

Town of Chautauqua Source Water Area Critical Environmental Area Justification

Town of Chautauqua

April 2025

Proposed CEA Designation

The Town of Chautauqua Town Board proposes to designate the area on the attached map (titled “Town of Chautauqua Source Water Area Critical Environmental Area,” hereafter “CEA Map”) as the Town of Chautauqua Source Water Area Critical Environmental Area. This area encompasses the source water areas for the Chautauqua Lake Communities’ drinking water sources, as described in the 2024 Chautauqua Lake Communities Drinking Water Source Protection Program (DWSP2) Plan, that fall within the Town of Chautauqua boundaries.¹ The purpose of the Critical Environmental Area (CEA) designation is to protect human health by protecting drinking water quality.

Background

DWSP2 Plan

The Chautauqua Lake Communities (CLC) are comprised of the Village of Mayville, Chautauqua Water District #2 (CWD2), and Chautauqua Utility District (CUD). They serve populations in the Town of Chautauqua, the Village of Mayville, and the Chautauqua Institution. In July 2024, a Drinking Water Source Protection Program (DWSP2) Plan was developed for the CLC. The DWSP2 Plan assessed water quality concerns and developed an actionable list of projects to protect drinking water quality.

One of the projects in the DWSP2 Plan is to designate a Critical Environmental Area (CEA). The goals of the CEA designation, as listed in the DWSP2 Plan, are as follows:

- “Designate the source water area as a Critical Environmental Area (CEA) to protect the area from potential contaminants.

¹ The source water area described in the 2024 DWSP2 Plan crosses multiple municipal boundaries, including the boundaries of the Town of Chautauqua and the Village of Mayville. The Town of Chautauqua and the Village of Mayville are each going through their own separate processes to designate the portion of the source water area within their jurisdiction as a CEA. Additionally, two separate maps of the CEAs have been made, one for the Town of Chautauqua and one for the Village of Mayville.

- Aim to keep the amount of fertilizer, pesticides, and herbicides reaching Chautauqua Lake low.
- Ensure that potential harmful impacts including industrial development in the source water area are reviewed” (NYS Department of Health and NEIWPC, 2024).

Critical Environmental Areas

Critical Environmental Areas (CEAs) are geographic areas with exceptional or unique characteristics, that are designated by a local or state agency in New York State. According to subdivision 6 NYCRR 617.14(g) of the State Environmental Quality Review (SEQR) regulations, “to be designated as a CEA, an area must have an exceptional or unique character covering one or more of the following:

1. a benefit or threat to human health;
2. a natural setting (e.g., fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality);
3. agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
4. an inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change” (Thomson Reuters Westlaw).

Once established, a CEA would require an extra level of review under the State Environmental Quality Review (SEQR) process, for Type I or Unlisted actions that are within or adjacent to a designated CEA. When evaluating potential project impacts under SEQR, the lead agency for the project must consider how the proposed project could affect the qualities of the CEA. A CEA designation does not automatically restrict any activities in a CEA, nor does it automatically trigger a declaration of positive impact under SEQR. It simply provides an extra layer of review under SEQR for certain proposed projects in and around the CEA. This can encourage more proactive planning and design to protect critical resources, and ensure that these resources are not overlooked (NYSDEC Hudson River Estuary Program).

Chautauqua Lake Communities’ Drinking Water

The Chautauqua Lake Communities obtain their drinking water from three main sources: Chautauqua Lake and two groundwater wells (Well #1 and Well #4). The DWSP2 Plan identifies and maps areas in the watershed that could impact these water sources. These include a critical area and a source water area. The critical area is the area that directly surrounds the drinking water source, and contributes water to the water source over a short time period (for example, 1 to 5 years for groundwater wells). The source water area extends beyond the critical area, but still has the potential to contribute water to the drinking water source, generally over a longer time period (NYS Department of Health and NYS Department of Environmental Conservation, 2019).

The critical and source water areas for the Chautauqua Lake Communities are displayed in Figure 2 (page 27) of the DWSP2 Plan. Well #1’s critical and source water areas were delineated from the 2004 Source Water Assessment Program (SWAP) report prepared by the NYS Department of Health

(NYSDOH). Groundwater modeling software was used to delineate Well #4's critical and source water areas. Chautauqua Lake's critical area contains the area within 1,000 feet from the shoreline, and its source water area was delineated from the 2004 SWAP report (NYS Department of Health and NEIWPC, 2024). The critical area is included in the source water area.

CEA Selection

The Town of Chautauqua chose to select the portion of the source water areas within the Town as the Town of Chautauqua Source Water Area CEA boundary. The source water areas provide the most protection for the drinking water, in contrast to the wellhead critical contributing areas, which are limited to a smaller geographic area. The source water areas contribute both surface water and groundwater to the Chautauqua Lake Communities' drinking water sources. Designating these areas as a CEA would ensure that development projects in or around the source water areas, that go through the SEQR process as Type I or Unlisted Actions, consider the potential impacts on the Chautauqua Lake Communities' drinking water. Only the source water areas within the Town of Chautauqua boundaries would be included in the CEA designation, because they represent the areas over which the Town has jurisdiction.²

Fulfillment of CEA Criteria

The 2024 Chautauqua Lake Communities DWSP2 Plan demonstrates that the proposed CEA represents an exceptional, unique area, since contamination to the proposed CEA poses a threat to human health (criteria #1 of the SEQR guidelines for CEAs, as listed above). Chautauqua Lake and the two groundwater wells referenced above provide drinking water for approximately 11,346 residents. Additionally, during the summer season, the Chautauqua Utility District, which serves the Chautauqua Institution, serves nearly 20,000 people per week. Any contamination of these drinking water sources could affect the health of these populations.

According to the DWSP2 Plan, Chautauqua Lake is susceptible to changes in nutrient levels, and has experienced an increase in Harmful Algal Blooms (HABs). Between May 2023 and October 2023, 33 HAB incidents were reported in Chautauqua Lake. HAB outbreaks require additional chemical treatment to ensure the cleanliness and safety of the drinking water. Additionally, thermal stratification in Chautauqua Lake causes poor lake turnover and poor oxygen circulation in some areas of the lake. This results in an increase in iron and manganese, impacting the health and taste of the drinking water (NYS Department of Health and NEIWPC, 2024).

The groundwater wells have faced health threats as well. For example, in 2020, the groundwater system for the Village of Mayville faced contamination with perfluorononanoic acid (PFNA). While the contaminated well is currently inactive, the Village was forced to expedite the development of

² The Village of Mayville is going through its own separate process to designate the source water areas within the Village's jurisdiction (i.e. within the Village boundaries) as a CEA as well.

another well and make multiple modifications to the drinking water system to protect water quality. This history demonstrates the susceptibility of the water system to contamination, which could affect human health as well as water system costs (NYS Department of Health and NEIWPC, 2024).

In the future, the DWSP2 Plan identifies five potential contaminant sources of priority that may impact drinking water quality for the CLC, and therefore may impact human health. They include:

- Fertilizer and pesticide application in sensitive areas
- Herbicide application inside Chautauqua Lake
- Harmful Algal Blooms in Chautauqua Lake
- Nutrient loading
- Regulated potential contaminant sources, including bulk storage facilities, oil and gas wells, and SPDES discharge (NYS Department of Health and NEIWPC, 2024).

Conclusion

The Chautauqua Lake Communities' DWSP2 Plan Management Team strongly supports designating the attached area as the Town of Chautauqua Source Water Area Critical Environmental Area. This area meets criteria #1 of the SEQR guidelines for CEA designation, because it is an exceptional and unique area where contamination would pose a threat to human health. Overall, the designation of the CEA would help protect an important drinking water source for a sizable population.

Attachment

- Map of the Town of Chautauqua Source Water Area Critical Environmental Area

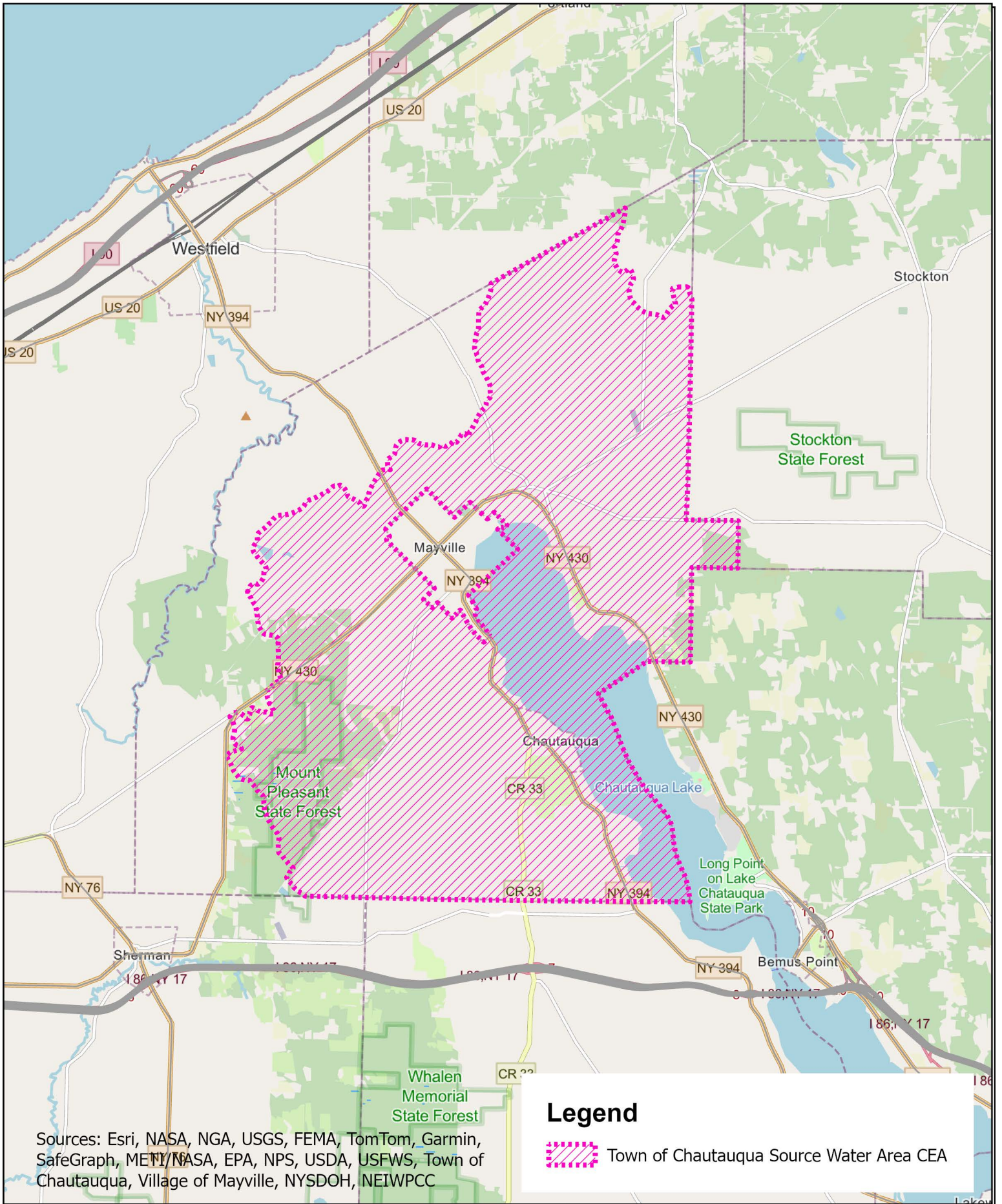
References

NYS Department of Health and NEIWPC. (2024). *Chautauqua Lake Communities Drinking Water Source Protection Program (DWSP2) Plan*.

NYS Department of Health and NYS Department of Environmental Conservation. (2019, December 18). A Framework for Creating a Drinking Water Source Protection Program Plan. Retrieved January 15, 2025, from https://extapps.dec.ny.gov/docs/water_pdf/dwsp2draftframework.pdf

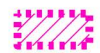
NYSDEC Hudson River Estuary Program. (n.d.). Critical Environmental Areas: Tools for Conservation in Your Community. Retrieved January 15, 2025, from https://extapps.dec.ny.gov/docs/remediation_hudson_pdf/ceafactsheet.pdf

Thomson Reuters Westlaw. (n.d.). 6 CRR-NY 617.14 Individual agency procedures to implement SEQR.



Sources: Esri, NASA, NGA, USGS, FEMA, TomTom, Garmin, SafeGraph, METI/NASA, EPA, NPS, USDA, USFWS, Town of Chautauque, Village of Mayville, NYSDOH, NEIWPCC

Legend

 Town of Chautauque Source Water Area CEA