

## Cassie Gurbisz

National Socio-Environmental Synthesis Center  
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### Education

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- 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

### Employment

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- 2016-present    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

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- 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
- In press:** **Gurbisz, C.**, W. M. Kemp, R. Golden, C. Palinkas. Submersed aquatic vegetation and feedback processes: Implications for restoration and resilience. *in* B. Landry (ed.), Chesapeake Bay submersed aquatic vegetation habitat requirements and restoration goals: A third technical synthesis. US EPA, Chesapeake Bay Program, Annapolis, MD
- In review:** **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
- Wainger, L., D. Secor, **C. Gurbisz**, P. Glibert, W. M. Kemp, E. Houde, J. Richkus, M. Barber. Estuarine restoration under climate change: Resilience metrics derived from submersed grasses and fish distributions complement monetary values for Chesapeake Bay
- Orth, R. J., W. Dennison, J. Lefcheck, **C. Gurbisz**, M. Hamman, J. Keisman, B. Landry, K. Moore, R. Murphy, C. Patrick, J. Testa, D. Weller, D. Wilcox. Submersed aquatic vegetation in Chesapeake Bay: Sentinel species in a changing world

## **Fellowships**

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- 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

## **Awards and publicity**

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- 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)
- 2013 Outstanding Student Oral Presentation, Atlantic Estuarine Research Society
- 2012 Chesapeake Quarterly, “The bay grass surprise” (Dec 1)
- 2012 Star Democrat, “Bay grasses make comeback” (Oct 21)

## **Teaching**

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### **University of Maryland**

Instructor, Data Graphics in R (Spring 2017)

### **Washington College**

Guest lecturer and lab instructor, Field Methods in Environmental Science (Fall 2015, Fall 2016)

### **Salisbury University**

Guest lecturer, Introduction to Biology (Spring 2012)

### **Horn Point Laboratory**

Marine science educator and curriculum developer (2007-2010)

### **Chesapeake Bay Foundation**

Environmental educator (2005-2007)

## **Mentoring**

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### **Undergraduate Research Mentees**

Jonathan Garing (2014), Steven DiFalco (2013)

### **Undergraduate Field Assistants**

Alex Myrie (2015), Connor Reyer (2015), Angela Cole (2014)

## Presentations and invited talks\*

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- 2016 Gurbisz, C., W. M. Kemp. SAV trends and processes inferred through analysis of monitoring data. Oral presentation. 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 Gurbisz, C., W. M. Kemp, L. Sanford, J. Cornwell. Resilience of the Susquehanna Flats SAV bed to flood events. Oral presentation. Chesapeake Bay Program Scientific and Technical Advisory Committee Workshop: “Conowingo infill influence on Chesapeake water quality.” Annapolis, MD\*
- 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. and W. M. Kemp. Investigating change in an underwater plant ecosystem. Oral presentation. Salisbury University Department of Biology, Salisbury, 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
- 2015 Gurbisz, C. and W. M. Kemp. Unexpected resurgence of the Susquehanna Flats SAV bed: Analysis of time series data. Oral presentation. Chesapeake Bay Program Modeling Workgroup, Annapolis, MD\*
- 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
- 2012 Gurbisz, C. and W. M. Kemp. Potential impacts of Tropical Storm Lee on submersed plants at Susquehanna Flats. Oral Presentation, Horn Point Laboratory Storm Workshop, Cambridge, MD\*

- 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

## **Service to profession**

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### **Peer reviewer**

- 2014-present *Marine Ecology Progress Series, Restoration Ecology, Ecological Applications, Estuaries and Coasts*

### **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 Submersed Aquatic Vegetation Workgroup, US EPA Chesapeake Bay Program

### **Association leadership and membership**

- 2014-present Program committee, Atlantic Estuarine Research Society
- 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-present Member, American Society of Limnology and Oceanography, Coastal and Estuarine Research Federation, Ecological Society of America, Atlantic Estuarine Research Society

### **Campus committees**

- 2012 Co-chair, Ian Morris Scholar-in-Residence Committee
- 2011 Student representative, Facilities Master Plan and Sustainability Committee

## Outreach

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- 2015 Guest writer for the Maryland Sea Grant Fellowship Experiences blog (<http://goo.gl/AcxY1n>)
- 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
- 2011- Guest speaker (“What’s the story with Susquehanna Flats? Investigating change in a submersed plant ecosystem”), Salisbury University, Dorchester Rotary Club, Tred Avon Yacht Club, NorthBay Adventure, Talbot Garden Club
- 2011 Developer and instructor of Chesapeake Bay Foundation educator training course (“Bay ecology: A short course for informal educators”)
- 2010 Co-developer, Ocean Science Course Curriculum and Coastal Science Education Modules (<http://www.teachoceanscience.net>)

## Technical expertise

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**Field methods and instruments:** Plant biomass collection and processing, sediment coring, benthic nutrient and gas flux measurement, programming and deployment of physical (acoustic Doppler current profiler, wave gauge) and water quality monitoring (YSI multiparameter sonde, ISCO automated water sampler) instruments, trailering and operating small boats, nautical navigation, snorkeling

**Laboratory methods:** Wet chemistry nutrient analysis, water sample filtration, total suspended solid and fluorimetric chlorophyll analysis

**Programming:** Proficient in using the open source software package, R, for statistical and spatial analysis, data visualization, and simulation modeling

## Certifications

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Wilderness First Responder (Wilderness Medical Associates), Maryland Boater Safety, American Canoe Association Basic River Canoe and Water Rescue, American Red Cross Community Water Safety