Title: Harmful Algal Blooms and Water Quality in Cayuga County, New York

Community Partner: Cayuga County Health Department

A research project located in the Finger Lakes Region on effective ways of notifying the public about health hazards, suitable for a student interested in public health and social media.

Project Description:
Harmful Algal Blooms (HABs) have been common in recent years during the latter part of the summer on Cayuga County waterbodies. Harmful Algal Blooms, also known as cyanobacteria, can produce toxins that could pose a health risk to people and animals when they are exposed to them in large enough quantities. Health effects associated with recreational exposures can occur while swimming, wading, fishing, or boating in areas with harmful algal blooms if this water is touched or swallowed, or when airborne droplets are inhaled. Human exposure to harmful algal blooms can cause diarrhea, nausea, or vomiting; skin, eye, or throat irritation; and allergic reactions or breathing difficulties. Exposure to harmful algal blooms can be deadly for pets, especially if they drink water with harmful algal blooms or when they lick their fur after swimming in waters with harmful algal blooms.

During the summer of 2016, Owasco Lake had HABs present. Owasco Lake is a source of drinking water for many Cayuga County residents, and toxins were identified in the treated public drinking water. This was the first occurrence of toxins in public drinking water in New York State. Notification was made to Cayuga County residents through a variety of media outlets. During the summer of 2017, other local governments experienced similar situations on their waterbodies and reached out to the staff of Cayuga County Health Department for assistance in notifying the public.

The Health Department will task a Field School Fellow with helping them to determine how effective their communications efforts were in 2016, and how they could reach more people more effectively during future events. The Fellow will research new forms of media to consider, and will collect data on where residents get their news, and where visitors and tourists get information. The Fellow will also evaluate previous and current communication/public notification methods used by Cayuga County Health Department, identify any gaps in communication methods, and assist with the development of new methods.

To have a better understanding of HABs and their impact on the work the Health Department does during the summer months, the Fellow will be involved with many aspects of HAB works and will be exposed to many of the department’s community partners as well. This project will also involve some field work, as having a full understanding of this complex issue will be important for the Fellow to successfully complete this project.

The proposed research relates to and could potentially benefit those residing in or visiting Cayuga County by determining how effective current messaging is related to HABs. This research will allow the Health Department to better identify ways to maximize a message. Since Cayuga County was the first in New York State to experience this, the research may also benefit other counties who may be faced with this situation in the future.

About the Community Partner:
Cayuga County is to the west of Syracuse and home to about 80,000 residents. The city of Auburn (population 27,000) is the county seat, and is at the north end of Owasco Lake, which is one of the Finger
Lakes in Central New York. The Cayuga County Health Department is tasked with protecting the health and well-being of the individuals, families and the community they serve.

**Required Skills:**
A Field School Fellow will need to have data collection skills, oral and written communication skills, some graphic design skills and a proficiency in Microsoft Word. The Fellow should also have a sound foundation of the different types of social media. Through this work, the Fellow will learn how to compare pre and post data, and how to effectively communicate with the public. The Fellow will be actively involved in staff meetings where they will have the opportunity to show what information they have collected and why they feel it is important that the department utilize a chosen means of communication/education in order to protect and promote the health and well-being of those in Cayuga County.

**Logistics:**
This is either a part-time or a full-time paid research position to last approximately 10 weeks, conducted under the joint supervision of the Upstate Institute and the Cayuga County Health Department. The research will be conducted in the Health Department’s office in Auburn, New York, and would also involve field work, accompanied by staff. The Fellow will be supervised by the department’s Senior Public Health Educators who also serve a Public Information Officers for the Health Department.

Field School Fellows receive a research stipend of $4500 plus reimbursement for any costs associated with transportation for this project. A car is not required for this project, but may be very helpful. A Fellow will need a U.S. drivers’ license to complete this work.

This project is especially appropriate for students who live in or have housing in or near Cayuga County. Because Auburn is 60 miles away from Colgate, it may be more difficult for a student to complete this work will living on Colgate’s campus full-time over the summer.

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