Seleni Cruz

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Education

2020– **Ph.D.**, Environmental Economics, University of Delaware (expected Spring 2025)

2022 **M.Sc.**, Economics and Applied Econometrics, University of Delaware

2019 **M.Sc.**, Environmental Science and Management, University of California, Santa Barbara

2013 **B.Sc.**, Natural Resource Management, University of Belize

Fellowships and awards

2024-2025 University of Delaware, Doctoral Fellowship for Excellence.

2023 Best student presentation award. North American Association of Fisheries Economists Forum.

2021 UC Berkeley-Soan Summer School in Environmental and Energy Economics Diversity Fellowship.

2017–2019 Latin American Fisheries Fellowship, Walton Family Foundation.

2015–2016 Caribbean Coral Reef Resiliency Fellowship, The Nature Conservancy.

Publications

Oremus, K. L., Frank, E. G., Adelman, J. J., **Cruz, S.**, Herndon, J., Sewell, B., & Suatoni, L. (2023). Underfished or unwanted? Much blame cast upon fisheries policy may be misguided. *Science*, 380(6645), 585-588. https://doi.org/10.1126/science.adf5595.

Green, A., Chollett, I., Suárez, A., Dahlgren, C., **Cruz, S.**, Zepeda, C., Andino, J., Robinson, J., Mcfield, M., Fulton, S., Giro, A., Reyes, H., & Bezaury-Creel, J. (2017). *Biophysical Principles for Designing a Network of Replenishment Zones for the Mesoamerican Reef System. Technical report.* Available in English and Spanish. https://doi.org/10.13140/RG.2.2.18562.79044.

Cruz, S., Robinson, J., & Tingey, R. (2016). Integrating participatory planning in the design of Belize's marine replenishment zones. *GIS/Spatial Analyses in Fishery and Aquatic Sciences*, 6(135-152), International Fishery GIS Society. https://rb.gy/0cjp0.

Robinson, J. & **Cruz, S**. (2015). Sustainable Seaweed: Could be the next big thing? *68th Conference Proceedings.* Gulf and Caribbean Fisheries Institute Conference. https://proceedings.gcfi.org/proceedings/sustainable-seaweed.

In preparation

Cruz, S. Diversification and ENSO: Evidence from small-scale fishing communities in Mexico. (JMP)

Cruz, S., Hoffman, T., Birkenbach, A. M., Cohen, J., & Oremus, K. L. A Bioeconomic Modeling Approach to Studying Reproductive Limitations for the Delaware Bay Blue Crab Fishery.

Selected talks and conference presentations

2024 Risky business. Exploring the effects of climate variation on Mexican small-scale fisheries. Northeastern Agricultural and Resource Economics Association Summer Conference.

2024 Climate variation, diversification and labor reallocation in small-scale fisheries. Interdisciplinary PhD Workshop in Sustainable Development at Columbia University.

2023 Selective harvesting under a changing climate: Delaware Bay blue crabs. Mid-Atlantic Chapter - American Fisheries Society Annual Meeting.

2023 Guest lecture, undergraduate class. Selective harvesting under a changing climate: Delaware Bay blue crabs.

2023 Selective harvesting under a changing climate: Delaware Bay blue crabs. North American Association of Fisheries Economists Forum.

2023 Selective harvesting under a changing climate: Delaware Bay blue crabs. Northeastern Agricultural and Resource Economics Association Summer Conference.

2018 Youth, Women, and Oceans Round table held by Fisheries and Oceans Canada, the Small Islands Developing States Youth Hub, and the Youth Climate Lab. Recommendations for the G7 Oceans commitments.

2017 Finding the one? How to pick a traceability provider… or providers. Panel talk: Seaweb Seafood Summit.

2015 Sustainable Seaweed: Could be the next big thing? 68th Conference. Gulf and Caribbean Fisheries Institute.

Research experience

2022–2023 Research assistant, University of Delaware (supervisor Anna Birkenbach & Kimberly Oremus)

- Leading the development of a novel bioeocnomic model which includes a temperature dependent population model, recruitment, natural mortality and dynamic fishing mortality.
- Collaborating with an interdisciplinary group, including state government, to use the developed model to evaluate policy scenarios for the blue crab fishery in the Delaware Bay.

2021–2022 Research assistant, University of Delaware (supervisor Kimberly Oremus)

- Conducted interviews with fishery managers across the country on utilization rates of fish stocks.
- Synthesized data collected through interviews, policy and fishery management documents for 90 US fish stock. Summaries were used for classification which was the focus of a publication in Science.
- Contributed to the editing of manuscript for publication.

2020–2021 Research assistant, University of Delaware (supervisor Anna Birkenbach)

- Created an algorithm to automate collection of data on catch shares in New England ground-fish fisheries.
- Analyzed foreign trade data and contributed to discrete choice model development.

2019 Fisheries Consultant, Catena Foundation.

- Supported the development of a sustainable fisheries program in Mexico, Colombia, and Belize.
- Identified potential unique points of entry that aligned with developed strategy and considered risks and opportunities associated with each.

2018 Data Manager, Communidad y Biodiversidad (COBI)

- Developed of a bioeconomic model to evaluate the cost of delaying the implementation of marine reserves on small-scale fishing communities in the Gulf of California, Mexico.
- Created policy white paper and poster to communicate findings to policy makers and communities.

2018 Global Fisheries Research Intern, Future of Fish

- Co-designed a return on investment model for community-based seaweed aquaculture.
- Completed an internal database of 51 fisheries profiles and score card. Profiles include investment landscape, market and value potential, and status of the fishery providing rapid recommendation on strategic engagement.

2013–2017 Conservation Coordinator, The Nature Conservancy- Belize

- Led the sustainable seaweed aquaculture program and spatial analysis of marine reserve expansion (passed into legislation in 2018).
- Advanced sustainable fisheries projects including traceability with National Fishermen Cooperative in Belize and served on the science team of 15 to develop an adaptive management framework for lobster and conch.
- Managed and maintained regional spatial databases for Mexico, Belize, Guatemala and Honduras.
- Planned and facilitated REDD+ Readiness Preparation Proposal (RPP) 10 workshops. Completed final consultation report included in the RPP, which received four million in funding from the World Bank.

Service and memberships

2022-2023 Board member, American Fisheries Society - Mid-Atlantic Chapter

2022-2024	American Fisheries Society- Mid-Atlantic chapter
2023-2025	North American Association of Fisheries Economists
2023-2026	Northeastern Agricultural and Resource Economics Association