Samuel J. Sillen

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EDUCATION

University of Massachusetts Amherst May 2018
BS, Natural Resource Conservation
Thesis: Dissolved oxygen response to dam removal in Massachusetts streams

RESEARCH & PROFFESIONAL EXPERIENCE

Environmental Engineering Aide (Current position) April 2020 – present
Massachusetts Department of Environmental Protection Worcester, MA
Executive Office of Energy and Environmental Affairs, State of Massachusetts

- Assist with water quality and ecological field surveys; participate in the sampling and analysis of fish, macroinvertebrate, and algae populations for the purpose of assessing the condition of lakes and rivers in Massachusetts
- Conduct laboratory analysis of water quality samples by following strict standard operating procedures (SOPs) and QA/QC procedures
- Work independently to compile and enter environmental monitoring data into databases
- Assist with data analysis preparatory to writing reports on monitoring studies

Aquatic Habitat Technician April 2018 – December 2019
Vermont Fish & Wildlife Department Roxbury, VT
Agency of Natural Resources, State of Vermont

- Assess state-owned riparian lands in an effort to prioritize streambank restoration projects
- Conduct culvert assessments to maintain and update a database of stream crossing structures
- Assist biologists with water quality and fish population monitoring
- Work with watershed groups and agency staff to organize and participate in habitat restoration projects such as riparian zone tree-plantings, in-stream wood addition, and culvert retrofits

Research Assistant May 2018 – November 2018
Massachusetts Cooperative Fish and Wildlife Research Unit Amherst, MA
University of Massachusetts Amherst

- Assumed full responsibility of a project monitoring the effects of dam removal on stream ecosystems; maintained a network of water quality data loggers, collected macroinvertebrate samples, and supervised an undergraduate technician for six months
- Coordinated with the Massachusetts Division of Fisheries and Wildlife (DFW) and assisted field work teams to complete fisheries monitoring at dam removal sites in Massachusetts
- Worked independently to maintain data collection, management, and analysis
- General maintenance of equipment, vehicles, and boats

Undergraduate Research Scholar June 2017 – August 2017
Coastal Research in Environmental Science and Technology: NSF-REU Boston, MA
University of Massachusetts Boston

- Developed research project regarding effects of dam removal on nutrient dynamics in Massachusetts streams
- Regularly collected streamflow measurements and water samples for analysis
- Experience gained in project management and scientific/outreach presentations in a graduate school setting
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Field/Lab Technician September 2015 – December 2017
Massachusetts Cooperative Fish and Wildlife Research Unit Amherst, MA
University of Massachusetts Amherst

- Assisted with field work and data management of a project monitoring the effects of dams on stream ecosystems; frequently visited dam sites in Massachusetts to install and maintain a network of over 150 temperature and dissolved oxygen data loggers
- Maintained large datasets of environmental data using excel and R programming language
- Sampled macroinvertebrates in riffle habitats and impoundment sediment

SKILLS

Office/Lab:	**Field:**
Microsoft Office/Data Management	Water Quality Monitoring
QA/QC of Large Datasets	Streamflow Monitoring
Report Preparation/Interpretation	Fish/Invertebrate Sampling & Identification
Outreach/Public Speaking	Wetland Plant Identification
ArcGIS, Statistical Analyses in R, Python	Riparian Restoration and Wood Addition

AWARDS & SCHOLARSHIPS

- Society for Ecological Restoration New England Chapter Conference Registration and Travel Grant.

- National Science Foundation, Research Experience for Undergraduates Scholarship at the University of Massachusetts Boston ($5,500).

- University of Massachusetts Amherst, DeGraaf Summer Research Scholarship—for undergraduate students to gain field research experience and training with US Forest Service scientists at the Northern Research Center ($5,000).

- Dean's list: Fall and Spring 2016, Spring 2017.

PRESENTATIONS

Sillen. S.J. Potential responses of stream water quality and macroinvertebrates to small dam removal. Dam removal practicum guest lecture, November 2018, Amherst, Massachusetts.

Sillen, S.J., P. Zaidel, and A.H. Roy. 2018. Dissolved oxygen response to dam removal in Massachusetts streams. Massachusetts Statewide Undergraduate Research Conference Poster Presentation, May 2018, Amherst, Massachusetts.

Sillen, S. J., E. Moothart, and E. M. Douglas. 2017. Investigating the impacts of dams on nutrient dynamics in Massachusetts streams. UMass Boston Summer Research Symposium Poster Presentation, August 2017, Boston, Massachusetts.

Sillen, S. J. Using watershed characteristics to predict sediment transport for potential dam removals. 2017. Department of Environmental Conservation GIS Poster Symposium, May 2017, Amherst, Massachusetts.

ACTIVIITES

Member October 2018 - present
Society for Ecological Restoration - New England Chapter

REFERENCES

Dr. Allison Roy
Assistant Unit Leader, US Geologic Survey, Massachusetts Cooperative Fish and Wildlife Unit
Ph #: 413-545-4895
Email: aroy@eco.umass.edu

Dr. Ellen Douglas
Associate Professor of Hydrology, University of Massachusetts Boston
Ph #: 617-287-7437
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Dr. Will Eldridge
Aquatic Habitat Biologist, Vermont Fish and Wildlife Department
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Email: will.eldridge@vermont.gov