



September 2019- August 2020 Service Year POSITION DESCRIPTION

Position Title

Environmental Technician

Sponsoring Organization

State of Vermont, Department of Environmental Conservation, Assessment and Planning Program (MAPP)
Montpelier, VT

Sponsoring Organization's Mission

The Department of Environmental Conservation's mission is to preserve, enhance, restore and conserve Vermont's natural resources and protect human health for the benefit of this and future generations. MAPP's role is to monitor and evaluate water quality and develop plans to protect and remediate waters that do not meet our expectations. MAPP might use modeling to conduct this or other tools available. MAPP and sections within the Watershed Management Division oversee regulated authorities. MAPP specifically maintains a comprehensive database of Vermont's surface waters be it chemical, physical or biological and it can be represented to the public in a variety of ways.

Goals for the ECO AmeriCorps Position

Goal 1: Assist the LaRosa Partnership Program (LPP) by improving the services the State currently provides to the volunteer watershed groups and lake associations who comprise the bulk of the LPP partners. In this role, the service member will seek to strengthen and develop better coordination between the State and entities by determining where inefficiencies exist and make better use of technology. Some tasks associated with this LPP position include:

- a) provide quality assurance and review of the 2019 analytical results and add new sites to the VTDEC Water Quality Database (WQD).
- b) revise the annual LPP Generic QAPP, 2019 Requests for Proposals (RFP), Laboratory Submission Guidelines, web-page and the laboratory projects calendar. Prepare the monthly newsletter and other informational material for LPP partners prior to the spring orientation meeting to be held in late March or April.
- c) schedule and conduct site field visits with individual partners to begin in the Spring 2020.
- d) assist partners with reporting templates, meeting program deadlines and grant mandates.

- e) map LPP monitoring stations using GIS and create data layers as needed.
- f) assist LPP partners with preparing long-term graphs of all pertinent water quality trends.
- g) assist LPP partners in providing updated ambient and external laboratory analyses to MAPP each year.

Goal 2: The Ambient Biomonitoring Network (ABN) is the state's core river and stream water quality assessment program operated by the VTDEC. These assessments allow the department to evaluate the current water quality condition, detect trends and impacts and classify streams based on their health. This AmeriCorps member will be part of the Biomonitoring and Aquatic Studies Section (BASS) team. The AmeriCorps member in this position will have the opportunity to gain practical experience in the field and laboratory environment and a far better understanding and appreciation of aquatic ecology and the health of Vermont's waterbodies.

- a) participate in the 2019 ABN field assessments from mid-September through mid-October. Tasks include: i) the collection of fish and macroinvertebrates, ii) qualitative physical geomorphic habitat assessments conducted in accordance with VT Field Methods Manual (VFMM) and Standard Operating Procedures (SOP).
- b) collect stream water according to the VFMM for laboratory analysis and operate a Hydrolab multiparameter and sonde to conduct field measurements.
- c) process macroinvertebrates from preserved stream sediment samples in a laboratory setting conducted by picking from an enamel tray, sorting and preliminary identification.

Goal 3: Collect water samples from remote lakes for field and laboratory analysis. Learn about atmospheric deposition and aquatic acidification and become familiar with the status of Vermont's acid-sensitive lakes and rivers.

- a) responsible for analyzing such parameters as color, pH, and alkalinity using the Gran titration method; a seldom required technique that's specific to low buffered samples found in some high elevation waterbodies.
- b) assist project lead as needed to fulfill the program's field objectives.

Goal 4: The Vermont Acid Precipitation Monitoring Program (VAPMP) has a long history, but the program needs an investment of time and resources. As time allows, this AmeriCorps member may serve with the VAPMP lead and state-wide volunteer partners to reestablish a few well-positioned stations. Collaborate with a second division to evaluate the program and remaining stations, collection and reporting methods, parameters, etc.

- a) participate in scheduled interdivisional meetings with representatives from the VTDEC Air and Climate Change and the Watershed Management Divisions to determine how best to advance this program.
- b) establish new sites or integrate with organizations willing to use existing VAPMP methods.
- c) prepare VAPMP updates such as site maps, graphs and plots, and pictures for the purpose of revising MAPP's Acid Rain web-page for public dissemination of VAPMP information.

Essential Functions. Functions that the applicant must be able to perform

Computer skills include - Microsoft Office Suite and all applications, GIS, web-page updates.

An understanding of Statistics, graphing and excellent math background and aptitude to learn more as required.

Communication, verbal and written as this position is a liaison with staff, volunteers and watershed groups.

Must be able to hike, cross-country ski and carry a 25 lb. back pack to remote lakes and sample flowing rivers while wearing waders.

Must be able to canoe and swim.

Laboratory processing requires precision and patience whether it's chemical analyses or the processing of a tray with aquatic insects mixed with debris.

Occasional overnights at hotels as part of a sampling team.

Valid driver's license

Marginal Functions. These are secondary to Essential Functions, may be negotiable, and can be completed as time allows.

--

Projects May Include

For instance, the ECO AmeriCorps member will enable the Department to more efficiently manage the LaRosa Partnership Program (LPP) which collects nearly 7,000 water chemistry samples per year from streams and lake tributaries statewide. This member will provide for better opportunities to engage with the public and the participating watershed groups. LPP is in discussion with others within the Watershed Management Division (WsMD) who partially fund the program as to their requirement. This includes additional monitoring at funded locations and the use of shared GIS with LPP expertise. Having a field savvy member with GIS skills will ensure that other DEC funded projects with LPP WQ sampling intentions, only do so if they follow LPP's guidelines. Further talks are ongoing with the LPP partners and WsMD staff. We realize that LPP needs an infusion of technological improvements that can be ably assisted by this position. DEC has the IT staff, but this position would serve a vital linkage for automation between the partners, VAEL, the project coordinator and final data approval and storage. This position would further speed up data evaluation by automating specific tasks and permit LPP staff to perform tasks reluctantly accomplished by the partners. This will significantly shorten the time required to assess data quality allowing data to be released sooner to be used in furthering the Department's surface water protection efforts.

Desired Qualifications

Please see the Essential Functions as those skills and abilities are the prerequisites to accomplish this assignment. This AmeriCorps member will have a mix of indoor, laboratory and field responsibilities during different periods, but the bulk of your time will be committed to the specific goals as outlined here. However, the primary assignment is to assist with the LaRosa Partnership Program.

Networking Opportunities

The service member will be fully integrated in MAPP. They will have considerable "learning and doing" opportunities by way of participating in our stream monitoring program as a team member.

Additionally, the LPP tasks associated with GIS here may be new, but with the required background, this member with our assistance can go far through networking with DEC and ANR staff.

The member will also be encouraged to attend external conferences, workshops and training events.

DEC Internal workshops are also recommended. There are also networking opportunities available from the private volunteer watershed groups that are made available to this member.

Service Conditions

This position is truly a combination of field and laboratory assignments. Some overnights in motels while sampling will be required. Scheduling is done well in advance, but flexibility is required as sampling is subject to change just like the weather. The typical service day is 8 hrs. (7:30-4:30), but during field seasons, it's often necessary to leave early to complete the days assignment. With this scenario, it's not unusual to return to Montpelier late after the facility has closed for BASS to complete the days field assessments.

Minimum Qualifications:

- Be a US citizen, a national, or legal permanent resident alien of the U.S.;
- Be at least 18 years of age upon entering the Pre-Service Orientation (there is no upper age limit);
- Be a high school graduate or have a GED certificate, or be willing to work towards their GED as part of their service-year successful completion requirement. A member cannot have dropped out of high school to join AmeriCorps. If a member has a documented medical reason/professional opinion why they cannot finish high school, they might be eligible; call in this case;
- Has not been convicted of murder or sexual assault and is willing to undergo a National Service Criminal History Check;
- Must submit to Agency of Human Services checks, i.e. Adult Abuse and Child Abuse Prevention;
- Be committed to the ECO AmeriCorps program, and its ethic of service and personal and professional development of its participants;
- Have the ability and enthusiasm to drive to, attend, and participate in required trainings and events, and be prepared to drive up to 2-3 hours each way.