

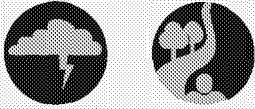


HIGH PERFORMANCE PARTNERSHIP

for Green Stormwater Infrastructure

Optimizing Pond Performance and Green Infrastructure on Privately Owned Assets in the Chesapeake Bay Watershed

US EPA R3 High Performance Ponds (HPP) Partnership Demonstration Pilot



According to the Chesapeake Bay Program, Stormwater runoff is the fastest growing source of pollution to the Bay.

Implementing stormwater controls on public space is challenging because the vast majority of land in the region is privately owned.

Walmart

The world's largest retailer has hundreds of existing, well-maintained assets in the Chesapeake Bay that can be further optimized to improve water quality.

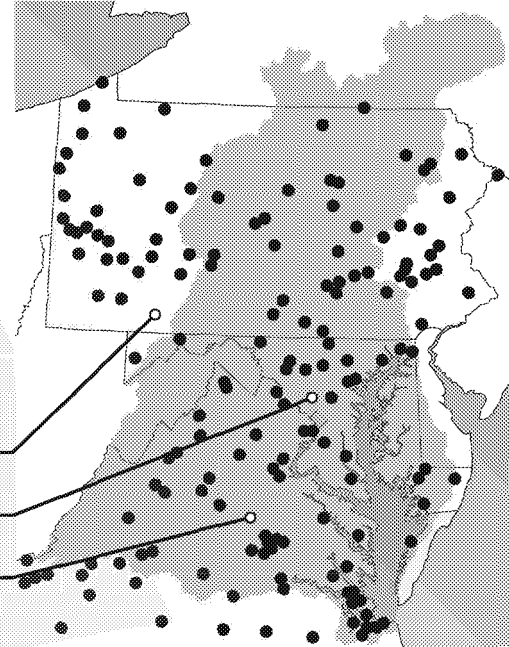


Percentage of privately held land (U.S. Census Bureau)

PENNSYLVANIA 83.9%

MARYLAND 92.4%

VIRGINIA 82.9%



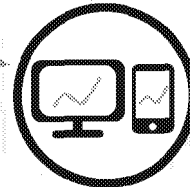
Original watershed vector graphic from IAN/UMCES

Over 60,000 stormwater ponds estimated to exist across the Bay Watershed



Weather forecast to control panel

Web-based dashboard



Controls an actuated valve at the pond outlet

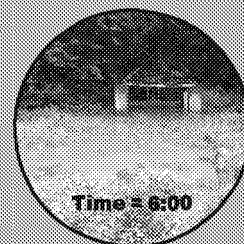
The High Performance Partnership retrofit program leverages **Continuous Monitoring and Adaptive Control Technology (CMAC)** to cost-effectively address a pressing public need with private stormwater assets.

2x+ pollutant removal efficiencies at 1/10th the cost

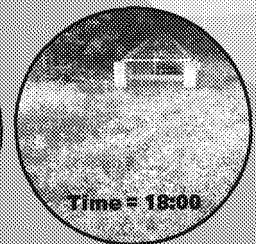
Water level data to control panel



Valve governs timing, rate, and volume of water leaving the pond.



Time = 6:00



Time = 18:00

CMAC pond retrofit in Maryland increases detention time, enhancing water quality treatment.

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Infiltration to soil