



Annual Report 2020

Our Goal

The Alliance for Aquatic Resource Monitoring (ALLARM) is Dickinson College's community science center, located in Carlisle, Pennsylvania.

ALLARM educates communities to use science as a tool to investigate water quality health and use findings to inform stream protection and restoration efforts. ALLARM achieves its work in collaboration with numerous non-profits, agencies, community, and volunteer partners.

Cover: A sampling pole reaches over the LeTort Spring Run in preparation for sample collection.

This page: Three ALLARM staff members measure the water temperature and dissolved oxygen levels at one of our sites along the LeTort Spring Run.

Dickinson

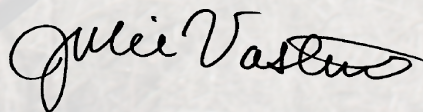
A Note from the Director

Unprecedented times. Pivoting. Uncertainty. Collective health. Ingenuity. Social justice. Diversity-equity-inclusivity. All words that come to mind as I reflect on what a remarkable year 2020 has been. For the first time in ALLARM's 34-year history, we asked our volunteer partners to stop collecting data on their streams as we waited for the science to inform COVID safety protocols.

Like many of our colleagues, we found ourselves asking, 'how does ALLARM stay active when isolation and quarantine practices are recommended?' We did our first monthly monitoring workshops online (with comparable QC passing rates). We experienced remote working with students signing in for their shifts across the country. We also said goodbye to Helen Schlimm and welcomed Stephanie Letourneau as our new Community Science specialist.

We are so thankful for our volunteers, community partners, and collaborators for staying connected and doing great work during these unprecedented times.

In appreciation,

A handwritten signature in black ink, reading "Julie Vastine". The signature is fluid and cursive, with the first name "Julie" and last name "Vastine" clearly distinguishable.

Julie Vastine, Director

Connecting in a Pandemic

Zoom Meetings
w/zoom.thelibrary.com

Site Features

Butternut Creek 17.90 & 23.30

Predominant geology

- Shale

Predominant Land use

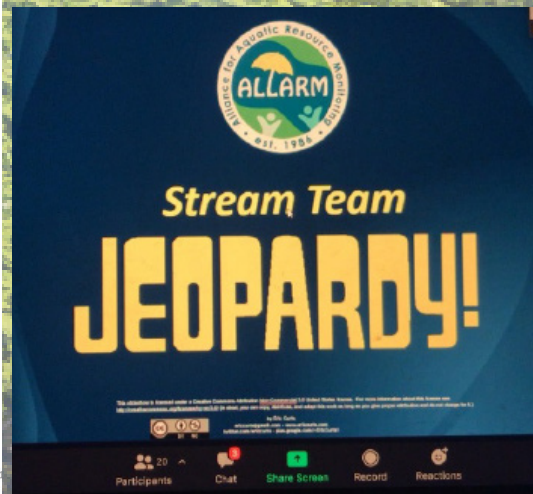
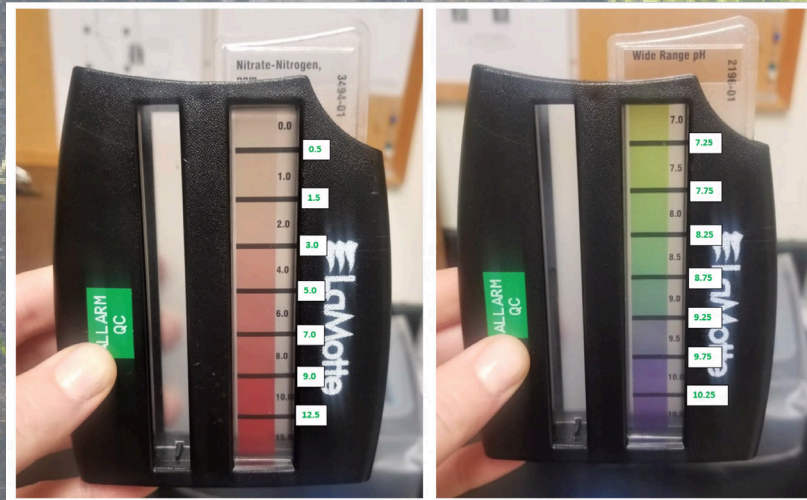
- Agriculture & Forest

Other elements?

- Point dischargers
- Notable features

NY Stream Designation :

- 17.90 - C(T)
- 23.30 - C(TS)



Community workshops, webinars, data interpretation discussions, and games were held virtually throughout 2020.

The flexibility and creativity of both volunteers and the ALLARM team allowed for experiences to continue virtually throughout the pandemic months of 2020.

Community Connection:

Meeting in a virtual setting required coming up with enhanced approaches to engage with volunteers, as well as needing to ensure that volunteers without internet access could still participate. By far, our favorite outcome was the creation of Open Calls, where all Stream Team volunteers could connect for an interactive online meeting. We were amazed by the engagement and crowdsourcing that helped shape our new COVID monitoring guidelines and more!

Online Workshops:

ALLARM launched its first online monitoring workshops. It was our first time teaching chemical and physical monitoring techniques remotely. It took a lot of practice with camera angles and pacing, but we were thrilled with the result and the high levels of engagement. We trained 36 volunteers remotely and they passed quality control at comparable rates to in-person workshops!

Creek Courses:

When ALLARM asked volunteers to pause monitoring, we wanted to identify avenues for skill building. As a result, we developed “Creek Courses,” webinar-style presentations that focused on a range of topics from the Chesapeake Bay to water policy.

Volunteer Engagement



York County Stream Team volunteers gather around tables at an outdoor Equipment Distribution meeting.

COVID helped ALLARM focus on New York and Pennsylvania volunteers, and on identifying ways to deepen monitoring experiences virtually.

Technical Assistance:

ALLARM began the process of revisiting its approach to data interpretation workshops. ALLARM conducted three workshops for the Johnston's Run Revitalization Council, Otsego County Conservation Association, and York County Stream Team. Additionally, ALLARM converted its USDA Stream Visual Assessment Protocol training to an online format and developed a fun way to quality control the data collected using volunteer submitted pictures.

Stream Team:

ALLARM is proud of the continual expansion of Stream Team, including the onboarding of volunteers in two new counties, Lackawanna and Luzerne, as well as additional volunteers in York County. The Stream Team on-boarding approach has been spruced to include an in-person equipment orientation meeting prior to an online monitoring workshop.

"Stream Team, now a year and a half old, has flourished and grown to be an engine of data collection fueled by passionate volunteers throughout [and beyond] the Susquehanna River watershed." - Meredith Jones '20

Welcome to our new Community Science Specialist.

Stephanie Letourneau joined ALLARM, in the fall of 2020, as the new Community Science Specialist with the role of coordinating Stream Team, and engaging with partners such as those in the Chesapeake Monitoring Cooperative.

Watershed Coordinator Highlights



Watershed Coordinator Hiba Aoid '21 measures dissolved oxygen levels along where the LeTort Spring Run meets the Conodoguinet Creek in Carlisle, PA.

Despite the challenges of a pandemic-shaped world, our Watershed Coordinators remain engaged with both the volunteers and the organization!

“Listening to the continued interest and curiosity of volunteers, and how closely they observe their water body always fascinates me [and] helps me realize how amazing citizen science is in not only collecting data but also encouraging communities to take notice of their surrounding environment.” - Karen Shakya ‘20

“[ALLARM] has been a huge part of who I have grown to be: a female scientist, an engaged community member, a leader and a learner.” - Rachel Krewson ‘20

“The time I have spent as part of the ALLARM family has been full of opportunities and challenges that have helped me grow my own capacity and expand my horizons as to what is possible in a career in the field of science.”
- Matthew Zarembo ‘20

“Conversations [with volunteers] illustrated the importance of a strong study design, the enjoyment in exploring the stories in data, and how monitoring is a cyclical process; once you answer one question many more can emerge.” - Phoebe Galione ‘21

Justice, Equity, Diversity, and Inclusion (JEDI) in the Field



Dickinson College civic engagement faculty from various academic departments meet in ALLARM's lab to discuss our community reach, current programs, and more.

Now more than ever, the flux forward of various social justice movements are on the radar of many individuals not reached before.

The incorporation of conversations to challenge institutional racism, sexism, and equity issues have become more and more apparent, especially within the field of Citizen Science. Science is for everyone. As an environmental organization that works with diverse stakeholders, it is vitally important for ALLARM to hold itself accountable and act as an informed citizen. We are dedicated to exercising justice, equity, diversity and inclusion in engagement with ALLARM student Watershed Coordinators, partnerships, and volunteers.

Watershed Coordinators

Dickinson College students represent global experiences. It is significant, as an organization, to practice curiosity of the individual experience, appreciation of diverse backgrounds and celebration of diverse ideologies. We encourage conversation discussing JEDI topics throughout the academic year in addition to holding space for Watershed Coordinators throughout their time with us.

Volunteers

Our volunteer code of conduct has specific language that emphasizes being professional and inclusive. With Stream Team growing and other volunteer initiatives expanding, we are excited to meet volunteers from new communities and local organizations.



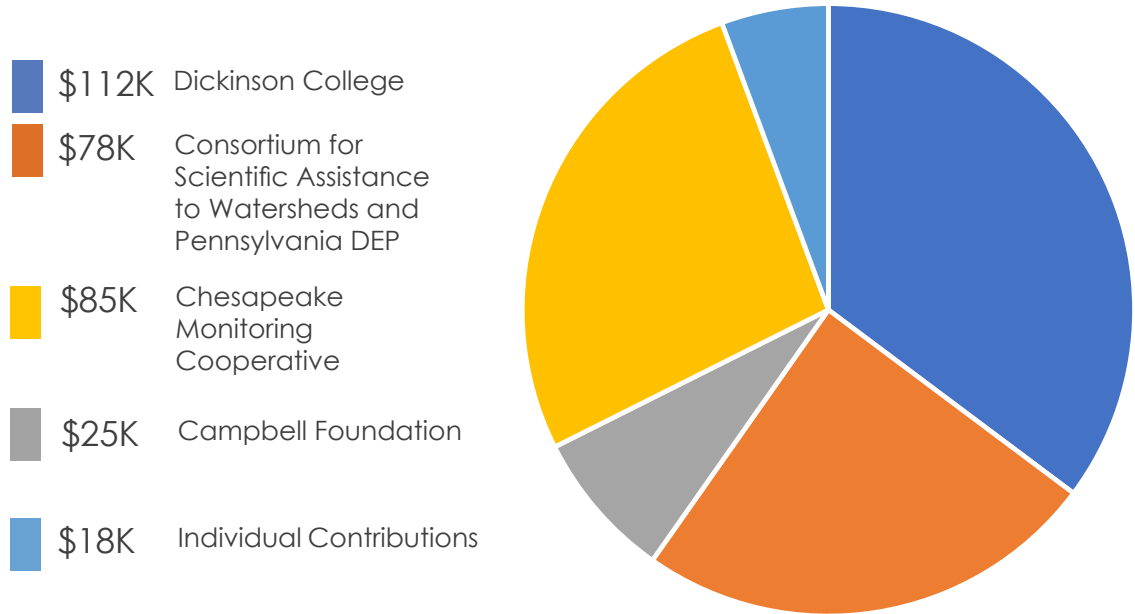
ALLARM Spring 2020 Staff (Left to Right)

Top Row: Hiba Aoid, Abby Kaija, Rachel Krewson, Isabel Ruff, Meredith Jones

Middle Row: Karan Shakya, Katherine Altamirano, Helen Schlimm, Grace Messimer

Bottom Row: Suzanne Hartley, Julie Vastine, Angelo Tarzona, Matt Zarembo, Hayat Rasul

Funding Sources



ALLARM gratefully acknowledges support from Dickinson College alumni, family, and friends, including John '60 and Ann '63 Curley, and Rick '81 and Mary Shangraw.

ALLARM also appreciates support from the Charles Merrill Kurtz Fund, established in memory of Charles M. Kurtz, class of 1907.

ALLARM's 2020 by the numbers

4 National and regional presentations

11 Community partners supported in Pennsylvania and New York

5 New print and video resources

2 Safety guides for volunteers

330 Volunteers engaged

84 Water samples analyzed

783 Total water sample tests

14,059 Data points uploaded to the Chesapeake Data Explorer

Watershed Coordinator pours distilled water to make 10% HCl solution.