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FACT SHEET: Green Infrastructure for Chesapeake Stormwater Management: Legal Tools for Climate Resilient Siting

The Chesapeake Bay watershed—home to almost 18 million people—is distinctly susceptible to the impacts of climate change, particularly from projected sea-level rise, increased flooding, and more intense rainstorms. In [*Green Infrastructure for Chesapeake Stormwater Management: Legal Tools for Climate Resilient Siting*](#), the Environmental Law Institute (ELI) reviews the most promising pathways within Maryland’s and Virginia’s existing legal frameworks. The white paper recommends specific actions that state and local officials can take to modify the current stormwater management regime and more easily incorporate pragmatic consideration of climate change impacts.

What is Stormwater Runoff? Stormwater runoff is the excess water from rainfall or snow melt that cannot be absorbed into the ground and instead flows into our waterways, picking up various pollutants along the way. Runoff negatively impacts water quality and can cause erosion, flooding, and property damage if not properly managed. Municipalities manage stormwater runoff under the federal Clean Water Act and state law, often through the use of conventional piped drainage and water treatment systems. Climate change-driven extreme weather events, greater precipitation, and sea-level rise all threaten to overwhelm existing infrastructure.

What are Green Infrastructure and Environmental Site Design? *Green infrastructure (GI)* broadly refers to practices that conserve or mimic green spaces and natural processes to retain and infiltrate stormwater where it is generated. *Environmental Site Design (ESD)* is a form of GI that focuses on neighborhood- or site-level practices, techniques, and engineered structures for managing stormwater in environmentally friendly ways that mimic natural hydrological systems. Examples of ESD include permeable pavement, reinforced turf, submerged gravel wetlands, landscape infiltration and berms, dry wells, micro-bioretenion, green roofs, bio-swales, and enhanced filters. Updating stormwater systems with green infrastructure offers multiple ecological and community benefits in contrast to traditional grey infrastructure.

Why focus on Maryland and Virginia? Maryland and Virginia are home to almost 70 percent of the Chesapeake Watershed’s population; Chesapeake Bay communities have historically innovated in devising and implementing new green infrastructure techniques. Yet while many Maryland and Virginia communities have adopted climate resiliency and adaptation plans, no locality is systematically incorporating climate change resiliency considerations when siting ESDs for stormwater management.

What are ELI’s primary findings? State and local governments can pursue the development of strong, science-based ESD guidelines under the existing legal and policy structures of both states. *Zoning power* and *land use authority* offer the most promising pathway for localities to establish ESD siting guidelines. Local governments may also include ESD siting guidelines within their stormwater management plans—although this option requires greater coordination with and approval by state agencies. *Stormwater management* and *flood control laws* generally provide states with the authority to establish climate resiliency-based ESD siting and design guidelines. State officials also have the power to innovate via new legislation and to develop a uniform set of criteria for localities to further customize to the needs of each region.

What resources does the report provide? The report outlines the stormwater management regimes in Virginia and Maryland—explaining the applicable federal, state, and local laws and regulations—and analyzes the legal pathways available to state and local officials interested in establishing climate resiliency-based ESD siting and design guidelines, including those options available operating within the current legal frameworks as well as suggestions for legislative changes to better promote community resiliency to climate change. The report provides a set of policy recommendations for state and local officials pursuing such guidelines, and gives examples of innovative approaches localities in both jurisdictions are taking today in order to address runoff through ESDs.

Green Infrastructure for Chesapeake Stormwater Management: Legal Tools for Climate Resilient Siting is available for download at <https://www.eli.org/research-report/green-infrastructure-chesapeake-stormwater-management-legal-tools-climate-resilient-siting>.

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