small-scale fisheries and aquaculture, Part 3. In FAO. 2018. *The State of World Fisheries and Aquaculture – Meeting the Sustainable Development Goals*. FAO. Rome.

2016 Virdin, J. 2016. Box 1.C.5. Harnessing the Riches of Pacific Tuna Fisheries. In World Bank. Reducing Vulnerabilities. World Bank East Asia and Pacific Update October 2016. World Bank. Washington, D.C.

2006 World Resources Institute. 2006. *World Resources 2005*. Lead writer chapter 2 focus on coastal fishing communities, "*Ecosystems and Livelihoods of the Poor.*" World Resources Institute. Washington, D.C.

White Papers, Policy Briefs and other Discussion Papers

2025 Lauer, N., T. Vegh, M. Nowlin, J. Virdin, and J. Somarelli. 2025. The Social Cost of Plastic to the United States. NI R 25-09. Durham, NC: Nicholas Institute for Energy, Environment & Sustainability, Duke University. https://nicholasinstitute.duke.edu/publications/social-costplastic-united-states.

2023 FAO, Duke University & WorldFish. 2023. Illuminating Hidden Harvests – The contributions of small-scale fisheries to sustainable development. Rome. https://doi.org/10.4060/cc4576en

2023 Qin et al. 2023. Sustainable ocean economy: charting a prosperous blue future from risk to resilience. Expert contributor. Citi GPS: https://icg.citi.com/icghome/what-we-think/citigps/insights/sustainable-ocean-economy

2023 Dixon et al. 2023. Initial assessment of gender considerations in plastics policy. Nicholas Institute for Energy, Environment and Sustainability. Durham: Duke University. Available: https://nicholasinstitute.duke.edu/publications/initial-assessment-gender-considerations-plastics-policy

2022 Monast, J.J. and J. Virdin. 2022. *Pricing Plastics Pollution: Lessons from Three Decades of Climate Policy*. Connecticut Law Review 524 (2): 345-390

2022 Shiiba, N., M. Maekawa, T. Vegh, and J. Virdin. 2022. *Tracking International Aid Projects for Ocean Conservation and Climate Action*. ADBI Working Paper 1308. Tokyo: Asian Development Bank Institute. Available: https://www.adb.org/publications/trackinginternational-aid-projects-for-ocean-conservation-and-climate-action

2021 Steadman, D, Thomas, JB, Villanueva, VR, Lewis, F, Pauly, D, Palomares, MLD, Bailly, N, Levine, M, Virdin, J, Rocliffe, S and T Collinson. 2021. New Perspectives on an Old Fishing Practice: Scale, Context and Impacts of Bottom Trawling. CEA Report: https://oursharedseas.com/wp-content/uploads/2021/12/HI-RES-REPORT-%E2%80%98New-perspectives-on-an-old-fishing-practice.pdf

2021 DeGemmis et al. 2021. *Opportunities for Coral Reefs at the Ocean-Climate Policy Nexus*. A Vibrant Oceans Initiative white paper. Wildlife Conservation Society. https://c532f75abb9c1c021b8c-e46e473f8aadb72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2021/11/04/5k4gj7uv88_Final_Opportunities_for_coral_reefs_at_the_ocean_climate_policy_nexus.pdf

2021 De Noon et al. 2021. *Fixing Financial, Economic and Governance Structures to Save Forests and the Ocean, and Enhance their Contributions to Climate Change Solutions*. Policy Brief of the T20 Italy to the G20 process. FIXING FINANCIAL, ECONOMIC AND GOVERNANCE STRUCTURES TO SAVE FORESTS AND THE OCEAN, AND ENHANCE THEIR CONTRIBUTIONS TO CLIMATE CHANGE SOLUTIONS – T20 – Italy (t20italy.org)

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2016 Cicin-Sain, B. et al. 2016. *Towards a Strategic Action Roadmap on Oceans and Climate: 2016 to 2021*. Global Ocean Forum. Washington, D.C.

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2011 Global Ocean Forum. 2011. *Oceans at Rio+20: How well are we doing in meeting the commitments from the 1992 Earth Summit and the 2002 World Summit for Sustainable Development?* Summary for Decision Makers. Contributing Author for Sustainable Fisheries and Aquaculture. Global Ocean Forum. Newark, Delaware.

2009 World Bank. 2009. *Environment Matters at the World Bank*. Co-Author of chapter: "*The Importance of Sub-Saharan Africa's Coastal and Marine Ecosystems,*" Annual Review July 2007 to June 2008. World Bank. Washington, D.C.

2005 World Bank. 2005. *Ghana: Managing Large Natural Assets*. Author of chapter on fisheries, Report to the Government of Ghana. World Bank. Washington, D.C.

2004 World Bank. 2004. *Senegal: Fisheries Sector Strategy*. Co-Author, Report to the Government of Senegal. World Bank. Washington, D.C.

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2002 Virdin, J. *Economic Impacts of Development on Coastal Barrier Ecosystems in the United States*. Coast Alliance. Washington, D.C.

2001 Virdin, J. 2001. *Hard Facts, Hidden Problems: A Review of Current Data on Fishing Subsidies*. WWF Technical Paper, World Wildlife Fund (WWF). Washington, D.C.

2000 World Bank. 2000. *Cities, Seas and Storms: Managing Change in Pacific Island Economies*. Co-author focusing on coastal fisheries. Regional Economic Report to the Pacific Islands. World Bank, Washington, D.C.

News, Commentary, Blogs

2023 **Frontiers in Marine Science**, editorial
Diana, Z.T., Virdin, J., Valiyaveettil, S., Li H-X, and Rittschof, D. 2023. Editorial: Emerging challenges and solutions for plastic pollution. *Frontiers in Marine Science* 10: 116280 doi: 10.3389/fmars.2023.1162680

2023 **The World Bank Group**, independent evaluation group blog
"What have we learned about job creation and fisheries projects?", January 11, 2023 https://ieg.worldbankgroup.org/blog/what-have-we-learned-about-job-creation-and-fisheries-projects last accessed 01/30/2023

2022 **The Science Breaker**, article
"The Ocean 100: the big fishes of the blue economy", March 30, 2022 https://thesciencebreaker.org/breaks/earth-space/the-ocean-100-the-big-fishes-of-the-blue-economy last accessed 10/22/2022

2022 **China Dialogue**, ocean blog
"Some fishing deals in West Africa make little economic sense", June 21, 2022 https://chinadialogueocean.net/en/fisheries/opinion-some-fishing-deals-in-west-africa-make-little-economic-sense/ last accessed: 6/21/2022

2022 **360info**, article
"Bait to plate: making fishing supply chains more transparent", June 8, 2022
Bait to plate: making fishing supply chains more transparent - 360 (360info.org)

2021 **Samudra**, article, issue No. 85, May 2021
"Blue gold: A study illustrates the deep influences that guide the gilded ocean economy: just 100 companies generated 60 per cent of revenues from the largest ocean-based industries in 2018", with H. Osterblom, ICSF - International Collective in Support of Fishworkers | SAMUDRA | Issue No : 85 | Contents last accessed: 6/21/2021

2021 **The Conversation**, article
"Blue economy: how a handful of companies reap most of the benefits in multi-billion ocean industries", March 1, 2021 with H. Osterblom and J.-B. Jouffray, https://theconversation.com/blue-economy-how-a-handful-of-companies-reap-most-of-the-benefits-in-multi-billion-ocean-industries-153165 last accessed: 3/5/2021

2019 **The Conversation**, article
"Local communities play outsized but overlooked role in global fisheries", September 30, 2019 with X. Basurto, https://theconversation.com/local-communities-play-outsized-but-overlooked-role-in-global-fisheries-123143 last accessed: 9/30/2019

2019 **China Dialogue**, ocean blog
"Is foreign trawling benefiting West Africa?", January 11, 2019
https://chinadialogueocean.net/5984-is-foreign-trawling-benefiting-west-africa/ last accessed: 1/15/2019

2018 **Economist World Ocean Initiative**, interview, June 6, 2018
"Voices from World Ocean Summit: An Interview with John Virdin of Duke University"
http://www.woi.economist.com/voices-from-world-ocean-summit-john-virdin/, last accessed: 6/6/2018

2018 **Economist Intelligence Unit**, Insights blog
"Blending capital to fill the ocean's fisheries finance gap", February 6, 2018
http://www.eiuperspectives.economist.com/sustainability/blending-capital-fill-ocean's-fisheries-finance-gap, last accessed: 2/7/2018

2016 **The Hill**, Op-Ed, Energy and the Environment
"Transitioning to a 'Blue Economy' can Reshape the Ocean Landscape", November 18, 2016 http://thehill.com/blogs/pundits-blog/energy-environment/306743-transitioning-to-a-blue-economy-can-reshape-the-ocean, last accessed: 1/10/2017

2016 **ABC Pacific Beat**, radio interview
"Fisheries reforms could create US$344 million in extra revenue: World Bank"
http://www.abc.net.au/news/2016-05-12/fisheries-reforms-could-create-us$344-million-in/7407072, last accessed: 8/9/2016

2015 **The Hill**, Congress Blogs
"We Can End Illegal Fishing in the Ocean", August 31, 2015
http://thehill.com/blogs/congress-blog/energy-environment/252033-we-can-end-illegal-fishing-in-the-ocean, last accessed: 11/15/2015

2015 **World Bank**, Praxis Discussion Series
Praxis Discussion: "Fishing for a Sustainable Future," Panelist
https://www.youtube.com/watch?v=4HSQxMpsqkY&index=3&list=PL6FE8A490B08CB2DB, last accessed: 7/6/2016

2015 **Economist Intelligence Unit**, Insights blog
Co-Author with Linwood Pendleton, "Is blue growth the beginning or end of a healthier ocean?" March 17, 2015
http://www.economistinsights.com/opinion/blue-growth-beginning-or-end-healthier-ocean, last accessed:1/12/2015

2000 **The Environmental Magazine** 11 (1)
Buying Back Our Fish, January – February, 2000

Selected Individual Presentations

2024 **International Conference: "Ocean Prosperity: Catalyzing Bangladesh's Blue Economy"**, Asian Development Bank and Planning Commission, Government of Bangladesh; Panelist for the Biodiversity and Conservation Session: "*Ocean conservation in the 21st century: confronting the blue acceleration*"

2023 **The Art of Saving the Ocean**, Bertarelli Foundation and ReWild
Panelist: "*Funding change: the approach of business and finance to support restoration and Rewilding*"; Miami, Florida; last accessed July 3, 2024:
https://www.marine.science/2023/12/15/the-art-of-saving-the-ocean/

2022 **The Oceans Conference**, United Nations
Panelist for the following side events: "*Plastics and Marine Pollution: Innovations for SDG 14.1*" hosted by the United Nations Office for Sustainable Development, the United Nations Development Program and the Ministry of Oceans and Fisheries of the Republic

of Korea; "*The Ocean 100 Dialogues: a science-business dialogue for ocean stewardship*" hosted by the World Economic Forum/ Friends of Ocean Action

2021 **Responsible Investor (RI)** Canada 2021 Conference
Panelist: "*SDG Investing for a Sustainable Blue Economy: from Antigua to the Arctic*"

2020 **Department of Fisheries and Wildlife Graduate Student Symposium**, Michigan State University
Keynote address: "*Lost at sea: twenty years of trying to solve ocean problems with science and money*"

2020 **Annual Conference**, National Council for Science and the Environment
Panelist: "*Improving Environmental Decision-Making through Boundary Spanning Partnerships*," Washington, D.C.

2017 **The Ocean Conference**, United Nations
Panelist for the following side events: "*Financing for the Blue Economy in Small Island Developing States*" hosted by the Government of Grenada and the Organization for Economic Cooperation and Development; "*Adopting the Blue Economy: A viable path to Sustainable Development in Small Island Developing States Combined with Promoting the transition to Blue Growth and Blue Economy in Small Island Developing States and least developed countries*" hosted by the Government of Grenada, the Government of the Kingdom of the Netherlands, UN FAO, the Government of Cabo Verde, Ministry of Economy and Employment and The Nature Conservancy; and "The Role of the Oceans in Sustainability: Benefits of Achieving SDG 14 for all Sustainable Development Goals" hosted by the Nippon Foundation Nereus Program, New York, New York.

2017 **Blue Vision Summit**, Blue Frontier
Panelist: "*The Blue Economy*," Washington, D.C.

2017 **North Carolina's Coastal Conference**, North Carolina Sea Grant Office
Presentation: "*North Carolina's Ocean Economy*," Raleigh, North Carolina.

2017 **West Africa Regional Fisheries Program conference**, Sub-Regional Fisheries Commission
Presentation: "*The West Africa Regional Fisheries Program: A Summary of Experiences in Phase One in Cabo Verde, Guinea-Bissau, Liberia, Senegal and Sierra Leone*," and "*West Africa's Coastal Bottom Trawling Fishery: A Review of Guinea-Bissau, Guinea, Sierra Leone and Liberia*," Dakar, Senegal

2016 **Grenada Blue Growth Investment Conference**, Government of Grenada
Presentation: "*A Conceptual Framework for the Blue Economy*," St. Georges, Grenada

2016 **American Society of International Law**, 110th Annual Meeting
Panelist: "*Steering Africa's Blue Economy: The Role of International Law and Lessons for Other Maritime Regions*", Washington, D.C.

2016 **Pacific Islands Forum Fisheries Agency,** Forum Fisheries Committee
Presentation: "*Pacific Possible: Tuna Fisheries*," Port Vila, Vanuatu

2016 **Caterpillar Executive Leadership Program**, Duke Corporate Education

Presentation: "*The Blue Economy*," Duke University

2012 **Korea Maritime Institute**, Symposium on the Blue Economy
Discussant and Presentation: "*Lessons from the World Bank's Oceans Portfolio*," Seoul, South Korea

2012 **Chatham House**, Symposium on Combatting Illegal Fishing
Presentation: "*Lessons from the West Africa Regional Fisheries Program*", London, United Kingdom

Teaching

2023 - present **Future of the Ocean: From Science to Policy**, Trinity College, co-taught with Prof. Nico Cassar

2023 - present **International Fisheries Policy**, Nicholas School of the Environment

2022 **Humans and Changing Oceans**, Trinity College, co-taught with Prof. Meagan Dunphy-Daly

2021 **Managing the Oceans to Solve Global Problems**, Trinity College, co-taught with Prof. Steve Roady

2020 **Managing the Oceans to Solve Global Problems**, Trinity College, co-taught with Prof. Steve Roady

2019 **Managing the Oceans to Solve Global Problems**, Trinity College, co-taught with Prof. Steve Roady

Service

2024 – 2025 **China Council for International Cooperation on Environment and Development**
Special Policy Study on Ocean Governance
Working Group member, Sustainable Ocean Economy

2023 – present **Duke University**
Climate Commitment Advisory Council member, external engagement sub-committee

2023 – 2024 **Duke University**
Search Committee member, for Director of the Nicholas Institute for Energy, Environment and Sustainability

2022 – present **Cambridge Prisms: Plastics journal**
Member, Editorial Board

2021 – 2023 **Environmental Defense Fund**
Ocean Technology Solutions Advisory Council member

2018 – 2020 **China Council for International Cooperation on Environment and Development**
Special Policy Study on Global Ocean Governance and Ecological Civilization
Working Group member

2017 – 2019 **Encourage Capital**, Pescador Holdings company
Sustainability Advisory Board member

2016 – 2020 **World Food Policy Center**, Duke University
Advisory Group member

2016 **North Carolina Sea Grant Coastal Conference 2017**, North Carolina Sea Grant Office
Conference Steering Committee member

2016 **Blue Economy Challenge**, Conservation X Labs
Panel reviewer for proposals for Blue Economy Challenge on sustainable aquaculture; http://theblueeconomychallenge.com/

2016 **BiodivERsA 2015**, Secretariat for a network of pan-European research funders
Peer Reviewer on call for proposals for understanding and managing biodiversity dynamics in Seascapes; www.biodiversa.org

2015 **Economist Intelligence Unit**
Research Advisory Group member for the Economist World Ocean Summit in 2015

Fellowships and Honors

2025 **Duke University Nicholas School of the Environment**, Lynn Maguire Award for Excellence in Teaching and Mentoring Professional Students

2013 **World Bank, Vice President's Unit Team Award**
Recognition of outstanding achievement for the West Africa Regional Fisheries Program

2008 **The McCallie School, Chattanooga, TN**
Alumni Achievement Award

2004 **World Bank, Spot Award**
Spot award for contribution to the Coral Reef Rehabilitation and Management Program (COREMAP II) Preparation team

2004 **World Bank, Spot Award**
Spot award for co-authorship of "Saving Fish and Fishers" a World Bank strategy for re-engaging in the fisheries sector

1999 **Teaching Fellow, Hydrogeology, Yale School of Forestry & Environmental Studies**

1999 **Teaching Fellow, Molecular & Cellular Developmental Biology, Yale University**

1996 **Pi Sigma Alpha member**
National Political Science Honor Society

Country Professional Experience (2000 – 2016)
Cape Verde, Eritrea, Federated States of Micronesia, Fiji, Gambia, Ghana, Grenada, Guinea, Guinea-Bissau, Indonesia, Kiribati, Liberia, Marshall Islands, Mauritania, Nigeria, Oman, Saint Lucia, Senegal, Sierra Leone, Solomon Islands, Tonga, Trinidad & Tobago, Tuvalu