

# Angelia Miller

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## Education

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**Master of Science in Marine Science and Technology**  
University of Massachusetts Dartmouth, Dartmouth, MA

August 2021- Present

**Bachelor of Arts in Environmental Science and Policy**  
Hood College, Frederick, MD

2015

## Work Experience

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**Field Interviewer**

Jun 2023 - Nov 2023

*Commonwealth of Massachusetts, Division of Marine Fisheries, Gloucester, MA*

- Interviewed over one hundred recreational anglers to support catch data acquisition for the National Oceanic and Atmospheric Administration (NOAA) Fisheries' Marine Recreational Information Program (MRIP) and data analyses surrounding recreational fisheries and fisher dynamics.
- Communicated programmatic information to fishers and the general public regarding scientific data collection efforts to progress understanding of resource species management and ocean ecosystems.

**Research Assistant / Technical Associate**

May 2021 – Present

*University of Massachusetts Dartmouth, Dartmouth, MA*

- Developed a spatially-explicit marine resource observation model using 20 years of the NOAA Northeast Fisheries Science Center's (NEFSC) Multispecies Bottom Trawl Survey data to enhance the understanding of impacts to resource species, survey operations, and survey data products due to offshore wind energy development through the Survey Simulation Experimentation and Elimination Project (SSEEP).
- Analyzed and modeled habitat-driven productivity changes of summer flounder and Atlantic mackerel to enable proactive management in support of adapting to changes to the NEFSC bottom trawl survey operations and ecosystem dynamics along the Northeast Shelf Large Marine Ecosystem.
- Tested applications of the Woods Hole Assessment Model (WHAM) on Gulf of Maine Atlantic cod stock assessment data to estimate natural mortality parameters for the stock.
  - Concluded existing natural mortality parameters of the stock assessment methodology are appropriate for best sustainable management of the species and met one of five Terms of Reference (TOR) for the NEFSC State Space Research Track Assessment Working Group.
- Assisted with data acquisition projects such as the NEFSC fall bottom trawl survey, and an acoustic telemetry tagging study.
- Delivered presentations to communicate technical and programmatic information related to the SSEEP research efforts to the NEFSC Offshore Wind Working Group, at three international meetings including the International Council for the Exploration of the Sea (ICES) Annual Science Conference and Second Workshop for Unavoidable Survey Effort Reduction (WKUSER), and the National Stock Assessment Workshop (NSAW) that were attended by more than 50 scientists and managers.
- Drafted three progress reports to the Bureau of Ocean Energy Management (BOEM) pertaining to outcomes of stakeholder workshops facilitated through SSEEP, and a workshop report developed through WKUSER that recommended how to evaluate and mitigate the impact of survey effort changes, which was published in the ICES Journal of Marine Science (JMS).
- Presented open data science and data management workflows to twenty-five (25) NOAA Southeast Fisheries Science Center (SEFSC) scientists through the Openscapes workshop.

**Part-time Administrator**

May 2021 – Aug 2023

*Frederick County Government Division of Energy and Environment, Frederick, MD*

- Provided consultation and guidance as needed to the succeeding Project Manager regarding the Illicit Discharge Detection and Elimination (IDDE) Program and the management of eleven intrajurisdictional departments.

**Project Manager**

Jan 2017 – May 2021

*Frederick County Government, Frederick, MD*

- Responded to dozens of citizen inquiries annually regarding potential impacts to local waterways and recommended potential solutions or corrective actions under the Illicit Discharge Detection and Elimination (IDDE) program to comply with the National Pollutant Discharge Elimination System (NPDES) permit and Clean Water Act.
- Formulated an inspection and enforcement regulation to prohibit illegal pollutant discharges to Frederick County's storm drain system and conserved local waterways.
- Coordinated pollution prevention plan requirements for eleven (11) County-owned facilities under the NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (NPDES 12-SW permit) including conducting quarterly and annual facility inspections, and maintaining pollution prevention plans and standard operating procedures.
- Independently integrated new technological solutions through ESRI's GIS ArcOnline applications to create inspection and reporting forms for organized data acquisition and secure data storage, as well as accessible management dashboards, and public-facing educational web maps to inform stormwater management decision workflows, which resulted in significant time-savings.
- Assisted in the design of data infrastructure for the County's Creek ReLeaf Restoration Program to facilitate quick, efficient, and easily understandable data acquisition, analysis, and reporting.
- Oversaw development of a pluvial hydraulic model in collaboration with local neighborhood residents to identify flood risk during various storm intensity and frequency scenarios.
  - Prioritized restoration projects for development such as a stream restoration with a natural channel design and outfall step-pool stabilizations to reconnect water conveyance systems to the floodplain.
- Synthesized biological and chemical data from the Frederick County Stream Survey Program to produce fifty (50) watershed health reports for public outreach and education.
- Designed and delivered annual online training on pollution prevention practices to hundreds of County employees and significantly increased the total annual number of trained employees reporting to the Maryland Department of the Environment (MDE).
- Drafted the County's Annual Report communicating information on management programs, compliance activities, and other pollution reduction efforts to MDE.
- Assisted with project planning by applying for two grants to fund restoration and hazard mitigation project efforts and an annual grant to gain Chesapeake Conservation Corps members for workforce support through the Chesapeake Bay Program.

**Chesapeake Conservation Corps Member**

Aug 2015 - Aug 2016

*Chesapeake Bay Trust, Annapolis, MD*

- Created an annual inspection and enforcement protocol auditing twenty-five (25) commercial and industrial businesses for proper storage and handling of potential pollutant sources.
  - Recommended solutions and prevention methods such as spill pallets and dry clean-up methods for hazardous spills to facilitate good housekeeping practices.
- Modeled pollutant reduction and treatment analyses using Maryland and Chesapeake Bay models to achieve restoration goals under the Clean Water Act.
- Acquired two grants to support the implementation of a riparian buffer tree planting along a stream in a local county park.

**Aquarist/Intern**

Jan 2015 – May 2015

*Baltimore National Aquarium, Baltimore, MD*

- Performed daily husbandry tasks of four exhibit tanks and eight back-up tanks.
- Administered daily dietary needs to numerous freshwater, brackish, and marine organisms.

**Intern**

Jan 2013 – May 2013

*Friends of Frederick County, Fredrick, MD*

- Surveyed the health of local county streams
- Oversaw public outreach and engagement

## Research Experience

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Cloud S, Macer J, **Miller A**, and Wobbleton D. (2014). Assessment of Water Quality of Carroll Creek Wildlife Park.

**Miller A**. (2013). The Effects of Gibberellic Acid on the Growth of Two Strains of *Brassica rapa*.

**Miller A**. (2013). Effect of Temperature on the Enzymatic Activity of Lima Bean Mitochondria.

## Presentations

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**Miller A**, Roman C, Foley C, Ford K, Lipsky A, Politis P, Fay G. 2023. Impacts to Northeast US fishery-independent surveys and stock abundance indices due to offshore wind development. ICES Annual Science Conference. Bilbao, Spain.

Fay G, **Miller A**, Zellner M, Milz D, Jones B, Uzzo S, Tuddenham P, Bishop T. 2023. Integrating land and sea: building coastal resilience and ecosystem services for sustainable urban-rural systems. NSF Virtual Grants Conference. Alexandria, Virginia.

**Miller A**, Fay G, Roman C, Politis P, Lipsky A, Foley C, Ford K. 2023. Evaluating offshore wind impacts to the Northeast bottom trawl survey using a spatiotemporal generalized linear mixed model. National Stock Assessment Workshop. Providence, Rhode Island.

**Miller A**, Fay G, Roman C, Politis P, Lipsky A, Foley C, Ford K. 2023. Evaluating offshore wind impacts to the Northeast bottom trawl survey using a spatiotemporal generalized linear model. IMS Symposium. New Bedford, Massachusetts.

**Miller A**, Fay G, Politis P, Lipsky A, O'Keefe C, Guyant M, Roman C, Ford K, Foley C. 2022. Visualizing historical time series data in the presence of proposed offshore wind development areas to understand the potential impacts to a fishery-independent multispecies trawl survey. ICES Annual Science Conference. Dublin, Ireland.

**Miller A**, Fay G, Politis P, Lipsky A, O'Keefe C, Guyant M, Roman C, Ford K, Foley C. 2022. Survey Simulation Experimentation and Evaluation Project (SSEEP): Evaluating impacts of offshore wind to the Northeast bottom trawl surveys. ICES WKUSER2. Galway, Ireland.

Fay G, Politis P, Lipsky A, O'Keefe C, **Miller A**, Guyant M, Roman C, Ford K, Foley C. 2022. Survey Simulation Experimentation and Evaluation Project (SSEEP) Stakeholder Workshop #2. Virtual.

Fay G, Politis P, Lipsky A, O'Keefe C, Rago P, **Miller A**, Ford K, Foley C. 2021. Survey Simulation Experimentation and Evaluation Project (SSEEP) Stakeholder Workshop #1. Virtual.

**Miller A** & Wilusz D. 2020. Pluvial Flooding Vulnerability Assessment in Clover Hill, Frederick, MD. Chesapeake Water Environment Association. Virtual.

**Miller A** & Wilusz D. 2020. Pluvial Flooding Vulnerability Assessment in Clover Hill, Frederick, MD. Maryland Association of Floodplain and Stormwater Managers. Virtual.

**Miller A**. 2020. Frederick County's Stormwater Illicit Discharge Detection and Elimination Program. Interstate Commission on the Potomac River Basin. Rockville, MD, USA.

**Miller A**. 2015. Visual Survey Development for the Illicit Discharge Detection and Elimination Program. Chesapeake Watershed Forum. Shepherdstown, WV, USA.

**Miller A** & McIver L. 2015. The How-To's of Rain Gardens: Design, Installation, and Maintenance. Green Neighbor Forum. Frederick, MD, USA.

## Grants

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| <i>Maryland Department of Natural Resources</i> , Restoring Frederick County Streams Utilizing Capital Improvement FY20-21 Funds, \$530,000 | July 2020 |
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| <i>Chesapeake Bay Trust</i> , Chesapeake Conservation Corps Program | July 2020 |
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| <i>Chesapeake Bay Trust</i> , Riparian Buffer Planting at Frederick County Park, \$1,240 | August 2019 |
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Maryland Urban and Community Forestry Committee, Riparian Buffer Planting at Frederick County Park, \$1,373

May 2016

## **Leadership Activities**

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Student Representative, *UMass Dartmouth School for Marine Science and Technology, New Bedford, MA* Aug 2022 - May 2023

Women's Soccer Team Captain, *Hood College, Frederick, MD* Jan 2014 - Dec 2014

## **Awards/Honors**

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Fall MAC Sportsmanship Team, *Hood College, Frederick, MD* Aug 2014 - Dec 2014

Dean's List, *Hood College, Frederick, MD* Aug 2014 - Dec 2014

Fall MAC Academic Honor Roll, *Hood College, Frederick, MD* 2012 - 2014

Honors' Program, *Hood College, Frederick, MD* Aug 2011 - May 2015

## **Skills**

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R/RStudio • ESRI ArcGIS ArcPro • ESRI ArcGIS Online Map Viewer • ESRI ArcGIS Online StoryMaps • ESRI ArcGIS Online Survey123 • Microsoft Office Suite