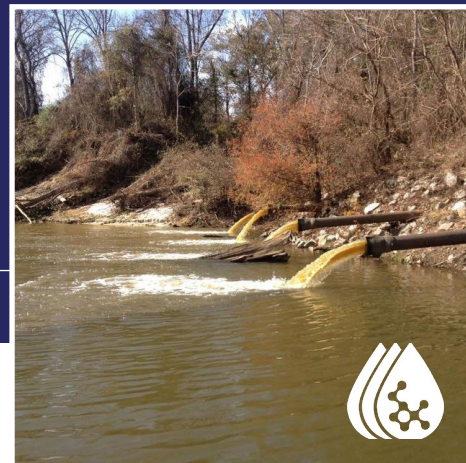


# IMPROVING WATER QUALITY BY INCREASING MILES OF MONITORED WATERWAYS

PEARL RIVERKEEPER



The state of Mississippi may or may not have an impaired rivers problem - the quality of 89% of the state's perennial rivers and streams is currently unknown. Pearl Riverkeeper, desiring to bring that percentage down as far as possible, collaborated with Alabama Waters Watch and Mississippi State Extension to create and implement a community-science monitoring program. The inaugural program engages dozens of Pearl Riverkeeper-trained volunteers to conduct weekly testing on chemical and bacterial parameters. The results are displayed on an interactive website and all exceedances are reported to Mississippi's Department of Environmental Quality. The program continues to expand in terms of both number of monitoring sites and number of volunteers.

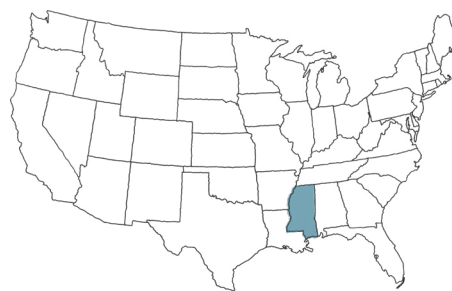
## What ~~will~~ chemicals and bacteria will we find, and at what levels, in MS perennial waterways?

The state of Mississippi has over 26,000 miles of perennial streams and rivers. For the 2016 Water Quality Assessment Report, Mississippi Department of Environmental Quality assessed only 11% of our waterways for one or more uses. According to the report, "The status of water quality on the remaining 89% (23,586 miles) of the state's perennial rivers and streams is unknown". Citizen science-based monitoring has stepped in to amplify and fill in the gaps of the government-led monitoring programs. Community, group and citizen observations can accelerate the identification of problem areas, provide data to determine waterway impairments, and contribute to a more complete knowledge of watershed health.

The Pearl Riverkeeper "Water Stewards", our Bacteriological and Water Chemistry monitoring program, follows the protocols and procedures developed by Alabama Water Watch in 1992 and certified by EPA Region 4 in 1999 and 2010. All of our Pearl Riverkeeper Water Stewards volunteers attend a one-day training course, are certified by Global Water Watch and follow a Quality Assurance/Quality Control program approved by the EPA. Our Water Stewards volunteers have collected over 400 water quality readings at 31 locations in the Pearl River watershed.

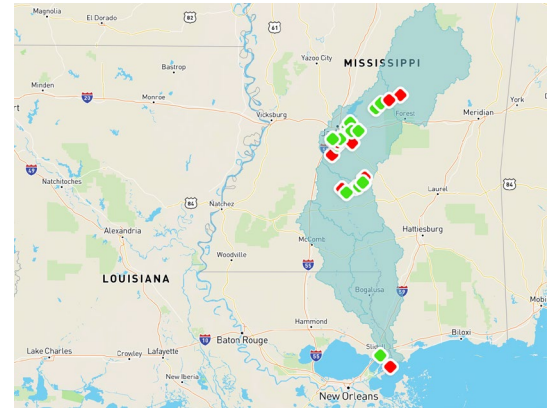
Pearl Riverkeeper publishes this data on our own website using the interactive Water Reporter map

In order to develop a new water quality monitoring program, in 2017, Pearl Riverkeeper reached out to the very successful leader in the field of citizen science engagement, Alabama Water Watch. AWW provided Pearl Riverkeeper with the training needed to stand up our own EPA-approved citizen science water quality monitoring program. The success of Pearl Riverkeeper's program led to the development of the state-wide Mississippi Water Stewards monitoring program.



### Role of the Pearl Riverkeeper Water Stewards Program

The program provides citizens with timely information about whether or not it is safe to recreate in a particular location, provides baseline data to be able to determine trends over time and keeps citizens informed about the impact to water quality from various pollutants including sewage spills. The project has exceeded our expectations on the side of volunteer engagement. Pearl Riverkeeper volunteer monitors test 11 popular primary contact recreation locations around the watershed. This testing is conducted weekly in the summer and monthly in the winter. We also use an opt-in email notification system. Unusual trends or water quality problems are reported to our MDEQ state agency or to the agency responsible for the 33,000 acre Ross Barnett Reservoir.



### About the Organization

Pearl Riverkeeper is a citizen-based, 501(c)(3) non-profit dedicated to improving the Pearl River watershed through restoration, advocacy and education. Pearl Riverkeeper began by engaging community members in pollution awareness and cleanup. The program quickly grew to include a Water Stewards monitoring program, River Guardian clean-up program, general engagement Clean-Sweep program, digital pollution and flooding documentation, and water trail development.

### Nexus to WDC

The Pearl Riverkeeper's monitoring program demonstrates, beyond a doubt, that community scientists can align behind standard practices and fan out over a large area to fill critical gaps in baseline monitoring. As a Champion willing to build the relationships between government agencies, willing volunteers, study design experts, and technical service providers, Pearl Riverkeeper reversed the trend across the state of Mississippi of letting water flow past unmonitored. With the inaugural program established and gaining momentum along the Pearl River, the study design will be replicated and expanded to more waterways as more local groups gather the necessary resources to begin monitoring programs.



Champions



Distributed Data Management



Network of Networks

#### Use Case Summarized by

Erin Hofmann, Project Strategy & Application Lead  
The Commons, WDC Steering Committee Member

