Bay Journal

State pollution-permitting must be reformed to adapt to climate change

David Flores | November 01, 2018

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This scene is from aptly named Water Street, along the Choptank River in Cambridge, MD. Such flooding is occurring more often around the watershed. (Dave Harp)

Recent extreme weather — Hurricanes Harvey and Florence — caused widespread toxic contamination of floodwaters after low-lying chemical plants, coal ash storage facilities and hog waste lagoons were inundated.

Such storm-driven chemical disasters demonstrate that state water pollution permitting programs are overdue for reforms that account for stronger and more intense hurricanes and heavy rainfall events, sea level rise and extreme heat.

As the District of Columbia and the states in the Chesapeake Bay watershed prepare their final watershed implementation plans for cleaning up the Bay, two important lessons should be clear from the recent disasters: First, climate change will greatly complicate Bay cleanup efforts and must therefore be factored into planning. Second, the state regulation of pollution sources can and should be a critical component of the plan.

The potential pollution implications of climate change are many and varied for the Bay watershed:

- Where sunny-day flooding now occurs on a weekly basis in parts of DC, Maryland and Virginia, accelerating sea levels will cause nuisance flooding on a near-daily basis in the next 20–30 years.

- Sea level rise also raises the prospect that seawater will intrude into coastal groundwater, inundating and degrading drinking water wells, septic tanks and underground chemical or hazardous waste storage facilities.

- Sea level rise will also shrink tidal wetlands, weakening these natural filters' ability to help capture pollution. The most recent Bay pollution modeling suggests that present-day climate impacts, including increased rainfall and more intense storms, are responsible for higher levels of inorganic nitrogen, as well as hotter water temperatures that render pollution reductions less effective at preventing dead zones.

- Prolonged, extreme heat from climate change is problematic, too, as heat waves can cause blackouts that disrupt pollution control practices, and high temperatures can degrade above-ground storage tanks.

Without further study, it's difficult to determine the extent to which more frequent and heavier rainfall already disrupts pollution control practices at regulated facilities — from the local gas station to major sewer infrastructure — and, as a result, just how much additional pollution has resulted from climate change. But it's clear that regulators cannot continue to rely on historic rainfall data and expect the same results from outdated control practices.

As Bay jurisdictions develop plans to integrate climate resilience into their pollution permitting systems, it's also important that they keep in mind the overwhelming social dimension to this problem: Climate-driven chemical disasters and environmental pollution may amplify the harm to the vulnerable populations and communities that are already disproportionately exposed to both industrial pollution and the impacts of climate change.

Low-income communities, surrounded by urban industrial facilities that emit toxic dust and air pollution, or industrial agricultural operations that emit toxic ammonia into the air and toxic nitrate pollution into surface and groundwater, are often the same communities plagued by flooding, storm surge and extreme heat.

Vulnerable populations — children, seniors, among them — are more susceptible to environmental pollution and climate impacts, and they are more likely to be immobile during disaster. State policy makers also need to address disaster policy to ensure that when pollution or a disaster does occur, vulnerable communities will have the means to minimize their exposure.

Fortunately, not all of the news is bad. Many Bay jurisdictions have made progress in addressing adaptation and resilience to climate change broadly. New York State, for example, has tackled the threat of climate-driven pollution head on. Environmental organizations pushed New York to pass the Community Risk and Resiliency Act in 2014. Among other requirements, the law requires state agencies to develop regulatory standards for sea level rise projections and requires pollution permit applicants and regulators to consider present and future exposure to sea level rise, storm surges and river flooding. These requirements only took effect less than two years ago, so critical questions about their effectiveness are still unanswered.

There are a number of other steps that jurisdictions can undertake today to help minimize the costs of climate impacts on the Bay and pollution-permitting in the future. They include:

- Bay jurisdictions should examine opportunities to apply existing legal authority to adapt pollution-permitting to climate impacts as part of their commitment to address climate change in their upcoming watershed implementation plans. Merely adapting restoration practices will fall far short of what is needed to account for the impact of climate change on the Bay cleanup.

- Bay jurisdictions can also establish a longer-term task force — staffed by regulators, elected officials, and community stakeholders — to continue exploring opportunities for climate resilience policy reforms by amending state pollution regulations in a manner that

also aligns with existing commissions focused on the Chesapeake Bay, environmental justice and climate change.

- Bay jurisdictions should dedicate resources to identify and study climate-vulnerable pollution permittees and the communities potentially exposed to climate-driven pollution, then commit resources to assess the environmental and social benefits of any adopted policy reforms, including state funding decisions for investments in infrastructure and growth planning.

- Reforms in regulatory transparency will serve communities exposed to potential climate-driven chemical disasters. State regulators should meaningfully comply with existing regulatory frameworks, including the Emergency Planning and Community Right-to-Know Act, which requires public disclosure about neighborhood chemical risks. Moreover, regulators should use this information to target inspection and enforcement resources to vulnerable communities and those with greater exposure to climate-induced pollution.

- Policy makers must engage industry and others in the process of investigating policy reforms and discrete actions that can be taken at facilities to address vulnerabilities to flooding and other climate impacts and that require sufficient resources for regulators. The Massachusetts' Office of Technical Assistance has produced a remarkable model for this type of work.

Additionally, without sacrificing ambitious near-term action, the public and private sectors need to collaborate and develop long-term, enforceable plans to move or modify problematic facilities.

Billions of dollars are at stake — measured by the value of our natural resources and the health of our communities, as well as the magnitude of past and present investments in pollution control and a clean and healthy Chesapeake Bay. We must break away from business as usual and reform our public safeguards to account for the accelerating impacts and cascading harm of a changing climate.

The opinions expressed by columnists are not necessarily those of the Bay Journal.

Pollution

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