
Mary Alldred

Associate Professor

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Education

PhD Ecology and Evolution, Stony Brook University, 2015

BS Biology, *Magna cum Laude*, University of Notre Dame, 2008

Professional Certification

Professional Wetland Scientist (PWS #3429), 2021

Society of Wetland Scientists Professional Certification Program, Inc.

Employment

State University of New York (SUNY) Plattsburgh, September 2022-Current

Associate Professor of Earth and Environmental Science

State University of New York (SUNY) Plattsburgh, September 2017-2022

Assistant Professor of Earth and Environmental Science

Baruch College: City University of New York, July 2015-July 2017

Postdoctoral Research Associate and Adjunct Professor of Natural Sciences

Brookhaven National Laboratory, September 2014-January 2015

Research Assistant, Laboratory of Global Change Biology and Plant Physiology

Publications

Borrelli, Jonathan J., Matthew S. Schuler, William D. Hintz, Mary Alldred, Brian Mattes, Candace

Schemerhorn, Erika Yates, Lawrence W. Eichler, Mark A. Lucius, and Rick A. Relyea. 2023. "Putting the lake together: Integrating synthetic data and field observations to build a better food web." In press at *Food Webs*. <https://doi.org/10.1016/j.fooweb.2023.e00315>

Whaley, Thomas and Mary Alldred. 2023. "A meta-analysis reveals knowledge gaps in our understanding of the *Spartina-Geukensia* mutualism." *Estuaries and Coasts* 46: 1021-1034.

Abbas, Ahmed, Anais Cardenas, Darius LaFond, Brandon Guasaquillo, Leila Belgaid, Priscilla Lee, Mary Alldred, and Chester B. Zarnoch. 2023. "Loss of salt marsh plants impacts ribbed mussel (*Geukensia demissa*) size, density, and influences on sediment nitrogen cycling." *Wetlands Ecology and Management* 31: 367-380.

Morris, Nathan, Mary Alldred, Chester Zarnoch, and S. Elizabeth Alter. 2023. "Estuarine sediment microbiomes from a chronosequence of restored urban salt marshes." *Microbial Ecology* 85: 916-930.

Alldred, Mary. 2021. "Review of *Wading Right In: Discovering the Nature of Wetlands*" by C. O. Koning and S. M. Ashworth, illustrated by C. O. Koning. *The Quarterly Review of Biology* 96(1): 49-50.

Alldred, Mary, Jonathan J. Borrelli, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 2020. "Marsh plants enhance coastal marsh resilience by changing sediment oxygen and sulfide concentrations in an urban, eutrophic estuary." *Estuaries and Coasts* 43: 801-813.

Zarnoch, Chester B., Noshin Hossain, Erika Fusco, Mary Alldred, Timothy J. Hoellein, and Sophia Perdikaris. 2020. "Size and density of upside-down jellyfish, *Cassiopea* sp., and their impact on benthic fluxes in a Caribbean lagoon." *Marine Environmental Research* 154: 104845.

- Zhu, Jennifer, Chester Zarnoch, J. Stephen Gosnell, Mary Alldred, and Timothy Hoellein. 2019. "Ribbed mussels *Geukensia demissa* enhance nitrogen-removal services but not plant growth in restored eutrophic salt marshes." *Marine Ecology Progress Series* 631: 67-80.
- Alldred, Mary, Anne Liberti, and Stephen B. Baines. 2017. "Impacts of salinity and nutrients on salt marsh stability." *Ecosphere* 8(11): e02010.
- Alldred, Mary and Stephen B. Baines. 2016. "Effects of wetland plants on denitrification rates: a meta-analysis." *Ecological Applications* 26 (3): 676-685.
- Alldred, Mary, Stephen B. Baines, and Stuart Findlay. 2016. "Effects of invasive-plant management on nitrogen-removal services in freshwater tidal marshes." *PLoS ONE* 11 (2): e0149813.
- Alldred, Mary and Stephen B. Baines. 2011. "Interactions between invasive-species removal and nitrogen-removal ecosystem services in freshwater tidal marshes." Final Reports of the Tibor T. Polgar Fellowship Program, 2010. Hudson River Foundation. New York, NY.
- Alldred, Mary and Kristin Shrader-Frechette. 2009. "Environmental injustice in siting nuclear plants." *Environmental Justice* 2(2): 85-96.

Published Datasets

Usage statistics last updated 25 September 2023

- Alldred, Mary and Thomas Whaley 2022. Systematic review of mutualistic interaction between *Spartina alterniflora* and *Geukensia demissa*. figshare. Dataset. <https://doi.org/10.6084/m9.figshare.20113427.v1> (199 views, 33 downloads)
- Lenberger, Brandon, Mary Alldred. 2020. Evaluating the potential for floating treatment wetlands to remove excess nutrients (Plattsburgh, NY, USA). figshare. Dataset. <https://doi.org/10.6084/m9.figshare.12439868.v1> (408 views, 276 downloads)
- Alldred, Mary, Stoycho Velkovsky, Nawal Ahmed, Vashtidevi Mahadeo, Priscilla Moley, Stephen B. Baines. 2019. Growth-chamber experiments: Influence of wetland plants on sediment oxygen and denitrification (Long Island, NY, USA). figshare. Dataset. <https://doi.org/10.6084/m9.figshare.9232142.v1> (577 views, 92 downloads)
- Alldred, Mary, Jonathan Borrelli, Timothy Hoellein, Denise A. Bruesewitz, Chester Zarnoch. 2019. Sediment Oxygen and Sulfide Microprofiles in Extant and Restored Marshes of Jamaica Bay (New York, NY, USA). figshare. Dataset. <https://doi.org/10.6084/m9.figshare.9175157.v3> (1135 views, 2165 downloads, 1 citation)
- Alldred, Mary. 2016. Denitrification measurements in various plant communities. figshare. Dataset. <https://doi.org/10.6084/m9.figshare.1541106.v1> (940 views, 368 downloads, 1 citation)
- Alldred, Mary. 2015. Invasive-Plant Management and Nitrogen Removal. figshare. Dataset. <https://doi.org/10.6084/m9.figshare.1597718.v1> (1044 views, 332 downloads, 1 citation)

Funding

- Price, Nancy, Mary Alldred, and Kim Coleman. August 2023. Salty Water in the Champlain Basin? Developing Place-based, Inquiry Lessons Around Road Salt and Chloride Contaminants. Lake Champlain Basin Program Education and Outreach Project. \$34,885.
- Alldred, Mary and Chester Zarnoch. September 2022. Measuring Ecosystem Services of Living Shoreline at Sherman Creek Park. New York Restoration Project. \$18,000.
- Coleman, Kimberly, Mark Lesser, Curt Gervich, Mary Alldred, Danielle Garneau, Colin Fuss, and Timothy Mihuc. May 2021. Wildfire Planning and Management at the Altona Flat Rock. USDA Forest Service. \$147,500.
- Alldred, Mary, Chester Zarnoch, J. Stephen Gosnell, Timothy J. Hoellein, Denise A. Bruesewitz, and Christopher Girgenti. January 2020. Evaluating the Potential for Mutualistic Species Interactions to Enhance Restoration Success in Urban Salt Marshes. Hudson River Foundation. Hudson River Fund. \$157,224.
- Garneau, Danielle, Mary Alldred, and Mark Lesser. Natural History Interpretation of Rugar Woods. October 2018. Lake Champlain Basin Program, Champlain Valley Natural Heritage Program, Local Heritage Grant. \$3,911.

Lesser, Mark, Danielle Garneau, Timothy Mihuc, Mary Alldred, and Eileen Allen. August 2018. Ecosystem response to fire in a jack pine barren in northeastern New York. SUNY Plattsburgh In-House Mini-Grant. \$2,958

Fellowships and Awards

CUNY Postdoctoral Distinguished Travel Award, \$1,500, June 2017
Science and Resilience Institute of Jamaica Bay Fellowship, \$10,000, June 2016
NSF Travel Award to attend International Meeting of the Royal Society, \$5,000, June 2015
Cedar Brook Award for Best Student Presentation, March 2014
Slobodkin Award for Research in Ecology, \$700, March 2014
Outstanding Department Service Award, March 2014
New York SeaGrant Scholar Fellowship, \$26,000, February 2012
Hudson River Foundation Graduate Fellowship, \$15,000, July 2011
National Science Foundation Graduate Fellowship, Honorable Mention, May 2010
Tibor T. Polgar Fellowship, Hudson River Foundation, \$4,800, April 2010
Robert R. Sokal Award for Research in Statistical Biology, \$500, February 2010

Presentations

Alldred, Mary, Thomas Whaley, Timothy Hoellein, Denise Bruesewitz, Christopher Girgenti, J. Stephen Gosnell, and Chester Zarnoch. 29 April 2023. When to move a mussel: Ribbed mussels enhance nitrogen removal, but not plant growth, in restored urban marshes. New England Estuarine Research Society, Brooklyn, NY. Oral Presentation.

Alldred, Mary, Thomas Whaley, Timothy Hoellein, Denise Bruesewitz, Christopher Girgenti, J. Stephen Gosnell, and Chester Zarnoch. 13 January 2023. When to move a mussel: Ribbed mussels enhance nitrogen removal, but not plant growth, in restored urban marshes. Keynote Presentation at Binghamton University Biology Graduate Student Organization Symposium. Binghamton, NY. Invited Oral Presentation.

Alldred, Mary, Thomas Whaley, Timothy Hoellein, Denise Bruesewitz, Christopher Girgenti, J. Stephen Gosnell, and Chester Zarnoch. 2 December 2022. Restoring coastal marshes: Can we recover nitrogen-removal services in urban estuaries? CEES Seminar. Plattsburgh, NY. Oral Presentation.

Alldred, Mary, Thomas Whaley, Timothy Hoellein, Denise Bruesewitz, Christopher Girgenti, J. Stephen Gosnell, and Chester Zarnoch. 16 May 2022. When to move a mussel: Ribbed mussels enhance nitrogen removal, but not plant growth, in restored urban marshes. Joint Aquatic Sciences Meeting, Grand Rapids, MI. Oral Presentation.

Alldred, Mary, Jonathan J. Borrelli, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 21 June 2021. Marsh plants enhance coastal marsh resilience by changing sediment redox conditions in an urban, eutrophic estuary. Online Conference of the Society for Ecological Restoration. Poster Presentation.

Alldred, Mary, Jonathan J. Borrelli, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 19 June 2020. Marsh plants enhance coastal marsh resilience by changing sediment redox conditions in an urban, eutrophic estuary. Québec RE³ Conference. Québec City, Québec, Canada. Poster Presentation.
*Postponed COVID-19.

Alldred, Mary, Jonathan J. Borrelli, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 28 April 2020. Marsh plants enhance coastal marsh resilience by changing sediment redox conditions in an urban, eutrophic estuary. New York State Wetlands Forum. Clayton, NY. Poster Presentation. *Canceled COVID-19.

Alldred, Mary, Jonathan J. Borrelli, and Chester Zarnoch. 17 March 2019. Marsh plants enhance coastal marsh resilience by changing sediment redox conditions in an urban, eutrophic estuary. GSA Northeastern Section Meeting. Portland, ME. Poster Presentation.

Alldred, Mary, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 15 April 2018. Nitrogen-removal services of restored salt marshes in Jamaica Bay (New York, NY). Northeast Natural History Conference. Burlington, VT. Oral Presentation.

- Allred, Mary, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 20 March 2018. Nitrogen-removal services of restored salt marshes in Jamaica Bay (New York, NY). GSA Northeastern Section Meeting. Burlington, VT. Oral Presentation.
- Allred, Mary, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 9 August 2017. Restoring coastal marshes: How can we recover nitrogen-removal services in urban estuaries? Ecological Society of America. Portland, OR. Oral Presentation.
- Allred, Mary. 20 July 2017. Measuring nitrogen removal services in natural and restored coastal wetlands. Science and Resilience Institute of Jamaica Bay. Invited Webinar Presentation. Available online at <http://www.srijb.org/jbwebinarseries/>.
- Allred, Mary. 12 July 2017. Using plant traits to predict ecosystem services in natural and restored wetlands. Lake Champlain Sea Grant Site Review. Burlington, VT. Invited Oral Presentation.
- Allred, Mary. 21 April 2017. Using plant traits to predict nitrogen removal ecosystem services in natural and restored coastal wetlands. Adelphi University. Invited Oral Presentation.
- Allred, Mary, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 18 March 2017. Nitrogen removal services of restored salt marshes in Jamaica Bay (New York, NY). New England Estuarine Research Society. Groton, CT. Oral Presentation.
- Allred, Mary. 27 January 2017. Nitrogen-removal ecosystem services of natural and restored salt marshes in Jamaica Bay (New York, NY). School of Marine and Atmospheric Sciences, Stony Brook University. Invited Oral Presentation.
- Allred, Mary. 4 November 2016. Assessing methods for measuring nitrogen-removal services in natural and restored coastal wetlands. Science and Resilience Institute of Jamaica Bay (SRI-JB) Public Agency Committee Meeting. New York, NY. Invited Oral Presentation.
- Allred, Mary. 22 October 2016. Nitrogen removal services of restored salt marshes in Jamaica Bay. New York Marine Sciences Consortium. Bronx, NY. Oral Presentation.
- Allred, Mary, Stoycho Velkovsky, and Stephen B. Baines. 11 August 2016. Using plant traits to predict denitrification potential in salt marsh ecosystems. Ecological Society of America. Fort Lauderdale, FL. Oral Presentation.
- Allred, Mary, Timothy Hoellein, Denise Bruesewitz, and Chester Zarnoch. 16 June 2016. Recovery of ecosystem services following wetland restoration in Jamaica Bay. State of the Bay Symposium. Brooklyn, NY. Invited Poster Presentation.
- Allred, Mary. 15 April 2016. Using plant traits to predict marsh stability and denitrification in wetland ecosystems. New England Estuarine Research Society. York Harbor, ME. Poster Presentation.
- Allred, Mary. 2 June 2015. Using plant traits to predict denitrification in wetland ecosystems. Theo Murphy Discussion Conference, Elements, genomes and ecosystems: cascading nitrogen and phosphorus impacts across levels of biological organization. Buckinghamshire, U.K. Invited Poster Presentation. **Recipient of NSF early-career travel award to attend meeting*
- Allred, Mary, Stephen B. Baines, and Stuart Findlay. 23 July 2014. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Gordon Research Conference: Unifying Ecology across Scales. University of New England, Biddeford, ME. Invited Poster Presentation.
- Allred, Mary, Stephen B. Baines, and Stuart Findlay. 20 May 2014. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Joint Aquatic Sciences Meeting. Portland, OR. Oral Presentation.
- Allred, Mary, Stephen B. Baines, and Stuart Findlay. 8 March 2014. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Ecology and Evolution Annual Retreat. Oral Presentation. **Recipient of the Cedar Brook Award for Best Student Presentation.*
- Allred, Mary, Stephen B. Baines, and Stuart Findlay. 6 November 2013. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Coastal and Estuarine Research Federation. San Diego, CA. Oral Presentation.
- Allred, Mary. 17 October 2013. Human impact on the nitrogen cycle. Dawson County Middle School, GA. Invited Oral Presentation, conducted via Skype from Stony Brook University, Stony Brook, NY.

- Allred, Mary, Stephen B. Baines, and Stuart Findlay. 18 June 2013. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Aquatic Ecosystem Health and Management Society International Conference. Victoria, British Columbia, Canada. Oral Presentation.
- Allred, Mary, Stephen B. Baines, and Stuart Findlay. 24 April 2013. Impacts of invasive-plant management on nitrogen-removal services in freshwater tidal marshes. Hudson River Science Symposium: The State of Hudson River Science. New Paltz, NY. Poster Presentation.
- Allred, Mary, and Stephen B. Baines. 7 August 2012. Effects of wetland plant communities on denitrification rates: a meta-analysis. Ecological Society of America. Portland, OR. Oral Presentation.
- Allred, Mary. September 2011. Human impact on the nitrogen cycle. Dawson County Middle School, GA. Invited Oral Presentation.
- Allred, Mary. 26 March 2011. Effects of wetland plant communities on denitrification rates: a meta-analysis. Stony Brook University Department of Ecology and Evolution Retreat, NY. Oral Presentation.
- Allred, Mary. 19 November 2010. Using plant traits to predict denitrification in wetland ecosystems. Brookhaven National Laboratory, NY. Invited Oral Presentation.
- Allred, Mary, Stephen B. Baines. 27 August 2010. Interactions between invasive species removal and nitrogen-removal ecosystem services in freshwater tidal marshes. Final Report to the Hudson River Foundation. Millbrook, NY. Oral Presentation.
- Allred, Mary. 6 June 2010. Effects of wetland plant communities on denitrification rates: a meta-analysis. American Society of Limnology and Oceanography and North American Benthological Society Joint Meeting. Santa Fe, NM. Oral Presentation.

Student Presentations

- Mattin, Ian, Shahir Bey, Ursula Blaszk, Mary Allred, and Chester Zarnoch. 17 August 2023. Salt marsh restoration in the Harlem River creates healthy urban coastlines. RISE Environment Presentations. Queens, NY. Oral Presentation.
- Mattin, Ian, Shahir Bey, Ursula Blaszk, Mary Allred, and Chester Zarnoch. 10 August 2023. Salt marsh restoration in the Harlem River creates healthy urban coastlines. NYC Science Research Mentoring Consortium. American Museum of Natural History, New York, NY. Poster Presentation.
- Koetzle, Grace, Rhys Thompson, and Mary Allred. 9 May 2023. An analysis of trail counter data in Clinton County, NY. CEES Research Symposium. Poster Presentation.
- Reinhardt, Emily, Mary Allred, and Kim Coleman. 9 May 2023. Biker safety concerns at Kingdom Trails in Burke, Vermont. CEES Research Symposium. Poster Presentation.
- Cooper, Shannon and Mary Allred. 28 April 2023. There's something in the water: Patterns in groundwater chemistry in the Lake Champlain Basin. New England Estuarine Research Society. Brooklyn, NY. Poster Presentation.
- Kemmerling, Lucas and Mary Allred. 28 April 2023. Maximizing mitigation: Quantifying the energetic carrying capacity of mitigation wetlands for waterfowl. New England Estuarine Research Society. Brooklyn, NY. Poster Presentation. *Honorable mention, Best Graduate Student Poster.
- Randall, Anne, Robert Kruse, Colin Fuss, and Mary Allred. 28 April 2023. Quantifying the phosphorus contributions of urban street trees to Lake Champlain. New England Estuarine Research Society. Brooklyn, NY. Poster Presentation.
- Snyder, Kayleen, Luke Myers, Tess Moran, Timothy Mihuc, Danielle Garneau, and Mary Allred. 21 April 2023. Long-term patterns of phytoplankton community composition and abundance in Lake Champlain: 1970-2021. Northeast Natural History Conference. Burlington, VT. Poster Presentation.
- Randall, Anne, Robert Kruse, Colin Fuss, and Mary Allred. 5 December 2022. Quantifying the phosphorus concentration of urban street trees to Lake Champlain. Arts and Science Fall Research Symposium. Plattsburgh, NY. Poster Presentation.
- Snyder, Kayleen, Tim Mihuc, and Mary Allred. 5 December 2022. Phytoplankton community composition and abundance from 1970 to 2021 in Lake Champlain. Arts and Science Fall Research Symposium. Plattsburgh, NY. Poster Presentation.

Stone, Riley and Mary Alldred. 5 December 2022. Patterns in soil organic carbon following the 2018 Altona Flat Rock Fire. Arts and Science Fall Research Symposium. Plattsburgh, NY. Poster Presentation.

Edwards, Emmanuel, Steven Xol-Quevedo, Mary Alldred, and Chester Zarnoch. 18 August 2022. Mussels enhance nitrate removal in a restored urban marsh. RISE Environmentor Presentations. Queens, NY. Oral/Poster Presentation.

Cook, Alesi, Hadar Pepperstone, Naomi Hodgson, Marcus Mitchell, Danielle Garneau, and Mary Alldred. 10 May 2022. Roadkill: A citizen science project. CEES Research Symposium. Poster Presentation.

Morgillo, Mia, Angelo Sinisgalli, Ashley Barkley, Danielle Garneau, and Mary Alldred. 10 May 2022. Wastewater treatment plants: Microplastics in our water. CEES Research Symposium. Poster Presentation.

Snyder, Kayleen, Luke Myers, Timothy Mihuc, and Mary Alldred. 10 May 2022. Phytoplankton community composition and abundance from 2017-2021 in Lake Champlain. CEES Research Symposium. Poster Presentation.

Stone, Riley, Hanna Penfield, Chase Wojtowecz, and Mary Alldred. 10 May 2022. Soil organic carbon variation after a fire. CEES Research Symposium. Poster Presentation.

Stone, Riley and Mary Alldred. 10 May 2022. Patterns in soil organic carbon following the 2018 Altona Flat Rock fire. CEES Research Symposium. Poster Presentation.

Whaley, Thomas and Mary Alldred. 22 June 2021. A meta-analysis reveals context dependence in the *Spartina-Geukensia* mutualism. 22 June 2021. Association for the Science of Limnology and Oceanography (ASLO) Aquatic Sciences Virtual Meeting. Oral Presentation.

Whaley, Thomas, Chester B. Zarnoch, Patricia Rafferty, Jolene Willis, J. Stephen Gosnell, Timothy J. Hoellein, Denise A. Bruesewitz, Christopher Girgenti, Mary Alldred. 21 June 2021. Potential applications of the mutualism between smooth cordgrass (*Spartina alterniflora*) and ribbed mussel (*Geukensia demissa*) for restoration of urban wetlands. Online Conference of the Society for Ecological Restoration. Poster Presentation.

Lenberger, Brandon and Mary Alldred. 29 April 2021. Assessing the nutrient-removal potential of floating treatment wetlands in a mesocosm field experiment. Online Joint Meeting of New England Estuarine Research Society and Atlantic Estuarine Research Society. Lightning Talk.

Whaley, Thomas, Bethany Freynk, Chester Zarnoch, Patricia Rafferty, Jolene Willis, and Mary Alldred. 27 April 2021. *Geukensia* recruitment and population structure in a natural and restored marsh. Online Joint Meeting of New England Estuarine Research Society and Atlantic Estuarine Research Society. Lightning Talk.

Lenberger, Brandon and Mary Alldred. 22 April 2021. Assessing the nutrient-removal potential of floating treatment wetlands in a mesocosm field experiment. CEES Virtual Research Symposium. Plattsburgh, NY. Poster Presentation.

Whaley, Thomas, Eileen Allen, Bethany Freynk, Chester Zarnoch, Patricia Rafferty, Jolene Willis, and Mary Alldred. 22 April 2021. Recovery of native *Geukensia* populations following restoration of an urban marsh. CEES Virtual Research Symposium. Plattsburgh, NY. Lightning Talk.

Lenberger, Brandon and Mary Alldred. 15 April 2021. Assessing the nutrient-removal potential of floating treatment wetlands in a mesocosm field experiment. Online Northeast Natural History Conference. Poster Presentation.

Whaley, Thomas and Mary Alldred. 15 April 2021. A meta-analysis reveals context dependence in the *Spartina-Geukensia* mutualism. Online Northeast Natural History Conference. Recorded Poster Presentation.

Heyer, Mark and Mary Alldred. 27 October 2020. Using Lidar data to document elevational changes in restored urban coastal wetlands. Online Conference of the Geological Society of America. Poster Presentation.

Heyer, Mark and Mary Alldred. 21 October 2020. Using Lidar data to document elevational changes in restored urban coastal wetlands. Online Conference of the New England Estuarine Research Society. Lightning Talk.

Whaley, Thomas and Mary Alldred. 21 October 2020. A meta-analysis reveals context dependence in the *Spartina-Geukensia* mutualism. Online Conference of the New England Estuarine Research Society. Lightning Talk.

- Higgins, Kierstyn, Jesse Pruden, and Mary Alldred. 19 June 2020. Influence of wetlands on short-term and long-term soil carbon storage in a fire-dependent ecosystem. Québec RE³ Conference. Québec City, Québec, Canada. Poster Presentation. *Postponed COVID-19.
- Whaley, Thomas, Chester B. Zarnoch, Patricia Rafferty, Jolene Willis, J. Stephen Gosnell, Timothy J. Hoellein, Denise A. Bruesewitz, Christopher Girgenti, Mary Alldred. 19 June 2020. Potential applications of the mutualism between smooth cordgrass (*Spartina alterniflora*) and ribbed mussel (*Geukensia demissa*) for restoration of urban wetlands. Québec RE³ Conference. Québec City, Québec, Canada. Poster Presentation. *Postponed COVID-19.
- Cutter, Luke, Linh Le, Michala Hendrick, John O'Connor, and Mary Alldred. 5 May 2020. Every duck has its day: Comparison of waterfowl resource availability following moist-soil management. CEES Virtual Research Symposium. Plattsburgh, NY. Poster Presentation.
- Heyer, Mark and Mary Alldred. 5 May 2020. Wetland stability in Jamaica Bay, NY. CEES Virtual Research Symposium. Plattsburgh, NY. Poster Presentation.
- Higgins, Kierstyn, Jesse Pruden, and Mary Alldred. 5 May 2020. Short-term and long-term dynamics in soil carbon storage in a fire dependent ecosystem. CEES Virtual Research Symposium. Plattsburgh, NY. Poster Presentation.
- Lenberger, Brandon and Mary Alldred. 5 May 2020. Evaluating the potential for floating treatment wetlands to remove excess nutrients. CEES Virtual Research Symposium. Plattsburgh, NY. Poster Presentation.
- Whaley, Thomas, Chester B. Zarnoch, Patricia Rafferty, Jolene Willis, J. Stephen Gosnell, Timothy J. Hoellein, Denise A. Bruesewitz, Christopher Girgenti, Mary Alldred. 5 May 2020. Potential applications of the mutualism between smooth cordgrass (*Spartina alterniflora*) and ribbed mussel (*Geukensia demissa*) for restoration of urban wetlands. CEES Virtual Research Symposium. Plattsburgh, NY. Poster Presentation.
- Cutter, Luke, Linh Le, Michala Hendrick, John O'Connor, and Mary Alldred. 17 April 2020. Every duck has its day: Comparison of waterfowl resource availability following moist-soil management. Northeast Natural History Conference. Stamford, CT. Poster Presentation. *Canceled COVID-19.
- Higgins, Kierstyn, Jesse Pruden, and Mary Alldred. 17 April 2020. Short-term and long-term dynamics in soil carbon storage in a fire dependent ecosystem. Northeast Natural History Conference. Stamford, CT. Poster Presentation. *Canceled COVID-19.
- Cutter, Luke, Linh Le, Michala Hendrick, John O'Connor, and Mary Alldred. 28 April 2020. Changes in waterfowl resource availability following water-level management. New York State Wetlands Forum. Clayton, NY. Poster Presentation. *Canceled COVID-19.
- Higgins, Kierstyn, Jesse Pruden, and Mary Alldred. 28 April 2020. Influence of wetlands on short-term and long-term soil carbon storage in a fire-dependent ecosystem. New York State Wetlands Forum. Clayton, NY. Poster Presentation. *Canceled COVID-19.
- Lenberger, Brandon and Mary Alldred. 28 April 2020. Evaluating the potential for floating treatment wetlands to remove excess nutrients. New York State Wetlands Forum. Clayton, NY. Poster Presentation. *Canceled COVID-19.
- Whaley, Thomas, Chester B. Zarnoch, Patricia Rafferty, Jolene Willis, J. Stephen Gosnell, Timothy J. Hoellein, Denise A. Bruesewitz, Christopher Girgenti, Mary Alldred. 28 April 2020. Potential applications of the mutualism between smooth cordgrass (*Spartina alterniflora*) and ribbed mussel (*Geukensia demissa*) for restoration of urban wetlands. New York State Wetlands Forum. Clayton, NY. Poster Presentation. *Canceled COVID-19.
- Flint, Juliana, Rich Spindler, and Mary Alldred. 16 September 2019. Predicting nitrogen removal in agricultural wetland buffers using traits of the plant community. American Institute of Professional Geologists (AIPG) Annual Conference. Burlington, VT. Poster Presentation. *Winner of Best Student Poster Presentation.
- Tompkins, Makayla, Troy Tetreault, and Mary Alldred. 13 September 2019. Wetlands as permanent carbon sinks in fire-dependent ecosystems. Flat Rock Fire Workshop. Chazy, NY. Oral Presentation.
- Pruden, Jesse and Mary Alldred. 13 September 2019. Changes in soil carbon following fire in a sandstone pavement pine barren. Flat Rock Fire Workshop. Chazy, NY. Poster Presentation.
- Elliott, Alexandria and Mary Alldred. 22 May 2019. Development of a prototype floating treatment wetland for aquatic nutrient remediation. Annual Conference on the Adirondacks. Lake Placid, NY. Poster Presentation.

Elliott, Alexandria and Mary Alldred. 9 May 2019. Development of a prototype floating treatment wetland for aquatic nutrient remediation. CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Elliott, Alexandria, Sarahana Shrestha, and Mary Alldred. 9 May 2019. Wetland education on the Saranac River Trail Greenway: A collaborative project with the Town of Plattsburgh and the Clinton County Health Department. CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Flint, Juliana, Rich Spindler, and Mary Alldred. 9 May 2019. Predicting nitrogen removal in agricultural wetland buffers using traits of the plant community. CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Gray, Stephanie, Jennifer Krech, Joshua Domenico, Danielle Garneau, Mary Alldred, Mark Lesser, and Michael Burgess. 9 May 2019. Natural history interpretation of Rugar Woods. CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Tetreault, Troy, Makayla Tompkins, and Mary Alldred. 9 May 2019. Wetlands as permanent carbon sinks in a fire-dependent ecosystem. CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Flint, Juliana. 3 May 2019. How a geologist entered research on wetland ecology...and then returned to geology. Student Research Showcase. SUNY Plattsburgh, Plattsburgh, NY. Invited Oral Presentation.

Flint, Juliana, Rich Spindler, and Mary Alldred. 17 April 2019. Predicting nitrogen removal in agricultural wetland buffers using traits of the plant community. Hudson-Mohawk Professional Geologists Association Student Expo. Latham, NY. Poster Presentation.

Tetreault, Troy, Makayla Tompkins, and Mary Alldred. 13 April 2019. Wetlands as permanent carbon sinks in a fire-dependent ecosystem. Northeast Natural History Conference. Springfield, MA. Poster Presentation.

Flint, Juliana, Rich Spindler, and Mary Alldred. 17 March 2019. Predicting nitrogen removal in agricultural wetland buffers using traits of the plant community. GSA Northeastern Section Meeting. Portland, ME. Poster Presentation.

Tompkins, Makayla, Troy Tetreault, and Mary Alldred. 17 March 2019. Wetlands as permanent carbon sinks in a fire-dependent ecosystem. GSA Northeastern Section Meeting. Portland, ME. Oral Presentation. *Winner of Lake Champlain Institute Best Student Presentation Award.

Penders, Rachel, Stephen Kramer, and Mary Alldred. 9 May 2018. Influence of surface agricultural runoff on nutrient concentrations in the Little Chazy River. CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Facenda, Raul, Chester Zarnoch, Patricia Rafferty, Jolene Willis, and Mary Alldred. 9 May 2018. Recovery of benthic invertebrate community following salt marsh restoration in Jamaica Bay (New York, NY). CEES Undergraduate Research Seminar. Plattsburgh, NY. Poster Presentation.

Penders, Rachel, Stephen Kramer, and Mary Alldred. 15 April 2018. Influence of surface agricultural runoff on nutrient concentrations in the Little Chazy River. Northeast Natural History Conference. Burlington, VT. Poster Presentation.

Moley, Priscilla, Mary Alldred, Jonathan Haviland, Hoorann Shah, John Desmond, and Stephen B. Baines. 7 August 2017. Plant traits affect seasonal and spatial variation in denitrification in coastal marshes. Ecological Society of America. Portland, OR. Oral Presentation.

Moley, Priscilla, Mary Alldred, Jonathan Haviland, John Desmond, Rebecca Reigle, Hoorann Shah, and Stephen B. Baines. 17 March 2017. Plant growth and seasonal denitrification in wetlands. New England Estuarine Research Society. Groton, CT. Poster Presentation. *Winner of 3 x 3 Poster Award

Moley, Priscilla, Mary Alldred, Jonathan Haviland, John Desmond, Rebecca Reigle, Hoorann Shah, and Stephen B. Baines. 22 October 2016. Plant growth and seasonal denitrification in wetlands. New York Marine Sciences Consortium. Bronx, NY. Poster Presentation. *Winner of Best Student Poster Award

Macolino, Casey, Mary Alldred, and Stephen B. Baines. 22 October 2016. The nitrogen cycle in restored marshes of different age in Jamaica Bay, NY. New York Marine Sciences Consortium. Bronx, NY. Poster Presentation.

Theodore, Julie, Chester Zarnoch, and Mary Alldred. 12 August 2016. Ecosystem services in restored salt marshes. Rockaway Waterfront Alliance Summer Research Program. Queens, NY. Oral and Poster Presentation.

Macolino, Casey, Mary Alldred, and Stephen B. Baines. August 2016. Will restored *Spartina* marshes in Jamaica Bay mature into stable ecosystems? Simons Summer Research Program. Stony Brook, NY. Poster Presentation.

Freynek, Bethany, Chester Zarnoch, Mary Alldred, Patricia Rafferty, and Jolene Willis. 16 June 2016. Abundance and Size Distribution of ribbed mussel, *Geukensia demissa*, at a restored and natural marsh in Jamaica Bay, NY. State of the Bay Symposium. Brooklyn, NY. Invited Poster Presentation.

Freynek, Bethany, Chester Zarnoch, Mary Alldred, Patricia Rafferty, and Jolene Willis. 19 May 2016. Abundance and Size Distribution of ribbed mussel, *Geukensia demissa*, at a restored and natural marsh in Jamaica Bay, NY. Baruch College Creative Inquiry Day. New York, NY. Poster Presentation.

Moley, Priscilla, Mary Alldred, Jonathan Haviland, and Stephen B. Baines. 13 May 2016. Plant growth and seasonal denitrification in wetlands. Long Island Sound Research Conference. Bridgeport, CT. Poster Presentation.

Moley, Priscilla, Jonathan Haviland, John Desmond, Rebecca Reigle, Hoorann Shah, Mary Alldred, Stephen B. Baines. 27 April 2016. Plant growth and seasonal denitrification in wetlands. Stony Brook University Undergraduate Research and Creative Activities Day. Stony Brook, NY. Poster Presentation.

Rogers, Thomas, Ben Mulholland, Chester Zarnoch, and Mary Alldred. 14 August 2015. Assessing Jamaica Bay marsh restorations using a space-for-time substitution approach. Rockaway Waterfront Alliance Summer Research Program. Queens, NY. Poster Presentation.

Ahmed, Nawal, Vashtidevi Mahadeo, Priscilla Moley, Mary Alldred, Stoycho Velkovsky, and Stephen B. Baines. 29 April 2015. Plant traits predict influence of wetland plants on sediment O₂ and denitrification. Stony Brook University Undergraduate Research and Creative Activities Day. Stony Brook, NY. Poster Presentation.

Liberti, Anne, Matthew Sarubbi, Mary Alldred, and Stephen B. Baines. 30 April 2014. Impacts of salinity and nutrients on salt marsh stability. Stony Brook University Undergraduate Research and Creative Activities Day. Stony Brook, NY. Poster Presentation.

Courses Taught

SUNY Plattsburgh

CFS 1889 Cardinal Foundation Seminar: The Worth of Water; Fall 2021, 2022
ENV 304 Ecology Lecture; Fall 2018, 2019, 2020 (Hybrid), 2023
ENV 304L Ecology Laboratory; Fall 2017, Spring 2018, 2019, 2020, 2021 (Hybrid), 2022, 2023
ENV 340 Environmental Science Seminar; Spring 2018, 2021 (Online)
ENV 413 Biogeochemical Cycling; Spring 2018, 2019, 2020, 2022
ENV 422/522 Environmental Data Analysis; Spring 2020, 2022, 2023
ENV 439/539 & 439L/539L Wetland Ecology & Management; Fall 2017, 2018, 2019, 2020 (Hybrid), 2021, 2022, 2023
 Contributes to the Applied Environmental Science Program offered in collaboration with the William H. Miner Institute
ENV 462/562 Ecosystem Ecology, Spring 2019, 2021 (Online), 2023

Baruch College CUNY

Ecology Laboratory; Instructor, Fall 2015-Spring 2017

Stony Brook University

Ecosystem Ecology; Teaching Assistant, Stony Brook University; Spring 2010, 2011, 2014, 2015
General Ecology; Teaching Assistant, Stony Brook University; Fall 2010
Introduction to Biology; Teaching Assistant, Stony Brook University; Fall 2008-Fall 2009

Students Mentored or Co-Mentored

SUNY Plattsburgh

Undergraduate students: Shannon Cooper*, Luke Cutter*, Alexandria Elliott*, Raul Facenda*, Juliana Flint*, Stephanie Gray*, Mark Heyer*, Kierstyn Higgins*, Robert Kruse, Linh Le*, Brandon Lenberger*, Sara Lester, Rachel Penders*, Mark Preston, Jesse Pruden*, Anne Randall*, Sarahana Shrestha*, Riley Stone*, Makayla Tompkins*, Troy Tetreault*, Erica VanValkenburg, Chase Wojtowecz*

Graduate students: Shannon Cooper* (primary advisor), Lydia Harvey (primary advisor), Lucas Kemmerling* (primary advisor), Thomas Whaley* (primary advisor), Kayleen Snyder* (co-advisor), Lily Delmarsh* (committee), Emily Reinhardt* (committee), Molly Russell* (committee), Jennifer Zhu* (external committee, CUNY Graduate Center), Beryl Kahn* (external committee, CUNY Graduate Center)

Baruch College CUNY

Undergraduate students: Ani Coaderaj, Bethany Freynk*, Jessica Kraker, Kiara Marmolejos, Crystal Mena* (City College), Steven Nguyen, Nicomedes Rivera, Siena Schickler (Colby College), Joi Simon

Graduate students: Jennifer Zhu*

Stony Brook University

Undergraduate students: Nawal Ahmed*, Jordan Bader (Drew University), Diana Lenis, Douglas Lerner, Anne Liberti*, Steven Lundi, Vashtidevi Mahadeo*, Priscilla Moley*, Ashley Moreno, Sangmin Pak, Louis Piscopo (SUNY Oswego), Matthew Sarubbi*, Jordan Schwartzberg, Michael Tong

* Presented research

Society Memberships

American Association for the Advancement of Science, Spring 2009-Current

Association for the Sciences of Limnology and Oceanography, Fall 2009-Current

Ecological Society of America, Fall 2010-Current

Geological Society of America, Spring 2018-Current

New England Estuarine Research Society, Spring 2015-Current

New York State Wetlands Forum, Fall 2019-Current

Society of Freshwater Science (formerly North American Benthological Society), Fall 2010-Current

Society of Wetland Scientists, Fall 2017-Current

Professional Service

Member at Large, Executive Board of New England Estuarine Research Society, appointed January 2023.

Member, Board of Directors of the New York Flora Association, September 2021-Current

Co-Chair of 50th Anniversary Joint Meeting of New England Estuarine Research Society and Atlantic Estuarine Research Society, Organized panel discussion, "Frontiers in Coastal Nitrogen Research," April 2021

Member of Salt Marsh Working Group to inform salt marsh restoration in Long Island and New York City, May 2020-Current

Reviewed manuscripts for *Aquatic Sciences*, *Ecology Letters*, *Ecological Applications*, *Environmental Justice*, *Frontiers in Environmental Science*, *International Journal of Phytoremediation*, *PLOS One*, *PeerJ*, *Soil Biology and Biochemistry*, and *Wetland Ecology and Management*

Reviewed grant proposals for California Department of Fish and Wildlife, NOAA Ecological Effects of Sea Level Rise Program, and Lake Champlain Basin Program

SUNY Plattsburgh

Designed CEES apparel and organized sale of CEES apparel for students and faculty, Fall 2023

Member, Research Support Planning Group, Fall 2023

Mentor to three New York City high school students, Rockaway Initiative for Sustainability and Equity (RISE) Environmentor Program, Summer 2023

Advisor, Environmental Science Club, Spring 2023-Current

Member, Combined Programs Working Group to create combined BS Ecology – MS Natural Resources and Ecology 4 + 1 program, Spring 2023-Current

Organized entry of Center for Earth and Environmental Science “Christmas Owl” float into the City of Plattsburgh 2022 book-themed holiday parade, Fall 2022

Organized sale of CEES apparel for alumni, advertised on social media and in CEES alumni newsletter, continuing to work with Jamie Winters (A&S) to arrange a future fundraiser, Fall 2022

Compiled first annual CEES alumni newsletter and distributed through the Plattsburgh Foundation. Fall 2022

Designed CEES apparel and organized sale of CEES apparel for students and faculty. Fall 2022

Presented Alldred-lab research to Plattsburgh High School AP Environmental Science class, Fall 2022

Created practice test for Plattsburgh High School Science Olympiad team, Fall 2022

Submitted course revision for ENV 350 for inclusion in the Quantitative Reasoning Cardinal Foundation Curriculum, Fall 2022

Advisory Committee for New York Lake Champlain Basin Wetland/Floodplain Restoration Project, Fall 2022

Member, General Education Committee, Fall 2022-Current

Mentor to two high school students, Rockaway Initiative for Sustainability and Equity (RISE) Environmentor Program, Summer 2022

Co-instructor for Miner Institute’s Annual Flat Rock Labs for Peru and Chazy High Schools, Spring 2022

Member, Women in Technology, Plattsburgh Chapter, Spring 2022-Current

Organized entry of Center for Earth and Environmental Science “Swamp Thing” float into the City of Plattsburgh 2021 superhero-themed holiday parade, Fall 2021

Co-instructor for HIS 1313 The Halloween Class, a course in which students planned a cultural community event in the City of Plattsburgh on the evening of Halloween, offered in collaboration with the History and Theater Department, Fall 2021

Presented Alldred-lab research to Plattsburgh High School AP Environmental Science class, Fall 2021

Presented Alldred-lab research to Plattsburgh High School AP Chemistry class in collaboration with Miner Institute workshop, Fall 2021

MS Natural Resources & Ecology Committee, Fall 2021-Current

Co-advisor of summer internship program with City of Plattsburgh in which three Center for Earth and Environmental Sciences students assessed and mapped the trail network at City Beach to inform the City Beach management and development plan, Summer 2021

Submitted course revisions for ENV 304 and ENV 101 for inclusion in the Natural Science Cardinal Foundation Curriculum, Summer-Fall 2021

Submitted course proposal for CFS 1889 Cardinal Foundation Seminar: the Worth of Water, Spring 2021

Recruitment and Retention Committee, Fall 2019-Current

Member, Center for Earth and Environmental Science Curriculum Committee, Fall 2019-Current

Faculty Sponsor, Center for Earth and Environmental Science Undergraduate Research Showcase, Spring 2019

Committee to Revise Professional Science Masters Program, Spring 2019-Fall 2021

Hiring Committee for Assistant Professor of Soil Science, Fall 2018-Spring 2019

Hiring Committee for Assistant Professor of Soil Science, Fall 2017-Spring 2018

Rugar Woods Committee, Collaboration with CEES Faculty and Saranac River Trail Greenway Committee to improve educational displays in the Rugar Woods location on campus and to develop the site as a spur of the SRTG, Fall 2017-Current

Collaboration with the Foundation of Champlain Valley Physicians Hospital and the Town of Plattsburgh to develop educational posters and community activities with SUNY Plattsburgh students for the LaPierre Lane spur of the Saranac River Trail Greenway, Fall 2017-Current

Applied Environmental Science Program (AESP) Committee, Fall 2017-Current

Baruch College CUNY

Supervised research projects for underserved high school students through Rockaway Waterfront Alliance and College Now programs, July 2015-August 2016

Stony Brook University

Co-organized a discussion conference, "Ecosystem Services in Jamaica Bay, NY," January 2015

Student Representative on Hiring Committee for Department Chair, Fall 2013

Treasurer, Ecology and Evolution Club, Fall 2011-Spring 2013

Organized student-invited speaker events, Fall 2010-Spring 2013

Student Representative at Monthly Faculty Meetings, Fall 2010-Fall 2011

Chair of Ecology and Evolution Retreat-Organizing Committees, Spring 2010-Spring 2013