

Internships in Watershed Management Spring 2022 Internship Opportunities

31 December 2021

Each student should review the opportunities in this document. We expect to have additional internship opportunities coming in, and I will provide information on those as they become available.

Please email to me (vanabs@sebs.rutgers.edu) your two top preferences, in order, **ASAP**. Please also note whether you have routine access to a vehicle, as I will be giving priority for the New Brunswick and “work at home” opportunities to those who can’t travel. Therefore, if you have a vehicle, do not apply for Lower Raritan Watershed Partnership or Middlesex County Planning opportunities at this time.

I will review your requests, evaluate whether you seem appropriate to the positions, and provide to the sponsors the appropriate student resumes. The sponsors will then review the resumes and contact students they wish to interview. Interviews may be by phone or in person. The sponsors will then identify their preferences for interns. You will have the opportunity to accept or take another position that is offered to you. At that point, the sponsor and student will sign an internship contract and provide it to me for final signature.

Daniel J. Van Abs, PhD, PP/AICP
Professor of Professional Practice

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Clean Ocean Action

Delaware River Marine Litter Reduction Intern

Dr. Swarna Muthukrishnan and Alison Jones

Background: Since 2015, Clean Ocean Action has been investigating marine litter including single use plastics in hotspots of concern in the tidal portions of the Delaware River in New Jersey with a goal of reducing sources. Presently, this litter research, monitoring, and reduction project is working on Plastic Source Trackdown investigations along and upstream of the Delaware River in four counties in New Jersey. COA is seeking a research intern who will help develop and advance the community science litter source trackdown assessment using field investigations and desk research activities. The internship requirement is for 150 hours max between Feb – April 2022. The intern will work under COA’s Staff Scientist and Watershed Program Coordinator. Project tasks are described below:

Tasks: As part of COA’s ongoing project, “Reduce Litter in the Delaware River,” the student will help to launch a community science litter source assessment tool and assist with engaging Delaware River communities in COA’s biannual Beach Sweeps. Under the supervision of the Watershed Program Coordinator and Staff Scientist, the student will:

- Develop an online, community-science friendly tool for documenting land-based upstream sources of litter using Survey123
- Field test the online tool primarily in Mercer County (Trenton area) and complete at least 20 litter assessments in waterways and land-based sources upstream of Delaware River
- Assist with evaluating results of litter assessments, generating maps in ArcGIS, and revising the online trackdown tool as needed
- Identify and document local/community/municipal resources for litter removal and prevention. Generate a list of potential partners for future engagement in the project in Mercer County
- Assist COA in launching 4 new Delaware River locations for the 2022 Beach Sweeps by identifying potential volunteer Beach Captains, surveying sites for safety and accessibility, preparing and delivering supplies, and reaching out to community partners.

Estimated total hours: Minimum of 125 hours, projected to be as much as 150 (Feb – April 2022)

Requirements and qualifications: The successful candidate will be knowledgeable about marine debris, stormwater runoff hydrology, and nonpoint source pollution. The successful candidate will have experience with community science and volunteer engagement and will be comfortable communicating with the public. Prior experience with data management, data analysis, and GIS (especially Survey123, ArcGIS Online, and ArcGIS Story Maps) is desired. The successful candidate must be comfortable conducting field work alone and must have reliable transportation to travel primarily to Mercer County and occasionally to Burlington, Camden, and Gloucester Counties, and to COA’s office in Long Branch, NJ. Familiarity with project area is a plus.

Compensation: The student will receive a stipend of up to \$200 to cover travel and miscellaneous costs upon satisfactory completion of this internship.

Franklin Township

Sustainability and Environmental Projects Intern (1 student)

Tara Kenyon, Land Preservation and Management Consultant

Internship Description: The Township of Franklin is seeking an Intern to assist the Environmental Commission and Green Team with various sustainability and environmental projects, under the direct supervision of the Consultant.

Due to restrictions related to Covid-19, all tasks and meetings will be completed virtually through March 31st, using the Township's WebEx platform. If and when conditions change as related to in-person meetings, the Intern will be notified.

The following tasks will be performed by the Intern, with supervision from the Consultant:

Research for Current Projects

The Environmental Commission is currently working on a variety of projects for the purposes of improving the environment, conserving natural resources, encouraging sustainable practices, and educating the public. The Intern will be responsible for researching legislation, policies, regulations, and best management practices related to these projects, and presenting their findings to the Supervisor and Commissioners. These projects include:

- Heat Island Management and Mitigation – addressing equitable distribution of green spaces and green infrastructure across Franklin Township
- Plastic Bags Ban - educating the public and commercial sector in upcoming Ban beginning May 2022
- EV Charging Stations Network – potential mapping
- Community Energy Plan - potential grant and development

Assistance with the Recertification Process under Sustainable Jersey

Franklin Township is one of the few municipalities in the State that is certified at the Silver level under Sustainable Jersey. The Township must submit its application for Recertification at the end of 2022. This application requires researching the projects and initiatives undertaken by the Township since 2020, confirming the requirements for each Action are met, and writing a narrative to submit with the application. Under this task, the Intern will:

- Review the Actions under Sustainable Jersey and compile a spreadsheet showing projects and initiatives that are eligible for submission, and what the status of those projects and initiatives are.
- Identify potential projects and initiatives that can earn points under the Sustainable Jersey Program
- Assist with the compilation of required documentation and drafting of narratives

Site Plan Review and Recommendations

The Environmental Commission is charged with the review of Site Plan applications before the Planning and/or Zoning Board. The Intern will review the pending applications monthly and discuss recommendations with the Supervisor, which will be discussed at the Environmental Commission meetings. This exercise will help the Intern to learn about specific areas of Site Plan review, while providing the Supervisor and Commissioners with valuable feedback from the Intern.

Commission and Committee Meetings

The Intern should attend as many of the Environmental Commission meetings as possible. This interaction with the Commissioners will be valuable to the Intern and will give the Intern the opportunity to present his/her/their work to the Commission for feedback and direction.

The schedule of meetings is as follows:

January 24th at 7:00pm – Environmental Commission (virtual)

February 7th – Environmental Commission (virtual)

February 21st – Environmental Commission (virtual)

March 7th – Environmental Commission (virtual)

March 21st – Environmental Commission (virtual)

April 4th – Environmental Commission (location TBD)

April 18th – Environmental Commission (location TBD)

May 2nd – Environmental Commission (location TBD)

May 16th – Environmental Commission (location TBD)

**Green Team meetings are held as needed*

Logistics

The Internship is unpaid. Weekly hours will be furnished to the Supervisor by the Intern for review and approval.

The Intern will be expected to meet with the Supervisor at least once per week. Virtual meetings using the Township's WebEx platform will be held through at least March 31st. If and when conditions change, the Intern will be notified and logistics about meeting place and time will be discussed.

All fieldwork (when allowable) and meetings will be attended with the Supervisor.

Estimated total hours: A minimum of 125 hours.

Office Location: Somerset, New Jersey

Travel Compensation: None provided, as this location is very close to the Rutgers-New Brunswick campus.

Lower Raritan Watershed Partnership

Water Quality & Stormwater Management Internship (1 student)

Heather Fenyk, PhD, President

Organization Background: Founded in 2015, the Lower Raritan Watershed Partnership (LRWP) is a central New Jersey based watershed management non-profit dedicated to conserving, protecting, and restoring the lands and waters of the Lower Raritan Watershed. Guided by science, and in active partnership with residents of our watershed community, we create on-the-ground solutions to local environmental challenges. Current challenges include restoring significantly degraded lands and waters, protecting lands and waters at risk of degradation, addressing climate change impacts to our communities, ensuring equitable access to our natural spaces, and improving the health and resilience of our watershed. **Core values:** social equity and building an equal and inclusive movement for our environmental policies; a commitment to collaboration and the connections, creativity and contributions of our entire community; and a belief that all social-ecological systems are interconnected, requiring a “big picture” view of relationships and interactions to address environmental problems.

Project Description: The LRWP’s *Spring 2022 Community Outreach Intern – Water Quality & Stormwater Management* will support the LRWP Board and staff in implementing our water quality monitoring and municipal stormwater management assistance programs. This will include development of outreach and educational materials (targeting County and municipal decision-makers); assisting with water quality monitoring and other educational trainings; and helping to develop an outreach event to conduct a research survey regarding community awareness of water quality issues in the Raritan River and community uses of non-bathing public access beaches along the Lower Main Stem of the Raritan.

Estimated total hours: A minimum of 125 hours

Requirements and qualifications: The successful candidate will need to demonstrate ability to work easily with the public and to articulate LRWP materials in both virtual and in-person formats. Organizing virtual work around environmental issues involves flexibility, and is rarely predictable. The successful candidate will be prepared to “roll up their sleeves” to make outreach maximally beneficial for public participants. Excellent communication skills (written, verbal), experience with GIS and website management a plus. Motivated self-starters interested in community engagement around environmental issues will find this opportunity rewarding!

Office Location: The LRWP does not have an office, but it is based in New Brunswick. Preference for this internship will be given to students who do not have access to a vehicle to travel to remote internship locations.

Travel Compensation: As the internship is based in New Brunswick, no travel compensation is provided. Any out-of-pocket expenses will be reimbursed.

Raritan Headwaters Association

Investigative Report: Combe Fill South Landfill (1 student)

Mara Tippett, Watershed Scientist

Project Description: The Combe Fill South Landfill, located in both Chester and Washington Townships, Morris County, served as a municipal landfill from the 1940s until 1981. It accepted municipal and other waste products. Over decades, volatile organic compounds such as benzene leached from the site, polluting local waterways, causing fish kills and contaminating residential wells. The landfill was put on the National Priority List by the EPA in 1983. Despite decades of efforts to clean up and enhance groundwater treatment, the site continues to threaten water quality and the health of the local community. A student intern will be responsible for gathering accurate information to narrate historical data, investigate current water quality data, provide the status of the contamination, and hypothesize current risks to the natural and human environment in the form of a report.

Estimated total hours: 125

Requirements and qualifications: The successful candidate will be adept at: browsing archives for information, researching information, conducting interviews, maintaining quality control standards in collecting and preserving the integrity of data and findings, and writing a report to summarize data and the implication of results. Strong communication and time management skills are required.

Office Location: Bedminster, NJ

Compensation: The student will receive a small stipend of up to \$300 to cover travel and miscellaneous costs upon the successful completion of this project.

Somerset County Planning Division

Somerset County Farmland Preservation Intern Proposal (1 student)

Katelyn Katzer, Principal Planner

Overview: Since 1983, Somerset County has preserved nearly 10,000 acres of farmland. As part of the State Agriculture Development Committee's (SADC) preservation program requirements, the County must conduct yearly monitoring to ensure the farms that have been protected remain as agricultural gems for years to come. Ensuring appropriate preservation activities leads to the protection of aquifers. This practice also helps to ensure not just the quality of groundwater, but the quantity sufficient to sustain base flow as well.

Somerset County would like to offer an intern the ability to have a hands-on experience within the world of preservation. The opportunity will focus on Farmland Preservation, with the ability to work within Open Space Preservation and Historical Preservation as time permits. The intern will aid with the planning, implementation, violation review, and reporting processes of yearly Farmland Preservation Monitoring.

In addition, the Preservation Intern will be invited to attend the County's Preservation Plan meetings where they will be given an opportunity to see how the Farmland, Open Space, and Historic Preservation teams work together. In addition, they will be able to take part in discussions surrounding the County's new three-pronged preservation plan- the first of its kind- as it wraps up the draft process. The Intern will have the opportunity to meet with members of the Steering Committee at scheduled events and meetings, and attend a public meeting as their scheduling allows.

History and Background: According to the U.S. Census Bureau, Population Division, 2017, the County's population, estimated at 335,432, is distributed over 305 square miles, making it one of the most rural counties in the State, with approximately 1,100 people per square mile. Agriculture is still a major industry, with about 48,000 acres (14% of the land in the County) classified under agricultural land uses. The farms include field crops, dairy, beef, sheep, horse breeding, nurseries, vegetables, fruit orchards and exotic shrubs.

The Somerset County Agriculture Development Board, which consists of seven (7) members and three (3) ex-officio members, is an official body of Somerset County Government, created by the Board of Chosen Freeholders in April 1983. Its purpose is to aid in the preservation of Somerset County's farmland, as well as to promote the opportunity for agriculture to remain a viable industry.

The Open Space, Farmland and Historic Preservation Trust Fund is supported by a dedicated voter approved tax of \$0.03 per \$100 of assessed value. The ballot question has been accepted by the public multiple times over the years, allowing for the Preservation Trust Fund to remain a strong source for preservation throughout the County.

Tasks: The Preservation Intern will assist with the planning of dates for monitoring, to allow the intern the most time out in the field as possible. The intern will also be taught how to properly put together the monitoring packets, how to conduct the field monitoring – notes, photos, etc., and how to properly discern violations that may be occurring on the properties. The intern will be given the opportunity to draft violation notice letters to the farmers after preparing a presentation for the Somerset County Agriculture Development Board (SCADB) on which farms were in violation of their deed of easement. The intern will be taught how to interpret a deed of easement through the violation process.

In addition, the intern will be given the opportunity to assist in March's Agriculture Day 2022 celebration planning, prepping, and execution. Somerset County each year celebrates our vibrant agricultural history by providing activities, events, and speaker-led showcases for the

public. This year's celebration will consist of in-person events, as well as an online component. The intern will work closely with staff for the planning and event designing. It is imperative to remember that a large part of preservation and the maintaining of our farms is the education of the public.

The Intern will provide the following deliverables:

1. Interim monitoring calendar based off previous years (and intern's schedule) before any other work can begin. *Note: Most field days will be half days.*
2. Interim monitoring packets for mailing.
3. Interim monitoring field work with staff (intern will be responsible for notes in the field as their deliverable). *Note: Monitoring tends to take place in April.*
4. PowerPoint Presentation showcasing 2022's interim monitoring report for the SCADB at their April meeting.
5. Drafting violation letters to be sent out after the presentation made to the SCADB.
6. The intern will work closely with the Graphic's department in the development of materials for Ag Day; helping to development the next series of trading cards topics, handouts, and presentation topics.

Requirements and Qualifications: Intern candidates should have the ability to work as a member of a project team as well as independently, and maintain contact with the SCPD supervisor. Candidates should be very familiar with Microsoft Excel and Word. ArcGIS software skills may be of benefit but not necessary. Applicants will be drug tested, and will need to go through a background check with the Somerset County Sherriff's Department- both of which will be scheduled for the intern.

Estimated total hours: 130. The Intern will be responsible for coordinating their hours working on the farmland preservation projects with the SCPD supervisor where appropriate. Interns can work on projects on weekdays during normal business hours. Work may be performed on- and off-site as appropriate.

Note: The Intern is required to meet in person with the SCPD supervisor at a minimum of once every week, or more as-needed.

One workstation equipped with Microsoft Office and GIS software/license is available for use by the Intern at the Somerset County Planning Division Office. The Intern is encouraged and welcomed to use this workstation to complete the projects as appropriate.

Office Location: County Administration Building, Second Floor, 20 Grove Street. Somerville, NJ 08876

The Interns must be able to travel to the Somerset County Administration Building (20 Grove Street, Somerville), but travel to farmland sites will be provided for them. Interns will be accompanied by a staff member during site visits.

Travel Compensation: Not available.