

The College of William & Mary
Curriculum Vita
Robert Earl Isdell, III

PERSONAL INFORMATION

Name: **Robert Earl Isdell, III**

Date: 20-June-2019

Office Address: Virginia Institute of Marine Science, Gloucester Point, VA 23062

Phone: 804-684-7718

Email: risdell@vims.edu

Position: Postdoctoral Research Associate, Center for Coastal Resources Management, Virginia Institute of Marine Science, William & Mary

EDUCATION

Ph.D., Marine Science, College of William & Mary, 2018

M.S., Biology, College of William & Mary, 2014

B.S., Biology, *Summa cum laude*, University of North Carolina – Greensboro, 2010

ACADEMIC POSITIONS

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| 2018–present | Postdoctoral Research Associate, VIMS, College of William & Mary |
| 2017 | Marine Science Teaching Fellow – VIMS/College of William & Mary |
| 2014–2018 | Graduate Research Assistant, Department of Biology, VIMS, College of William & Mary |
| 2011–2013 | Teaching Assistant, Department of Biology, College of William & Mary |
| 2010 | NSF REU, VIMS, College of William & Mary |
| 2009 | Field coordinator, Department of Biology, University of North Carolina – Greensboro |
| 2008–2010 | Lab Technician, Department of Biology, University of North Carolina – Greensboro |

HONORS AND AWARDS

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| 2014 – 2015 | Virginia Institute of Marine Science – Beazley Fellowship |
| 2014 | Virginia Institute of Marine Science – Norfolk Southern Scholarship |
| 2013 | College of William & Mary – Graduate Merit Summer Research Fellowship |
| 2010 | University of North Carolina – Greensboro – Student Excellence Award – Highest academic honor for undergraduates |
| 2009 | University of North Carolina – Greensboro – Undergraduate Research Assistantship |

CONTRIBUTIONS TO THE EDUCATIONAL PROGRAM

Courses taught (Undergraduate and Graduate)

- Fall 2017 Instructor of Record. *Life between the Tides: Challenges and Adaptations*. Undergraduate seminar for the Marine Science Minor program at William & Mary (ENSP249, MSCI398) – Course evaluations available upon request.
- Spring 2017 Lab Instructor. *Fundamentals of Statistical Methods and Data Analysis Lab*. Graduate lab component of the required introductory statistics course. Designed and taught the materials covered in lab. (MSCI504)

Students Mentored

Undergraduate Student Mentor

- 2019 Emma Butler – College of William & Mary, senior thesis, co-mentor with R. Chambers
- 2019 Robert Sullivan – College of William & Mary, co-mentor with R. Chambers
- 2018 – 2019 Holly Funkhauser – College of William & Mary, senior thesis, co-mentor with R. Chambers
- Summer 2016 Kathrene Lo, NSF REU program (co-mentor with D. Bilkovic)

FELLOWSHIPS AND GRANTS

- 2018 Center for Coastal Resources Management. Coastal Resource Management Fellowship, “Inequitable redistribution of ribbed mussels (*Geukensia demissa*) and their ecosystem services in response to sea level rise” (\$5,000, co-PI)
- 2016 – 2017 VIMS. Gottwald Family Fellowship, “Role of ribbed mussels (*Geukensia demissa*) in nutrient removal from coastal marshes” (\$7,000, co-PI)
- 2015 – 2016 VIMS. “Ecological impacts of sea level rise on salt marshes in the Chesapeake Bay: patterns and processes of ribbed mussel (*Geukensia demissa*) populations” (\$2,798.29, co-PI)

RESEARCH

Refereed publications

Isdell, R. E., Bilkovic, D.M. and Hershner, C., 2018. Shorescape-level factors drive distribution and condition of a salt marsh facilitator (*Geukensia Demissa*). *Ecosphere*, 9(10), p.e02449.

<https://doi.org/10.1002/ecs2.2449>

Bilkovic, D. M., M. M. Mitchell, R. E. Isdell, M. Schliep, A. R. Smyth. 2017. Mutualism between ribbed mussels and cordgrass enhances salt marsh nitrogen removal. *Ecosphere*. 8(4), e01795.

<https://doi.org/10.1002/ecs2.1795>

Jirinec, V., R. E. Isdell, M. Leu. 2016. Prey availability and habitat structure explain breeding space use of a migratory songbird. *The Condor: Ornithological Applications*. 118(2), 309-328.

<https://doi.org/10.1650/CONDOR-15-140.1>

Isdell, R. E., R. M. Chambers, D. M. Bilkovic, and M. Leu. 2015. Effects of terrestrial-aquatic connectivity on an estuarine turtle. *Diversity and Distributions*. 21(6), 643-653. <https://doi.org/10.1111/ddi.12289>

Work in progress or submitted

Manuscripts

Bilkovic, D. M., **R. E. Isdell**, A. G. Guthrie, M. M. Mitchell. (in Review). Enhancing Bivalve abundance in restored salt marshes for resilient shorelines. *Restoration Ecology*.

Herman, J., **R. E. Isdell**. Extracting ditches from LiDAR in lowlying coastal areas.

Isdell, R. E., D. M. Bilkovic, C. H. Hershner. Inequitable redistribution of ribbed mussels (*Geukensia demissa*) and their ecosystem services due to sea level rise.

Isdell, R. E., M. C. Long, R. Mann, D. M. Bilkovic. Occurrence of high densities of pearls in a population of ribbed mussels (*Geukensia demissa*).

Invited scholarly papers and talks

***Isdell, R. E.**, D. Bilkovic, A. Guthrie. Using ecological connectivity to inform bivalve restoration target locations along Chesapeake Bay shorelines. Aquaculture 2019. New Orleans, LA, 7-11 March 2019.

***Isdell, R. E.**, D. Bilkovic, C. Hershner. Spatially explicit estimates of the impacts of sea level rise and erosion on ribbed mussel (*Geukensia demissa*) mediated ecosystem functions. National Shellfisheries Association 110th Annual Meeting. Seattle, WA, March 2018.

***Isdell, R. E.**, D. Bilkovic, C. Hershner. Beyond the clump: identifying optimal shorelines for ribbed mussel (*Geukensia demissa*) recruitment. National Shellfisheries Association 109th Annual Meeting. Knoxville, TN. March 2017.

Contributed scholarly papers and talks

***Isdell, R. E.** Shifting patterns of ribbed mussel distribution and ecosystem services in response to sea level rise. Dissertation defense seminar. Gloucester Point, VA. June 2018.

Bilkovic, D.M., M. Mitchell, **R. Isdell**, A. Guthrie, A. Smyth, R. Chambers, S. Stafford, M. Covi, C. Hershner. Sustainable Shorescapes: reconnecting land and water. STAC Revisiting Land-Water Interactions Workshop. Frederick, MD, 23-24 May 2018.

Bilkovic, D.M., M. Mitchell, **R. Isdell**, A. Smyth, P. Mason, K. Duhring, M. Berman, R. Chambers, S. Stafford, M. Covi, M. Hauer, C. Hershner. Sustainable shorescapes: using natural and created marshes to preserve coastal resilience. SAGE (Systems Approach to Geomorphic Engineering) Webinar Series. Sep 21, 2017.

Bilkovic, D.M., M. Mitchell, **R. Isdell**, M. Schliep, and A. Smyth. Mutualism between *Geukensia demissa* and *Spartina alterniflora* enhances salt marsh nitrogen removal: implications for living shorelines. 109th Annual Meeting of the National Shellfisheries Association. Knoxville, TN. Mar 2017.

Bilkovic, D.M., M. Mitchell, A. Smyth, and **R. Isdell**. Ribbed mussels as mediators of salt marsh nitrogen removal. Annual Spring Meeting of the Virginia Association of Wetland Professionals. Richmond, Virginia. May 2016.

***Isdell, R.E.**, D. Bilkovic, C. Hershner. Ecological drivers of ribbed mussel populations. Annual Spring Meeting of the Virginia Association of Wetland Professionals. Richmond, VA. May 2016.

***Isdell, R. E.**, D. Bilkovic, C. Hershner. Barriers to inland migration: Salt marshes and sea level rise. 23rd Biennial Conference of the Coastal & Estuarine Research Federation. Portland, OR. 5-9 November 2015.

Bilkovic, D. M., **R. Isdell**, M. Mitchell. Chesapeake Bay sustainability – Implications of changing climate and shifting management. NSF Coastal SEES PI meeting. Arlington, VA. January 2015.

***Isdell, R. E.**, R. Chambers, D. Bilkovic, M. Leu. Assessment of landscape-seascape connectivity in a developed estuary based on diamondback terrapin distribution models. 7th National Summit on Coastal and Estuarine Restoration and 24th Biennial Meeting of The Coastal Society. National Harbor, MD. November 2014.

***Isdell, R. E.**, R. Chambers, D. Bilkovic, M. Leu. Using Spatial Models to Assess the Impacts of Landscape and Seascape Factors on the Distribution of Diamondback Terrapins. 6th Symposium on the Ecology, Status, and Conservation of Diamondback Terrapins. Johns Island, SC. September 2013.

***Isdell, R. E.**, V. Jirinec, M. Leu. Factors influencing shrubland bird habitat use on the wintering grounds in the southwestern U.S. 125th Annual Meeting of the Wilson's Ornithological Society. Williamsburg, VA. March 2013.

***Isdell, R. E.**, R. Chambers, M. Leu. Ecosystem Health and Functioning in the Aquatic-Terrestrial Ecosystem: Bridging the Gap with Spatial Models. 11th Annual W&M Graduate Research Symposium. Williamsburg, VA. March 2012.

***Isdell, R. E.**, A. Colden, R. Lipcius. Native Widgeon Grass and Non-native Macroalgae as Nursery Habitat for Blue Crabs. Virginia Institute of Marine Science REU Symposium. Gloucester Pt., VA. August 2010.

***Isdell, R. E.**, A. Hershey. Differences in Invertebrate Community Structure Across a Habitat Gradient. UNCG Undergraduate Research Symposium. Greensboro, NC. April 2010

Research reports from grant or contract work

Bilkovic, D.M., M. Mitchell, R. Isdell. 2014. Johns Point Landing Living Shoreline Ecological Monitoring. Final Report to Gloucester County and NFWF. Virginia Institute of Marine Science, Center for Coastal Resources Management, Gloucester Point, Virginia. 7p.

Other Scholarly Activity

Professional Development: Workshop and Course Participant

Permanova+ Multivariate Analysis in Ecology Workshop, Williamsburg, VA. March 6-10, 2017.

Bayesian Hierarchical Modeling Workshop. VIMS, Gloucester Point, VA. May 24-26, 2016.

PROFESSIONAL SERVICE ACTIVITIES

Professional Affiliations

National Shellfisheries Association, 2016 – present

Ecological Society of America, 2014 – present

Phi Beta Kappa, 2010 – present

Editorial Board Services, review panels, program reviews, national or international research programs

Manuscript Reviews:

2019 Marine Ecological Progress Series (1)

2018 Estuaries and Coasts (1), PeerJ (1)

2017 Estuaries and Coasts (1)

2016 Estuaries and Coasts (1)

ADVISORY SERVICE ACTIVITY

Advisory service relative to VIMS state mandates, regional & international advice

Service to state agencies

***Involved in numerous ongoing internally funded activities at Center for Coastal Resources Management**, including the development of science-based integrated management guidance and decision-support tools for coastal communities (e.g., Comprehensive Coastal Resources Management Plans for localities), translation of science to guidance for multiple end users (federal, state, localities, general public), the integration and application of CCRM monitoring survey databases for applied research (e.g., tidal marshes and shoreline condition inventories), and the assessment of coastal habitat vulnerability to climate change. 2014–present

*Consulted with the Molluscan Ecology Lab and Virginia Marine Resources Commission to redesign their annual survey of public oyster grounds. Efforts focused on restratifying the current design and reallocating effort among strata to better capture the observed trends, and ultimately reduce costs.

Regional, national or international management commissions or programs

*Serve on Chesapeake Bay Program's Scientific and Technical Advisory Committee (STAC) Wetlands Workgroup

Public outreach

*Staffed educational booth for Marine Science Day, VIMS, May 2015, 2018, 2019

*Filmed a segment with Aqua Kids television program on Diamondback Terrapins and Marine Debris in the Chesapeake Bay. <https://youtu.be/S96fxANpt3s?t=497>

*Gave talks on the Turtles of Coastal Virginia to several community groups.