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Drinking Water Source Protection and the Role of Watershed Rules & Regulations

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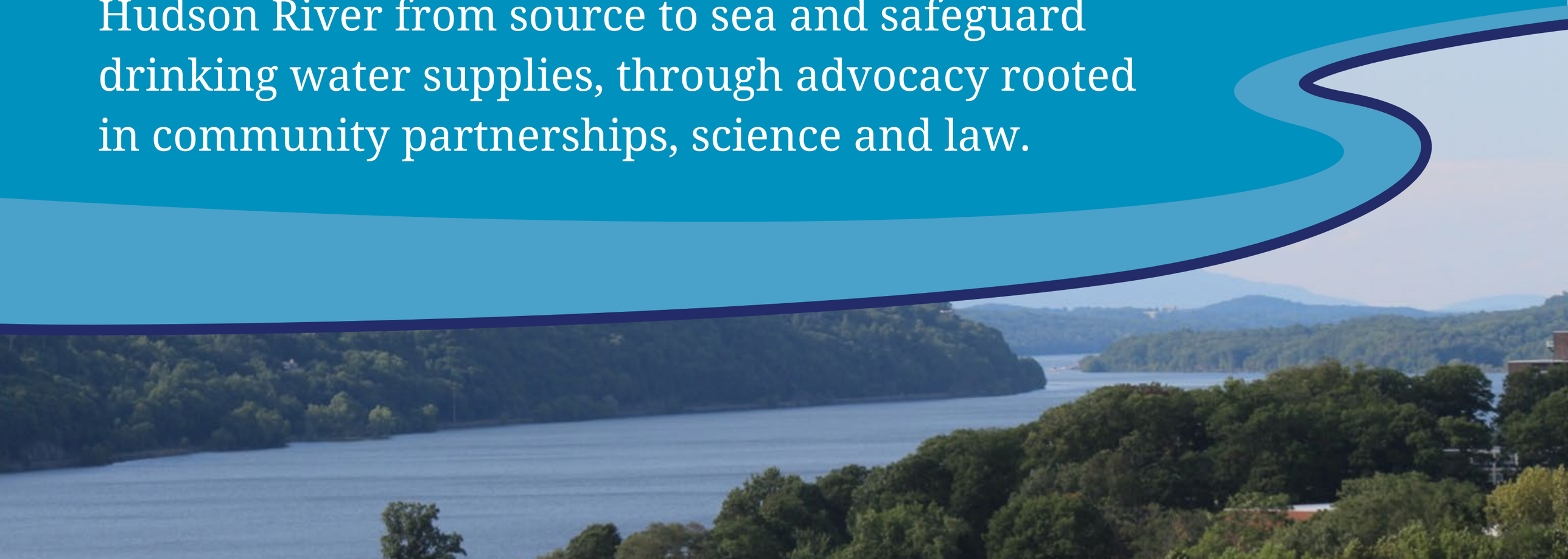
Riverkeeper’s mission is to protect and restore the Hudson River from source to sea and safeguard drinking water supplies, through advocacy rooted in community partnerships, science and law.



Main Points

Drinking water sources show increasing signs of degradation, and climate change will amplify risks

Watershed Rules and Regulations uniquely empower downstream communities to protect their water supplies against specific threats, even when those threats originate in upstream municipalities

Many communities have outdated Watershed Rules and Regulations, or none at all - and yet NYSDOH has proposed weakening, rather than strengthening this tool

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Risks to Drinking Water

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Risks to Drinking Water

- Cities and Villages, including many Disadvantaged Communities, rely on water sources and watersheds outside municipal boundaries
- These downstream communities have little to no power over land use, or other activities affecting their water sources upstream
- Water supplies show increasing threats from inadequately protected source water, including **PFAS**, **road salt** , **harmful algal blooms** and **disinfection byproducts** .

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Risks to Drinking Water

In the Hudson River Watershed, based on preliminary research:

- **50%+** of residents served by public water supplies are drinking levels of **sodium** from road salt that exceed DOH thresholds for “very low” sodium diets
- **40%+** of residents served receive water from systems that have detected **PFAS**, many above proposed federal/state limits
- **Disinfection Byproducts** (TTHM and HAA5) and **Harmful Algal Blooms** are rising concerns

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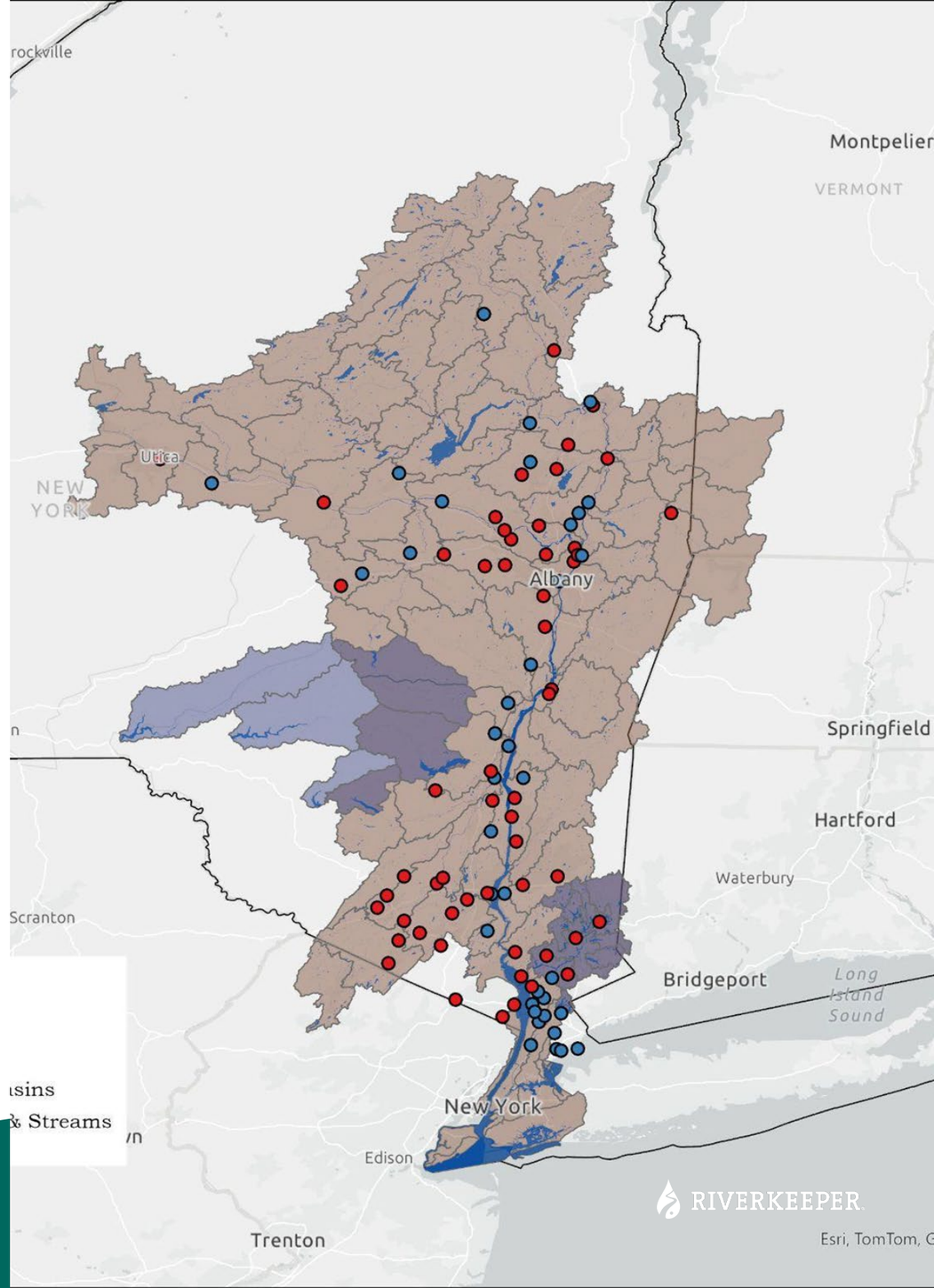
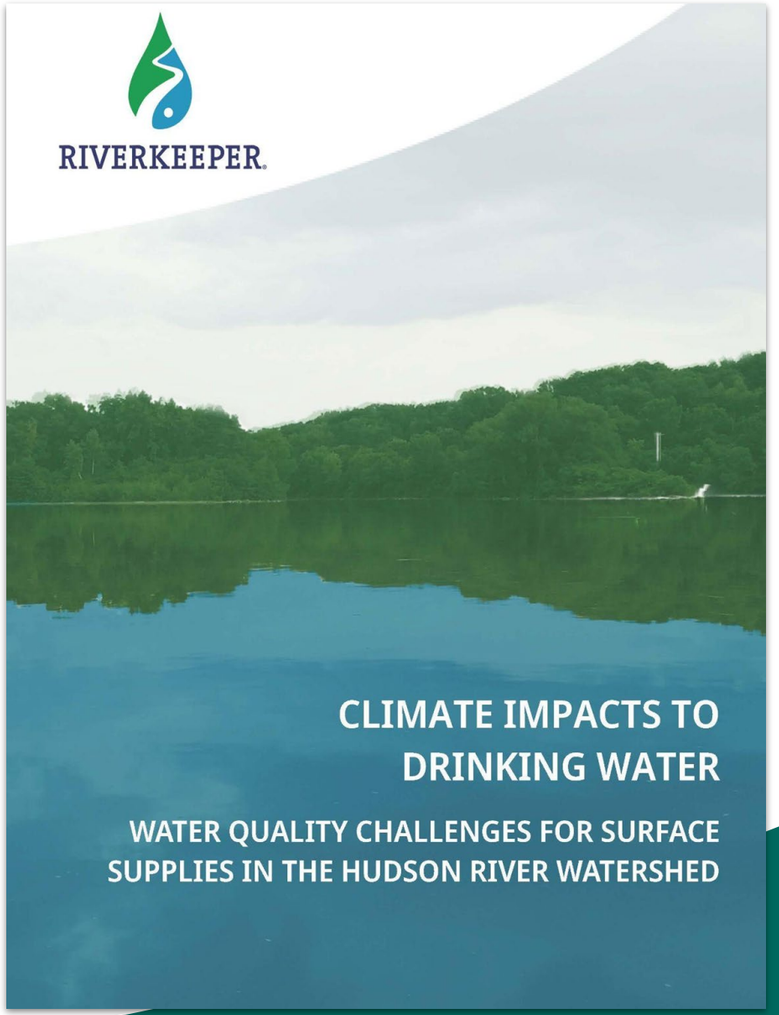


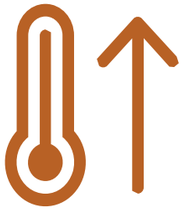
New Report

Climate Impacts to Drinking Water

- Builds on NYS Climate Impacts Assessment, with focus on Hudson River Watershed
- Focuses on water quality impacts to rivers, reservoirs and lakes that serve as drinking water supplies for 12.6 million New Yorkers
- Takes watershed perspective
- Informs Drinking Water Source Protection (DWSP2)
- Available soon at **riverkeeper.org**



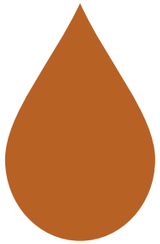
Climate Impacts Affecting Drinking Water



Increasing temperatures: Water temperatures will increase as air temperatures increase 5 -11 degrees by 2100. As a result, seasons are shifting.

Increasing precipitation: Annual precipitation will increase 6 -17% by the 2080s, as will frequency and intensity of extreme events – and flooding.

Sea Level Rise: Hudson River salinity will increase as water levels increase 1 -2 feet by mid -century. Storm surge risks will also increase.



Drought: The frequency and intensity of short -term droughts is projected to increase.

Multivariable events: Hazards will occur simultaneously or sequentially, and result in cascading impacts or feedback loops. Drought and high temperatures, for instance will increase wildfire risk, which will present water quality challenges.

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Key Water Quality Concerns

Disinfection Byproducts: Increased abundance of precursors will increase the risk of forming both regulated and unregulated DBPs.

Harmful Algal Blooms: Conditions increasingly favorable to HABs will increase their frequency and severity.

Treatment: Treatment and distribution infrastructure may be damaged during extreme events, and changes to water chemistry may result in the need to upgrade or alter treatment processes or distribution systems.

Contaminants: Organic and inorganic contaminants – both regulated and unregulated – will be mobilized in new ways.

Salinity: For the Hudson River, salinity will increase as the salt front shifts due to sea-level rise.

Underlying Pollution Burdens & Vulnerabilities

Excess nutrients: Phosphorus and nitrogen, from treated or untreated sewage, urban or agricultural runoff, erosion and other sources.

Salinity: Chloride and sodium, primarily due to use of road salt, contaminates groundwater in many source waters.

Treatment: The proximity of treatment and distribution infrastructure to flood plains or other risk factors, as well as treatment technologies in use, will influence the degree to which climate impacts create unmanageable risks.

Toxic contaminants: Each water source will have different risks, depending on the presence of active or inactive users of hazardous substances and soil or watershed characteristics..

Land use: The quality and quantity of runoff and groundwater in a watershed is influenced by land uses, as well as hydrology and topography.

2 Watershed Rules & Regulations

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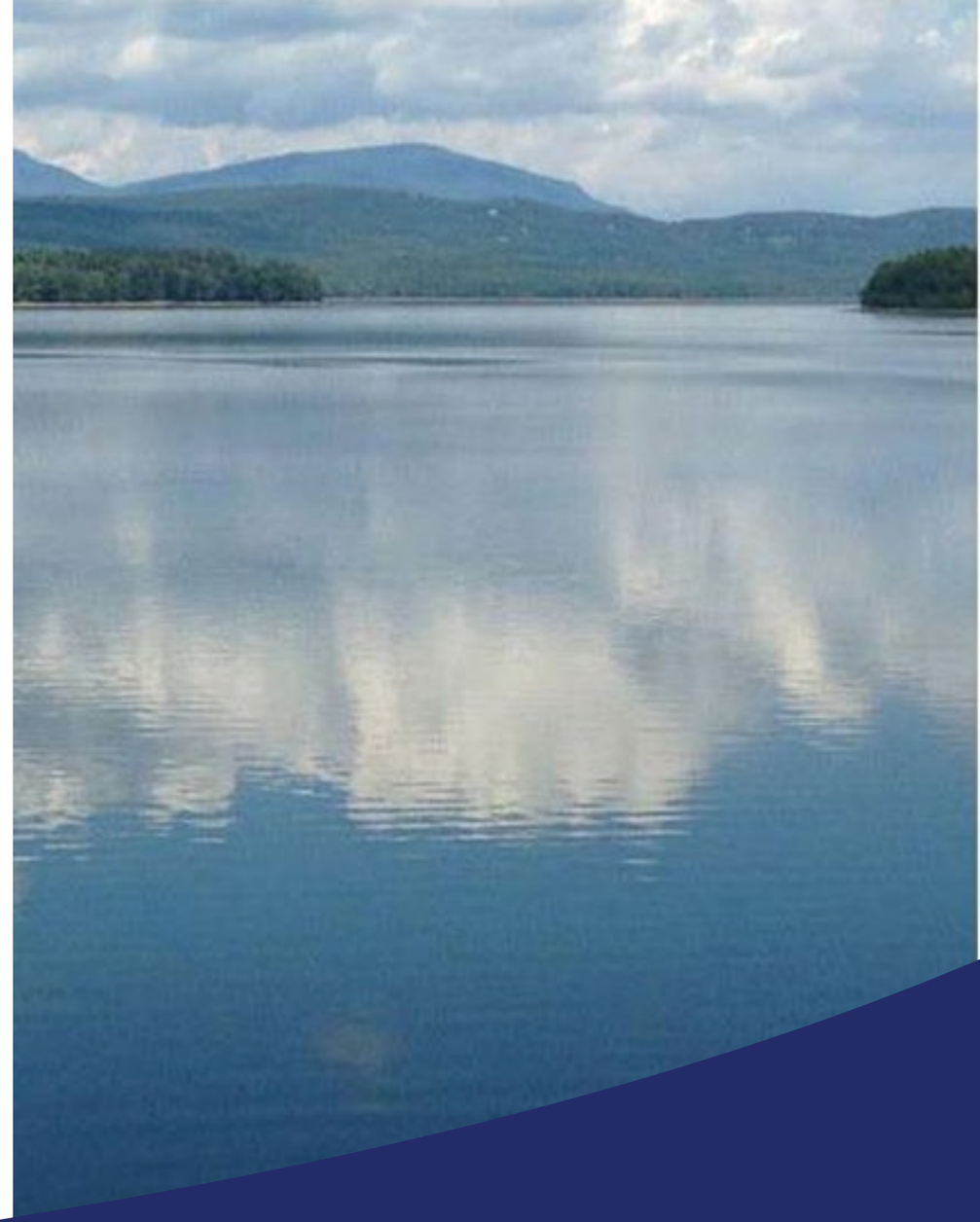
Public Health Law §1100

Watershed Rules & Regulations

- "The department may make rules and regulations for the protection from contamination of any or all public supplies of potable waters and water supplies of the state…"
- Corresponds with the Department's Duty to "supervise and regulate the sanitary aspects of water supplies . . . and control the pollution of waters of the state." (§201)
- About 250 communities have Watershed Rules & Regulations: **https://bit.ly/nys -wrr -code**
- Various sized communities and water sources: wells, reservoirs, some lakes and some rivers (not others)



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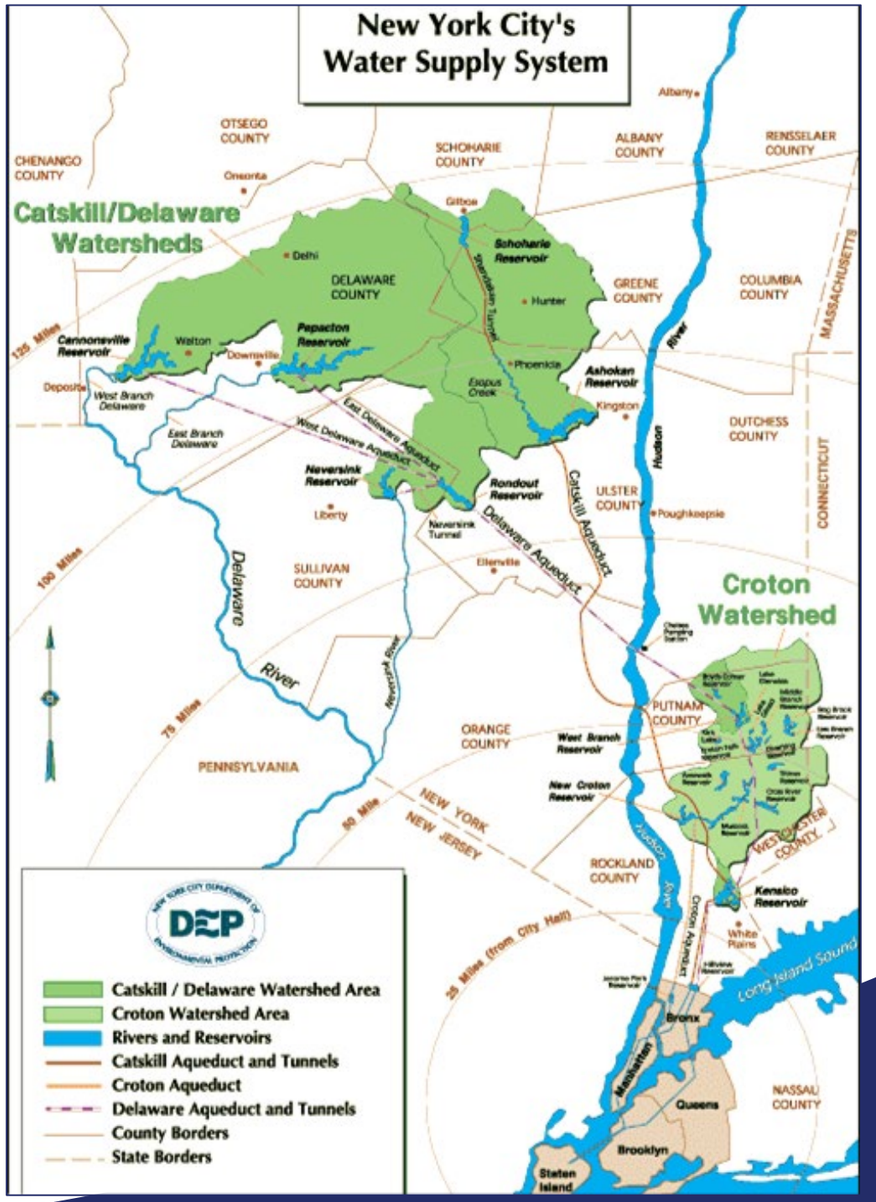
Watershed Rules & Regulations

New York City

- NYC has unique authority to update its own Rules & Regulations; other communities need NYSDOH
- “would be necessary even if the City were to build filtration plants to filter its entire water supply.”
- “minimize the discharge of pollutants into the source waters from both point and nonpoint sources”
- “minimize the adverse impacts of erosion”
- “limit the discharge of phosphorus to source waters which may accelerate the eutrophication process”
- “provide notification to the City of ongoing or proposed activities, which …may cause contamination …or degradation”



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Watershed Rules & Regulations

New York City

- Discharge or storage of **pathogenic materials, hazardous substances** and **hazardous wastes** , **radioactive materials** , **petroleum products** .
- Discharge or transport of **human excreta** and use of holding tanks.
- Design, construction and operation of **wastewater treatment plants, sewer systems** . **service connections** , and intermediate sized and individual **sewage treatment systems** .
- Discharge of **stormwater and sediment** , and preparation and implementation of **stormwater pollution prevention plans** .
- Construction of **impervious surfaces** .
- Discharge from miscellaneous **point sources** .
- Discharge of **solid waste** , including the siting of **junkyards** and **solid waste management facilities** .
- Discharge from **agricultural activities** .
- Discharge or storage of **pesticides** .
- Application and storage of **fertilizers** .
- **Snow disposal** and application and storage of **winter highway maintenance materials** .

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Rules and Regs for the Rest of Us

photo of Owasco Lake: by Paul Malo via Wikimedia Commons

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Watershed Rules & Regulations

New York State Communities

- Most date to 1910s-1950s and have not been updated
- Outdated pollution concerns: Privies, dead animals
- Most aren't protective against industrial pollutants, urban and agricultural runoff, development, erosion & other modern threats
- Find yours: **https://bit.ly/nys -wrr -code**

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Watershed Rules & Regulations

Owasco Lake

- **2016** Harmful Algal Bloom in Owasco Lake, water supply for 45,000 people - first of many
- **2017** City of Auburn, Town of Owasco & Cayuga County seek to update 1984 Watershed Rules and Regs via multi-year stakeholder process
- **2020** proposed rules include modest provisions to promote manure management and stream buffers on farms
- **2024** NYSDOH rejected the proposal, arguing it conflicts with NYS Ag & Markets law
- NYSDOH also rescinded guidance for updating Watershed Rules and Regulations for any water source statewide

NEW YORK STATE | Department of Health

Watershed Rules & Regulations

Earthjustice Lawsuit

- DOH used Watershed Rules and Regulations to help manage nutrient pollution from farms for decades for City of Syracuse, Village of Millbrook, Schenectady County and elsewhere
- Agriculture and Markets Law Article 11-a restricts the passage of Local Laws and ordinances, but says nothing about State Regulations.

EARTHJUSTICE

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Watershed Rules & Regulations

What We Can Do

Do you have rules? Do they address current concerns?

- **https://bit.ly/nys -wrr -code**

NYS Drinking Water Source Protection Program (DWSP2)

- **dec.ny.gov/environmental -protection/water/water -quality/dwsp2**

Update Public Health Law

- **Clarify NYSDOH authority**
- **Establish process and deadlines for updating**

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Thank you!

Become a riverkeeper
riverkeeper.org