

CHESAPEAKE MONITORING COOPERATIVE

CMC
Chesapeake Monitoring
Cooperative

2023

CASE STUDY: ROCK CREEK PARK

WATER QUALITY MONITORING INFORMS PUBLIC SAFETY INITIATIVE



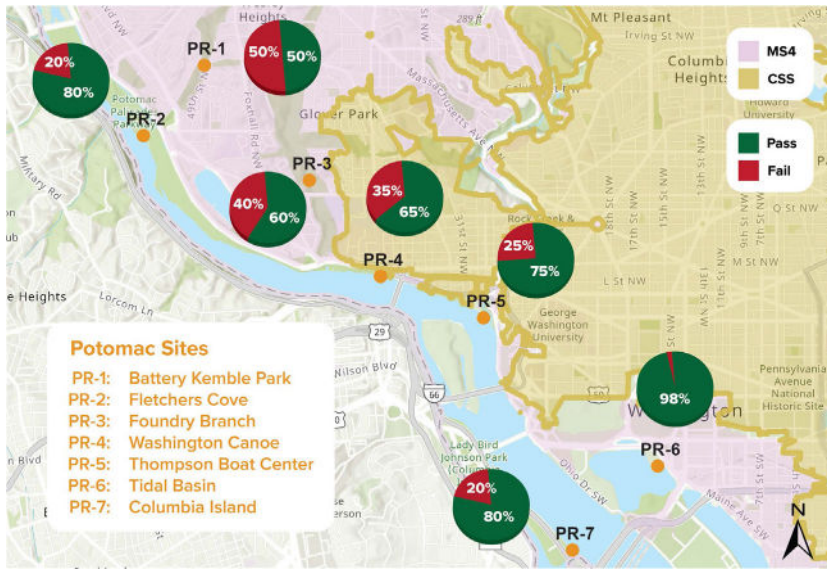
Rock Creek Park, an expansive 2,749-acre urban sanctuary nestled in the heart of Washington, D.C., stands as a testament to natural preservation amidst urban development. Established in 1890 and managed by the National Park Service, the park offers a myriad of recreational opportunities, including 32 miles of trails, historic sites of cultural significance, and picnic areas, attracting over 2 million visitors annually. Central to the park's natural allure is Rock Creek, a vital tributary of the Potomac River, which has been off-limits for contact recreation since 1971 due to water quality concerns.

The unforeseen circumstances of 2020, marked by the global pandemic, led to a significant surge in park visitation. With public swimming pools and recreational facilities closed, many sought respite from the summer heat in Rock Creek's inviting waters, despite the longstanding prohibitions and the potential health risks due to water quality issues. Observations from National Park Service rangers at Rock Creek Park, coupled with data from the DC Citizen Science Water Quality Monitoring program, highlighted a marked increase in water-based recreational activities within the park.

In 2018, the DC Citizen Science Water Quality Monitoring Program was started through an award from the Department of Energy and Environment (DOEE), in response to the ongoing challenges of maintaining water quality within DC's urban watershed. This program is currently coordinated by the Alliance for the Chesapeake Bay in partnership with Anacostia Riverkeeper, Rock Creek Conservancy, and Nature Forward, and monitors for bacteria, turbidity, pH, temperature, and recreational activity observations weekly throughout the summer in order to provide up-to-date information about the safety of the water near popular recreation sites along the Potomac River, Anacostia River, and Rock Creek. Data collected indicated that Rock Creek's water quality met the established bacteria standards only half the time, and consistently failed following rainfall events.

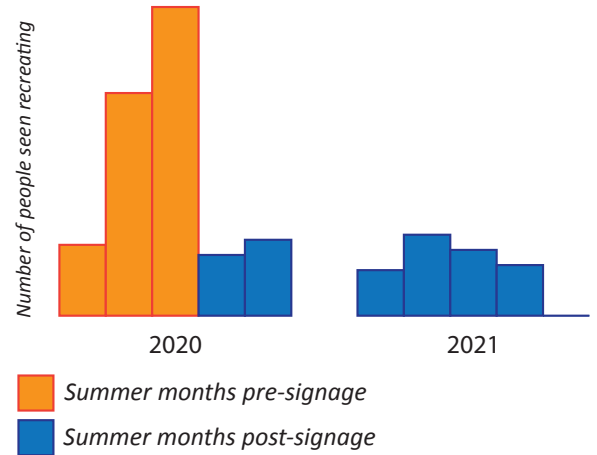


Signage at Rock Creek Park encouraging visitors to "Stay Dry, Stay Safe."



Percentage of weeks each site passed bacteria standards (2019-2023). Graphics shows percent passing for E. coli single sample value (SSV).

“Stay Dry, Stay Safe” Signage Reduced Summer Water-Based Recreation in Rock Creek Park



Summer water recreation in Rock Creek Park decreased 67% from 2020 to 2021.

Given the known water quality issues coupled with monitoring data and an observed increase in recreation in the area, the need for proactive public engagement and education became evident. In a concerted effort to address this challenge, Rock Creek Conservancy, in partnership with the National Park Service, embarked on a strategic initiative to enhance public awareness and promote safe park usage. A cornerstone of this initiative was the development and deployment of educational signage throughout the park. Four distinct signs were created, each addressing a specific issue identified by park rangers, ranging from loose dogs and improper use of hammocks to the critical message of avoiding water-based activities in Rock Creek. The “Stay Dry, Stay Safe” sign played a pivotal role in communicating the risks associated with entering the water, emphasizing with positive messages the potential for high bacterial levels that could pose health hazards to both humans and pets.

These signs, designed and funded by Rock Creek Conservancy, were strategically placed in high-traffic areas and near popular picnic spots adjacent to Rock Creek. The bilingual signage, available in English and Spanish to reflect the linguistic diversity of the DC community, was launched as part of the broader #RecreateResponsibly campaign, aimed at mitigating the environmental impact of increased park visitation.

The impact of this signage initiative was profound and immediate. Following the installation of the signs in July, there was an 80% reduction in water-based recreational activities within several weeks. This trend continued, with a 67% decrease in such activities over the following summer and a staggering 90% reduction by 2023. The success of this initiative underscores the effectiveness of targeted community engagement and educational efforts in fostering responsible park usage and environmental stewardship.

Looking ahead, Rock Creek Conservancy, buoyed by the positive outcomes of the signage initiative, plans to continue to provide signs to the National Park Service and to consider novel ways to address more challenging issues. Data can be hard to convey to the public, however, it is vital that communities and scientists work together to provide crucial information from these dataset to the public. This means providing information in a format and language they can easily understand and placing the information where it is most important to read. It is clear that initiatives as simple as collaborating with groups around a watershed, and creating and displaying public signage, can make a large impact.



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