2025-2030 Comprehensive Economic Development Strategy

Appendix. Public Input

July 2025

Appendix. Public Input

HVRC received substantive comments during the month-long public input period from five individuals. Nine additional individuals provided edits to the CEDS narrative, such as noting typos and clarifying projects. The substantive comments are provided below by topic: Agriculture, Energy, Materials Management, Resilience, and Water. Preceding each comment is a brief description of the comment and where it was noted in the CEDS narrative. HVRC sincerely thanks all who made time available to review the CEDS and provide public input as it has improved the final CEDS. Formatting of comments has been adjusted to align with the style of this appendix; HVRC may have edited comments received for clarity, spelling, and punctuation, but made no substantive changes to any comments.

Agriculture

1. **Commenter #1 argued for inclusion of forestry in the agriculture section. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   Overall, the industry clusters identified in the CEDS make sense in terms of the SWOT and the Region's existing assets. These industries are credibly proposed to advance the work of building a more resilient economy and communities. However, in a number of cases, details in definition and scoping of the opportunities really matter. Preserving, adapting and growing agriculture is an important centerpiece of the CEDS. It is baffling, though, why forestry is not mentioned in conjunction with the natural resource based industries that work together to make our Region what it is. Intact, healthy forests contribute to resilience of settlements and water supplies as well, with benefits including cooling, water retention, and forest product related industries. Native timber products are a low-carbon structural material and valuable feedstock for the region's furniture and building materials industries.

2. **Commenter #1 argued for inclusion of locally produced natural building materials in the agriculture section. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   The CEDS themes of bioeconomy and construction have an obvious connection: in the use of natural, regionally-sourced building and structural materials. Native timber is a resilient choice for building framing. Biomass is also a versatile source of building materials including paper sludge, hemp fiber, hempcrete, cellulose batt and panels, recycled cardboard studs, wood fiber batt and board, engineered wood, chopped straw insulation and more. In the semi-rural economies of the Hudson Valley, crops could be grown and materials reclaimed for nearby use, relating back to the CEDS' recommendations on housing.[1]

[1] RMI (2025) Building with Biomass: A New American Harvest https://rmi.org/insight/building-with-biomass-a-new-american-harvest/

3. **Commenter #2 found the omission of the poultry industry in the agricultural sector to be an oversight. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   Omission of Poultry Industry in Agriculture Sector: The agriculture section of the draft CEDS overlooks a critical component of the Mid-Hudson Region's agricultural economy: the poultry industry. Sullivan County and other parts of the Region are home to large-scale poultry operations that contribute significantly to local employment, food production, and economic output. These farms not only provide a stable source of protein for regional and State markets but also support a wide range of ancillary jobs in processing, distribution, and farm services. Given the scale and economic importance of poultry production in Sullivan County and New York State, we strongly recommend that the final plan explicitly acknowledge the poultry industry as a major agricultural sector and include it in discussions of infrastructure needs, workforce development, and agricultural resilience.

4. **Commenter #2 provided additional strategies for supporting and improving the agricultural industry. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   Agriculture Priorities and Local Alignment: While the draft CEDS outlines forward-looking strategies for agriculture – such as agritech, climate-controlled agriculture, and value-added processing – it does not fully reflect the current priorities and realities at the local level, particularly in counties like Sullivan. The plan would benefit from a more grounded understanding of what is driving the agricultural economy today.

   Through our work with the agricultural community in Sullivan County, we have provided feedback and insights based on direct experience with farmers, farm businesses, and agricultural stakeholders. Local priorities often center on supporting existing infrastructure, addressing labor and housing shortages, and maintaining viable farmland – issues that are foundational to sustaining agriculture in the Region. While innovation is important, it must be balanced with support for the core sectors and practical needs that farmers face every day.

   We encourage the [Hudson Valley Regional] Council to ensure that regional strategies are informed by county-level agricultural plans and stakeholder input, and that they include support for both emerging innovations and the foundational sectors that currently sustain rural economies. The following recommended priorities reflect practical, community-informed strategies that would meaningfully support the continued growth of the agriculture industry and its contributions to the Mid-Hudson Region's economic vitality

   a. Ag Infrastructure: Sullivan County's agricultural sector is challenged by aging infrastructure that limits productivity, efficiency, and resilience. We recommend that the plan prioritize funding and technical assistance for:
      i. Water and irrigation systems to improve drought resilience and water efficiency.
      ii. High tunnels and hothouses to extend growing seasons and protect crops from extreme weather.
      iii. Cold storage and post-harvest handling facilities to reduce food loss and improve market access.
      iv. On-farm renewable energy systems (e.g., solar, wind) and energy-efficient upgrades to reduce costs and environmental impact.

v. Shared equipment cooperatives and mobile infrastructure units to support small and mid-sized farms that cannot afford large capital investments individually.
vi. Digital infrastructure, including Wi-Fi and smart sensors, to enable precision agriculture and remote monitoring.
vii. The plan should explicitly prioritize support for existing farms to upgrade aging infrastructure, not just focus on new or expanding operations, including the expansion of meat and poultry processing. Preserving the viability of current farms is essential to maintaining the Region's agricultural base and rural economy.

b. Beginner Farmer Development: CCE Sullivan's Beginner Farmer Program provides hands-on training, mentorship, and business planning support to new and transitioning farmers. Continued investment in land access strategies, capital access and equipment sharing, and peer learning networks, will ensure that the next generation of farmers is prepared to meet the Region's food and economic needs.

c. Climate Resilience Through Education and Infrastructure: Climate resilience must be treated as a core priority for the future of agriculture in the Mid-Hudson Region. Farmers are already experiencing the impacts of extreme weather, shifting growing seasons, and water management challenges. To support long-term viability, the plan should prioritize:
    i. Investment in climate-smart infrastructure, such as water-efficient irrigation systems, high tunnels, and renewable energy technologies.
    ii. Expanded access to technical assistance and education on regenerative practices, soil health, and adaptive farm management strategies.

d. Policy and Zoning Recommendations: Local zoning and land use policies play a critical role in supporting or restricting agricultural viability. While New York State's Agricultural Districts Law and Right to Farm Law provide essential protections for farmers, these policies must be reinforced at the municipal level through:
    i. Farm-friendly zoning codes that allow for diversified uses, such as agritourism, on-farm processing, and seasonal events.
    ii. Streamlined permitting processes for agricultural structures and infrastructure improvements.
    iii. Local planning board education on the importance of agriculture and the legal protections afforded to farms under State law.

    We encourage the plan to support technical assistance for municipalities to review and revise zoning codes to align with State protections and promote agricultural innovation. This alignment will reduce regulatory barriers, protect farmland, and empower farmers to fully utilize their land for evolving business models.

e. Agritourism and Farm Diversification: Agritourism is a growing and vital component of Sullivan County's agricultural economy. It provides farmers with an additional revenue stream, helps diversify farm operations, and strengthens the connection between consumers and local food systems. CCE Sullivan supports the development of infrastructure and zoning policies that enable agritourism, including signage, parking, ADA-compliant facilities, and food safety upgrades. We

recommend that the plan recognize agritourism as a strategic economic driver and support its expansion through funding, training, and regulatory guidance.

f. Farm Labor and Housing: Access to a reliable, skilled, and adequately housed workforce is a growing challenge for farms in Sullivan County and across the Mid-Hudson Region. Labor shortages – especially for seasonal and physically demanding work – threaten the viability of many operations. To address this, we recommend the plan include strategies to support:
    i. Farm labor housing development, including funding and zoning support for on-farm and off-site housing that meets health and safety standards.
    ii. Workforce training programs in partnership with local BOCES, community colleges, and CCE to build a pipeline of trained agricultural workers with skills in equipment operation, animal care, food safety, and climate-smart practices.
    iii. Transportation solutions for farm workers, especially in rural areas with limited public transit.
    iv. Incentives for local youth employment in agriculture, including summer internships, apprenticeships, and school-to-farm career pathways.

    We are committed to supporting both farmers and workers through education, outreach, and collaboration with workforce development partners. We urge the Council to recognize farm labor and housing as essential infrastructure for a resilient agricultural economy.

5. **Commenter #2 saw the omission of Cornell Cooperative Extension as an oversight from the agricultural section. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

    Omission of Cornell Cooperative Extension as a Key Agricultural Resource: The draft CEDS does not reflect input from Cornell Cooperative Extension (CCE) offices, NY agriculture's link to the national land grant university system, which have been deeply embedded in the agricultural communities of every county in the Mid-Hudson Region for more than a century. CCE staff work directly with farmers, landowners, and agricultural businesses, providing technical assistance, business development support, and education tailored to local needs. Their absence from the plan is a significant oversight.

    Furthermore, the section titled "Technical Assistance & Farm Business Support" references organizations like the Hudson Valley Farm Hub and Glynwood Center, but fails to recognize CCE as a primary provider of these services. CCE delivers critical support in areas such as farm business viability, agricultural best management and production practices, including integrated pest management, climate resilience, beginning farmer training, food safety, value added production, wholesale readiness, farmland protection, regulatory compliance, and facilitating connections across the food system to ensure ag economic vitality and identifying and addressing gaps in food security across the Region. Their programs are trusted, accessible, and responsive to the evolving challenges faced by the agricultural sector. We strongly recommend that the final plan:

    a. Acknowledge CCE as a core resource for agricultural technical assistance and business development.
    b. Engage CCE offices in future planning processes to ensure regional strategies are informed by those with direct, ongoing relationships with the farming community.

6. **Commenter #3 also found the omission of the poultry industry in the agricultural sector to be an oversight. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   The CEDS omits mention of the poultry industry, which is a significant component of Sullivan County's agricultural economy. Large-scale poultry operations contribute substantially to employment, food production, and economic output. We urge the [Hudson Valley Regional] Council to include poultry as a key sector in the regional agricultural profile.

7. **Commenter #3 also provided additional strategies for supporting and improving the agricultural industry. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   Agricultural Priorities and Local Alignment: While the plan emphasizes agritech and climate-controlled agriculture, it does not fully align with the needs identified through direct engagement with local farmers and stakeholders. We recommend the following priority areas:

   a. Agricultural Infrastructure: Support for upgrading aging infrastructure is critical for both new and existing farms. Recommended investments include:
      i. Water and irrigation systems
      ii. High tunnels and hothouses
      iii. Cold storage and post-harvest facilities
      iv. On-farm renewable energy systems
      v. Shared equipment cooperatives
      vi. Broadband and digital infrastructure
      vii. Meat and poultry processing equipment and facilities
   b. Beginner Farmer Development: Strategies should include:
      i. Land access programs
      ii. Capital access (microloans, grants)
      iii. Mentorship and peer learning networks
   c. Climate Resilience: Actions should include:
      i. Investment in climate-smart infrastructure
      ii. Education on regenerative agriculture and adaptive management
   d. Policy and Zoning: Recommendations:
      i. Farm-friendly zoning codes and streamlined permitting for ag structures
      ii. Training for municipal boards on NYS Agricultural Districts Law
   e. Agritourism and Farm Diversification: Support should include:
      i. Infrastructure (signage, ADA-compliant facilities)
      ii. Regulatory guidance and training
      iii. Marketing and regional coordination
   f. Farm Labor and Housing: Actions should include:
      i. Development of farmworker housing
      ii. Workforce training programs
      iii. Youth employment pathways

8. **Commenter #3 also saw the omission of Cornell Cooperative Extension as an oversight from the agricultural section. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Agriculture.**

   Omission of Cornell Cooperative Extension: Cornell Cooperative Extension is a vital partner in agricultural development across the region. The plan should:

   a. Acknowledge CCE's role in technical assistance, education, and business development
   b. Include CCE in future planning and stakeholder engagement

   We thank the Hudson Valley Regional Council for considering these comments and look forward to continued collaboration to support a resilient and inclusive agricultural economy in the region.

Energy

1. **Commenter #1 suggested corrections and additions to the section on Solarize programs. This comment was noted in the CEDS in VII. Industries Targeted for Growth under Energy.**

   Solarize is mentioned on p. 67 as an Orange County program. In fact, Solarize is a widely used term for consumer education, group purchase, and related market aggregation campaigns that have been run in several New England states and around New York. Introduced in our Region in 2015 – 18, Sustainable Hudson Valley's (SHV) 3-year NYSERDA funded program in partnership with Catskill Mountainkeeper, SHV used public education and group purchasing programs with ten municipal partners to achieve 400 new solar contracts and open up the marketplace. Solarize Ulster followed with a focus on community solar aggregation, an approach also ongoing in Westchester. In today's climate with reduced financial incentives for residential solar, a renewed round of Solarize campaigns to serve the entire Region could be recommended to help to stabilize this industry.

2. **Commenter #1 provided more context to the CEDS conversation on Thermal Energy Networks. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Energy.**

   Thermal energy networks are also an excellent recommendation. Note that the pilots involving utilities are part of a NYSERDA strategy to demonstrate not just the tech but the administrative and financial underpinnings such as billing and the allocation of benefits and costs. They are expected to become much more standardized and therefore scalable in the next 2 – 3 years, well within the timeframe of this CEDS to encourage scalability and strategic use, such as district thermal energy networks in conjunction with adaptive reuse of industrial buildings and in the urban cores of disadvantaged communities where energy affordability is the greatest issue, rental housing limits residents' choices, and reaching the public one home at a time is a challenge.[2]

[2] Source: Emma Lagle, Pace Energy and Climate Center, panel presentation, Hudson Valley Climate Solutions Summit 2025.

Materials Management

1. **Commenter #1 identified biochar and Carbon Dioxide Removal (CDR) as an industry to include in the CEDS. The commenter also addressed broadening the CEDS discussion of waste-to-energy to include other technologies. This comment was noted in the CEDS in V. SWOT Stakeholder Analysis under Threats.**

   Biochar, as a contributor to soil health, is a good starting point as an example of a larger cluster of useful materials and practices that represent emerging, scalable subsectors in agriculture – collectively known as carbon-dioxide removal or CDR. Different from carbon capture and sequestration from point sources such as power plants and industrial processes, CDR refers to drawing CO2 from the atmosphere (e.g., into solvents or sorbents that can then be chemically processed to create stable carbon-based materials that can be safely stored for centuries). Another appropriate example of CDR for our agricultural economy is enhanced rock weathering – applying rock dust from nearby quarries to soil as a replacement for liming agents. Many common rocks absorb CO2 at a very slow pace, but when ground to increase surface area, they become meaningful carbon sinks. There are ways to do these things right with nearby feedstocks, sustainable scale, renewable or low-emissions energy, etc.[3],[4]

   To take full advantage of CDR and deal with the full spectrum of technology opportunities in the waste sector, the CEDS discussion of "waste-to-energy" should be broadened to include other processing technologies for waste or surplus materials. Choices among these are very real, current, and challenging for materials managers, economic developers, environmental regulators, and investors. The discussion should also include these equally useful approaches:

   a. Pyrolysis: A high-temperature anaerobic process that can create highly stable, carbon-based materials but is also advocated by some industries as appropriate disposal for single-use consumer materials such as plastics.
   b. Chemical recycling: The process of decomposing materials into component molecules that can then serve as the basis for remanufacturing. For example, the ability to separate out spandex from cotton and other valuable fibers is a breakthrough in textile remanufacturing. But chemical recycling, like pyrolysis, is also advocated for municipal solid waste processing, where its value, risks, and costs should be thoughtfully compared to higher-value approaches, such as source reduction and reuse.
   c. Anaerobic digestion: The relatively low-temperature breakdown of organics into biogas. This can be fed into existing gas pipelines, arguably stabilizing fossil-fuel-based systems; or it can be brought to bear in hard-to-electrify uses, like farm equipment.
   d. And of course there's good old composting.

   These waste processing solutions should be addressed as a matter of regional guiding policy as much as possible to avoid the threat of NIMBY responses and ease regulatory reviews.

   Some of these technologies qualify as "waste-to-energy" while others are "waste-to-material." Hybrid systems also exist where materials, such as biosolids, are gasified to

[3] RMI Insight (2023): Applied CDR Roadmap https://rmi.org/insight/the-applied-innovation-roadmap-for-cdr/.
[4] Jennifer Wilcox, Ben Kolosz and Jeremy Freeman (eds), CDR Primer (2021) https://cdrprimer.org/.

create fuel for the system itself, and then remaining feedstocks are captured and pyrolyzed into biochar for long-term sequestration.[5]

Biochar is produced by pyrolysis, an anaerobic high-temperature process which produces little or no emissions or particulates (though if a contaminated feedstock is used, some residues may remain). Regulators and environmental advocates are divided with regard to these technologies, as shown by the strong opposition that stopped creation of a centralized biochar production facility in Saratoga. CDR industry groups have made strides in developing standards and methods for verifying removals, and best practices for deploying technologies. Decentralized systems using locally available feedstocks are increasingly favored in the industry as a way to maximize efficiency and minimize any negative environmental impacts. In the Mid-Hudson, promising feedstocks for biochar production include forest biomass damaged by storms, farm and vineyard trimmings, invasive plants, and disaster debris. Relying on these feedstocks – all outside the municipal solid waste stream – is recommended as a way of anticipating and addressing environmental concerns.

2. **Commenter #1 also suggested broader inclusion of reuse of materials in the CEDS as an industry to grow. This comment was incorporated into the CEDS in VII. Industries Targeted for Growth under Construction Trades.**

The CEDS also wisely endorses building deconstruction and salvage as a strategy for resilience as it maximizes the value of materials already in the Region and minimizes the energy burden of sourcing new materials. It should be stressed that deconstruction can be economically competitive with demolition, as its greater labor intensiveness can be offset through the resale value of the salvaged materials. This strategy is being advanced in New York City by the NYC Economic Development Corporation (NYCEDC), which is conducting a demonstration project taking apart a full city block at CUNY Medical College to create SPARC (Science Park and Research Center) Kips Bay. NYCEDC has had circular design and construction guidelines in place since 2019, but deconstruction is still an outlier as a practice. The ReClaimNYC Allaince published four principles for scaling up deconstruction in July 2025:

a. Generate demand for reclaimed materials;
b. Facilitate supply of reclaimed materials;
c. Connect supply and demand;
d. Spur innovation.

Ulster County is launching Project RE-POWER, an ecosystem of innovative businesses, as a catalytic project to scale up building deconstruction and other reuse-based industries. It is also providing seed funding for creation of a Circular Economy Strategic Plan that focuses on Ulster County but can be adapted to the entire Region.

[5] https://www.bioforcetech.com

Resilience

1. **Commenter #1 argued for a broader interpretation of resilience beyond economic activities. This comment was noted in the CEDS in VI. Regional Issues under Building More Resilient Communities.**

   The CEDS draft defines resilience as the ability to respond to – and survive through – disasters, whether natural or human-caused. The traits of preparedness and resourcefulness that contribute to resilient emergency response are also valuable as a source of day-to-day well-being and resistance to the many stresses that our communities and businesses face. I stress this point to suggest that resilience is not just a consequence of having the right kinds of industries and economic activities, but thoughtful interpretation of the ways they can contribute. For example:

   a. Health care is discussed as a cluster, and certainly the delivery of services to the Region's population is important. Also important, and not discussed, is a secure regional supply chain of medication, hospital necessities, etc., so that sector is prepared to help the wider communities to withstand emergencies.
   b. Local agricultural systems are also raised up as a foundation for resilience, appropriately. But the example of controlled environment, year-round agriculture should be discussed in the context of its obvious benefits and possibly less obvious risks. While hothouse-based agriculture can help promote food security, only soil-based agriculture achieves the industry's potential for sequestering carbon, supporting pollinators, and providing a host of ecosystem services.

2. **Commenter #3 argued for more robust explanation of how climate change is impacting communities and argued that hazard mitigation plans are not adequate to prepare communities for climate impacts. This comment was noted in the CEDS in VI. Regional Issues under Regional Risks.**

   There was no mention of climate change in the report, and climate change is already having increased impacts on the regional economy. Hazard Mitigation plans do not adequately prepare communities for unprecedented climate impacts already underway. See:

   a. Integrating Climate Change into Hazard Mitigation Planning: A Survey of State Hazard Mitigation Officers
   b. Integrating climate change into hazard mitigation planning: Opportunities and examples in practice - ScienceDirect
   c. Integrating climate change into state hazard mitigation plans: A five-year follow-up survey of state hazard mitigation officers | PLOS Climate
   d. Adler Gosliner 2019-09 SHMP Report Update ed.docx

   For a review of climate impacts on the Region, please see:

   a. Adler Gosliner 2019-09 SHMP Report Update ed - Columbia University
   b. Climate Impact Spotlight: The South Hudson Region – New York State Climate Impacts Assessment
   c. Climate Impact Spotlight: The Catskills Region – New York State Climate Impacts Assessment
   d. Climate projections for the Hudson Valley | CALS
   e. Climate projections for the Hudson Valley - Cornell CALS
   f. ccinthehvms.pdf

g. Climate - Scenic Hudson

Water

1. **Commenter #1 suggested expanding the water management section to include other aspects, such as afforestation, to improve water resources and resilience. This comment was incorporated into the CEDS in VI. Regional Issues under Regional Risks.**

   Water management is rightly identified as an area of priority for resilience and public health. This topic should be considered more expansively to include a major missed opportunity: the civil engineering, landscape design, horticulture, silviculture, and related fields that are involved in making the landscape more resilient in the face of storms, floods, droughts and other weather extremes driven by changing water cycles. From Saratoga to Black Rock Forest, significant enterprises are developing a supply chain for afforestation that will certainly contribute to regional resilience as well as creating trade jobs, an industry that should be considered for mention in the CEDS. In 2009, Hudson Valley leaders conducted an exchange with counterparts in The Netherlands (H209) to explore water management technologies in use there, with relevance for our Region; the Hudson River Foundation is a likely source of archives opening up these opportunities.

2. **Commenter #5 provided significant context around wastewater infrastructure needs in the Region. This comment was incorporated into the CEDS in VI. Regional Issues under Water System Challenges.**

   Wastewater Infrastructure Needs: The age and condition of wastewater infrastructure was assessed in a DEC Hudson River Estuary Program report drafted in 2016.[6] The report, which covered the 10-county region that is largely overlapping with HVRC's, included these facts:

   a. There are 140 municipal wastewater treatment plants (also called Publicly Owned Treatment Works or "POTWs") and 52 satellite sewer systems (also called publicly owned sewer systems or POSSs), which discharge to 13 of the wastewater treatment facilities. A POSS is a sewer system owned by a municipality that discharges to a POTW owned by another municipality.
   b. As of the Environmental Protection Agency's ("EPA") 2012 Clean Watersheds Needs Survey report, 42 of these facilities had identified $602 million in investment needs. These figures could be updated by analyzing EPA's 2022 Clean Watersheds Needs Survey Report, available at https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-2022-report-and-data. As of New York State Environmental Facility Corp's ("EFC") 2017 Intended Use Plan ("IUP"), 50 of 140 facilities had identified $662 million in needs. This figure could be updated by analyzing the EFC's 2025 IUP, available at https://efc.ny.gov/iup. Because only a fraction of facilities had identified needs, these figures are identified as "conservative" estimates.
   c. Nine Combined Sewer Overflow ("CSO") systems serve 11 municipalities. These systems together have 111 outfalls that discharge into the Hudson River.

[6] NYSDEC, "Characterizing Municipal Wastewater Infrastructure in the Hudson River Estuary Watershed: For Clean Water, Resilient Communities and a Swimmable River," 2016 (draft).

d. There were 104 wastewater treatment plants (74%) that have had at least one Discharge Monitoring Report ("DMR") effluent limit violation in the five years preceding the report's drafting.
e. Nine wastewater treatment plants had exceeded 90% of their designed treatment capacity within the five years preceding the report's drafting.
f. There are about 2,612 total miles of documented sanitary sewer line in the study area - a "conservative" number, because POSSs are not included.
g. The average age of lines was more than 100 years old for five of the 140 facilities. About 11% of sanitary sewer pipes in the study area were installed before 1925. Approximately 26% were over 65 years old at the time of the report's drafting.
h. Eight facilities of the 140 studied (6%) have a significant portion of their footprint in the floodway, as defined by the Federal Emergency Management Agency (FEMA). The floodway is the river or stream channel and the immediately adjacent land that is the natural conduit for flood flows. It is a component of the larger floodplain. Thirteen (13) facilities (9%) have footprints entirely within the 100-year floodplain, and 38 facilities (27%) have footprints entirely within the 500-year floodplain. While not necessarily detailed in the DEC report, Riverkeeper notes that FEMA floodplain maps often reflect a conservative floodplain area due to the long periods of time between floodplain map updates, despite rapidly changing real floodplain conditions due to climate change (i.e., they are often out of date). Additionally, 100- and 500-year storms are becoming much more frequent and, thus, flood risk is often underestimated.
i. Of the 44 facilities that discharge to the Hudson River or a tidal portion of a tributary, 12 (27%) would have a portion of their building footprints inundated by two feet of sea-level rise, and 24 (57%) would have a portion of their footprints inundated by six feet of sea-level rise, including two facilities that would be completely inundated.

3. **Commenter #5 suggested clarifying how HVRC would support investments in drinking water infrastructure and drinking water source protection. This comment was incorporated into the CEDS in I. Executive Summary under Goal 2: Water/Wastewater, VI. Regional Issues under Water System Challenges, and VIII. Strategic Direction/Action Plan Goal 2: Water/Wastewater.**

   Drinking Water Infrastructure and Source Water Protection Needs: The Strategy states that drinking water infrastructure and quality are important to the Region's economic development, and that the Region faces risks related to quantity, quality, and cost of providing safe drinking water. However, the Strategy seems to focus on supporting wastewater investments, without clarity on how the [Hudson Valley Regional] Council would support investments in drinking water infrastructure and drinking water source protection. Riverkeeper urges the [Hudson Valley Regional] Council to clarify this.

4. **Commenter #5 provided a data source on the needs for drinking water infrastructure improvements. This comment was incorporated into the CEDS in VI. Regional Issues under Water System Challenges.**

   Drinking Water Infrastructure: The data on the needs for infrastructure investments can be obtained from the EPA's 2023 Drinking Water Needs Survey and Assessment[7], and the

[7] See www.epa.gov/dwsrf/epas-7th-drinking-water-infrastructure-needs-survey-and-assessment.

EFC's IUP[8]. These should be considered conservative estimates, given the likelihood of updated State or Federal standards, which will require new and welcome treatment upgrades to improve water quality for many communities, and emerging risks that result from climate extremes exacerbating underlying pollution burdens.

5. **Commenter #5 gave a description of risks to drinking water sources and suggested prioritizing the protection of public drinking water supplies for resilience. This comment was incorporated into the CEDS in I. Executive Summary under Goal 2: Water/Wastewater, VI. Regional Issues under Water System Challenges, and VIII. Strategic Direction/Action Plan Goal 2: Water/Wastewater.**

Drinking Water Source Risks and Priorities: The Region's public water supplies are inadequately protected, and showing signs of stress from development patterns, contamination sources, and climate change. There are several other contaminants that are of growing concern for public drinking water supplies in the Region that exemplify these risks. The Strategy should make clear that investments in economic development should not contribute to acute or cumulative risks to drinking water sources, and the Strategy should clearly prioritize the protection of public drinking water supplies as a foundation of resilience for the Region in every sense, including from a narrow economic development perspective. The Strategy should also identify and reinforce the [Hudson Valley Regional] Council's role in supporting Drinking Water Source Protection planning. The need for this focus is exemplified by several facts described below.

Riverkeeper's analysis of 2024 Annual Water Quality Reports ("AWQR") for 120 public water supplies in the Hudson River Watershed, which is inclusive of most of the [Hudson Valley Regional] Council's region, found that several contaminants are widespread and of growing concern:

- Road salt (Na and Cl): Nearly 60% of communities (50 water systems) reported sodium values exceeding the State/Federal health guideline for those on very low sodium diets of 20 mg/L. Increased chloride levels can also lead to profound changes in water chemistry, resulting in mobilization of contaminants, including heavy metals from source waters and lead from distribution pipes.
- Disinfection byproducts (TTHM and HAA5, and their precursors, Total and Dissolved Organic Carbon): A substantial proportion of communities exceeded disinfection byproduct Maximum Contaminant Levels ("MCL"): 25% of communities (21 systems) reported TTHM over 80 ppb, and 18% (15 systems) reported HAA5 over 60 ug/L. Climate change and new disinfection rules under consideration by EPA will likely result in increasing concentrations and/or exceedances of both TTHM and HAA5 over time.
- PFAS: Nearly half (44%, 53 systems) detected at least one PFAS. Of these, 5% (3 systems) reported exceedances of New York State's MCLs for PFOA or PFOS, and an additional 11% (13 systems) reported PFAS at levels that would exceed EPA's pending PFAS regulations. PFAS detections and violations of MCL have been widespread, as indicated by NYS Department of Health's ("DOH") Drinking Water Contaminants data.[9] As recently adopted or proposed Federal and State standards

[8] See https://efc.ny.gov/iup.

[9] See Drinking Water Contaminants maps and data, available at https://apps.health.ny.gov/statistics/environmental/public_health_tracking/tracker/index.html#/waterMaps.

come into effect, more of the communities that have detected PFAS will be in violation and require treatment.

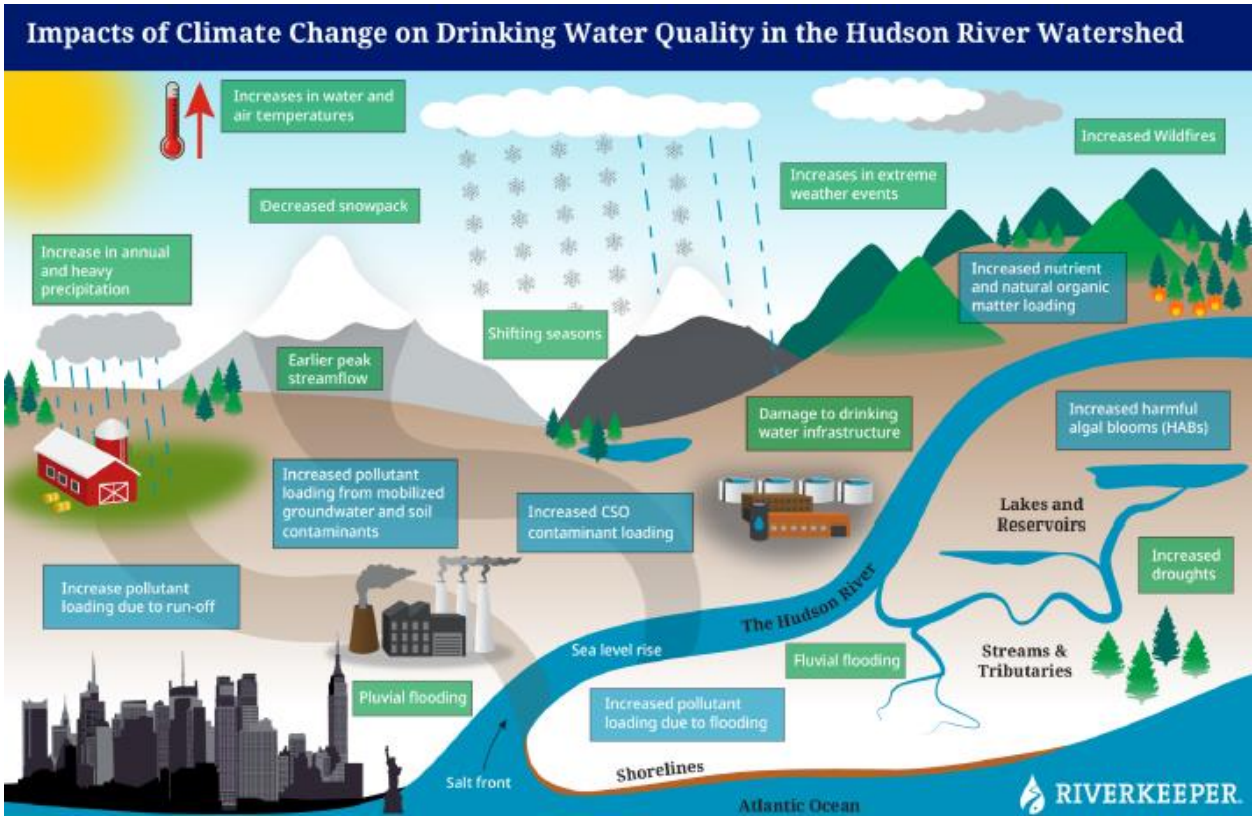
- Excess nutrients (phosphorus and nitrogen compounds): While not reported in AWQRs, excess nutrients can be a key pollutant associated with Harmful Algal Blooms ("HABs") and disinfection byproducts.
- Cyanotoxins: While not reported in AWQRs, cyanotoxins formed by HABs are a contaminant of concern, particularly as climate change increases the risk of HABs. Several public water supplies in the Region have repeatedly reported the presence of HABs in recent years.[10]
- Water temperature: While not a health risk directly, increased temperature can speed the rate of various chemical reactions and increase the likelihood of algal growth and other water quality concerns.

Riverkeeper plans to publish later this year a report, "Climate Impacts to Drinking Water: Water Quality Challenges for Surface Supplies in the Hudson River Watershed," which adapted and built on the New York State Climate Impacts Assessments to illustrate key drinking water quality challenges likely to arise as climate change progresses. This work was funded in part by the NYS Environmental Protection Fund through the NYSDEC's Hudson River Estuary Management Program. As of this writing, we are incorporating edits from the Estuary Program and DEC, and anticipate publicizing the final report by Fall 2025, including by posting it to riverkeeper.org. While the content is focused on the Hudson River Watershed, as a consequence of Riverkeeper's and the Hudson River Estuary Program's mission areas, nearly all its content is relevant to any surface water supply in New York State. Some of the key concerns for climate impacts to drinking water include the following (which includes language from New York State's draft Drinking Water Source Protection Program ("DWSP2" or "Program") Framework 2025, with Riverkeeper additions.

- Increasing frequency, intensity, and duration of extreme precipitation events causing increased sewer overflows, urban and agricultural stormwater run-off, nutrient loading, and likelihood of HAB events and formation of disinfection byproducts.
- Increased air and water temperatures, resulting in greater risk of HABs, disinfection byproduct formation, and potential treatment and distribution issues over a longer season.
- Increasingly frequent and severe flooding events, causing overwhelmed wastewater treatment plants and combined sewer overflow discharges into source waters, as well as mobilization of contaminants from polluted sites and certain land uses.
- Sea level rise increasing the possibility of saltwater contamination of Long Island aquifers and Hudson River drinking water intake facilities, and increasing the potential for infrastructure damage in coastal areas that may be affected by sea-level rise or storm surge flooding.
- Increasing frequency and intensity of warm season droughts, especially as development intensifies, cause a decrease in groundwater recharge, as well as the concentration of groundwater pollutants in streams during base-flow conditions.

[10] See "HABS Archive" available at https://dec.ny.gov/environmental-protection/water/water-quality/harmful-algal-blooms related quantity concerns.

- Multivariable and cascading events resulting from multiple stresses. For instance, underlying road salt contamination in streams will be more concentrated in low-flow conditions during drought, when water temperatures will also be higher. This can result in changes to water chemistry that can mobilize heavy metals from soils into source waters (a multivariable cascading impact). These higher concentrations of salt during low-flow conditions can also lead to increased lead leaching from distribution system pipes (a second multivariable cascading event).
- Feedback loops may worsen water quality problems. For example, hotter temperatures can decrease dissolved oxygen (DO) in waterbodies. This reduced DO leads to the release of nutrients from sediment, spurring HABs. HABs, themselves, also reduce DO and increase water temperature, further entrenching this cycle (a feedback loop).



6. **Commenter #5 highlighted industries that pose potential risk to water resources in the Region as those that should not be prioritized in the CEDS. This comment was noted in the CEDS in VII. Industries Targeted for Growth under Energy and Manufacturing.**

Industries Targeted for Growth: Riverkeeper urges the [Hudson Valley Regional] Council to specifically state that energy- and water-intensive industries should not be prioritized, and to exclude certain specific industries from the clusters of those targeted for growth. Specifically, data centers (including cryptomining) should not be prioritized because of intensive energy and water demands, and waste-to-energy facilities should not be prioritized due to concerns over air pollution and persistent community concerns in places where existing facilities are sited. Riverkeeper supports a deliberate approach to battery storage projects; the risks associated with battery storage must be understood, mitigated, and minimized as part of the State's renewable energy transition.