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EDUCATION

- 2015 **Ph.D., Marine Science**
School of Marine Science, Virginia Institute of Marine Science,
The College of William & Mary, Gloucester Point, VA
- 2009 **B.A., Biology**
Colby College, Waterville, ME

EXPERIENCE

- 2018-
present **Tennenbaum Coordinating Scientist**
MarineGEO Network, Smithsonian Institution, Edgewater, MD
- 2017-
2018 **Post-doctoral Researcher**
Bigelow Laboratory for Ocean Sciences, East Boothbay, Maine
- 2015-
2017 **Post-doctoral Researcher**
Virginia Institute of Marine Science,
The College of William & Mary, Gloucester Point, VA

PUBLICATIONS

*Graduate student †Undergraduate student

2022

64. J.E. Duffy, J.J. Stachowicz, P.L. Reynolds, ..., **J.S. Lefcheck**, ..., J.L. Olsen (and 36 others). A Pleistocene legacy structures variation in modern eelgrass ecosystems. (2022) *Proceedings of the National Academy of Sciences*. In press.
63. J.P. Quimbayo, F.C. Silva, C.R. Barreto, C.B. Pavone, **J.S. Lefcheck**, K. Leite, A.C. Figueiroa, E.C. Correia, A.A.V. Flores. (2022) The COVID-19 pandemic alters illegal fishing activities inside and outside a marine protected area. *Current Biology*. In press.
62. A.P. Ramus*, J.S. Lefcheck, Z.T. Long. (2022) Foundational biodiversity effects propagate through coastal food webs via multiple pathways. *Ecology*. In press. [PDF](#)
61. R.S.C. Cooke, W. Gearty, A.S.A. Chapman, J. Dunic, G.J. Edgar, **J.S. Lefcheck**, G. Rilov, C.R. McClain, R.D. Stuart-Smith, S.K. Lyons, A.E. Bates. (2022) Humans are disrupting a longstanding trophic-size structure in vertebrates. *Nature Ecology and Evolution* 6: 684-692. [PDF](#)
60. K.J. Haynes, A.M. Liebhold, **J.S. Lefcheck**, R.S. Morin, G. Wang. (2022) Climate affects the outbreaks of a forest defoliator indirectly through its tree hosts. *Oecologia* 198: 407-418. [PDF](#)
59. C.P. Gross*, J.E. Duffy, K.A. Hovel, ..., **J.S. Lefcheck**, ..., J.J. Stachowicz (and 35 others). (2022) The biogeography of community assembly: latitude and predation drive variation in community trait distribution in a guild of epifaunal crustaceans. *Proceedings of the Royal Society B* 289: 20211762. [PDF](#)

58. J. Grinstead, P. Ortiz-Ramírez, X. Carreto-Guadarrama, A. Arrieta-Zamudi, A. Pratt, M. Cantú-Sánchez, **J. Lefcheck**, D. Melamed (2022). Piecewise Structural Equation Modeling of the Quantity Implicature in Child Language. *Language and Speech* 00238309211066086. [PDF](#)
57. Y.S. Esmaeili*, G.N. Corte, H.H. Checon, C.G. Bilatto, **J.S. Lefcheck**, A.C.Z. Amaral, A. Turra. (2022) Revealing the drivers of taxonomic and functional diversity of nearshore fish assemblages: implications for conservation priorities. *Diversity and Distributions*. [PDF](#)

2021

56. **J.S. Lefcheck**, G.J. Edgar, R.D. Stuart-Smith, A.E. Bates, C. Waldock, S.J. Brandl, S. Kinonmonth, S.D. Ling, J.E. Duffy, D.B. Rasher, A.A. Agrawal. (2021) Species richness and identity are key determinants of the biomass of global reef fish communities. *Nature Communications* 12: 6875. [PDF](#)
55. E. Montes, **J.S. Lefcheck**, E.G. Castro, E. Klein, A.C. Mazzuco, G. Bigatti, C. Cordeiro, N. Simoes, E. Macaya, N. Moity, E. Londoño-Cruz, B. Helmuth, E. Soto, B.D. Best, P. Miloslavich, F.E. Muller-Karger. (2021) Optimizing large-scale biodiversity sampling effort: towards an unbalanced survey design. *Oceanography* 34(2). [PDF](#)
54. C.J. Ritter, L.M. Harper, **J.S. Lefcheck**, V.J. Paul, R. Whippo, S. Jones, M.B. Ogburn, J.E. Duffy. (2021) Patterns of consumption across a Caribbean seascape: Roles of habitat and consumer species composition through time. *Frontiers in Marine Science* 8: 742907. [PDF](#)
53. L. de Pablo†, **J.S. Lefcheck**, L. Harper, V. Paul, S. Jones, R. Whippo, J. Seeman, D. Kline, J.E. Duffy. (2021) A doubling of coral cover on Carrie Bow Cay, Belize from 2014-2019. *Scientific Reports* 11: 19185. [PDF](#)
52. Y.S. Esmaeili*, G.N. Corte, H.H. Checon, T.R.C. Gomes, **J.S. Lefcheck**, A. Turra, A.C.Z. Amaral. (2021) Comprehensive estimation of surf zone fish biodiversity requires traditional and newly-developed sampling methods. *Marine Ecology Progress Series* 667: 131-144. [PDF](#)
51. G.N. Corte, H.H. Checon, Y.S. Esmaeili, **J.S. Lefcheck**, A.C.Z. Amaral. (2021) Mangrove fragments as key coastal reservoirs of taxonomic and functional biodiversity. *Biodiversity and Conservation* 30: 1573-1593. [PDF](#)
50. I. Cano*, R.I. Sellares, **J.S. Lefcheck**, M. Villalpando, A. Croquer. (2021) Effects of herbivory by the urchin *Diadema antillarum* on the early restoration success of the coral *Acropora cervicornis* in the central Caribbean. *Journal of Experimental Marine Biology and Ecology* 539: 151541. [PDF](#)
49. J.G. Monteiro, J.L. Jiménez, F. Gizzi, P. Přikryl, **J.S. Lefcheck**, R.S. Santos, J. Canning-Clode. (2021) Novel approach to enhance coastal habitat and biotope mapping with drone aerial imagery analysis. *Scientific Reports* 11: 574. [PDF](#)
48. C.E. Murphy†, R.J. Orth, **J.S. Lefcheck**. (2021) Habitat and distance structure seagrass epifaunal communities: A regional scale assessment in Chesapeake Bay. *Estuaries and Coasts* 44(2): 442–452. [PDF](#)
47. **J.S. Lefcheck**, B.W. Pfirmann, F.J. Fodrie, J.H. Grabowski, A.R. Hughes, A.R. Smyth. (2021) Consumption rates vary based on the presence and type of oyster structure: a seasonal and latitudinal comparison. *Journal of Experimental Marine Biology and Ecology* 536: 151501. [PDF](#)
46. A.J. Pinsonneault, P.J. Neale, M. Tzortziou, E.A. Canuel, C.R. Pondell, H. Morrisette, **J.S. Lefcheck**, J.P. Magonigal. (2021) Dissolved organic carbon sorption dynamics in tidal marsh soils. *Limnology and Oceanography* 66(1): 214-225. [PDF](#)

2020

45. K.M. Fraser*, **J.S. Lefcheck**, S.D. Ling, C. Mellin, R.D. Stuart-Smith, G.J. Edgar. (2020) Production of mobile invertebrate communities on shallow reefs from temperate to tropical seas. *Proceedings of the Royal Society B* 287: 20201798. [PDF](#)
44. G.J. Edgar, A. Cooper, S.C. Baker, ..., **J.S. Lefcheck**, ...R.D. Stuart-Smith (and 35 others). (2020) Reef Life Survey: Establishing the ecological basis for conservation of shallow marine life. *Biological Conservation* 252: 108855. [PDF](#)
43. M.A. Whalen, R. Whippo, J.J. Stachowicz, ..., **J.S. Lefcheck**, ...J.E. Duffy (and 61 others). (2020). Climate drives the geography of marine consumption by changing predator communities. *PNAS* 117 (45): 28160-28166. [PDF](#)
42. Y. Hautier, P. Zhang, M. Loreau, ... **J.S. Lefcheck**, ... S. Wang (and 44 others). (2020) General destabilizing effects of eutrophication on grassland productivity at multiple spatial scales. *Nature Communications* 11: 5375. [PDF](#)
41. R.J. Orth, **J.S. Lefcheck**, K.S. McGlathery, L. Aoki, M.L. Luckenbach, K.A. Moore, M.P.J. Oreska, R. Snyder, D.J. Wilcox, B. Lusk. (2020) Restoration of seagrass habitat leads to rapid recovery of coastal ecosystem services. *Science Advances* 6(41): eabc6434. [PDF](#) | [*Science Highlight](#) | [The Conversation](#) | [Le Monde](#) | [Smithsonian Magazine](#) | [Hakai Magazine](#)
40. D.B. Rasher, R.S. Steneck, J. Halfar, K.J. Kroeker, J.B. Ries, M.T. Tinker, P.T.W. Chan, J. Fietzke, N.A. Kamenos, B.H. Konar, **J.S. Lefcheck**, C.J.D. Norley, B.P. Weitzman, I.T. Westfield, J.A. Estes. (2020) Keystone predators govern the pathway and pace of climate impacts in a subarctic marine ecosystem. *Science* 369(6509): 1351-1354. [PDF](#)
39. C. Pimiento, F. Leprieur, D. Silvestro, **J.S. Lefcheck**, C. Albuoy, D.B. Rasher, M. Davis, J.-C. Svenning, J.N. Griffin. (2020) Functional diversity and the fate of marine megafauna in the Anthropocene. *Science Advances* 6(16): eaay7650. [PDF](#)
38. N.M. McLean, H.P. van der Jeugd, C.A.M. Van Turnhout, J.S. Lefcheck, M. van de Pol. (2020) Reduced avian body condition due to global warming has little reproductive or population consequences. *Oikos* 129(5): 714-730. [PDF](#)

2019

37. R.J. Orth, W.C. Dennison, C. Gurbisz, M. Hannam, J. Keisman, J.B. Landry, **J.S. Lefcheck**, K. Moore, R.R. Murphy, C.J. Patrick, J. Testa, D. Weller, D. Wilcox, R. Batiuk. (2019) Long-term annual aerial surveys of submersed aquatic vegetation (SAV) support science, management, and restoration. *Estuaries & Coasts*. [PDF](#)
36. A.E. Bates, R.S.C. Cooke, M.I. Duncan, G.J. Edgar, J. Bruno, L. Benedetti-Cecchi, I.M. Côté, **J.S. Lefcheck**, M.J. Costello, N. Barrett, T.J. Bird, P.B. Fenberg, R.D. Stuart-Smith. (2019) Climate resilience in marine protected areas and the 'Protection Paradox.' *Biological Conservation* 236: 305-314. [PDF](#)
35. S.J. Brandl, D.B. Rasher, I. Côté, J. Casey, E. Darling, **J.S. Lefcheck**, J.E. Duffy. (2019) Functioning coral reefs for the future: eight core processes and the influence of biodiversity. *Frontiers in Ecology and the Environment* 17(80): 445-454. [PDF](#)
34. **J.S. Lefcheck**, B.B. Hughes, A.J. Johnson, B. Pfirrmann, D.B. Rasher, A.R. Smyth, B.L. Williams, M.W. Beck, R.J. Orth. (2019) Are coastal habitats important nurseries? A meta-analysis. *Conservation Letters* 12(4): e12645. [PDF](#) | [Press release](#)
33. **J.S. Lefcheck**, A.A. Innes-Gold[†], S.J. Brandl, R.S. Steneck, R. Torres, D.B. Rasher. (2019) Tropical fish diversity enhances coral reef functioning across multiple scales. *Science Advances* 5(3): eaav6420. [PDF](#)

32. B. Gauzens, A. Barnes, D. Giling, J. Hines, M. Jochum, **J.S. Lefcheck**, B. Rosenbaum, S. Wang, U. Brose. (2019) *fluxweb*: A R package to easily estimate energy fluxes in foodwebs. *Methods in Ecology and Evolution* 10(2): 270-279. [PDF](#)

2018

31. J.P. Richardson, **J.S. Lefcheck**, R.J. Orth. (2018) Warming temperatures alter the relative abundance and distribution of two co-occurring foundational seagrasses in Chesapeake Bay, USA. *Marine Ecology Progress Series* 599: 65-74. [PDF](#)
30. J.B. Grace, D.J. Johnson, **J.S. Lefcheck**, J.E. Byrnes. (2018) Standardized effects in ecological models containing binary outcomes. *Ecosphere* 9(6): e02283. [PDF](#)
29. S. Bornbuscht, **J.S. Lefcheck**, J.E. Duffy. (2018) Allometry of individual reproduction and defense in eusocial colonies: A comparative approach to trade-offs in social sponge-dwelling *Synalpheus* shrimps. *PLoS ONE* 13(3): e0193305. [PDF](#) | [National Geographic](#)
28. M. Dornelas, L.H. Antão, F. Moyes, ..., **J.S. Lefcheck**, ..., K. Zawada (and 248 others). (2017) BioTIME: A database of biodiversity time series for the Anthropocene. *Global Ecology and Biogeography* 27:760-786. [PDF](#)
27. **J.S. Lefcheck**, R.J. Orth, W.C. Dennison, D.J. Wilcox, R.R. Murphy, J. Keisman, C. Gurbisz, M. Hannam, J.B. Landry, K. A. Moore, C.J. Patrick, J. Testa, D.E. Weller, R.A. Batuik. (2018) Long-term nutrient reductions lead to the unprecedented recovery of a temperate coastal region. *PNAS* (115)14: 3658-3662. [PDF](#) | [**Cozzarelli Prize](#) | [Washington Post 1](#), [2](#) | [NPR](#) | [PNAS Commentary](#)
26. A.D. Barnes, M. Jochum, **J.S. Lefcheck**, N. Eisenhauer, C. Scherber, M.I. O'Connor, P. de Ruiter, U. Brose. (2018) Energy flux: the link between multitrophic biodiversity and ecosystem functioning. *Trends in Ecology and Evolution*. 33(3): 186-197 [PDF](#)

2017

25. G.J. Edgar, T.J. Alexander, **J.S. Lefcheck**, A.E. Bates, S.J. Kininmonth, R.J. Thomson, J.E. Duffy, M.J. Costello, R.D. Stuart-Smith. (2017) Abundance and local-scale processes contribute to multi-phyla global marine diversity gradients. *Science Advances* 3(10): e1700419. [PDF](#) | [Press release](#)
24. R.J. Orth, W.C. Dennison, **J.S. Lefcheck**, C. Gurbisz, M. Hannam, J. Keisman, J.B. Landry, K.A. Moore, R.R. Murphy, C.J. Patrick, J. Testa, D.E. Weller, D.J. Wilcox. (2017) Submersed aquatic vegetation in Chesapeake Bay: sentinel species in a changing world. *BioScience* 67(8): 698-712. [PDF](#)
23. R.J. Orth, **J.S. Lefcheck**, D.J. Wilcox. (2017) Boat propeller scarring of seagrass beds in lower Chesapeake Bay, USA: Patterns, causes, recovery, and management. *Estuaries & Coasts* 40(6): 1666-1676. [PDF](#) | [AFS Research Brief](#) | [CESN Newsletter](#)
22. **J.S. Lefcheck**, D.J. Wilcox, R.M. Murphy, S.R. Marion, R.J. Orth. (2017) Multiple stressors threaten a critical foundational habitat, *Zostera marina*, in Chesapeake Bay, USA. *Global Change Biology* 23(9): 3474-3483. [PDF](#) | [Press release](#) | [New York Times](#) | [Chesapeake Bay Journal](#)
21. R.D. Stuart-Smith, G.J. Edgar, N.S. Barrett, ..., **J.S. Lefcheck**, ..., R. Thomson (and 18 others). (2017) Assessing National Biodiversity Trends for Rocky and Coral Reefs through the Integration of Citizen Science and Scientific Monitoring Programs. *BioScience* 67(2): 134-146. *Editor's Choice. [PDF](#)
20. **J.S. Lefcheck**, S.R. Marion, R.J. Orth. (2017) Restored eelgrass (*Zostera marina* L.) as a refuge for epifaunal biodiversity in mid-Western Atlantic coastal bays. *Estuaries & Coasts* 40(1): 200. [PDF](#) | [CESN Newsletter](#)

2016

19. **J.S. Lefcheck**, S.R. Marion, A.V. Lombana, R.J. Orth. (2016) Faunal communities are invariant to fragmentation in experimental seagrass landscapes. *PLoS ONE*. 11(5): e0156550. [PDF](#)
18. J.E. Duffy, **J.S. Lefcheck**, R.D. Stuart-Smith, S.A. Navarette, G.J. Edgar. (2016) Biodiversity enhances reef fish biomass and resistance to climate change. *PNAS*. 113(22): 6230–6235. [PDF](#) | [Press release](#)
17. E. Schmitt, M.W. Luckenbach, **J.S. Lefcheck**, R.J. Orth. (2016) Predator-prey interactions in a restored eelgrass ecosystem: Strategies for maximizing success of a reintroduced species, *Argopecten irradians*. *Restoration Ecology* 24(4): 558-565. [PDF](#)
16. **J.S. Lefcheck**, S.J. Brandl, P.L. Reynolds, A.R. Smyth, S.T. Meyer. (2016) Extending rapid ecosystem function assessments to marine systems. *TRENDS in Ecology and Evolution* 31(4): 251-253. [PDF](#)
15. **J.S. Lefcheck**. (2016) piecewiseSEM: Piecewise structural equation modeling in R for ecology, evolution, and systematics. *Methods in Ecology & Evolution*. 7(5): 573-579. [PDF](#) | [Highly commended, British Ecological Society](#)

2015

14. J.E. Duffy, S.L. Ziegler, J.E. Campbell, P. Bippus[†], **J.S. Lefcheck**. (2015) Squidpops: A simple tool to crowdsource a global map of marine predation intensity. *PLoS ONE* 10(11): e0142994. [PDF](#)
13. **J.S. Lefcheck**, J.E. Duffy. (2015) Multitrophic functional diversity predicts ecosystem functioning in experimental assemblages of estuarine consumers. *Ecology* 96(11): 2973-2983. [PDF](#)
12. J.E. Duffy, P.L. Reynolds, C. Boström, J.A. Coyer, M. Cusson, S. Donadi, J.G. Douglass, J. Eklöf, A. Engelen, B.K. Eriksson, S. Fredriksen, L. Gamfeldt, C. Gustafsson, G. Hoarau, M. Hori, K. Hovel, K. Iken, **J.S. Lefcheck**, P. Moksnes, M. Nakaoka, M.I. O'Connor, J.L. Olsen, J.P. Richardson, J.L. Ruesink, E.E. Sotka, J. Thormar, M.A. Whalen, J.J. Stachowicz. (2015) Biodiversity mediates top-down control in eelgrass ecosystems: A global comparative experiment. *Ecology Letters* 18(7): 696-705. [PDF](#) | [Press release](#)
11. **J.S. Lefcheck**, J.E.K. Byrnes, F. Isbell, L. Gamfeldt, J.H. Griffin, N. Eisenhauer, M.J.H. Hensel, A. Hector, B.J. Cardinale, J.E. Duffy. (2015) Biodiversity enhances ecosystem multifunctionality across trophic levels and habitats. *Nature Communications* 6: 6936. [PDF](#) | [Press release](#)
10. L. Gamfeldt, J.S. Lefcheck, J.E.K. Byrnes, J.E. Duffy, B.J. Cardinale, J.N. Griffin. (2015) Marine biodiversity and ecosystem functioning: what's known and what's next. *Oikos* 124(3): 252-265. *Editor's Choice. [PDF](#) | [Oikos Blog](#)
9. R. Stuart-Smith, A.E. Bates, J.S. Lefcheck, J.E. Duffy, S.C. Baker, R.J. Thomson, J.F. Stuart-Smith, N.A. Hill, S.J. Kininmonth, L. Airoidi, M.A. Becerro, S.J. Campbell, T.P. Dawson, S.A. Navarette, G.A. Soler, E.M.A. Strain, T.J. Willis, G.J. Edgar. (2015) The potential of trait-based approaches to contribute to marine conservation. *Marine Policy* 51: 148-150. [PDF](#)
8. **J.S. Lefcheck**, V.A.G. Bastazini, J.N. Griffin. (2015) Choosing and using traits in functional diversity research. *Environmental Conservation* 42(2): 104-107. *Invited contribution. **Paper of the month. [PDF](#) | [Cambridge Blogs](#)

2014

7. J.E.K. Byrnes, **J.S. Lefcheck**, L. Gamfeldt, J.N. Griffin, F.I. Isbell., A. Hector. (2014) Multifunctionality does not imply that all functions are positively correlated. *PNAS*. 111(51): E5490. [PDF](#)

6. T.J. Bird, A.E. Bates, **J.S. Lefcheck**, N.A. Hill, S. Wotherspoon, M. Krkosek, R. Stuart-Smith, J. Stuart-Smith, G. Pecl, G.J. Edgar, R.J. Thomson, N. Barrett, S. Frusher. (2014) Statistical solutions for error and bias in global citizen science datasets. *Biological Conservation* 173: 144-154. *Invited contribution. [PDF](#)
5. **J.S. Lefcheck**, J. van Montfrans, R.J. Orth, E.L. Schmitt, J.E. Duffy, M. Luckenbach. (2014) Epifaunal invertebrates as predators of juvenile bay scallops (*Argopectin irradians*). *Journal of Experimental Marine Biology and Ecology* 454: 18-25. [PDF](#)
4. J.E.K. Byrnes, L. Gamfeldt, F. Isbell, J.E. Duffy, **J.S. Lefcheck**, J.N. Griffin, A. Hector, B.J. Cardinale, D.U. Hooper, L.E. Dee. (2014) Investigating the relationship between biodiversity and ecosystem multifunctionality: Challenges and solutions. *Methods in Ecology and Evolution* 5(2): 111-124. [PDF](#)
3. **J.S. Lefcheck**, A. Buchheister, K.M. Laumann, M. Stratton, K. Sobocinski, S. Chak, T.R. Clardy, P.L. Reynolds, R.J. Latour, J.E. Duffy. (2014) Dimensions of biodiversity in Chesapeake Bay demersal fishes: Patterns and drivers through space and time. *Ecosphere* 5(2): art14. [PDF](#)

2013

2. R. Stuart-Smith, A.E. Bates, **J.S. Lefcheck**, J.E. Duffy, S.C. Baker, R.J. Thomson, J.F. Stuart-Smith, N.A. Hill, S.J. Kininmonth, L. Airoidi, M.A. Becerro, S.J. Campbell, T.P. Dawson, S.A. Navarette, G.A. Soler, E.M.A. Strain, T.J. Willis, G.J. Edgar. (2013) Integrating abundance and functional traits reveals new global hotspots of fish diversity. *Nature* 501(7468): 539-542. [PDF](#) | [Press release](#)
1. **J.S. Lefcheck**, M.A. Whalen, T.M. Davenport, J.P. Stone, J.E. Duffy. (2013) Physiological effects of dietary mixing on consumer fitness: A meta-analysis. *Ecology* 94(3): 565-527. [PDF](#) | [Press release](#)

IN REVISION

(PDFs available upon request)

S.J. Brandl, **J.S. Lefcheck**, A.E. Bates, D.B. Rasher, T. Norin. A metabolic framework to examine the assembly and functioning of animal communities.

D. Cottrell*, **J.S. Lefcheck**, B.J. Peterson. Herbivory-induced facilitation increases from low to high stress: an observational and experimental test in seagrass.

R.J. Orth, W.C. Dennison, D.J. Wilcox, R.A. Batuik, J.B. Landry, C. Gurbisz, J. Keisman, M. Hannam, **J.S. Lefcheck**, R.R. Murphy, K.A. Moore, C.J. Patrick, J. Testa, D.E. Weller, M.F. Merritt. Data synthesis for environmental management: A case study of Chesapeake Bay.

IN REVIEW

(PDFs available upon request)

H. Wang*, A.H. Altieri, **J.S. Lefcheck**, S.R. Valdez, R.J. Orth, J.E. Duffy, B.B. Hughes, B.R. Silliman, Q. He. Building hope for seagrass ecosystem conservation in the Anthropocene.

C. Xu, B. Silliman, J. Chen, X. Li, M.S. Thomsen, Q. Zhang, J. Lee, **J.S. Lefcheck**, P. Daleo, B.B. Hughes, H.P. Jones, R. Wang, S. Wang, C. Smith, X. Xi, A.H. Altieri, J. van de Koppel, T.M. Palmer, L. Lui, J. Wu, Q. He. Managing trophic interactions to help revegetate planet Earth.

M.E. Malerba, M.D. Costa, D.A. Friess, L. Schuster, M.A. Young, D. Lagomasino, O. Serrano, S.M. Hickey, P.H. York, M. Rasheed, **J.S. Lefcheck**, B. Radford, T.B. Atwood, D. Ierodiaconou, P. Macreadie. Remote sensing for cost-effective blue carbon accounting.

S.W.J. Canty, J. Herrera, M. Cifuentes-Jara, J.R. Cissell, E. Cherrington, I.C. Feller, **J.S. Lefcheck**, H. Morrissette, L.T. Simpson, C. Teutli. Tangled up in blue: estimating mangrove blue carbon.

J.O. Olson, **J.S. Lefcheck**, M. Goodison, A. Lienesch, M. Ogburn. Fish size-spectra from imaging sonar reveal differential patterns of community structure and habitat use along a latitudinal gradient.

L.M. Harper, **J.S. Lefcheck**, R. Whippo, M.S. Jones, Z. Foltz, J.E. Duffy. Blinded by the bright: how species-poor habitats contribute to regional biodiversity across a tropical seascape.

[Google Scholar](#) Citations: 6625, h-index: 29, i10-index: 39

GRANTS & CONTRACTS

- 2021-2022 *Mangrove and seagrass carbon storage estimates for Belize*. Pew Charitable Trusts. Co-Principal Investigator. (Total award amount: \$226,490)
- 2021-2022 *Modelling climate change impacts on Chesapeake Bay SAV*. Chesapeake Bay Trust. Co-lead. (Total subcontract: \$11,231)
- 2021-2022 *Investigation of temperature as a driver of stony coral tissue loss disease dynamics*. Florida Department of Environmental Protection. (Total subcontract: \$11,231)

OUTREACH

- 2022 Contributor, Consonance Collective: "The Ocean's Cry."
<https://www.youtube.com/watch?v=CgmRhferOcQ>
- 2021 Consultant, KQED Deep Look: "Skeleton Shrimp Use 18 Appendages to Feed, Fight and...Frolic."
<https://www.youtube.com/watch?v=IQtU5Cu7GDw>
- 2021 Interview, Hakai Magazine: "The Grass Is Greener in Virginia."
<https://hakaimagazine.com/news/the-grass-is-greener-in-virginia/>
- 2021 Interview, Chesapeake Bay Journal: "Last stand for eelgrass?"
https://www.bayjournal.com/news/climate_change/last-stand-for-eelgrass/article_36fe872c-5caf-11eb-99cf-57100b01a061.html
- 2021 Co-author, Eastern Shellfish Growers Association Newsletter: "Does oyster aquaculture support coastal food webs?" Feb 2021: <https://ecsga.org/newsletter-archives/>
- 2021 Co-author, Coastal Estuarine Research Federation Newsletter: "Seagrasses: A half century of progress and a look to the future."
<https://cerf.memberclicks.net/assets/bulletin/2021/CERF%2047-1.pdf>
- 2021 Interview, Earth Optimism x This Study Shows Podcast:
<https://podfollow.com/1479545097/episode/d6f50d7d485b1461bcb55d5d7f90e6ff921d8fd8/view>
- 2020 Interview, Smithsonian Magazine: "Prairies of the Sea."
<https://www.smithsonianmag.com/science-nature/seagrass-ocean-secret-weapon-climate-change-180976235/>
- 2020 Co-author, The Conversation: "Restoring seagrasses can bring coastal bays back to life."
<https://www.dailypress.com/news/dp-xpm-20130926-2013-09-26-dp-nws-vims-fish-biodiversity-20130926-story.html>
- 2020 Interview, Hakai Magazine: "Do Fish Tummy Bugs Dictate Their Diets?"
<https://hakaimagazine.com/news/do-fish-tummy-bugs-dictate-their-diets/>
- 2020 Interview, National Geographic Magazine: "In the Chesapeake Bay, saving seagrasses can fight ocean acidification."
<https://www.nationalgeographic.com/science/article/chesapeake-seagrasses-fight-ocean-acidification>

- 2019 Interview, Session Sessions (PNAS Podcast).
- 2018 Interview, Washington Post: “The Chesapeake’s ‘secret garden’ is thriving again, but Trump could end that.” <https://www.washingtonpost.com/news/energy-environment/wp/2018/03/05/the-chesapeakes-secret-garden-is-thriving-again-but-trump-could-end-that/>
- 2018 Interview, Washington Post: “Why the Chesapeake Bay is the best in the world.” https://www.washingtonpost.com/opinions/why-the-chesapeake-bay-is-best-in-the-world/2018/03/07/345dc8be-217c-11e8-badd-7c9f29a55815_story.html
- 2015 Interview, Daily Press: “VIMS ecologist finds biodiversity more important than ever.” <https://www.dailypress.com/tidewater-review/dp-nws-biodiversity-vims-20150427-story.html>
- 2013 Interview, Daily Press: “Study offers fresh approach to marine biodiversity.” <https://www.dailypress.com/news/dp-xpm-20130926-2013-09-26-dp-nws-vims-fish-biodiversity-20130926-story.html>

TEACHING

Instructor	
2021	Instructor, Structural Equation Modeling, PR Statistics, Virtual. http://jonlecheck.net/teaching/
2019	Instructor, Structural Equation Modeling, Stockholm University, Stockholm, Sweden. http://jonlecheck.net/teaching/
2018	Instructor, Structural Equation Modeling, PR Statistics, Glasgow, UK. http://jonlecheck.net/teaching/
2017	Co-instructor, Structural Equation Modeling, PR Statistics, Port Talbot, UK.
2017	Instructor, Meta-analysis in Ecology (MSCI 698, Spring). Virginia Institute of Marine Science, The College of William & Mary
2017	Instructor, Structural Equation Modeling, Southampton University, UK. http://jonlecheck.net/teaching/
2016	Instructor, Structural Equation Modeling. University of Göttingen, Germany.
2016	Instructor, Contemporary Topics in Ecology (MSCI 698, Spring). Virginia Institute of Marine Science, The College of William & Mary
2015	Instructor, Undergraduate Research (MSCI 490, Fall, Spring). The College of William & Mary
2014	Co-instructor, Seagrass Ecosystem Ecology (MSCI 398, Spring), The College & William & Mary. Part of networked class with two other universities. Press release
2012	Co-instructor, Dimensions of Biodiversity Distributed Graduate Seminar (MSCI 698). Virginia Institute of Marine Science. Part of networked class with 13 other universities

PROFESSIONAL MENTORSHIP

Post-doc	Juan Pablo Quimbayo (2021-, Post-doctoral Fellow); Guilherme Corte (2021-, Visiting Post-doctoral Fellow)
PhD	Yasmina Esmaeili (2021-, PhD Fellow)
Under-grad	Paola Granados (2021-2022, NSF REU), Kirsten Johnston (2020-2021), Luis de Pablo (2019-2020, NSF REU), Claire Murphy (2016-2020), Annie Innes-Gold (2017, NSF REU), Nina Lesser (2016-2017), Teddy Noll (2016-2017), Rachael Caron (2016-2017), Casey Maclean (2016-2017), Lauren Herbine (2014-2017, W&M Monroe Scholar), Rachel Wimmer (2014-2016), Paige

Bippus (2014, NSF REU), David Godschalk (2014), Danielle Hall (2012-2014), Kyle Belfort (2012-2014), Sally Bornbusch (2012-2013), Katelyn Jenkins (2012-2013)

ORAL PRESENTATIONS

**Presenting author*

- 2022 “Biodiversity enhances reef fish biomass with increasing spatial scale.” **J.S. Lefcheck**, R. Stuart-Smith, G.J. Edgar, D.B. Rasher, J.E. Duffy, L. Gamfeldt. (2022) 50th Annual Benthic Ecology Meeting, Portsmouth, NH.
- 2022 “Seeding Hope: Seagrass Restoration on Virginia’s Eastern Shore.” (2022) Invited Speaker. Zosterapalooza XXXI (Virtual).
- 2022 “The Green In The Blue: The Comeback Of The Chesapeake’s Underwater Grasses And What It Means For The Bay.” **J.S. Lefcheck**. (2022) Invited Seminar. Smithsonian Environmental Research Center (virtual).
- 2021 “The green in the blue: how coastal ecosystems are advancing ecology and saving the planet.” **J.S. Lefcheck**. (2021) Invited Seminar. Brown University, Providence, RI.
- 2021 “Towards a global seagrass observing community for conservation and synthesis.” **J.S. Lefcheck**, M. Portouoglou, L. Weatherdon, S. Pruckner, A. Kornbluth, J.E. Duffy. (2021) CERF 26th Biennial Conference (Virtual).
- 2021 “Marine Science and you can too! The power of global collaborations.” **J.S. Lefcheck**. (2021) Invited lecturer. University of New Hampshire (Virtual).
- 2021 “Towards a Global Seagrass Monitoring Network: The past, present, and future of collaboration.” **J.S. Lefcheck**. (2021) Invited Seminar. International Seagrass Biology Workshop Pre-event Seminar Series (Virtual).
- 2020 “To what extent do seagrass ecosystems support marine food webs? Maldives meadows within a global context.” P. Roe*, **J.S. Lefcheck**, K. Mohamen, H. Nihad. (2020) Third Maldives Marine Science Symposium.
- 2020 “Global trajectories of seagrass ecosystems into the 21st Century” **J.S. Lefcheck**. (2020) Organized session. National Coastal and Estuarine Summit (Virtual).
- 2020 “From sea to sky: What cross-scale observations tell us about the human impacts on underwater grasses.” **J.S. Lefcheck**. (2020) Invited seminar. University of Western Australia, Perth, Australia.
- 2019 “How to design a biodiversity-ecosystem functioning experiment in 2019.” **J.S. Lefcheck**. (2019) Invited lecturer. Brown University, Providence, RI.
- 2019 “Tropicalization of mid-western Atlantic coastal bays by pinfish: a combined ecological and oceanographic perspective.” **J.S. Lefcheck**, F.J. Fodrie, D. Gong, M. Faulkner, R.J. Orth. (2019) CERF 25th Biennial Conference, Mobile, AL.
- 2019 “From micro to macro: the functional role of biodiversity across scales.” **J.S. Lefcheck**. (2019) Invited seminar. Stockholm University, Stockholm, Sweden.
- 2018 “Status and Trends of Submersed Aquatic Vegetation (SAV) in Chesapeake Bay: A Synthesis” W.C. Dennison, **J.S. Lefcheck**, C. Gurbisz, R.J. Orth. (2018) Invited panelist. Chesapeake Research and Modeling Symposium, Annapolis, MD.
- 2018 “Scaling up and digging deep: What new ideas about biodiversity can tell us about the functioning of natural systems.” **J.S. Lefcheck**. (2018) Invited Seminar, Smithsonian Environmental Research Center, Edgewater, MD.
- 2018 “High species richness enhances cover of a critical coastal habitat: Insight and mechanisms from 30 years of monitoring in Chesapeake Bay.” **J.S. Lefcheck**, C.J. Patrick, D.J. Wilcox, R.R.

- Murphy, J. Keisman, D.E. Weller, W.C. Dennison, R.J. Orth. (2018) World Conference on Marine Biodiversity, Montreal, Canada.
- 2018 “Scaling up and digging deep: What new ideas about biodiversity can tell us about the functioning of ecosystems.” **J.S. Lefcheck**. (2018) Invited Seminar, Duke University, Beaufort, NC.
- 2017 “From the land to the sea: how human activities affect submersed aquatic vegetation in Chesapeake Bay.” **J.S. Lefcheck**. (2017) Invited seminar, NOAA, Silver Spring, MD.
- 2017 “Scaling up and digging deep: What new ideas about biodiversity can tell us about the functioning of ecosystems.” **J.S. Lefcheck**. (2017) Invited seminar, Wood’s Hole Oceanographic Institute, Falmouth, MA.
- 2017 “Nutrient reductions promote Submersed Aquatic Vegetation: Thirty years of change in Chesapeake Bay.” **J.S. Lefcheck**, C.J. Patrick*, R.J. Orth, W.C. Dennison, D.J. Wilcox, R.R. Murphy, J. Keisman, C. Gurbisz, M. Hannam, J.B. Landry, K. A. Moore, C.J. Patrick, J. Testa, D.E. Weller, R.A. Batuik. (2017) 24th Coastal and Estuarine Research Federation Biennial Meeting, Providence, RI.
- 2017 “Pinfish incursion: ecosystem consequences for mid-Atlantic seagrass meadows.” J.P. Richardson*, R.J. Orth, **J.S. Lefcheck**. (2017) 24th Coastal and Estuarine Research Federation Biennial Meeting, Providence, RI.
- 2017 “Biodiversity in a changing world: from Amphipods to *Zostera*, and everything in between.” **J.S. Lefcheck**. (2017) Invited seminar, University of Connecticut, Avery Point, CT.
- 2017 “Reinventing biodiversity: From the very small to the very large.” **J.S. Lefcheck**. (2017) Invited seminar, University of North Carolina, Chapel Hill, NC.
- 2017 “Frontiers in biodiversity: New paradigms, challenges, and solutions.” **J.S. Lefcheck**. (2017) Invited seminar, University of Virginia, Charlottesville, VA.
- 2016 “Clearing the air about ‘multifunctionality’: what is it and what does it mean for ecosystem ecology?” **J.S. Lefcheck**. (2016) Invited seminar, University of Lund, Sweden.
- 2016 “Frontiers in biodiversity: From buckets to the biosphere.” **J.S. Lefcheck**. (2016) Invited seminar, University of Göttingen, Germany.
- 2015 “The bugs are back in town!” R.J. Orth*, S.R. Marion, **J.S. Lefcheck**. (2015) CERF 23rd Biennial Conference, Portland, OR.
- 2015 “Functional recovery of an epifaunal invertebrate community associated with a restored eelgrass bed.” **J.S. Lefcheck**, S.R. Marion, R.J. Orth. (2015) 100th Ecological Society of America Meeting, Baltimore, MD.
- 2015 “Top-down versus bottom-up control of a temperate eelgrass system: insights from a 15-year ecological survey.” **J.S. Lefcheck**, J.P. Richardson, J.E. Duffy. (2015) 45th Benthic Ecology Meeting, Quebec, Canada.
- 2014 “The ‘new’ diversity: global insights into the functional importance of biodiversity.” **J.S. Lefcheck**. (2014) Invited seminar, Colby College, Waterville, ME.
- 2014 “Biodiversity drives ecosystem multifunctionality: a meta-analysis.” **J.S. Lefcheck**, J.E.K. Byrnes, F. Isbell, L. Gamfeldt, J.N. Griffin, M. Hensel, B.J. Cardinale, D.U. Hooper, J.E. Duffy. (2014) 99th Ecological Society of America Meeting, Sacramento, CA.
- 2014 “Size structure drivers of crustacean grazer epifauna in a Chesapeake Bay *Zostera marina* bed.” Richardson, J. P.*, **J. S. Lefcheck**, S. L. Ziegler, J. E. Duffy. (2014) 43rd Benthic Ecology Meeting, Jacksonville, FL.

- 2013 “Functional diversity and richness drive ecosystem functioning in experimental estuarine communities.” **J.S. Lefcheck**, & J.E. Duffy. (2013) 42nd Benthic Ecology Meeting, Savannah, GA.
- 2013 “Bay scallop restoration and micropredators.” **J.S. Lefcheck**, J. van Montfrans, E. Schmitt, R.J. Orth, J.E. Duffy, M. Luckenbach. (2013) Virginia SeaGrant Symposium, Richmond, VA.
- 2012 “Components of biodiversity in a Chesapeake Bay groundfish assemblage: A high-resolution analysis of patterns and drivers.” **J.S. Lefcheck**, A. Buchheister, S. Chak, T. Clardy, K.M. Laumann, P. Reynolds, K. Sobocinski, M. Stratton, J.E. Duffy. (2012) 97th Ecological Society of America Meeting, Portland, OR.
- 2012 “Biodiversity effects on provision of multiple ecosystem functions in marine systems: A meta-analysis.” **J.S. Lefcheck**, L. Gamfeldt, J.E.K. Byrnes, J.N. Griffin, M. O’Connor, B.J. Cardinale, J.E. Duffy. (2012) 41st Benthic Ecology Meeting, Norfolk, VA.

POSTER PRESENTATIONS

*Presenting author † Undergraduate co-author

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- 2019 “Drivers of regional-scale patterns of seagrass epifaunal invertebrates in the Chesapeake Bay, USA.” C. Murphy*†, **J.S. Lefcheck**, R.J. Orth. CERF 25th Biennial Conference, Mobile, AL.
- 2015 “Factors affecting trophic control of community structure and ecosystem functioning in experimental seagrass (*Zostera marina* L.) mesocosms.” D.R. Godschalk*†, **J.S. Lefcheck**, J.E. Duffy. (2015) 45th Benthic Ecology Meeting, Quebec, Canada.
- 2015 “Changes in faunal community structure after heat induced die-offs in a Chesapeake Bay eelgrass bed (*Zostera marina* L.).” D.K. Hall*†, J.P. Richardson, J.E. Duffy, **J.S. Lefcheck**. (2015) 45th Benthic Ecology Meeting, Quebec, Canada.
- 2014 “Shifts in mesograzer community structure following two major eelgrass die-offs in the Chesapeake Bay.” Ziegler S. L.*, **J. S. Lefcheck**, J. P. Richardson and J. E. Duffy. (2014) 43rd Benthic Ecology Meeting, Jacksonville, FL.
- 2013 “BioDiverse Perspectives: blogging to foster communication among graduate students.” **J.S. Lefcheck**, V. Bastazini, F. Halliday*, H. Burgess, C. Robinson, R. Sewell-Nesteruk, C. Maranto, J. Parrish. (2013) 98th Ecological Society of America Meeting, Minneapolis, MN.
- 2013 “Eelgrass and bay scallop restoration in Virginia’s coastal bays.” E.L. Schmitt*, R.J. Orth, M. Luckenbach, K.A. Moore, S.R. Marion, D.J. Wilcox, **J.S. Lefcheck**, J.E. Duffy, D.B. Parrish, S. Bonniwell, A. Curry, S. Fate, P. Smith, J. van Montfrans. (2013) 42nd Benthic Ecology Meeting, Savannah, GA.
- 2008 “Factors affecting trophic control of community structure and ecosystem functioning in experimental seagrass mesocosms.” **J.S. Lefcheck**, J.E. Duffy, J.P. Richardson. (2008) 41st American Geophysical Union Fall Meeting, San Francisco, CA.

AWARDS & HONORS

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- 2019 Cozzarelli Prize for Scientific Excellence and Originality. Editorial Board of the *Proceedings of National Academy of Sciences*. [Press release](#)
- 2015 Thatcher Prize for Excellence in Graduate and Professional Study. The College of William & Mary. [Press release](#)
- 2013 Matthew Fontaine Maury Fellowship Award. Virginia Institute of Marine Science. Recognizes interdisciplinary achievements in marine and environmental scholarship.
- 2012 VIMS Dean’s Fellowship Award. Virginia Institute of Marine Science. Recognizes excellence in research.

- 2011 VIMS Council Fellowship Award. Virginia Institute of Marine Science. Recognizes excellence in research.
- 2010 Kelly Watson Fellowship Award. Virginia Institute of Marine Science. Tuition and stipend awarded for excellent performance in the first year of graduate school. [Press release](#)

SERVICE & MEMBERSHIPS

Reviewer: *Advances in Ecology*, *African Journal of Marine Science*, *American Naturalist*, *Aquatic Ecology*, *Biological Conservation*, *Botanica Marina*, *Conservation Biology*, *Ecological Applications*, *Ecology*, *Ecology Letters*, *Environmental Conservation*, *Estuaries and Coasts*, *Frontiers in Plant Science*, *Functional Ecology*, *Global Ecology and Biogeography*, *Ideas in Ecology and Evolution*, *Journal of Experimental Marine Biology and Ecology*, *Journal of Ecology*, *Journal of Plant Ecology*, *Marine Ecology Progress Series*, *Methods in Ecology & Evolution*, *Nature*, *Nature Climate Change*, *Nature Communications*, *Nature Ecology & Evolution*, *Nature Scientific Reports*, *Oecologia*, *Oikos*, *Proceedings of the National Academy of Sciences*, *Proceedings of the Royal Society B*, *Science Advances* | [Publons Profile](#)

WORKING GROUPS

- 2022 Assisted Evolution of Eelgrass to Mitigate Climate Impacts. The Nature Conservancy. Virtual.
- 2022 Incorporating Underwater Grasses into the Greenhouse Gas Inventory for North Carolina. Pew Charitable Trusts. Virtual.
- 2021 Submersed Aquatic Vegetation Synthesis Group (SAVSyn 2.0). Chesapeake Bay Program (EPA) and Virginia Institute of Marine Science, Gloucester Point, VA.
- 2020- C-GRASS: Coordinated Global Research Assessment of Seagrass Systems. Scientific Committee on Ocean Research, co-lead for Data Synthesis Group. Virtual.
- 2020- National Alliance for Submersed Aquatic Vegetation. Pew Charitable Trusts. Virtual.
- 2017- sFDvent - A functional trait perspective on the global biodiversity of hydrothermal vent communities. German Center for Integrative Biodiversity Research (iDiv). Halle-Jena-Leipzig, Germany.
- 2016- Submersed Aquatic Vegetation Synthesis Group (SAVSyn), Chesapeake Bay Program (EPA) and University of Maryland Center for Environmental Science. Annapolis, Maryland.
- 2013 Summer Institute, National Center for Ecological Analysis and Synthesis (NCEAS). University of California, Santa Barbara.
- 2011 Partner, Zostera Experimental Network (ZEN, www.zenscience.org). Gloucester Point, Virginia.
- 2010- Biodiversity and the functioning of ecosystems: Translating results from model experiments into functional reality, National Center for Ecological Analysis and Synthesis (NCEAS). University of California, Santa Barbara.