



AmeriCorps Member Position Description

Member Position / Title: Water Quality Science Tech and Laboratory Developer

of Member Slots in this Position: 1

Days / Hours of Service: Monday – Friday (8 hours a day, exact schedule can be of members choosing). Some Saturdays may be required. If this occurs, the member will be given a week day off prior or following the Saturday. Some of the member's tasks will include field days which can last 10 to 12 hours. When this occurs, the member can work a shortened day(s) in the immediate or following week.

Member Immediate Supervisor Name: Dr. Brady Skaggs

Member Immediate Supervisor Title: Director, Water Quality Program

Partner Organization Name: Lake Pontchartrain Basin Foundation

Address:

Pontchartrain Beach Office: 2045 Lakeshore Drive, STE 339, New Orleans, LA 70122

Mailing Address: PO Box 6965, Metairie, LA 70009

Website: www.saveourlake.org

Organization/Agency Mission and/or Goals:

Vision: An environmentally sustainable, prosperous, and resilient region

Mission: Drive environmental sustainability and stewardship through scientific research, education, and advocacy.

The Lake Pontchartrain Basin is a 10,000 square mile watershed encompassing 16 Louisiana parishes. The land use of the region is both rural and urban and is the most densely populated region in Louisiana, including metro New Orleans and the state capital, Baton Rouge. It is one of the largest estuarine systems in the Gulf of Mexico containing over 22 essential habitats. The Basin's topography ranges from rolling woodlands in the north to coastal marshes in the south, with the 630 square mile Lake Pontchartrain as its centerpiece.

Program Mission and/or Goals:

The goal of the program is to conduct scientific investigation into water quality issues in the Pontchartrain Basin to inform advocacy for recreational restoration initiatives. In the growing communities north of Lake Pontchartrain, many individual sources of wastewater cumulatively contribute to polluting waterways. The membership and events department



engages the public in LPBF's mission and garner support, both financial and through the creation of environmental stewards, for the restoration of the habitats of the Pontchartrain Basin. The Water Quality Department began the Basin Wide Monitoring Program (BWMP) in 2001 and established the Sub-Basin Pollution Source tracking Program in 2002 to achieve this mission.

Community Need:

The AmeriCorps member would have the unique opportunity to build a lasting and meaningful LPBF program to meet the community need of environmental stewardship. By understanding the water quality science conducted at LPBF, the member will then be able to translate that science to materials that enhance environmental stewardship on the Greater New Orleans region and beyond. The data we collect guides how LPBF advocates for environmental or policy changes, and therefore quality data collection is paramount to our mission. The member will also help to highlight to the community how science is our guide and promote our scientific activities and programs. Additionally, this opportunity is a unique opportunity to build a program on top of innovative, emerging science.

Member Position Summary:

LPBF will be building new capacity in developing testing and teaching laboratory.

- The member will assist the WQ Program Director in developing Standard Operating Procedures, results and reporting documentation, and Quality Assurance/Quality Control (QA/QC) documentation for the sampling and analysis of fecal coliform and *Enterococci* water quality indicators. These indicators are assessed by a commercial laboratory at present;
- The member will assist the WQ Program Director in developing Standard Operating Procedures, results and reporting documentation, and Quality Assurance/Quality Control (QA/QC) documentation for the sampling and analysis of algae and coliphage water quality indicators. These indicators are emerging indicators of concern to the US EPA; these are new, innovative methods to collect additional information for water quality decision making;
- The member will assist the WQ Program Director or an LPBF educator in the development of a Water Quality Laboratory curriculum. This project will be used for LPBFs educational STEM initiatives to foster a hands-on laboratory-based learning environment for junior high and high school students;
- The member may conduct sample collection occasionally from water quality sites utilized in the Basin Wide Monitoring Program. Microbiological samples, as well as water temperature, turbidity, salinity, conductivity, and dissolved oxygen are collected *in situ*; and
- The member may also make promotional materials for initiatives within the WQ program. The member would gain experience in developing print and electronic promotional items, the scientific data collection process and the scientific method.

These tasks would be completed over the 11 months and not all tasks listed above would be worked on every week.



Necessary Training:

The member can receive most of the training on the job. However, candidates with training in chemistry, biology, data collection methods, and laboratory experience are preferred. All scientific data collection techniques will be taught *in situ* by team members of the water quality program for these activities, learning in the field is best. We would like the member to have training in communicating science to the layman and producing print and online media fact sheets and promotional materials, however, this is not required and could be taught. In essence, all training for this position would be on the job training with close supervision by the mentor. The mentor would also be available for consultation, questions, and general advice.

Member Impact:

The member impact would be to facilitate increased awareness of water quality and environmental issues affecting the Greater New Orleans Region, as well as an increased awareness of LPBF and the successes of the organization to address these issues. Measurable short-term goals would be to assist in the development of laboratory protocols, procedures, documentation, and to validate these developed materials by trial. LPBF currently utilizes a third-party commercial laboratory that provides analysis services for microbial indicators of water quality, and this work will allow the member to build an in-house analytical laboratory that will use information for public data release, policy decision making, and STEM teaching opportunities. Measurable goals would include development and implementation of each laboratory program.

Essential Functions:

- Field work for scientific data collection at water quality sites to promote scientific activities;
- Development of social media materials and formulation of print materials (such as fact sheets);
- Implement and test laboratory protocols for parameters fecal coliform (SM¹ 9223B), *Enterococci* (SM 9230D), Coliphage (EPA Method 1602 or SM 9224E), and cyanobacteria (Ohio EPA Method 705.0);
- Development of STEM curriculum for in-laboratory instruction of students; and
- Increase awareness of water quality science conducted by LPBF through social media, etc.

Required Knowledge, Skills, and Abilities:

- Experience with Microsoft Office Suite (Word, Excel, Powerpoint);
- Experience with Adobe or other illustrator programs;
- Willingness and capability to conduct field work, where conditions may include inclement weather (high heat and humidity, possible exposure to insect bites and sun);

¹ SM refers to the method number cited in *Standard Methods for the Examination of Water and Wastewater*, 23rd Edition.



- Ability to lift 50 lbs;
- Suitable oral and written communication skills
- Communicate effectively with all parties
- Ability to stay organized, multitask and be efficient;
- Experience using social media;
- Willingness to be adaptable; and
- Ability to work effectively in a team environment.

Required Academic Qualifications:

- Bachelor's Degree in any field of study required. Biology or chemistry backgrounds preferred.