

Cassie Gurbisz

St. Mary's College of Maryland | Environmental Studies Program
18952 E. Fisher Rd. | St. Mary's City, MD 20686
240-895-4473 | cbgurbisz@smcm.edu
<https://cassiegurbisz.wordpress.com>

Education

- 2016 Ph.D. Marine, Marine-Estuarine Environmental Sciences
University of Maryland Center for Environmental Science (UMCES)
Horn Point Laboratory (HPL)
- 2005 B.S. Environmental Science and Studio Art
Dickinson College

Research interests

Coastal and estuarine ecosystem ecology, marshes, seagrass, submersed aquatic vegetation, coastal nutrient cycling and sediment dynamics

Employment

- 2017-present Assistant Professor of Environmental Studies, St. Mary's College of Maryland
- 2016-2017 Postdoctoral Fellow, National Socio-Environmental Synthesis Center (SESYNC)
- 2010-2016 Graduate Research Assistant, UMCES HPL
- 2007-2010 Program Manager and Environmental Science Educator, UMCES HPL and the National Science Foundation (NSF) Centers for Ocean Science Education Excellence (COSEE)
- 2005-2007 Environmental Educator and Education Center Manager, Chesapeake Bay Foundation

Publications

- 2018 Lefcheck, J.S., R.J. Orth, W.C. Dennison, D.J. Wilcox, R.R. Murphy, J. Keisman, **C. Gurbisz**, M. Hannam, J.B. Landry, K.A. Moore, C.J. Patrick, J. Testa, D.W. Weller, R.A. Batiuk. Long-term nutrient reductions lead to the unprecedented recovery of a temperate coastal region. *Proceedings of the National Academy of Sciences* 115(14): 358-3662

- 2017 Orth, R.J., W.C. Dennison, J.S. Lefcheck, **C. Gurbisz**, M. Hannam, J. Keisman, J.B. Landry, K.A. Moore, R.R. Murphy, C.J. Patrick, J. Testa, D.E. Weller, D.J. Wilcox. 2017. Submersed aquatic vegetation in Chesapeake Bay: Sentinel species in a changing world. *BioScience* 67(8): 698-712
- 2017 **Gurbisz, C.**, W. M. Kemp, J. Cornwell, L. Sanford, M. Owens, D. Hinkle. Interactive effects of physical and biogeochemical feedback processes in a large submersed plant bed. *Estuaries and Coasts*. 40(6): 1626-1641
- 2017 Wainger, L., D. Secor, **C. Gurbisz**, P. Glibert, W. M. Kemp, E. Houde, J. Richkus, M. Barber. Resilience indicators support valuation of estuarine ecosystem restoration under climate change. *Environmental Health and Sustainability*. 3(4): 1-19
- 2016 **Gurbisz, C.**, W. M. Kemp, L. Sanford, R. J. Orth. Mechanisms of storm-related loss and resilience in a large submersed plant bed. *Estuaries and Coasts*. 39(4): 951-966
- 2014 **Gurbisz, C.** and W. M. Kemp. Unexpected resurgence of a large submersed plant bed in upper Chesapeake Bay: Analysis of time series data. *Limnology and Oceanography*. 59(2): 482-494
- 2012 Murray, L. and **C. Gurbisz**. Learning science through research. *Journal of Information Technology and Application in Education*. 1(3): 105-107
- 2012 Murray, L., **C. Gurbisz**, D. Gibson, J. Woerner, T. Carruthers. Collaborative partnerships help bridge the gap between science and education. *Eos, Transactions American Geophysical Union*. 94(49): 510-511
- 2011 **Gurbisz, C.**, Murray, L., Hinkle, D., Crump, B. Invisible world: Exploring microscopic life. *Green Teacher*. 92: 28-30
- 2010 Testa, J., **C. Gurbisz**, L. Murray, L. Gray, J. Bosch, C. Burrell, and W. M. Kemp. Investigating dead zones in aquatic ecosystems: Surfacing a mystery of the deep. *The Science Teacher*. 77(2): 27-32
- 2009 Ksiazek, K., K. McGlathery, L. Reynolds, A. Schwartzchild, C. Wilkerson, T. Carruthers, **C. Gurbisz**, J. Woerner, L. Murray. Learning about coastal trends: What is the story with seagrasses? *Science Activities*. 47(2): 27-31
- 2004 Schelten C. K., S. Brown, **C. Gurbisz**, B. Kautz, J. A. Lentz. 2004. Status of *Acropora palmata* populations on the reefs of the coast of South Caicos, Turks and Caicos Islands. 57th Gulf and Caribbean Fisheries Institute Proceedings, November 8-12, St. Petersburg, FL

Grants and fellowships

- 2018 Maryland Sea Grant, “Quantifying nutrient sequestration in Chesapeake Bay submersed aquatic vegetation (SAV) beds” \$144,239. Principal Investigator. 2/2018-2/2020
- 2016 SESYNC/NSF Long-Term Ecological Research Postdoctoral Fellowship
- 2014 Concordia Foundation Graduate Research Fellowship

- 2011 Maryland Sea Grant Graduate Research Fellowship
2010 Horn Point Graduate Research Fellowship

Invited talks

- 2018 Status and Trends of Submersed Aquatic Vegetation (SAV) in Chesapeake Bay: A Synthesis. Chesapeake Bay Modeling Symposium SAV Recovery Panel, 13 June, Annapolis, MD
- 2018 Salt marsh and submersed aquatic vegetation dynamics, University of Maryland Center for Environmental Science Horn Point Laboratory, Jul, Cambridge, MD
- 2018 Coastal restoration and resilience: Case studies of salt marsh and submersed aquatic vegetation ecosystem dynamics, University of Maryland Center for Environmental Science Chesapeake Biological Laboratory, 25 April, Solomons, MD
- 2016 SAV trends and processes inferred through analysis of monitoring data. Chesapeake Bay Program Principal Investigator Workshop: "Monitoring changes in the upper Chesapeake Bay resulting from lower Susquehanna River/Conowingo Dam nutrient and sediment reduction actions." Annapolis, MD
- 2016 Resilience of the Susquehanna Flats SAV bed to flood events. Chesapeake Bay Program Scientific and Technical Advisory Committee Workshop: "Conowingo infill influence on Chesapeake water quality." Annapolis, MD
- 2015 Investigating change in an underwater plant ecosystem. Salisbury University Department of Biology, Salisbury, MD
- 2015 Gurbisz, C. and W. M. Kemp. Unexpected resurgence of the Susquehanna Flats SAV bed: Analysis of time series data. Chesapeake Bay Program Modeling Workgroup, Annapolis, MD
- 2012 Potential impacts of Tropical Storm Lee on submersed plants at Susquehanna Flats. Horn Point Laboratory Rapid Response Storm Workshop, Cambridge, MD

Conference presentations

- 2018 Landscape-scale marsh dynamics in an Atlantic barrier island system. Ecological Society of America, 7 Aug, New Orleans, LA
- 2017 Inflection points in Chesapeake Bay submersed aquatic vegetation research: Recent progress and future potential. Coastal and Estuarine Research Federation, 1 Nov, Providence, RI
- 2015 Gurbisz, C, W. M. Kemp, L. Sanford, J. Cornwell, M. Owens, D. Hinkle. Feedbacks as a resilience mechanism in submersed plant beds. Oral presentation. Coastal and Estuarine Research Federation, Portland, OR

- 2015 Gurbisz, C. and W. M. Kemp. Role of feedback processes in estuarine submersed plant bed dynamics. Poster presentation. Ecological Society of America, Baltimore, MD
- 2015 Gurbisz, C., W. M. Kemp, L. Sanford, J. Cornwell, M. Owens, D. Hinkle. Biophysical interactions in a large submersed plant bed and implications for resilience. Oral presentation. Atlantic Estuarine Research Society, Atlantic City, NJ
- 2014 Gurbisz, C. and W. M. Kemp. Quantifying resilience from empirical data. Poster presentation. Atlantic Estuarine Research Society, Ocean City, MD
- 2013 Gurbisz, C., W. M. Kemp, J. Cornwell, N. Nidzieko, and L. Sanford. Biophysical interactions in a large submersed plant bed in Chesapeake Bay. Oral presentation. Coastal and Estuarine Research Federation, San Diego, CA
- 2013 Gurbisz, C. and W. M. Kemp. Impact of extreme weather on a large submersed plant bed in Chesapeake Bay. Oral presentation, Atlantic Estuarine Research Society, Williamsburg, VA
- 2013 Gurbisz, C. and W. M. Kemp. Impact of extreme weather on a large submersed plant bed in Chesapeake Bay: Analysis of time series data. Oral presentation, American Society of Limnology and Oceanography, New Orleans, LA
- 2011 Gurbisz, C. and W. M. Kemp. Unexpected resurgence of a submersed plant bed in Chesapeake Bay: Analysis of time series data. Oral presentation, Coastal and Estuarine Research Federation meeting, Daytona Beach, FL
- 2010 Gurbisz, C., L. Murray, D. Gibson, M. Leandre, T. Carruthers, and J. Woerner. Building awareness of trends in coastal science through scientist-educator partnerships. Poster presentation. American Society of Limnology and Oceanography Ocean Sciences Meeting, Portland, OR

Teaching

St. Mary's College of Maryland Environmental Studies Program

Introduction to Environmental Studies (Fall 2017, Spring 2018, Fall 2018)

Environmental Studies Keystone Seminar (Fall 2017)

Introduction to Environmental Science (Spring 2018)

Chesapeake Bay Science and Management (Spring 2018, Fall 2018)

University of Maryland Center for Environmental Science

Data Graphics in R (Spring 2017)

Mentoring

Independent study

Meghan Petenbrink, Sylvia Klein (Spring 2018)

St. Mary's Project

Dylan Powell, Tyler Scott, Isaac Hersh, Isaac Page, Alyssa Latuff, Meghan Petenbrink (2018-2019)

Service to profession

Peer reviewer

Journals: *Marine Ecology Progress Series*, *Restoration Ecology*, *Ecological Applications*, *Estuaries and Coasts*, *Hydrobiologia*, *Gulf and Caribbean Research*

Funding agencies: Hudson River Foundation, US EPA Chesapeake Bay Program, DE Sea Grant, DE National Estuarine Research Reserve, SESYNC

Regional committees and working groups

- 2016-present Submersed Aquatic Vegetation Monitoring Steering Committee, US EPA Chesapeake Bay Program
- 2016-present Submersed Aquatic Vegetation Synthesis Group, US EPA Chesapeake Bay Program
- 2010-present Submerged Aquatic Vegetation Workgroup, US EPA Chesapeake Bay Program

Association leadership and membership

- 2018 - Treasurer Elect, Atlantic Estuarine Research Society
- 2018 - Scientific Program Committee, Film Festival Co-Chair, Coastal and Estuarine Research Federation
- 2015 Session organizer (Feedback processes in coastal and estuarine ecosystems) Coastal and Estuarine Research Federation Meeting, Portland, OR
- 2015 Field trip organizer and leader (Baltimore Harbor ecology and sailing trip), Ecological Society of America Meeting, Baltimore, MD
- 2011 - Member, American Society of Limnology and Oceanography, Coastal and Estuarine Research Federation, Ecological Society of America, Atlantic Estuarine Research Society

Media coverage

- 2018 Coverage of co-authored paper on National Public Media, The Conversation, The Washington Post, Environmental Monitor, The Star Democrat, Grist, and others (March 5-6)
- 2016 Star Democrat, "Susquehanna Flats naturally resilient to storms, flooding" (June 1)
- 2014 Chesapeake Bay Journal, "Comeback of Susquehanna Flats grasses hints of sunny future" (Nov 3)

- 2014 Associated Press TV, “Underwater grasses help clean Chesapeake Bay (Oct 7)
- 2014 Star Democrat, “Flats may hold key for Bay” (Sep 23)
- 2014 Environmental Monitor, “On the Susquehanna Flats, scientists study stability of once-vanquished Chesapeake seagrass beds” (Sep 15)
- 2014 WAMU (NPR) News, “Scientists marvel at resilience of underwater grasses” (Sep 7)
- 2014 The Baltimore Sun, “Susquehanna Flats show hope for Bay” (Sep 2)
- 2012 Chesapeake Quarterly, “The bay grass surprise” (Dec 1)
- 2012 Star Democrat, “Bay grasses make comeback” (Oct 21)

Outreach

- 2014 Created a movie about my research (“Revival: My research on one ecosystem’s unexpected recovery”) featured on the Maryland Sea Grant and UMCES YouTube channels (<https://www.youtube.com/watch?v=6hE-I8mvWlo>)
- 2011 Instructor, Chesapeake Bay Maritime Museum Bay 101 Public Lecture Series
- 2010 Co-developer, Ocean Science Course Curriculum and Coastal Science Education Modules (<http://www.teachoceanscience.net>)