

Jonathan H.N. van Senten, PhD

Curriculum Vitae

Virginia Seafood AREC & Department of Agricultural and Applied Economics

Virginia Polytechnic Institute and State University

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Summary of activities

Grants Funded (PI)	53 (26)
Value of grants funded (van Senten)	\$32,806,086 (\$4,660,084)
Peer Reviewed Journal Publications	43 published
Extension publications	93 published
Published abstracts	56
Presentations (excluding guest lectures)	172
Workshops / Conference Sessions	10 (1 cancellation due to COVID-19)

Education

Ph.D. Aquaculture/Fisheries, University of Arkansas at Pine Bluff (2016)

MPS, Marine Affairs & Policy: Aquaculture, University of Miami RSMAS (2012)

Bachelor of Science (BS), Marine Biology, Minor: Chemistry, Barry University (2010)

Professional Experience

Associate Director, Virginia Seafood AREC, Virginia Polytechnic Institute and State University. Hampton, VA. (July 2024-present)

Associate Professor, Extension Specialist, Virginia Seafood AREC & Department of Agricultural and Applied Economics, Virginia Polytechnic Institute and State University. Hampton, VA. (July 2024-present)

Assistant Director, Virginia Seafood AREC, Virginia Polytechnic Institute and State University. Hampton, VA. (July 2020-June 2024)

Assistant Professor, Extension Specialist, Virginia Seafood AREC & Department of Agricultural and Applied Economics, Virginia Polytechnic Institute and State University. Hampton, VA. (December 2018-June 2024)

Research Scientist, Virginia Seafood AREC, Virginia Polytechnic Institute and State University. Hampton, VA. (May 2018-December 2018)

Postdoctoral Associate, Virginia Seafood AREC, Virginia Polytechnic Institute and State University. Hampton, VA. (*August 2016-May 2018*)

Graduate Research Assistant, Aquaculture/Fisheries Center, University of Arkansas at Pine Bluff. Pine Bluff, Arkansas. (*August 2013-June 2016*)

Research Intern, Fisheries and Aquaculture Department, Food and Agriculture Organization (FAO) of the United Nations. Rome, Italy. (*August 2012 – November 2012*)

Research Assistant, University of Miami Experimental Hatchery, University of Miami. Key Biscayne, Florida. (*July 2011 – August 2012*)

Research Assistant, National Resource for Aplysia, University of Miami. Key Biscayne, Florida. (*June 2011 – December 2011*)

Research Assistant, Dr. Allen Sanborn, Barry University. Miami Shores, Florida. (*January 2009 – January 2010*)

Dissertation

The costs and impacts of the regulatory environment on U.S. producers of baitfish and sportfish.

Journal Publications

1. Engle, C., van Senten, J., Agyeman, D., Schwarz, M. 2025. Cost drivers of commercial-scale marine finfish hatchery production in southern tier US states. *Journal of the World Aquaculture Society*. Vol. 56:4. <https://doi.org/10.1111/jwas.70055>
2. Engle, C., van Senten, J., Fong, Q., Good, M. 2025. Economic vulnerability and resilience of aquaculture supply chains in the U.S. Western region. *Aquaculture*. Vol 611. <https://doi.org/10.1016/j.aquaculture.2025.743026>.
3. Engle, C., van Senten, J., Fong, Q., Good, M. 2025. The economic contribution of aquaculture to the U.S. Western Region. *North American Journal of Aquaculture*. Vol. 87:3. P. 155-167. <https://doi.org/10.1093/naaqua/vraf008>
4. Gonçalves, F.H.; van Senten, J.; Schwarz, M.H. 2025. The Economic Contributions of the Virginia Seafood Industry and the Effects of Virginia Seafood Products in Retail Stores and Restaurants in 2023. *Fishes*, 10, 373. <https://doi.org/10.3390/fishes10080373>
5. Carvalho, A., Gonçalves, F.H., Pimentel, O.A.L.F. *et al.* Effect of the synbiotic system on the performance of shrimp *Penaeus vannamei*, oyster *Crassostrea virginica*, and macroalgae *Ulva lactuca* in an integrated system. *Aquacult Int* **33**, 482 (2025). <https://doi.org/10.1007/s10499-025-02167-6>
6. Engle, C., van Senten, J., Hegde, S., Kumar, G., Clark, C., Boldt, N., Fornshell, G., Hudson, B., Cassiano, E.J., DiMaggio, M. 2025. The National Regulatory Cost Burden

on US aquaculture farms. Journal of the World Aquaculture Society. Vol. 56:2.
<https://doi.org/10.1111/jwas.70005>

7. Pimentel, O.A.L.F., de Oliveira Ramiro, B., Carvalho, A., Bandero, F.H., Miyai, C.A., Wasielesky, W., Schwarz, M., van Senten, J., Urick, S., McAlhaney, E., Gonçalves, F.H., Krummenauer, D. 2025. Water quality management strategies for super-intensive culture of *Penaeus vannamei* with biofloc system: A case study in Virginia, USA. Journal of the World Aquaculture Society. Vol 56:4. <https://doi.org/10.1111/jwas.70042>
8. Pimentel, O.A.L.F., Schwarz, M., van Senten, J., Wasielesky, W., Urick, S., Carvalho, A., McAlhaney, E., Clarrington, J., Krummenauer, D. The super-intensive culture of *Panneaus vannamei* in low salinity water: a comparative study among recirculating aquaculture system, biofloc, and symbiotic systems. 2025. Aquaculture. Vol. 595:1. <https://doi.org/10.1016/j.aquaculture.2024.741774>
9. Agyeman, D., van Senten, J., Engle, C., Schwarz, M. 2025. Consumer liklihood to purchase farmed marine finfish with potential for commercialization in the Unites States. Aquaculture. Vol. 595:2. <https://doi.org/10.1016/j.aquaculture.2024.741681>
10. Ramiro, B.O., Wasielesky Jr., W., Pimentel, O.A.L.F., Sun, T., McAlhaney, E., Urick, S., Goncalves, F., van Senten, J., Schwarz, M., Krummenauer, D. 2024. Assessment of water quality, growth, or *Penaeus vannamei*, and partial budget in super-intensive BFT and RAS: a comparison between sustainable aquaculture systems. Sustainability. 16 (24). <https://doi.org/10.3390/su162411005>
11. Kumar, G., Hegde, S., van Senten, J., Engle, C., Boldt, N., Parker, M., Quagrainie, K., Posadas, B., Asche, F., Dey, M., Aarattuthodi, S., Roy, L.A., Grice, R., Fong, Q., Schwarz, M. 2024. Economic Contribution of U.S. Aquaculture Farms. <https://doi.org/10.1111/jwas.13091>
12. Uzmanoglu, S., Hegde, S., Engle, C., van Senten, J., Kumar, G., Dey, M. 2024. Seafood purchasing behavior in the US during the early recovery period from the COVID-19 pandemic. Fishes. 9:6. <https://doi.org/10.3390/fishes9090348>
13. Engle, C., Boldt, N., van Senten, J., Schwarz, M. 2024. Estimating growout production costs of commercial-scale marine finfish production in the southern tier US states. Journal of the World Aquaculture Society. <https://onlinelibrary.wiley.com/doi/full/10.1111/jwas.13075>
14. Gonçalves, F., van Senten, J., Schwarz, M., Hegde, S. Assessing Economic Contributions of the Virginia Seafood Industry: An Estimation Framework Utilizing Primary Data. Fishes. 9:6. <https://doi.org/10.3390/fishes9060200>
15. Agyeman, D., van Senten, J., Engle, C.R., Schwarz, M. 2024. Identifying market opportunities for farmed marine finfish in the southeast US. Aquaculture Economics & Management. <https://doi.org/10.1080/13657305.2024.2333313>

16. Engle, C., van Senten, J. 2023. Potential economic impact on U.S. aquaculture of injurious species listing of major aquaculture species. *Journal of the World Aquaculture Society*. DOI: 10.1111/jwas.13044
17. Engle, C., van Senten, J. 2023. U.S. Hybrid Striped Bass and Red Drum farms: Economic effects of the U.S. regulatory framework. *North American Journal of Aquaculture*. <https://doi.org/10.1002/naaq.10297>
18. Fluharty S., van Senten, J., Moeltner, K., Bosch, D. 2023. Opportunity between the turbines: Willingness-to-pay for co-location activities with an offshore wind farm. *Aquaculture Economics & Management*. <https://doi.org/10.1080/13657305.2023.2255157>
19. Kumar, G., Engle, C., van Senten, J., Sun, L., Hegde, S., Richardson, B. 2023. Resource productivity and costs of aquaculture practices: Economic-sustainability perspectives from U.S. catfish farming. *Aquaculture*. Vol. 574. <https://doi.org/10.1016/j.aquaculture.2023.739715>
20. Sun, L., Engle, C.R., Kumar, G., van Senten, J. 2023. Supermarket trends for rainbow and steelhead trout products: Evidence from scanner data. *Aquaculture Reports*. Vol. 30. <https://doi.org/10.1016/j.aqrep.2023.101579>
21. Engle, C.R., van Senten, J., Kumar, G., Dey, M. 2023. Pre- and post-pandemic seafood purchasing behavior in the U.S. *Aquaculture*. Vol. 571. <https://doi.org/10.1016/j.aquaculture.2023.739491>
22. Engle, C.R., van Senten, J., Clark, C., Boldt, N. 2023. Has the Regulatory Compliance Burden Reduced Competitiveness of the U.S. Tilapia Industry? *Fishes*. 8(3). <https://doi.org/10.3390/fishes8030151>
23. Sun, L., Kumar, G., Engle, C., van Senten, J. 2022. Trends for US catfish and swai products in retail markets. *Aquaculture Economics & Management*. <https://doi.org/10.1080/13657305.2022.2147250>
24. Engle, C., van Senten, J., Schwarz, M. 2022. Characterization of supply of marine finfish species with potential for commercial growth in the United States. *Journal of the World Aquaculture Society*. <https://doi.org/10.1111/jwas.12921>
25. Engle, C., van Senten, J. 2022. Resilience of Communities and Sustainable Aquaculture: Governance and Regulatory Effects. *Fishes*. <https://doi.org/10.3390/fishes7050268>
26. Sun, L., Engle, C., Kumar, G., van Senten, J. 2022. Retail market trends for seafood in the United States. *Journal of the World Aquaculture Society*. <https://onlinelibrary.wiley.com/doi/full/10.1111/jwas.12919>

27. Engle, C., van Senten, J., Schwarz, M., Brayden, C., Belle, S. 2022. Developing production and financial benchmarks for marine aquaculture from farm data. *Aquaculture Economics & Management*. <https://doi.org/10.1080/13657305.2022.2101711>
28. Hegde, S., Kumar, G., Engle, C., Hanson, T., van Senten, J. 2022. Cost of regulations on US catfish farms. *Journal of the World Aquaculture Society*. <https://doi.org/10.1111/jwas.12917>
29. Boldt, N.C., Engle, C.R., van Senten, J., Cassiano, E.J., DiMaggio, M.A. 2022. A regulatory cost assessment of ornamental aquaculture farms in Florida. 2022. *Journal of the World Aquaculture Society*. <https://doi.org/10.1111/jwas.12881>
30. Hegde, S., Kumar, G., Engle, C., Hanson, T., Roy, L.A., Cheatham, M., Avery, J., Arattuthodiyil, S., van Senten, J., Johnson, J., Wise, D., Dahl, S., Dorman, L., Peterman, M. 2022. Technological progress in the U.S. catfish industry. *Journal of the World Aquaculture Society*. <https://doi.org/10.1111/jwas.12877>
31. Hegde, S., Kumar, G., Engle, C., Avery, J., Arattuthodiyil, S., Johnson, J., van Senten, J. 2022. Production economic relationships in intensive U.S. catfish production systems. *Aquaculture Economics & Management*. <https://doi.org/10.1080/13657305.2022.2038720>
32. Hegde, S., Kumar, G., Engle, C., Hanson, H., Roy, L.A., van Senten, J., Johnson, J., Avery, J., Aarattuthodi, S., Dahl, S., Dorman, L., Peterman, M. 2021. Economic contribution of the U.S. catfish industry. *Aquaculture Economics & Management*. <https://doi.org/10.1080/13657305.2021.2008050>
33. Engle, C.R., van Senten, J., Schwarz, M., Hartman, K., Gustafson, L., Johnson, K., Creekmore, L. Farm-level Cost Drivers of Salmonid Fish Health Inspections. 2021. *Journal of Aquatic Animal Health*. Featured Paper. <https://pubmed.ncbi.nlm.nih.gov/34687087/>
34. Engle, C.R., van Senten, J., Parker, M., Webster, D., Clark, C. Economic tradeoffs and risk between traditional bottom culture of oysters on Maryland farms. 2021. *Aquaculture Economics & Management*. <https://www.tandfonline.com/doi/abs/10.1080/13657305.2021.1938295>
35. Engle, C.R., Kumar, G., van Senten, J. Resource-use efficiency in U.S. aquaculture: farm-level comparisons across fish species and production systems. 2021. *Aquaculture Environment Interactions*. <https://www.int-res.com/abstracts/aei/v13/p259-275/>
36. van Senten, J., Engle, C.R., Smith, M.A. Effects of COVID-19 on U.S. aquaculture farms. 2020. *Journal of Applied Economic Perspectives & Policy*. <https://doi.org/10.1002/aep.13140>

37. van Senten, J., Engle, C.R., Hudson, B., and Conte, F.S. 2020. Regulatory costs on Pacific coast shellfish farms. *Aquaculture Economics & Management*.
<https://doi.org/10.1080/13657305.2020.1781293>
38. Kumar, G., Engle, C., Hegde, S., van Senten, J. 2020. Economics of U.S. catfish farming practices: profitability, economies of size, and liquidity. *Journal of the World Aquaculture Society*. <https://doi.org/10.1111/jwas.12717>
39. Engle, C.R., Kumar, G., and van Senten, J. 2020. Cost drivers and profitability of U.S. pond, raceway, and RAS aquaculture. *Journal of the World Aquaculture Society*.
<https://doi.org/10.1111/jwas/12706>
40. Engle, C.R., van Senten, J., and Fornshell, G. 2019. Regulatory costs on U.S. salmonid farms. *Journal of the World Aquaculture Society*. <https://doi.org/10.1111/jwas.12604>
41. van Senten, J., Dey, M., and Engle, C.R. 2018. Effects of regulations on technical efficiency of U.S. baitfish and sportfish producers. *Aquaculture Economics & Management*. <https://doi.org/10.1080/13657305.2018.1454539>.
42. van Senten, J., Engle, C.R., Hartman, K., Johnson, K., and Gustafson, L. 2018. Is there an economic incentive for farmer participation in a uniform health standard for aquaculture farms? An empirical case study. *Preventive Veterinary Medicine*.
<https://doi.org/10.1016/j.prevetmed.2018.05.007>.
43. van Senten, J. and Engle, C.R. 2017. The costs of regulations on U.S. baitfish and sportfish producers. *Journal of the World Aquaculture Society*.
<https://doi.org/10.1111/jwas.12416>

Manuscripts submitted

Manuscripts in preparation (working titles)

Extension Publications

1. Clark, C., van Senten, J., Kumar, G., Haws, M., Parker, M., Hegde, S., Knoche, S., Brayden, C. Identifying Economic and Marketing Needs in U.S. Aquaculture: Insights from Survey of Sea Grant Programs and Aquaculture Hubs. Virginia Cooperative Extension. AAEC-335NP.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-335/aaec-335.html

2. Feng, Y., Huang, H., O'Keefe, S., van Senten, J., Sun, T., Schwarz, M. The Nutrition Value of the Chesapeake Bay Blue Catfish. Virginia Cooperative Extension. BSE-376P. August 1, 2025. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/BSE/bse-376/bse-376.html
3. Christie, T., Dorr, B., Roy, L., Kelly, A., Engle, C., Burr, P., Davis, B., van Senten, J. Cormorant Predation of Commercial Catfish Aquaculture in the Mississippi Delta. Virginia Cooperative Extension. AAEC-231NP. March 3, 2025. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-231/AAEC-231.html
4. Clark, C. and van Senten, J. Assessing the impacts of the 2020 Virginia Sea Grant COVID-19 Response and Supplemental Activities. Virginia Cooperative Extension. AAEC-322NP. September 20, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-322/aaec-322.html
5. Agyeman, D., van Senten, J., Engle, C., Rode, R., Quagraine, K., Smith, M. Effectiveness of North Central Regional Aquaculture Center (NCRAC) Funded Research in Aquaculture Within the North Central Region (NCR). Virginia Cooperative Extension. AAEC-320NP. August 4, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-320/aaec-320.html
6. Agyeman, D., van Senten, J., Engle, C., Rode, R., Quagraine, K., Smith, M. Assessing the Effectiveness of NCRAC-funded Research in Aquaculture Within the North Central Region. Virginia Cooperative Extension. AAEC-318NP. May 17, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-318/aaec-318.html
7. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Suffolk County, NY results. Virginia Cooperative Extension. AAEC-313NP. February 21, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-313/aaec-313.html
8. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Hampton Roads, VA results. Virginia Cooperative Extension. AAEC-314NP. February 21, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-314/aaec-314.html
9. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Northern Virginia (NOVA) results. Virginia Cooperative Extension. AAEC-315NP. February 21, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-315/aaec-315.html
10. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Richmond, VA results. Virginia Cooperative Extension. AAEC-316NP. February 21, 2023. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-316/aaec-316.html

11. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Northern Virginia (NOVA) results. Virginia Cooperative Extension. AAEC-315NP. February 21, 2023.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-315/aaec-315.html
12. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Montgomery County, MD results. Virginia Cooperative Extension. AAEC-308NP. February 20, 2023.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-308/aaec-308.html
13. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Prince George County, MD results. Virginia Cooperative Extension. AAEC-309NP. February 20, 2023.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-309/aaec-309.html
14. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Washington D.C. results. Virginia Cooperative Extension. AAEC-310NP. February 20, 2023.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-310/aaec-310.html
15. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of Nassau County, NY results. Virginia Cooperative Extension. AAEC-311NP. February 20, 2023.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-311/aaec-311.html
16. Clark, C., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic: Summary of New York City results. Virginia Cooperative Extension. AAEC-312NP. February 20, 2023.
https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-312/aaec-312.html
17. van Senten, J., Engle, C.R., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. mollusk businesses: Quarter 1 Results March 23, 2020 to April 10, 2020. AAEC-239NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-239/AAEC-239.html
18. Engle, C.R., van Senten, J., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. ornamental fish farms: Quarter 1 Results. AAEC-237NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-237/AAEC-237.html
19. van Senten, J., Engle, C.R., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. aquaculture, aquaponics, and allied businesses located in the USDA Tropical and Subtropical Aquaculture Region: Quarter 1 Results March 23, 2020 to April 10, 2020. AAEC-240NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-240/AAEC-240.html

20. Engle, C.R., van Senten, J., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. crustacean farms: Quarter 1 Results. AAEC-241NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-241/AAEC-241.html
21. Engle, C.R., van Senten, J., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. aquaculture, aquaponics, and allied businesses in the USDA Western Aquaculture Region: Q1 Results. AAEC-243NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-243/AAEC-243.html
22. Engle, C.R., van Senten, J., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. trout foodfish businesses: Quarter 1 Results. AAEC-244NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-244/AAEC-244.html
23. Engle, C.R., van Senten, J., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. tilapia farms: Quarter 1 Results. AAEC-245NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-245/AAEC-245.html
24. van Senten, J., Engle, C.R., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. aquaculture, aquaponics, and allied businesses: Quarter 1 Results March 23, 2020 to April 10, 2020. AAEC-246NP. Virginia Cooperative Extension. December 6, 2022. https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-246/AAEC-246.html
25. Engle, C.R., van Senten, J., Smith, M.A., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. sportfish farms: Quarter 1 Results. AAEC-247NP. Virginia Cooperative Extension. December 6, 2022.
https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-247/AAEC-247.html
26. Clark, C.T., van Senten, J., Engle, C.R., Smith, M.A., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. aquaculture allied business: Quarter 1 Results. AAEC-235NP. December 5, 2022. https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-235/AAEC-235.html
27. Smith, M.A., van Senten, J., Engle, C.R., Clark, C., Fluharty, S., Schwarz, M.H. Impacts of COVID-19 on U.S. aquaculture, aquaponics, and allied businesses located in the North Central Aquaculture Region. AAEC-238NP. Virginia Cooperative Extension. December 5, 2022. https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/AAEC-238/AAEC-238.html
28. Gonçalves, F.H., van Senten, J., Schwarz, M.H., Hegde, S. Economic Contributions of the Virginia Seafood Industry – Infographic. AAEC-302NP. Virginia Cooperative

Extension. November 23, 2022.

https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-302/aaec-302.html

29. Engle, C.R., van Senten, J., Watkins, C. Warmwater Marine Finfish in the Southern Tier States: Assessment of Historic Supply and its Implications for Aquaculture Commercialization. AAEC-305NP. Virginia Cooperative Extension. November 8, 2022. https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-305/aaec-305.html
30. Gonçalves, F.H., van Senten, J., Schwarz, M.H., Hegde, S. Economic Contributions of the Virginia Seafood Industry – Fact Sheet. AAEC-303NP. Virginia Cooperative Extension. November 7, 2022. https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-303/aaec-303.html
31. Gonçalves, F.H., van Senten, J., Schwarz, M.H., Hegde, S. Economic Contributions of the Virginia Seafood Industry. AAEC-301NP. Virginia Cooperative Extension. November 4, 2022. https://ext.vt.edu/content/pubs_ext_vt_edu/en/AAEC/aaec-301/aaec-301.html
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1. Engle, C.R., Kumar, G., and **van Senten, J.** Potential Economic Value of Growth of U.S. Aquaculture to U.S. Soybean Farmers. Soy Aquaculture Alliance. Technical Brief. June, 2020. <https://www.soyaquaalliance.com/research-reports>
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Invited Editorials & Columns

1. **van Senten, J.**, Smith, M.A., and Engle, C.R. Impacts of COVID-19 on U.S. aquaculture, aquaponics, and allied businesses. World Aquaculture Society. June 24, 2020. <https://doi.org/10.1111/jwas.12715>
2. **van Senten, J.**, and Engle, C.R. The regulatory cost burden on U.S. baitfish/sportfish farms. Aquaculture Magazine. August 2, 2017. Volume 43(4):64-66.

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1. Ojha, R., van Senten, J., and Patillo, A. Is Technological Intervention Feasible for the U.S. Shellfish Aquaculture Industry? A Case Study from Maryland Oyster Farms. World Aquaculture Magazine. September 2024. Pg 39 – 42.
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Published Abstracts

1. Goncalves, F., van Senten, J., Parraga-Estrada, K., Schwarz, M., Clark, C. Economic Impact of Shellfish Closures in Virginia. Aquaculture America. San Antonio, TX. (February 18-21, 2024)
2. Goncalves, F., van Senten, J., Schwarz, M. Economic Benefits of Local Seafood in Restaurants and Retail Stores in Virginia. Aquaculture America. San Antonio, TX. (February 18-21, 2024)
3. Nguyen, T., Hegde, S., Engle, C., van Senten, J., Kumar, G., Dey, M. Seafood Consumer Preferences Pre-and Post-COVID-19 Pandemic: Analysis of Delivery, Packaging, and Advertising Dynamics in the U.S. Seafood Industry. Aquaculture America. San Antonio, TX. (February 18-21, 2024)

4. Kumar, G., van Senten, J., Hegde, S., Boldt, N. Economic Contribution of US Aquaculture Farms. Aquaculture America. San Antonio, TX. *(February 18-21, 2024)*
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7. Uzmanoglu, S., Hegde, S., Engle, C., van Senten, J., Kumar, G., Dey, M. Attributes and Advertising Preferences Affecting At-Home Seafood Consumption During the Pandemic and Throughout the Recovery. Aquaculture America. San Antonio, TX. *(February 18-21, 2024)*
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30. van Senten, J., Engle, C.R. Economic fundamentals of RAS. RASTech 2019. Washington, D.C. (May 13, 2019)
31. van Senten, J., Engle, C.R. U.S. Regulatory compliance costs on west coast shellfish farms. Aquaculture America 2019. New Orleans, Louisiana. (March 11, 2019)
32. van Senten, J., Engle, C.R. U.S. Interstate trade regulations for aquaculture: what is the cost to U.S. producers? Aquaculture America 2019. New Orleans, Louisiana. (March 2019)
33. van Senten, J., Engle, C.R. The effects of regulations on west coast shellfish farms. Pacific Coast Shellfish Growers Association Meeting 2018. Blaine, Washington. (September 2018)
34. van Senten, J., Engle, C.R. The cost of regulatory compliance on west coast shellfish farms. National Shellfish Association Meeting 2018. Seattle, Washington. (March 2018)
35. van Senten, J., Engle, C.R. The farm level effects of regulations on U.S. trout producers. Aquaculture America 2018. Las Vegas, Nevada. (February 2018)

36. van Senten, J., Engle, C.R. The cost of regulatory compliance on west coast shellfish farms: effects and impacts. Aquaculture America 2018. Las Vegas, Nevada. *(February 2018)*
37. van Senten, J., Engle, C.R. The effects of regulations on U.S. trout producers. Aquaculture America 2018. Las Vegas, Nevada. *(February 2018)*
38. van Senten, J. Engle, C.R., Hartman, K., Johnson, K., Gustafson, L. Improved profitability through better animal health? Potential impacts of a uniform code for commercial aquatic animal health. Aquaculture America 2018. Las Vegas, Nevada. *(February 2018)*
39. van Senten, J. Engle, C.R., Hartman, K., Johnson, K., Gustafson, L. Is there an incentive for participation in a uniform health standard for aquaculture farms? Aquaculture America 2018. Las Vegas, Nevada. *(February 2018)*
40. van Senten, J. Engle, C.R., Hartman, K., Johnson, K., Gustafson, L. Increasing profitability through better animal health: potential impacts of a uniform code for commercial aquatic animal health. 147th American Fisheries Society Meeting. Tampa, Florida. *(August 2017)*
41. van Senten, J., Engle, C.R. The regulatory burden: types of economic effects on west coast shellfish farms. National Shellfish Association. Memphis, Tennessee. *(March 2017)*
42. van Senten, J., Dey, M., and Engle, C.R. The effects of regulations on efficiency of U.S. baitfish and sportfish farms. Aquaculture America 2017. San Antonio, Texas. *(February 2017)*
43. van Senten, J. and Engle, C.R. The economic contribution of the baitfish and sportfish industry to the state of Arkansas. Aquaculture America 2017. San Antonio, Texas. *(February 2017)*
44. van Senten, J. and Engle, C.R. Quantifying the costs of regulations on U.S. baitfish and sportfish Growers. 60th Rural Life Conference. Pine Bluff, Arkansas. *(March 2016)*
45. van Senten, J. and Engle, C.R. The potential impacts of a uniform commercial aquatic animal health code. Aquaculture America 2016. Las Vegas, Nevada. *(February 2016)*
46. van Senten J. Opportunities for graduate students to maximize their resume. Aquaculture America 2016. Las Vegas, Nevada. *(February 2016)*
47. van Senten, J. and Engle, C.R. The Costs of fish health testing regulations on U.S. producers of baitfish and sportfish. Aquaculture America 2016. Las Vegas, Nevada. *(February 2016)*
48. van Senten, J. and Engle, C.R. Costs of the U.S. regulatory environment on baitfish and sportfish aquaculture. Aquaculture America 2016. Las Vegas, Nevada. *(February 2016)*
49. van Senten, J. and Engle, C.R. Costs of the U.S. regulatory environment on baitfish and sportfish aquaculture. Southern Division American Fisheries Society Meeting. Wheeling, West Virginia. *(February 2016)*
50. van Senten, J. and Engle, C.R. The potential impacts of a uniform commercial aquatic animal health code. Arkansas Bait and Ornamental Fish Farmers Meeting. Lonoke, Arkansas. *(February 2016)*

51. van Senten, J. and Engle, C.R. Costs of the U.S. regulatory environment on baitfish and sportfish aquaculture. Mid-Continent Warmwater Fish Culture Workshop. Ashland, Nebraska. *(February 2016)*
52. van Senten, J. and Engle, C.R. The costs and impacts of regulations. University of Arkansas at Pine Bluff Chamber of Commerce Tour. Pine Bluff, Arkansas. *(June 2015)*
53. van Senten, J. and Engle, C.R. Quantifying the impacts of the regulatory environment on United States baitfish and sportfish aquaculture. Aquaculture America 2015. New Orleans, Louisiana. *(February 2015)*
54. van Senten, J. and Engle, C.R. The costs and impacts of regulations. Arkansas Bait and Ornamental Fish Farmers Meeting. Lonoke, Arkansas. *(February 2015)*
55. van Senten J. Contributing to the development of a new FAO code of conduct for responsible fisheries (CCRF) aquaculture questionnaire. Aquaculture America 2014. Seattle, Washington. *(February 2014)*
56. van Senten, J. and Engle, C.R. Estimating costs and impacts of regulations on U.S. baitfish and sportfish growers. Aquaculture Fisheries Center Field Day. *(October 2014)*

Conference Posters

1. Ojha, R., & van Senten, J. What Oyster Growers' in Maryland and Virginia are seeking from Technology [Poster presentation]. S3AM Annual Meeting, University of Maryland, MD. *(August 15, 2024)*
2. Ojha, R., van Senten, J. Smart Technology Adoption in Oyster Production. S3AM Summit Meeting. Kent Narrows, MD. *(August 22, 2023)*
3. Ojha, R., van Senten, J. Smart Technology Adoption in Oyster Production: Economic Feasibility and Consumer Perceptions. Center for Advanced Innovation in Aquaculture (CAIA) Big Event. Virginia Tech. Blacksburg, VA. *(March 6, 2023)*
4. Fluharty, S., van Senten, J., Moeltner, K., Bosch, D. Opportunity between the turbines: a willingness to pay experiment regarding co-location activities with offshore wind. Aquaculture America 2022. *(February 28, 2022)*
5. van Senten, J. and Engle, C.R. Quantifying the costs of regulations on U.S. baitfish and sportfish Growers. 60th Rural Life Conference. Pine Bluff, Arkansas. *(March 4, 2016)*

Grants and Contracts (Funded)

1. Hegde, S.*, **van Senten, J.**, Schwarz, M. Post-COVID Restaurant and Supermarket Demand for Marine Species in Gulf Coast and Mid-Atlantic States. USDA ARS. **\$191,413 (van Senten amount \$153,130) (Co-P.I.)** 09/01/2024 – 08/31/2026.

2. Kindsvater, H., Chaves Didier, C., Goncalves, F., Ramseyer, C., Sorice, M.G., **van Senten, J.** DISES: Dynamics of socio-environmental factors driving resilience of coastal fisheries: integrating feedbacks between livelihoods, human behavior, climate, and fish ecology. National Science Foundation. **\$1,793,583 (van Senten amount \$179,358)** (Co-P.I.) 09/01/2024 – 08/31/2029.
3. Feng, Y., Parraga-Estrada, K., Schwarz, M., Stout, W., **van Senten, J.** Interdisciplinary Research and Extension Training for Next-Generation Seafood Professionals. USDA NIFA. **\$749,730 (van Senten amount \$149,946)** (Co-P.I.) 09/01/2024 – 08/31/2029.
4. Schwarz, M., Feng, Y., Parraga-Estrada, K., **van Senten, J.** Virginia Seafood Agricultural Research and Extension Center and Virginia Sea Grant Seafood Extension Program. Virginia Sea Grant. **\$229,998 (van Senten amount \$57,499)** (Co-P.I.) 02/01/2024 – 01/31/2025.
5. Schwarz, M., Feng, Y., Zarei, M., **van Senten, J.** Maximizing the Potential of Sorghum Protein Concentrate: A Path to Enhanced Opportunities in Aquafeed and Food Markets. United Sorghum Checkoff Program. **\$217,400 (van Senten amount \$21,740)** (Co-P.I.) 01/01/2024 – 12/31/2025.
6. Goncalves, F., **van Senten, J.**, Schwarz, M. Economic contributions of local seafood in retail and restaurant transactions in Virginia. Virginia Marine Products Board. **\$198,334 (van Senten amount \$89,250)** (Co-P.I.) 11/01/2023 – 10/31/2025.
7. Schwarz, M., **van Senten, J.**, Parraga-Estrada, K., Feng, Y. Modular Advanced Phosphorus Separator (MAPS) System for Water Recycling in Aquaculture and Other Industries. Pancopia – DOE SBIR. **\$249,965 (van Senten amount \$37,485)** (Co-P.I.) 08/21/2023 – 08/20/2025.
8. **van Senten, J.**, Kumar, G., Parraga-Estrada, K., Hegde, S.*, Haws, M., Parker, M., Fong, Q., Knoche, S., Brayden, C., Crisostomo, D., Estevez Amador, R. Partnership to advance and enhance aquaculture economics and marketing research and Extension. NOAA Sea Grant. **\$998,920 (van Senten amount \$493,705)** (P.I.) 09/01/2023 - 08/31/2025.
9. **van Senten, J.**, Schwarz, M., Parraga-Estrada, K., Rouse, K., Engle, C.R., Kumar, G., Wing, C. Development of Training Videos for Regulatory and Certification Compliance on Animal Care, Biosecurity, and Food Safety. Southern Regional Aquaculture Center. **\$86,370 (van Senten amount \$80,370).** (P.I.) 04/01/2023 – 03/31/2025.
10. **van Senten, J.**, Engle, C.R., Hegde, S.*, Kumar, G. Economic Analysis of the United States Farm Raised Salmon and Trout Industries. USDA Animal Plant Health Inspection Service. **\$248,517 (van Senten amount \$158,517).** (P.I.) 06/01/2023 – 09/30/2023.

11. **Hegde, S.***, Engle, C.R., Kumar, G., van Senten, J. How risky are U.S. aquaculture businesses: Economic risk assessment of aquaculture species, production systems, and risk management strategies. USDA National Institute for Food and Agriculture. **\$300,000 (van Senten amount \$59,999)**. (*Co-P.I.*) 09/01/2022 – 08/31/2024.
12. **Smith, M.**, Roy, L., Kelly, A., Dorr, B., Engle, C., van Senten, J. Evaluation of Bird Depredation of Traditional and Non-Traditional Species on Aquaculture Farms. Southern Regional Aquaculture Center. **345,000 (van Senten amount \$25,110)**. (*Co-P.I.*) 04/01/2023 – 03/31/2025.
13. **van Senten, J.**, Engle, C.R. Economic Effects of the U.S. Regulatory Framework for U.S. aquaculture. USDA Economic Research Service. **\$86,999 (van Senten amount \$86,999)**. (*P.I.*) 09/16/2022 – 09/30/2024.
14. **Gonçalves, F.**, Parraga-Estrada, K., van Senten, J., Schwarz, M., Walton, B., Hudson, K. Economic Impact of Shellfish Closures in Virginia. Virginia Sea Grant. **\$109,646 (van Senten amount \$32,898)**. (*Co-P.I.*) 08/01/2022 – 11/31/2023.
15. **Ovissipour, R.**, Schwarz, M., Edwards, D., van Senten, J. Value-added Sorghum Protein Evaluation and Development. United Sorghum Checkoff Program. **\$642,592 (van Senten amount \$0)**. (*Co-P.I.*) 05/01/2022 – 04/30/2024.
16. **Schwarz, M.**, Lane, R., Ovissipour, R., Parraga-Estrada, K., van Senten, J. Virginia Seafood Agricultural Research and Extension Center and Virginia Seafood Extension Program. Virginia Sea Grant. **\$200,000 (van Senten amount \$20,000)**. (*Co-P.I.*) 02/01/2022 – 01/31/2024.
17. **van Senten, J.**, Engle, C.R. Assessment of economic feasibility of the commercialization of warmwater marine finfish in the Southern tier states. USDA Agricultural Research Service. **\$337,684 (van Senten amount \$337,684)**. (*P.I.*) 09/01/2020 – 06/30/2024.
Note: this award is part of a cooperative agreement with USDA ARS – funding reflects total amount received under the agreement.
18. **Zohar, Y.**, Moser, F., Hurley, J., Zydlewski, G., Hubbard, W., Fischer, G., Good, C., Subblefield, J., Summerfelt, S., Bartlett, C., Bouchard, D., Frederick, A., Hartleb, C., Jagus, R., Knoche, C., Peterson, B., Place, A., Saito, K., Sowers, K., Wong, T., van Senten, J. Sustainable Aquaculture Systems Supporting Atlantic Salmon. University of Maryland. USDA Agriculture and Food Research Initiative Sustainable Agriculture Systems. **\$10,000,000 (van Senten amount \$179,587)**. (*Co-P.I.*) 09/01/2021 – 08/31/2026.
19. **van Senten, J.**, Hartley, T., Rudders, D., Hudson, K., Lawrence, L., Schwarz, M., Lane, R., Villalba, A., Andrews, E., Montrose, G., Yusuf, W. Virginia Sea Grant 2021 COVID-

19 Impacts to Seafood Resources. Virginia Sea Grant. **\$163,632 (van Senten amount \$87,264).** (P.I.) 09/01/2021 – 08/31/2023.

20. **van Senten, J.**, Engle, C.R., Smith, M.A., Quagrainie, K., Arnot, C., Fitzpatrick, M. Developing social license for trout aquaculture in the North Central Region. North Central Regional Aquaculture Center. **\$280,163 (van Senten amount \$99,192).** (P.I.) 09/01/2021 – 08/31/2023.

21. **van Senten, J.**, Engle, C.R., Cuevas-Uribe, R., Fong, Q. Characterization of Aquaculture in the Western U.S. Western Regional Aquaculture Center. **\$237,218 (van Senten amount \$162,323).** (P.I.) 08/01/2021 – 07/31/2024.

22. **Kumar, G.**, Engle, C.R., van Senten, J. Targeted Marketing Research and Outreach for Improving the Position of Southern Aquaculture Products in the Grocery Marketplace. Southern Regional Aquaculture Center. **\$212,035 (van Senten amount \$16,576).** (Co-P.I.)

23. **Kumar, G.**, van Senten, J. Economic Status and Contribution of U.S. Aquaculture: Analyzing Viability Structures, Economic Impact, and Management Measures for Future Success. NOAA Sea Grant. **\$965,000 (van Senten amount \$279,239).** (Co-P.I.) 08/01/2020 – 07/31/2023.

24. **van Senten, J.** Assessing preferences for co-location of activities in conjunction with offshore renewable wind energy in Virginia. Virginia Sea Grant. **\$1,191 (van Senten amount \$1,191).** (P.I. status) 09/01/2020 – 08/31/2021.

25. **van Senten, J.**, Engle, C.R., Kumar, G., Dey, M.M., and Schwarz, M. Market research to guide U.S. aquaculture recovery from the COVID-19 pandemic and shutdowns. USDA National Institute of Food and Agriculture. **\$315,000 (van Senten amount \$191,542).** (P.I.) 09/01/2020 – 08/31/2023.

26. **van Senten, J.**, Engle, C.R., and Schwarz, M. Assessing markets and preferences for warmwater marine finfish in the Southern tier states. USDA Agricultural Research Service. (P.I.) 09/01/2020 – 06/30/2024.

Note: this award is part of a cooperative agreement with USDA ARS –total amount received under the agreement to date is \$337,684 as denoted under grant award #8.

27. **van Senten, J.**, and Schwarz, M. Virginia Tech COVID-19 impact assessment aquaculture, aquaponics, and allied businesses. Virginia Sea Grant & NOAA Sea Grant. **\$42,575 (van Senten amount \$42,575).** (P.I.) 09/01/2020 – 02/28/2022.

28. **van Senten, J.** Economic Benefits of the Virginia Seafood Industry. Virginia Marine Products Board. Virginia Department of Agriculture and Consumer Services. **\$155,482 (van Senten amount \$155,482).** *(P.I.)* 09/01/2020 – 01/31/2023.
29. **van Senten, J.,** Engle, C.R., Rode, R. Quagrainie, K., and Smith, M.A. Assessing the effectiveness of NCRAC funded research in aquaculture within the North Central region. North Central Regional Aquaculture Center. **\$74,722 (van Senten amount \$72,222).** *(P.I.)* 07/01/2020 – 12/31/2022.
30. **Aaratthuthodi, S.,** Griffin, M., Kumar, G., Greenway, T., Khoo, L., Wise, D., Camus, A., Engle, C.R., van Senten, J, Soto, E., Dorman, L., Ramena, G., Hawke, J. Investigating the Epidemiology of Edwardsiella piscicida -Septicemia in Hybrid Catfish and Other Commercially Important Fish Species in the Southern United States. Southern Regional Aquaculture Center. **\$374,982 (van Senten amount \$10,000).** *(Co-P.I.)* 10/01/2020 – 03/03/2023.
31. **van Senten, J.,** Fluharty, S*. Aquaculture Graduate Research Fellowship – Shannon Fluharty. Virginia Sea Grant. **\$40,000 (van Senten amount \$40,000).** *(P.I.)* 09/01/2020 – 08/31/2021.
32. **Yu, M.,** Tao, Y.A., van Senten, J., Hudson, B.O., Liu, C.H., Jin., Y.U., Aloimonos, J.O., Chopra, N.I., Parker, M.A., Webster, D.O., Callam, B.R., Gray, M.A. Transforming Shellfish Farming with Smart Technology and Management Practices for Sustainable Production. USDA National Institute for Food and Agriculture. **\$10,000,000 (van Senten amount \$749,149).** *(Co-P.I.)* 09/01/2020 – 08/31/2025.
33. **Schwarz, M.,** Lane, R., Ovissipour, R., Villalba, A., van Senten, J. Virginia Seafood Agricultural Research and Extension Center and Virginia Seafood Extension Program. Virginia Sea Grant. **\$200,000 (van Senten amount \$20,000).** *(Co-P.I.)* 02/01/2020 – 07/31/2022.
34. **Ovissipour, R.,** Schwarz, M., van Senten, J. Virginia Tech/USCP Aquafeed Program Development Support. United Sorghum Checkoff Program. **\$321,604 (van Senten amount \$0).** *(Co-P.I.)* 01/10/2020 – 01/09/2023.
35. **Hill, J.,** Tuckett, Q., Green, C., Alford, B., Engle, C., van Senten, J. Policy analysis of the implications of changes in the federal authority under the Lacey Act to prohibit interstate movement of injurious wildlife. Southern Regional Aquaculture Center. **\$124,948 (van Senten amount \$20,000).** *(Co-P.I.)* 10/01/2019 – 09/30/2021.
36. **Schwarz, M.,** Shihoodi, S., Kuhn, D., Ovissipour, R., van Senten, J. Baseline application of recirculating aquaculture systems technologies to enhance survival of oyster larvae in

early hatchery stages Phase 2. Virginia Institute of Marine Science. **\$6,782 (van Senten amount \$0).** *(Co-P.I.)* 03/01/2019 – 12/31/2019.

37. **Schwarz, M.**, Shiroodi, S., Kuhn, D., Ovissipour, R., van Senten, J. Baseline application of recirculating aquaculture systems technologies to enhance survival of oyster larvae in early hatchery stages Phase 1. Virginia Institute of Marine Science. **\$19,112 (van Senten amount \$0).** *(Co-P.I.)* 01/01/2019 – 06/30/2019.
38. **Kumar, G.**, Engle, C., Schwarz, M., van Senten, J. Economic Impact Assessment and Monitoring Progress of Technology Adoption in the U.S. Catfish Industry. Southern Regional Aquaculture Center. **\$250,000 (van Senten amount \$3,400).** *(Co-P.I.)* 08/01/2018 – 07/31/2020.
39. **van Senten, J.**, Engle, C., M. Schwarz, M. Parker, D. Webster. Analysis of the Economic Benefits of the Maryland Shellfish Aquaculture Industry. Chesapeake Bay Foundation. **\$55,000 (van Senten amount \$35,000).** *(P.I.)* 09/01/2017 – 02/28/2021.
40. **Engle, C.**, Schwarz, M.H., van Senten, J., Karunakaran, G., DiMaggio, M. Pathways for revitalizing U.S. Aquaculture: Reducing Regulatory Inefficiencies While Ensuring Sustainability and Social Responsibility. USDA National Institute of Food and Agriculture. **\$309,516 (van Senten amount \$170,460).** *(Co-P.I.)* 09/01/2018 – 08/31/2021.
41. **Schwarz, M.**, van Senten, J., Engle, C.R. Maine aquaculture economics benchmarking study. Maine Aquaculture Association. **\$84,473 (van Senten amount \$52,111).** *(Co-P.I.)* 03/26/2018 – 06/30/2020.
42. **Schwarz, M.**, Lane, R., Villalba, A., van Senten, J. Virginia Seafood Agricultural Research and Extension Center and Virginia Seafood Extension Program. Virginia Sea Grant. **\$200,000 (van Senten amount \$50,000).** *(Co-P.I.)* 02/01/2018 – 01/31/2020.
43. **Blaylock, R.**, Saillant, E., Schwarz, M., DiMaggio M., Henry, E., Engle, C., van Senten, J. Commercializing intensive copepod culture: a transformational foundation essential for increasing domestic high-value marine finfish. NOAA, National Sea Grant. **\$999,000 (van Senten amount \$55,410).** *(Co-P.I.)* 09/01/2017 – 02/28/2021.
44. **Kuhn, D.**, Ellis, R., Gatlin, D., Engle, C., Schwarz, M.H., van Senten, J., Browdy, C., Sun, M. Evaluation of protein and lipid concentrations in commercially available tilapia feeds and their effect in intensive production systems. Southern Regional Aquaculture Center. **\$200,000 (van Senten amount \$44,055).** *(Co-P.I.)* 06/01/2017 – 11/30/2019.

Internal Funding

1. **Villalba A.**, van Senten, J., Haugen, I., Nerrie, B., Liu, C. Assessing consumer perceptions, attitudes, knowledge, and barriers towards consumption of captured and cultured seafood in Virginia and Maryland. DELMARVA. **\$26,890 (van Senten amount \$12,650).** *(Co-P.I.)*

Workshops / Conference Sessions Organized

1. van Senten, J., Engle, C., Hegde, S., Kumar, G., Fornshell, G. U.S. Salmonid Industry: Size, Scope, and Economic Impact Workshop. Via Zoom. *(August 22, 2024)*
2. van Senten, J., Engle, C., Boldt, N. Marine Finfish Economics Workshop. Via Zoom. *(January 16, 2024)*
3. Boldt, N., van Senten, J. Special Session on Surveys. Aquaculture America 2023. New Orleans, Louisiana. *(February 25, 2023)*
4. van Senten, J., Engle, C.R., Schwarz, M., Watkins, C. Warmwater Marine Finfish Workshop. Virtual via Zoom. *(August 31, 2021)*
5. van Senten, J. Special NAA Session: Farming in the time of a pandemic: impacts, response, and planning. Aquaculture America 2021. San Antonio, Texas. *(August 13, 2021)*
6. Parker, M. and van Senten, J. Special Session: Shellfish Aquaculture Business and Economics. 112th National Shellfisheries Association Meeting. Baltimore, Maryland. *(March 30, 2020 – Cancelled due to COVID-19)*
7. Karunakaran, G. and van Senten, J. Special NAA Session: Planning Strategically for Marketing and Financial Success. Aquaculture America 2019. New Orleans, Louisiana *(March 11, 2019)*
8. Engle, C.R. and van Senten, J. Aquaculture Economics & Marketing Workshop: Aquaculture and Aquaponics. Ohio State University South Centers. Columbus, Ohio. *(July 2017)*
9. Engle, C.R., Kumar, G., van Senten, J. Business Planning. Aquaculture America 2016. Las Vegas, Nevada. *(February 2016)*
10. van Senten, J and Engle, C.R. with collaboration from USDA APHIS. A Summary of Regulatory Costs on United States Baitfish and Sportfish Aquaculture. University of Arkansas at Pine Bluff. Lonoke, Arkansas *(September 2015)*

Presentations

Invited presentations

1. van Senten, J. Fish Health Costs in Aquaculture. USDA APHIS CEAH Workshop. Newport News, Virginia. *(July 11, 2024)*
2. van Senten, J. Applied research in pursuit of impacts. CAIA Kick-Off Meeting. Virginia Tech. Blacksburg, Virginia. Given via Zoom. *(September 22, 2023)*

3. van Senten, J., Engle, C. Choosing the consequences: Research and Extension in pursuit of impacts. Aquaculture America 2023. New Orleans, Louisiana. *(February 26, 2023)*
4. van Senten, J. Policy, Production, and Marketing: ramblings from an aquaculture economist. Invited Seminar. Auburn University. Auburn, Alabama. *(November 7, 2022)*
5. van Senten, J. Economic Aspects of Aquaculture & Fisheries. Atlantic and Gulf Seafood Technology Conference. Keynote Speaker. Given via Zoom. *(September 28, 2022)*
6. van Senten, J. Effects of COVID-19 on U.S. aquaculture. USDA NIFA National Program Leaders Meeting. Given via Microsoft Teams. *(April 27, 2022)*
7. van Senten, J. Regulatory costs across 56% of US aquaculture: commonalities and differences. Aquaculture America 2022. San Diego, California. *(March 3, 2022)*
8. van Senten, J., Smith, M. A., and Engle C. R. COVID-19 Impacts: Overview, Update, and Discussion. Missouri Aquaculture Association Annual Conference. Given via Zoom. *(February 20, 2021)*
9. van Senten, J., Smith, M. A., and Engle C. R. 2021. Aquaculture during COVID-19. Midwest Fish and Wildlife Conference. The Future of Aquaculture in the Midwest Region: Barriers and Opportunities Symposium (Part 1). Given via Zoom. *(February 3, 2021)*
10. van Senten, J., Smith, M. A., and Engle C. R. 2020. Aquaculture during COVID-19. Great Lakes Aquaculture Day. Given via Zoom. *(October 10, 2020)*
11. van Senten, J., Smith, M. A., and Engle C. R. 2020. Impacts of COVID-19 pandemic on the U.S. aquaculture industry. United States Aquaculture Society Webinar Series. Given via Zoom. *(October 1, 2020)*
12. van Senten, J., Engle C.R. Marketing and economics of aquaponics. North Carolina Aquaculture Development Conference. New Bern, North Carolina. Given via Zoom. *(March 13, 2020)*
13. van Senten, J., Engle, C.R. Regulatory cost analysis of United States aquaculture. Aquaculture America 2020. Honolulu, Hawai'i. *(February 10, 2020)*
14. van Senten, J., Engle, C.R. Measuring the effects of regulations at the farm level for U.S. aquaculture. Virginia Institute of Marine Science Eastern Shore Lab Seminar Series. Wachapreague, VA. *(December 4, 2019)*
15. van Senten, J, Engle, C.R. The on-farm regulatory cost burden on U.S. aquaculture. US EPA. Washington, D.C. *(June 25, 2019)*
16. van Senten, J., Engle, C.R. Costs and effects of the regulatory environment on U.S. trout aquaculture. Colorado Aquaculture Association Meeting. Nathrop, Colorado. *(February 1, 2019)*
17. van Senten, J., Engle, C.R. Regulatory effects on the value of shellfish aquaculture. 45th East Coast Commercial Fisherman's & Aquaculture Trade Exposition. Ocean City, Maryland. *(January 19, 2019)*
18. van Senten, J., Engle, C.R. Quantifying regulatory costs for the shellfish industry. Harold Haskin Fisherman's Forum Series. Cape May, New Jersey. *(December 13, 2018)*
19. van Senten, J, Engle, C.R. The effects of the regulatory environment on U.S. aquaculture producers. USDA ERS. Washington, D.C. *(April 19, 2018)*

20. Engle, C.R., van Senten, J. Why are U.S. aquaculture producers so concerned about regulations? Interagency Working Group on Aquaculture. Washington D.C. *(April 19, 2018)*
21. Engle, C.R., van Senten, J. Farm financial health. Wisconsin Aquaculture Conference. Marshfield, Wisconsin. *(March 3, 2018)*
22. Engle, C.R., van Senten, J. Strategic marketing: Finding your key markets & choosing products for those markets. Wisconsin Aquaculture Conference. Marshfield, Wisconsin. *(March 3, 2018)*
23. Engle, C.R., van Senten, J. Adapting to ever-changing market demands. Wisconsin Aquaculture Conference. Marshfield, Wisconsin. *(March 3, 2018)*
24. van Senten, J., Engle, C.R. What is the regulatory cost burden on Wisconsin baitfish/sportfish farms? Wisconsin Aquaculture Conference. Marshfield, Wisconsin. *(March 2, 2018)*
25. van Senten, J., Engle, C.R. The farm level effects of regulations on U.S. trout producers. Aquaculture America 2018. Las Vegas, Nevada. *(February 22, 2018)*
26. van Senten, J. Engle, C.R., Hartman, K., Johnson, K., Gustafson, L. Is there an incentive for participation in a uniform health standard for aquaculture farms? Aquaculture America 2018. Las Vegas, Nevada. *(February 22, 2018)*
27. van Senten, J. Engle, C.R., Hartman, K., Johnson, K., Gustafson, L. Improved profitability through better animal health? Potential impacts of a uniform code for commercial aquatic animal health. Aquaculture America 2018. Las Vegas, Nevada. *(February 20, 2018)*
28. van Senten, J., Engle, C.R. What is the regulatory cost burden on Ohio baitfish/sportfish farms? Ohio Aquaculture Association Conference. *(January 27, 2018)*
29. Engle, C.R., van Senten, J. Adapting to everchanging market demands. Ohio Aquaculture Association Conference. *(January 26, 2018)*
30. van Senten, J., Engle, C.R. How much does government cost the shellfish industry? 44th East Coast Commercial Fisherman's & Aquaculture Trade Exposition. Ocean City, Maryland. *(January 13, 2018)*
31. van Senten, J., Engle, C.R., Schwarz, M.H., Mullins, C. Commercial Aquaponics. Putting Down Roots Aquaponics Conference. Portland, Oregon. *(November 4, 2017)*
32. van Senten, J. Engle, C.R., Hartman, K., Johnson, K., Gustafson, L. Increasing profitability through better animal health: potential impacts of a uniform code for commercial aquatic animal health. 147th American Fisheries Society Meeting. Tampa, Florida. *(August 21, 2017)*
33. van Senten, J. Engle, C.R. What is the regulatory cost burden on Ohio baitfish/sportfish farms? Aquaculture Economics & Marketing Workshop. Columbus, Ohio. *(July 15, 2017)*
34. van Senten, J., Engle, C.R. The regulatory burden: types of economic effects on west coast shellfish farms. National Shellfish Association Meeting. Memphis, Tennessee. *(March 28, 2017)*
35. van Senten, J. How to mix water and electricity: musings by a millennial. Plenary speaker. Aquaculture America 2017. San Antonio, Texas. *(February 20, 2017)*

36. van Senten, J., Johnson, K., Gustafson, L., Hartman, K. Cost-benefit analysis of commercial aquaculture health program standards (CAHPS) pilot projects. Aquaculture America 2017. *(February 20, 2017)*
37. Engle, C.R., van Senten, J. Update on regulatory cost studies. National Aquaculture Association Board Meeting. San Antonio, Texas. *(February 19, 2017)*
38. Engle, C.R., van Senten, J. Economic Contributions of the Arkansas Bait and Sportfish Industry. Arkansas Bait and Ornamental Fish Growers Association. Lonoke, Arkansas. *(February, 2017)*
39. Engle, C.R., van Senten, J. Regulatory Effects on the Economic Efficiency of Bait and Sportfish Farming. Arkansas Bait and Ornamental Fish Growers Association. Lonoke, Arkansas. *(February, 2017)*
40. van Senten, J., Engle, C.R. The cost of regulations affecting U.S. trout aquaculture. Colorado Aquaculture Association Meeting. Nathrop, Colorado. *(February 3, 2017)*
41. van Senten, J., Engle, C.R., Fornshell, G., Conte, F., Hanshumaker, B., Hudson, B., Schwarz, M. The cost and impact of regulations on shellfish aquaculture. 70th Annual Shellfish Growers Conference and Tradeshow. Lake Chelan, Washington. *(October 12, 2016)*
42. Engle, C.R. and van Senten, J. Fish farming costs: how much is due to regulations? Fall Meeting of the United States Trout Farmers Association and Penn Aqua. Bethlehem, Pennsylvania. *(September 7, 2016)*
43. Engle, C.R., and van Senten, J. Fish farming costs: how much is due to regulations? Idaho Aquaculture Association Annual Meeting. Twin Falls, Idaho. *(June 11, 2016)*
44. van Senten, J. and Engle, C.R. The potential impacts of a uniform commercial aquatic animal health code. Aquaculture America 2016. Las Vegas, Nevada. *(February 26, 2016)*

Technical presentations

45. Ojha, R., & van Senten, J. Assessing the Feasibility of Renting Smart Sustainable Shellfish Aquaculture Management (S3AM) Technology for Oyster Farms. 116th National Shellfisheries Association Annual Meeting. (March 17-21, 2024)
46. De Oliveira Ramiro, B., Wasielesky, Jr., W., Pimentel, O., Sun, T., McAlhaney, E., Urick, S., van Senten, J., Schwarz, M., Krummenauer, D. Evaluation of Zootechnical Performance and Water Quality of Shrimp *Penaeus vannamei* in Biofloc Technology System and Recirculating Aquaculture Systems. Aquaculture America 2024. *(February 21, 2024)*
47. Kumar, G., van Senten, J., Hegde, S., Boldt, N. Economic Contribution of U.S. Aquaculture Farms. Aquaculture America 2024. *(February 21, 2024)*
48. Boldt, N., van Senten, J., Kumar, G., Parraga-Estrada, K., Hegde, S., Haws, M., Parker, M., Fong, Q., Knoche, S., Brayden, C., Crisostomo, D., Estevez-Amador, R. Advancing Aquaculture Economics, Marketing Research and Extension: A National Initiative Through Partner Sea Grant Programs. Aquaculture America 2024. *(February 21, 2024)*

49. Kumar, G., Engle, C., Aarattuthodi, S., Hegde, S., van Senten, J., Khoo, L., Hanson, L., Dorman, L., Peterman, M. Estimating the True Economic Impact of Diseases: The case of Edwardsiellosis. Aquaculture America 2024. (*February 20, 2024*)
50. Goncalves, F., van Senten, J., Schwarz, M. Economic Benefits of Local Seafood in Restaurants and Retail Stores in Virginia. Aquaculture America 2024. (*February 20, 2024*)
51. Uzmanoglu, S., Hegde, S., Engle, C., van Senten, J., Kumar, G., Dey, M. Attributes and Advertising Preferences Affecting At-Home Seafood Consumption During the Pandemic and Throughout the Recovery. Aquaculture America 2024. (*February 20, 2024*)
52. Hegde, S., Nguyen, T., Engle, C., van Senten, J., Kumar, G., Dey, M. Seafood Consumer Preferences Pre- and Post-COVID-19 Pandemic: Analysis of Delivery, Packaging, and Advertising Dynamics in the U.S. Seafood Industry. Aquaculture America 2024. (*February 20, 2024*)
53. Ojha, R., van Senten, J. Ex Ante Cost-Benefit Analysis of Smart Sustainable Shellfish Aquaculture Management (S3AM) Technology. Aquaculture America 2024. (*February 20, 2024*)
54. Clark, C., Goncalves, F., van Senten, J., Parraga-Estrada, K., Schwarz, M. Economic Impact of Shellfish Closures in Virginia. Aquaculture America 2024. (*February 20, 2024*)
55. Boldt, N., van Senten, J., Kumar, G. New national partnership to advance aquaculture economics and marketing research and Extension. Virginia Aquaculture Conference. Newport News, Virginia. (*November 11, 2023*)
56. Goncalves, F., van Senten, J., Parraga-Estrada, K., Schwarz M. Economic impact of shellfish closures in Virginia. Virginia Aquaculture Conference. Newport News, Virginia. (*November 10, 2023*)
57. Goncalves, F., van Senten, J., Schwarz M., Hegde, S. Economic contributions of the Virginia seafood industry. Virginia Aquaculture Conference. Newport News, Virginia. (*November 10, 2023*)
58. van Senten, J., Engle, C.R., Hrozencik, A. Regulations guiding the U.S. aquaculture industries. Agricultural & Applied Economics Association Conference. Washington D.C. (*July 24, 2023*)
59. Schwarz, M. and van Senten, J. Virginia Seafood AREC 2022 Evaluation Summary. Virginia Agricultural Experiment Station Meeting. Blacksburg, Virginia. (*March 15, 2023*)
60. Kumar, G. and van Senten, J. Is a survey the best way to get the information needed? Aquaculture America 2023. New Orleans, Louisiana. (*February 25, 2023*)
61. van Senten, J., Clark, C., Engle, C. Regulatory Costs of Maryland Shellfish Aquaculture. Maryland Aquaculture Conference. Annapolis, MD. (*November 15, 2022*)
62. van Senten, J. Economics of aquaponics. Controlled Environmental Agriculture Summit East. Danville, Virginia. (*October 25, 2022*).
63. van Senten, J., Engle, C.R., Kumar, G., Hegde, S., Dey, M., Ojha, R. Market research to guide U.S. aquaculture recovery from the COVID-19 pandemic. Mid-Atlantic Sea Grant Meeting. Given via Zoom. (*April 7, 2022*)

64. Pattillo, A., Yu, M., Parker, M., Webster, D., Lui, C., Tao, Y., Aloimonos, Y., Chopra, N., Gray, M., Callam, B., Hudson, B., van Senten, J. Smart, sustainable shellfish aquaculture management program. Aquaculture America 2022. San Diego, California. (March 4, 2022)
65. van Senten, J., Kumar, G. Economic status and contribution of U.S. aquaculture. Aquaculture America 2022. San Diego, California. (March 3, 2022)
66. van Senten, J., Engle, C.R., Schwarz, M.H., Agyeman, D.A., Boldt, N., Watkins, C. Marketing and economics of warmwater marine finfish aquaculture. Aquaculture America 2022. San Diego, California. (March 3, 2022)
67. Agyeman, D.A., van Senten, J., Engle, C.R., Watkins, C., Schwarz, M.H. Warmwater marine finfish in the southern tier states: consumer preference survey results. Aquaculture America 2022. San Diego, California. (March 3, 2022)
68. Boldt, N.C., Engle, C., Watkins, C., Schwarz, M., van Senten, J. A supply analysis of 20 emerging marine finfish species for commercial aquaculture production. Aquaculture America 2022. San Diego, California. (March 3, 2022)
69. Hegde, S., Kumar, G., Engle, C., Avery, J., Arattuthodi, S., Johnson, J., van Senten, J. Production economic relationships in intensive U.S. catfish production systems. Aquaculture America 2022. San Diego, California. (March 1, 2022)
70. Sun, L., Kumar, G., Engle, C., van Senten, J. Retail seafood market trends in the U.S., 2016-2021. Aquaculture America 2022. San Diego, California. (March 1, 2022)
71. van Senten, J., Engle, C.R., Schwarz, M., Dey, M. Market research to guide U.S. aquaculture recovery from the COVID-19 pandemic. Aquaculture America 2022. San Diego, California. (March 1, 2022)
72. Clark, C., van Senten, J., Engle, C., Schwarz, M. Regulatory costs on Atlantic coast shellfish farms. Aquaculture America 2022. San Diego, California. (March 1, 2022)
73. Hegde, S., Kumar, G., Engle, C., Hanson, T., Roy, L.A., van Senten, J., Johnson, J., Avery, J., Aarattuthodi, S., Dahl, S., Dorman, L., Peterman, M. Economic contribution of the U.S. catfish industry. Aquaculture America 2022. San Diego, California. (March 1, 2022)
74. Hegde, S., Kumar, G., Engle, C., Hanson, T., Roy, L.A., Cheatham, M., Avery, J., Aarattuthodi, S., van Senten, J., Johnson, J., Wise, D., Dahl, S., Dorman, L., Peterman, M. Technological progress in the U.S. catfish industry. Aquaculture America 2022. San Diego, California. (March 1, 2022)
75. van Senten, J. Marketing Considerations. Virginia Cooperative Extension Winter Conference: Aquaponics Session. Given via Zoom. (February 2, 2022)
76. van Senten, J., Schwarz, M.H., Clark, C., Goncalves, F., Agyeman, D.A., Boldt, N.C., Engle, C.R. VSAREC – SEAMaR, seafood economic analysis and marketing research. Virginia Aquaculture Conference. Newport News, Virginia. (January 8, 2022)
77. van Senten, J. From Hatch funding to a supported research program. Virginia Tech new faculty cohort session. Given via Zoom. (December 10, 2021)
78. van Senten, J., Engle, C., Watkins, C., Schwarz, M. Warmwater Marine Finfish Workshop: Supply Analysis, Consumer Preferences, and Distributor Preferences. Warmwater Marine Finfish Workshop. Virginia Tech. (August 31, 2021)

79. Engle, C.R. Kumar, G., van Senten, J. Cost drivers and profitability of U.S. pond, raceway, and RAS aquaculture. Aquaculture America 2021. San Antonio, Texas. *(August 13, 2021)*
80. Kumar, G., Engle, C.R., Hegde, S., van Senten, J. Economics of U.S. catfish farming practices: profitability, economies of size, and liquidity. Aquaculture America 2021. San Antonio, Texas. *(August 13, 2021)*
81. Engle, C.R., Kumar, G., van Senten, J. Resource use efficiency in U.S. aquaculture: farm-level comparisons across fish species and production systems. Aquaculture America 2021. San Antonio, Texas. *(August 13, 2021)*
82. Brayden, C., Engle, C.R., van Senten, J., Belle, S., Science Crunchers. Maine aquaculture financial benchmarking and risk management reports – using infographics to expand reach and engagement. Aquaculture America 2021. San Antonio, Texas. *(August 13, 2021)*
83. Goncalves, F., van Senten, J., Schwarz, M. Characterization of the Virginia seafood supply chain. Aquaculture America 2021. San Antonio, Texas. *(August 13, 2021)*
84. Engle, C.R., Kumar, G., van Senten, J. New enterprise budgets for U.S. aquaculture and how to use them. Aquaculture America 2020. Honolulu, Hawai'i. *(February 11, 2020)*
85. van Senten, J. Economics of Aquaponics. Virginia Cooperative Extension Winter Conference. Roanoke, Virginia. *(January 30, 2020)*
86. van Senten, J., Engle, C.R. Economic fundamentals of RAS. RAS-Tech 2019. Washington, D.C. *(May 13, 2019)*
87. van Senten, J., Engle, C.R. U.S. Regulatory compliance costs on west coast shellfish farms. Aquaculture America 2019. New Orleans, Louisiana. *(March 11, 2019)*
88. van Senten, J., Engle, C.R. U.S. Interstate trade regulations for aquaculture: what is the cost to U.S. producers? Aquaculture America 2019. New Orleans, Louisiana. *(March 11, 2019)*
89. van Senten, J., Engle, C.R. Quantifying the farm level effects of regulations on the U.S. aquaculture industry. Department of Agricultural and Applied Economics, Virginia Tech. Blacksburg, Virginia. *(October 19, 2018)*
90. van Senten, J., Engle, C.R. The cost of regulatory compliance on west coast shellfish farms: effects and impacts. Aquaculture America 2018. Las Vegas, Nevada. *(February 22, 2018)*
91. van Senten, J., Engle, C.R. The effects of regulations on U.S. trout producers. Aquaculture America 2018. Las Vegas, Nevada. *(February 20, 2018)*
92. van Senten, J., Dey, M., and Engle, C.R. The effects of regulations on efficiency of U.S. baitfish and sportfish farms. Aquaculture America 2017. San Antonio, Texas. *(February 21, 2017)*
93. van Senten, J. and Engle, C.R. The economic contribution of the baitfish and sportfish industry to the state of Arkansas. Aquaculture America 2017. San Antonio, Texas. *(February 21, 2017)*
94. van Senten J. Opportunities for graduate students to maximize their resume. Aquaculture America 2016. Las Vegas, Nevada. *(February 25, 2016)*

95. van Senten, J. and Engle, C.R. The Costs of fish health testing regulations on U.S. producers of baitfish and sportfish. Aquaculture America 2016. Las Vegas, Nevada. *(February 24, 2016)*
96. van Senten, J. and Engle, C.R. Costs of the U.S. regulatory environment on baitfish and sportfish aquaculture. Aquaculture America 2016. Las Vegas, Nevada. *(February 24, 2016)*
97. van Senten, J. and Engle, C.R. Costs of the U.S. regulatory environment on baitfish and sportfish aquaculture. Southern Division American Fisheries Society Meeting. Wheeling, West Virginia. *(February 20, 2016)*
98. van Senten, J. and Engle, C.R. Costs of the U.S. regulatory environment on baitfish and sportfish aquaculture. Mid-Continent Warmwater Fish Culture Workshop. Ashland, Nebraska. *(February 2, 2016)*
99. van Senten, J. and Engle, C.R. Quantifying the impacts of the regulatory environment on United States baitfish and sportfish aquaculture. Aquaculture America 2015. New Orleans, Louisiana. *(February 22, 2015)*
100. van Senten J. Contributing to the development of a new FAO code of conduct for responsible fisheries (CCRF) aquaculture questionnaire. Aquaculture America 2014. Seattle, Washington. *(February 12, 2014)*
101. van Senten, J. and Engle, C.R. Estimating costs and impacts of regulations on U.S. baitfish and sportfish Growers. Aquaculture Fisheries Center Field Day. Pine Bluff, Arkansas. *(October 2, 2014)*

Industry and stakeholder presentations

102. van Senten, J., Engle, C., Hegde, S., Kumar, G., Fornshell, G. Economic Contribution (Impact) of the U.S. Farmed Salmonid Sector. United States Trout Farmer's Association Meeting. Corning, California. *(September 12, 2024)*
103. Ojha, R., & van Senten, J. Economic Feasibility of S3AM Technology in Shellfish Farming [Webinar talk]. Available at: <https://www.youtube.com/watch?v=CplMOuzrfsk> *(August 10, 2024)*
104. van Senten, J., and Engle, C. Warmwater Marine Finfish Meeting: Budgets for Marine Finfish. Via Zoom. *(January 16, 2024)*
105. van Senten, J. and Engle, C. Social License for U.S. Aquaculture: How did we get here? U.S. Soy Aquaculture Alliance Webinar. Via Zoom. *(November 14, 2023)*
106. van Senten, J. Developing Social License for Trout Aquaculture: What we have learned so far. U.S. Trout Farmer's Association Meeting. Hershey, Pennsylvania. *(September 12, 2023)*
107. van Senten, J., Clark, C., Engle, C. Cost of regulation Maryland shellfish aquaculture. Maryland Seed to \$\$\$\$ meeting. Chesapeake Bay Foundation. Annapolis, Maryland. *(March 31, 2023)*

108. Lianqun, S., Engle, C., Kumar, G., van Senten, J. U.S. retail market trends for tilapia products. Aquaculture America 2023. New Orleans, Louisiana. (*February 26, 2023*)
109. Tuckett, Q., Engle, C., van Senten, J., Hill, J. State survey to identify risk practices and responses to Lacey Act changes for injurious wildlife. Aquaculture America 2023. New Orleans, Louisiana. (*February 26, 2023*)
110. Pattillo, A., Yu, M., Parker, M., Webster, D., Liu, C., Tao, Y., Aloimonos, Y., Chopra, N., Gray, M., Callam, B., Hudson, B., van Senten, J. Updates from the smart, sustainable shellfish aquaculture management program. Aquaculture America 2023. New Orleans, Louisiana. (*February 26, 2023*)
111. Schwarz, M., van Senten, J., Ovissipour, R., Parraga-Estrada, K., Stout, W., Rouse, K. Virginia seafood agricultural research and extension center programmatic expansion. Aquaculture America 2023. New Orleans, Louisiana. (*February 26, 2023*)
112. Hegde, S., Engle, C., van Senten, J., Dey, M. Identification and characterization of seafood consumer clusters pre- and post-pandemic. Aquaculture America 2023. New Orleans, Louisiana. (*February 26, 2023*)
113. Clark, C.T., van Senten, J., Ciaramella, M., Parker, M. Changes in consumer preferences for seafood products due to the COVID-19 pandemic (Virginia). Aquaculture America 2023. New Orleans, Louisiana. (*February 26, 2023*)
114. Agyeman D. A., van Senten, J., Engle, C.R., Rode, R., Quagrainie, K., & Smith, M. Assessing the Effectiveness of NCRAC-funded Research in Aquaculture Within the North Central Region. Aquaculture America 2023, New Orleans, Louisiana. (*February 26, 2023*)
115. Lianqun, S., Kumar, G., Engle, C., van Senten, J. Trends for trout products in the U.S. retail market. Aquaculture America 2023. New Orleans, Louisiana. (*February 25, 2023*)
116. Lianqun, S., Kumar, G., Engle, C., van Senten, J. Trends for U.S. catfish and swai products in retail markets. Aquaculture America 2023. New Orleans, Louisiana. (*February 25, 2023*)
117. Gonçalves, F.H., van Senten, J., Schwarz, M.H., Hegde., S. Economic contributions of the Virginia seafood industry. Aquaculture America 2023. New Orleans, Louisiana. (*February 24, 2023*)
118. Agyeman D. A., van Senten, J., Engle, C.R., Rode, R., Quagrainie, K., & Smith, M. Assessing the Effectiveness of NCRAC-funded Research in Aquaculture Within the North Central Region. North Central Regional Aquaculture Conference, Eau Claire, Wisconsin. (*February 17, 2023*)
119. Agyeman D. A., van Senten, J., Engle, C.R., Rode, R., Quagrainie, K., & Smith, M. Assessing the Effectiveness of NCRAC-funded Research in Aquaculture Within the North Central Region. North Central Regional Aquaculture Center (NCRAC) Annual meeting, Eau Claire, Wisconsin. (*February 15, 2023*)
120. van Senten, J. and Kumar, G. Economic Status and Contribution of U.S. Aquaculture. Webinar via Zoom. (*February 15, 2023*)

121. van Senten, J., Engle, C.R., Hegde, S., Ojha, R. Consumer Preferences: What people are looking for when buying seafood. Eat More Fish Webinar Series. Virginia Cooperative Extension. Given via Zoom. (*June 29, 2022*)
122. van Senten, J. Plan to make a profit; don't leave it to chance. Aquaculture America 2022. San Diego, California. (*March 4, 2022*)
123. van Senten, J. Marketing strategies for financial shocks. Ohio Aquaculture Conference. Given via Zoom. (*January 29, 2022*)
124. van Senten, J., Engle, C.R., Kumar, G., Ojha, R. Marketing for the future. East Coast Commercial Fisherman and Aquaculture Trade Expo. Ocean City, Maryland. (*January 15, 2022*)
125. van Senten, J., Engle, C.R., Kumar, G., Ojha, R. Assessing consumer behaviors: are pandemic trends temporary? Virginia Aquaculture Conference. Newport News, Virginia. (*January 7, 2022*)
126. Engle, C.R., van Senten, J. Managing your farm during uncertain times. Virginia Aquaculture Conference. Newport News, Virginia. (*January 7, 2022*)
127. van Senten, J., Engle, C.R., Kumar, G. The COVID-19 pandemic and how it's changing the industry. United States Trout Farmer Association Conference 2021. Branson, Missouri. (*September 9, 2021*)
128. van Senten, J., Engle, C.R., Smith, M.A., Kumar, G., Hegde, S., Schwarz, M. Impacts of the COVID-19 pandemic on United States catfish farms. Aquaculture America 2021. San Antonio, Texas. (*August 14, 2021*)
129. Engle, C.R., van Senten, J., Parker, M., Webster, D., Clark, C. Economic trade-offs and risk between traditional bottom and container culture of oysters on Maryland farms. Aquaculture America 2021. San Antonio, Texas. (*August 14, 2021*)
130. Bolt, N.C., Engle, C.R., van Senten, J., Cassiano, E.J., DiMaggio, M.A. A regulatory impact assessment of ornamental aquaculture farms in Florida. Aquaculture America 2021. San Antonio, Texas. (*August 14, 2021*)
131. Cheatham, M., Hegde, S., Kumar, G., Engle, C.R., Roy, L., Hanson, T., van Senten, J. Adoption of productivity-enhancing technologies in the U.S. catfish industry. Aquaculture America 2021. San Antonio, Texas. (*August 14, 2021*)
132. Hegde, S., Kumar, G., Engle, C., Hanson, T., van Senten, J., Roy, L. Economic impact assessment of the U.S. catfish industry. Aquaculture America 2021. San Antonio, Texas. (*August 14, 2021*)
133. Schwarz, M., Bentley, C., Snyder, R., Ovissipour, R., Urick, S., van Senten, J., Congrove, M., Bond, K. Development of a recirculating aquaculture system for bivalve larval culture. Aquaculture America 2021. San Antonio, Texas. (*August 13, 2021*)
134. Bolt, N.C., Engle, C.R., van Senten, J., Cassiano, E.J., DiMaggio, M.A. Quantifying regulatory costs – an overview of the Florida ornamental industry. Aquaculture America 2021. San Antonio, Texas. (*August 13, 2021*)
135. Clark, C., van Senten, J., Smith, M.A. Engle, C., Fluharty, S., Schwarz, M., Kumar, G., Hegde, S. Impacts of COVID-19 on U.S. mollusk aquaculture. Aquaculture America 2021. San Antonio, Texas. (*August 13, 2021*)

136. van Senten, J. Marketing strategies for financial shocks. Aquaculture America 2021. San Antonio, Texas. (*August 13, 2021*)
137. van Senten, J. Impacts of the COVID-19 pandemic on the U.S. seafood industry. Atlantic and Gulf Coast Seafood Technology Conference. Virtual via Zoom. (*June 24, 2021*)
138. van Senten, J., Engle, C.R., Parker, M., Webster, D. The Economic Impact of Shellfish Aquaculture in Maryland, USA. Recorded and presented via Zoom. (*March 8th, 2021*)
139. van Senten, J. & Engle, C.R. The Effects of Permitting Delays on Return on Investment for Pacific Coast Shellfish Aquaculture. Recorded and presented via Zoom. (*March 8th, 2021*)
140. van Senten, J., Smith, M.A., and Engle, C.R. Impacts of COVID-19 pandemic on U.S. Aquaculture and Aquaponics. Aquaponics Association Conference. Given via Zoom. (*October 18th, 2020*)
141. van Senten, J., and Engle, C.R. Marketing and Sales of Aquaculture Products. Virginia Cooperative Extension. Online Webinar. (*August 25th, 2020*)
142. van Senten, J., Smith, M.A., and Engle, C.R. Impacts of COVID-19 on United States Aquaculture & Aquaponics Q1. Virginia Cooperative Extension. Online webinar. (*July 28, 2020*)
143. van Senten, J. Engle, C.R., Parker, M., Webster, D. The Value of the Maryland shellfish aquaculture industry. Online Webinar. Chesapeake Bay Foundation. (*April 9, 2020*)
144. van Senten, J., Engle, C.R. Infographics as tools for disseminating aquaculture research. Aquaculture America 2020. Honolulu, Hawai'i. (*February 10, 2020*)
145. van Senten, J., Schwarz, M., Ovissi, R., Villalba, A., Lane, R. Virginia Seafood AREC programmatic expansion. Aquaculture America. Honolulu, Hawai'i. (*February 11, 2020*)
146. van Senten, J. Engle, C. Parker, M., Webster, D. The value of the Maryland shellfish aquaculture industry. 46th East Coast Commercial Fisherman's & Aquaculture Trade Exposition. Ocean City, Maryland. (*January 18, 2020*)
147. Clark, C., van Senten, J., Engle, C. Measuring the Cost of Regulations on U.S. Aquaculture Producers. Virginia Aquaculture Conference. Newport News, Virginia. (*November 16, 2019*)
148. Schwarz, M., van Senten, J., Ovissi, R., Kuhn, D. Virginia Tech Research and Extension Updates. Virginia Aquaculture Conference 2019. Newport News, Virginia. (*November 15, 2019*)
149. van Senten, J., Engle, C.R. U.S. The economic effect of permitting delays on pacific coast shellfish aquaculture. Pacific Coast Shellfish Grower Conference 2019. Portland, Oregon. (*September 17, 2019*)
150. van Senten, J., Engle, C.R. The on-farm regulatory cost burden on U.S. aquaculture. University of Florida Tropical Aquaculture Laboratory. Ruskin, Florida. (*July 11, 2019*)

151. van Senten, J. Aquaponics marketing and economics. Urban Agriculture Summit. Virginia Beach, Virginia. *(April 25, 2019)*
152. van Senten, J., Engle, C.R. The effects of regulations on West Coast shellfish producers. Pacific Shellfish Growers Association Meeting. Blaine, Washington. *(September 19, 2018)*
153. Engle, C.R., van Senten, J. The effects of regulations on U.S. trout producers. United States Trout Farmer Association Meeting 2018. Shepherdstown, West Virginia. *(September 6, 2018)*
154. van Senten, J., Engle, C.R. The farm level effects of regulations on U.S. trout producers. Idaho Aquaculture Association 2018. Twin Falls, Idaho. *(June 2, 2018)*
155. van Senten, J., Engle, C.R. The cost of regulatory compliance on west coast shellfish farms. National Shellfish Association 2018. Seattle, Washington. *(March 22, 2018)*
156. van Senten, J., Engle, C.R., Schwarz, M.H., Mullins, C. Aquaponics economics. Virginia Aquaculture Conference. Newport News, Virginia. *(November 18, 2017)*
157. van Senten, J., Engle, C.R. Regulations from a producer perspective. Virginia Aquaculture Conference. Newport News, Virginia. *(November 18, 2017)*
158. Kuhn, D., Schwarz, M.H., Urick, S., van Senten, J., Engle, C., Nerrie, B., Crosby, D., Mullins, C. Virginia Aquaculture Research and Extension Updated 2016-2017. Virginia Aquaculture Conference. Newport News, Virginia. *(November 18, 2017)*
159. Engle, C.R., Fornshell, G., Conte, F., Hanshumaker, B., Hudson, B., Schwarz M.H., van Senten, J. The economic impact of regulations on shellfish and trout aquaculture growth in the western United States. Western Regional Aquaculture Center Meeting. Spokane, Washington. *(October 4, 2017)*
160. van Senten, J., Engle, C.R. West coast shellfish cost of regulatory compliance project update. Western Regional Aquaculture Center Meeting. Spokane, Washington. *(October 3, 2017)*
161. Engle, C.R. and van Senten, J. On the road to measuring the regulatory burden on U.S. trout farms. United States Trout Farmers Association Meeting. Twin Falls, Idaho. *(September 22, 2017)*
162. van Senten, J. and Engle, C.R. The potential impacts of a uniform commercial aquatic animal health code. Arkansas Bait and Ornamental Fish Farmers Meeting. Lonoke, Arkansas. *(February 11, 2016)*
163. van Senten, J. and Engle, C.R. The costs and impacts of regulations. University of Arkansas at Pine Bluff Chamber of Commerce Tour. Pine Bluff, Arkansas. *(June 2, 2015)*
164. van Senten, J. and Engle, C.R. The costs and impacts of regulations. Arkansas Bait and Ornamental Fish Farmers Meeting. Lonoke, Arkansas. *(February, 5, 2015)*
165. van Senten, J. and Engle, C.R. The costs and impacts of regulations. Kansas Aquaculture Association Meeting. McPherson, Kansas. *(January 24, 2015)*
166. van Senten, J. and Engle, C.R. The costs and impacts of regulations. Texas Aquaculture Association Meeting. Fredericksburg, Texas. *(January 22, 2015)*

Panel presentations

1. Economics and Marketing Research. 2nd Sustainable Aquaculture Systems Supporting Atlantic Salmon (SAS²) Conference. Baltimore, MD. (*October 17, 2023*)
2. How to do aquaculture better. Economist Impact World Ocean Summit. Lisbon, Portugal. (*March 1, 2023*)
3. New Faculty Development Workshop. From Hatch funding to a supported research program. College of Agriculture and Life Sciences. Virginia Tech. Given via Zoom (*October 5, 2022*) Controlled Environment Agriculture. Virginia Cooperative Extension Winter Conference. (*February 8, 2023*)
4. Virginia Cooperative Extension Ag Policy & Market Outlook Forum. Changing Consumer Demand for Seafood. Given via Zoom. (*March 14, 2022*)
5. Marketing and Economics of Aquaponics. Mid-Atlantic Urban Agriculture Summit 2021. Given via Zoom. (*October 14, 2021*)
6. Chesapeake Bay Program Scientific and Technical Advisory Committee (STAC). Impacts of COVID-19 on Fisheries. Given via Zoom. (*June 7th, 2021*)
7. Dean's Forum on Living with a Pandemic. Panel members: William Becker, John Bovay, Jonathan van Senten, Anna Zeide. Given via Zoom. (*March 15th, 2021*)
8. van Senten, J. Adding economics to the mix. Collaborative Ecosystems Summit. Christopher Newport University. (*March 14, 2019*)

Guest Lecturer

1. van Senten, J. In person lecture. Aquaculture Economics. Virginia Tech – Francesco Ferretti. (*April 11, 2024*)
2. van Senten, J. In person lecture. Aquaculture Economics. Virginia Tech – Francesco Ferretti. (*April 13, 2023*)
3. van Senten, J. Online webinar. Aquaculture Economics. University of Miami - John Stiglitz. (*October 31, 2022*)
4. van Senten, J. In person lecture. Aquaculture Economics. Virginia Tech – Francesco Ferretti. (*April 14, 2022*)
5. van Senten, J. Online webinar. Aquaculture Economics. University of Miami - John Stiglitz. (*October 20, 2021*)
6. van Senten, J. Online webinar. Economics as a decision tool to support conservation and sustainability. Virginia Tech - Holly Kindsvater. (*March 3, 2021*)
7. van Senten, J. Online webinar. Aquaculture Economics. Virginia Tech - Francesco Ferretti. Fisheries Management and Conservation. (*April 23, 2020*)
8. van Senten, J. Online webinar. Aquaponics economics and marketing. Virginia Cooperative Extension - James Hilleary. Potomac Aquaponics Association. (*April 25, 2019*)
9. van Senten, J. Online webinar. The economics of recirculating aquaculture systems. University of Southern Maine - Theodore Willis. (*April 3, 2019*)

10. van Senten, J. Online webinar. Aquaponics marketing and economics. Virginia Cooperative Extension Winter Conference. *(February 8, 2019)*
11. van Senten, J. Graduate Seminar. The costs of regulations on producers of baitfish and sportfish in the United States. University of Arkansas at Pine Bluff. *(February 6, 2016)*

Proposal Review Panel

USDA NIFA SBIR (2024)

USDA ARS (2024)

USDA NIFA SBIR (2023)

USDA NIFA (2021)

Journal Article Reviewer

Aquaculture (1)

Journal of Applied Economics (1)

Applied Economic Perspectives & Policy (1)

Environmental and Resource Economics (1)

Journal of the World Aquaculture Society (4)

Aquaculture Economics & Management (9)

Fisheries and Aquatic Sciences (1)

Involvement with professional associations

United States Aquaculture Society. Strategic Planning Committee. Committee member.
(August 2025 – present)

Virginia Marine Products Board. Virginia Department of Agriculture and Consumer Services.
Board member. *(August 2022 – present)*

United States Aquaculture Society. Finance Committee. Committee member.
(August 2022 – present)

United States Aquaculture Society. Website Sub-unit Committee. Committee member.
(February 2020 – February 2021)

United States Aquaculture Society. Finance Committee. Committee member.
(February 2018 – February 2021)

World Aquaculture Society. Student Activities Committee. Committee member.

(February 2018 – February 2020)

United States Aquaculture Society. Student Sub-unit Committee. Committee member.
(February 2016 – February 2019)

United States Aquaculture Society. Student Liaison. *(February 2015 - February 2016)*
2016 Student Session: Aquaculture career development and advice. 11 speakers.

United States Aquaculture Society. Assistant Student Liaison. *(February 2014 - February 2015)*
2015 Student Session: Careers in aquaculture. 6 speakers.

Student Advising and Teaching

Graduate Student Committee Chair: I. Wu. MS. Department of Agricultural and Applied Economics at Virginia Polytechnic Institute and State University. *(August 2022 – May 2024)*

Graduate Student Committee Member: D. Arancibia. PhD. Virginia Institute of Marine Science, College of William & Mary. *(April 2022 – September 2022: withdrew from program)*

Graduate Student Committee Chair: R. Ojha. PhD. Department of Agricultural and Applied Economics at Virginia Polytechnic Institute and State University. *(August 2021 – Present)*

Virginia Sea Grant Student Mentor: J. Baldisimo. PhD. Department of Biological Sciences at Old Dominion University. *(November 2020 – December 2024)*

Graduate Student Committee Chair: S. Fluharty. MS. Department of Agricultural and Applied Economics at Virginia Polytechnic Institute and State University. *(August 2019 – July 2021)*

Graduate Student Committee Member: S. Hegde. PhD. Mississippi State University. *(March 2019 – December 2021)*

Graduate Student Committee Member: K. Stump. MS. Department of Agricultural and Applied Economics at Virginia Polytechnic Institute and State University. *(April 2018 – May 2019)*

Biology Laboratory - Undergraduate. Department of Biology. University of Arkansas at Pine Bluff. *(Fall Semester 2014)*

Affiliations

Virginia Tech – Center for Advanced Innovation in Agriculture (2021 – *present*)

Virginia Tech - Center for Coastal Studies (2020 – 2024) – *Closed by FLSI*

Agricultural & Applied Economics Association (2018-*present*)

National Aquaculture Association (2016-*present*)

International Association of Aquaculture Economics & Management (2013-*present*)

National Shellfisheries Association (2013-*present*) – *Lifetime Membership*

World Aquaculture Society (2013-*present*) – *Lifetime Membership*

United States Aquaculture Society (2013-present) – *Lifetime Membership*
American Fisheries Society (2016-2018)

Professional and volunteer service

Virginia Marine Products Board – Board member. Virginia Department of Agriculture and Consumer Services. Gubernatorial appointment. (2022 – *Present*)

Department of Agricultural and Applied Economics InclusiveVT Committee Member. Virginia Polytechnic Institute and State University. (2021 - *Present*)

College of Agriculture and Life Sciences Strategic Planning Committee Member: Virginia Polytechnic Institute and State University. (October 2019)

Department of Agricultural and Applied Economics IT Committee Member. Virginia Polytechnic Institute and State University. (August 2019 - *Present*)

College of Agriculture and Life Sciences InclusiveVT Committee Member. Virginia Polytechnic Institute and State University. (August 2018 - *Present*)

Graduate Student Association President. University of Arkansas at Pine Bluff. (January 2014-October 2015)

Aquaculture/Fisheries Center Website Committee Member. University of Arkansas at Pine Bluff. (2013-2014)

Aquaculture Fisheries Club. University of Arkansas at Pine Bluff. (2013-2016)

Hiring Committee Service

- Position 5 – Research Scientist
Committee Role: Chair
Institution: Virginia Tech
Year: 2025
- Position 5 – Communications Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2025
- Position 531778 – Asst./Assoc. Prof. of Seafood Quality/Eng/Safety
Committee Role: Chair
Institution: Virginia Tech
Year: 2025
- Position 531326 – Research Scientist

Committee Role: Chair
Institution: Virginia Tech
Year: 2024

- Position 531326 – Muscle Food Safety Specialist
Committee Role: Member
Institution: Virginia Tech
Year: 2024
- Position 529865 – Postdoctoral Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2024
FAILED SEARCH
- Position 525393 – Asst. Prof. of Applied Agricultural Economics
Committee Role: Chair
Institution: Virginia Tech
Year: 2023
- Position 519933 – Economic Development Specialist
Committee Role: Member
Institution: Virginia Tech
Year: 2022
- Position 517943 – Associate Extension Specialist – Coastal Resilience
Committee Role: Chair
Institution: Virginia Tech
Year: 2022
- Position 518198 – Comm & Marketing Specialist
Committee Role: Member
Institution: Virginia Tech
Year: 2022
- Position 519714 – Asst. Prof. – Food Process Engineering
Committee Role: Chair
Institution: Virginia Tech
Year: 2022
- Position 522558 – Facilities Manager
Committee Role: Chair
Institution: Virginia Tech

Year: 2022

- Position 517171 – Postdoctoral Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2021
- Position 516084 – Research Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2021
- Position 516515 – Muscle Food Safety Specialist
Committee Role: Member
Institution: Virginia Tech
Year: 2021
- Position 514693 – Research Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2021
- Position 514482 – Communications Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2020
- Position 514161 – Research Scientist
Committee Role: Chair
Institution: Virginia Tech
Year: 2020
- Position 513860 – Postdoctoral Associate
Committee Role: Chair
Institution: Virginia Tech
Year: 2020

Certifications and Training

Ensemble: Working with Media. Virginia Polytechnic Institute and State University. *(September 14, 2017)*

Ensemble: Essentials. Virginia Polytechnic Institute and State University. *(September 12, 2017)*

Motorboat Operator Certification. United States Department of the Interior. (*January 13, 2013*)

Awards, Honors, and Recognitions

Distinguished Early Career Award in U.S. Aquaculture. United States Aquaculture Society (*February 2020*)

International Association of Aquaculture Economics & Management Ph.D. Best Dissertation Award (*February 2017*)

World Aquaculture Society Certificate of Appreciation. Aquaculture America 2016. Las Vegas, Nevada. (*February 2016*)

Gamma Sigma Delta, Agriculture Honor Society. University of Arkansas at Pine Bluff. (*2015*)

Gamma Sigma Epsilon Chemistry Honor Society, Beta Delta Chapter. Barry University. (*2010*)

Delta Epsilon Iota Academic Honor Society. Barry University. (*2009*)

Languages

English – *native proficiency*

Dutch – *native proficiency*

Papiamentu – *native proficiency*

Spanish – *speaking, reading, and writing proficiency*