

DWSP2 Plan

Lake Champlain Drinking Water Source Protection Program (DWSP2) Plan

Lake Champlain Joint Plan

Prepared for

Town of Chesterfield
Town of Essex
Town of Willsboro

Prepared by

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**Department
of Health**



Lake Champlain Drinking Water Source Protection Program (DWSP2)

Executive Summary

August 2025

In 2022, the Town of Willsboro, Town of Essex, and Town of Chesterfield/Hamlet of Port Kent was accepted to participate in a New York State's Drinking Water Source Protection Program (DWSP2). In February of 2022, the municipalities' Stakeholder Group began the joint DWSP2 plan development process in conjunction with a free technical assistance (TA) provider from the New York State Department of Health (DOH). This plan assisted the public water districts of Essex, Port Kent, and Willsboro.

The Towns focused its DWSP2 planning on assessing the current and future water quality concerns of the Main Lake section of Lake Champlain. The stakeholder group consisted of the Water Operators of each district, the three Town Supervisors, representatives from the Essex County office of community resources, county soil water conservation district, local health department, local non-profits, and local business owners. These individuals provided local knowledge of current conditions of the water supply and emerging concerns in the watershed. Together, the stakeholders and their TA provider interpreted data, developed maps, identified potential sources of contamination, developed an actionable list of protection methods, and identified funding and partnership opportunities. All data is available in the final DWSP2 plan. By working through plan development, the Towns now has a comprehensive, step-by-step implementation plan that can be used to address priorities in maintaining the reliability of Lake Champlain's Main Lake segment as a drinking water source. Implementing DWSP2 can promote public health and safety, avoid preventable drinking water treatment costs, increase community confidence in drinking water, and strengthen community partnerships.

Vision and Goals

Vision Statement: The Towns of Chesterfield and Port Kent, Essex, and Willsboro will commit to proactive protection of Lake Champlain and its watershed in order to provide high quality drinking water to each water district resident in these communities now and into the future.

Goals:

1. Establish a coordinated approach among Town officials and water operators from the Towns of Chesterfield and Port Kent, Essex and Willsboro to assess and address threats to water quality and public health.
2. Improve rapid response capabilities to source water quality threats.
3. Engage and educate the community about their drinking water and best practices for watershed protection and water conservation.

Potential Contaminant Sources

The Stakeholder Group and their TA provider compiled a list of current and future concerns based on available data and updated mapping. The following list of concerns were identified as the top priorities amongst the Towns to protect the quality and longevity of their source:

1. Transportation related contamination
2. Waterfront property management
3. Nutrient loading
4. Future development within the Source Water Area (SWA)

5. Erosion and sediment control
6. Emerging contaminants
7. Management of regulated potential contaminant sources

Protection and Management Strategies

To address the identified concerns, the stakeholder group and their TA provider determined strategies that can be implemented to prevent future contamination of Lake Champlain. The list below summarizes the **highest priority strategies** for the communities. The complete scope of protection and management strategies can be located in section 3 of the DWSP2 plan.

Transportation Related Contamination: Reduce the likelihood of transportation related spills from train and roadways into the source water area.

The Plan Management Team will work to increase communication with railroad officials and the local emergency response plan to ensure limited contamination to Lake Champlain and streamline future assistance.

Nutrient Loading: Increase awareness of the importance of septic best management practices and actions that can be taken.

Improper maintenance of septic systems can cause the tanks to leak, contaminating source water by adding extra nutrients. The Plan Management Team will educate homeowners and facilitate partnerships to assist in the maintenance or replacement of residents' septic systems.

Future development: Increase collaboration and coordination among the communities listed in this plan to address existing or new developments around the source.

Establish regular, quarterly meetings to increase source water protection coordination among each Town. Consider inclusion of source water protection activities in Intermunicipal Agreements.

Waterfront Property Management: Ensure consideration of the source water protection area when new developments are approved.

Designate areas of importance as a critical environmental area (CEA). Prior to the start of major projects, a CEA designation will alert relevant parties of the impacts that new developments may have to the source water area.

Erosion and Sediment Control: Develop a localized strategy to reduce erosion and sedimentation. Improve conditions during major hydrologic events.

Conduct surveys to identify target areas and prioritize stabilization projects in the Bouquet River. Utilize best management practices for improving ditch and culverts to mitigate environmental impacts during high flow events.

Conclusion

Overall, the communities' water source is of high quality. In order to maintain the quality of the lake, the Plan Management Team and the municipalities would like to move forward with the most important component of DWSP2: plan implementation. Since the Towns are dependent on this source for its drinking water, it is crucial to work together to implement the identified strategies to protect water quality for current and future generations. Potential funding sources, partnerships and protection methods are listed in the DWSP2 plan to aid the Towns with DWSP2 implementation.

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ABBREVIATIONS

ADK	Adirondack
AFC	Ausable Freshwater Center
AWQR	Annual Water Quality Report
BMP	Best Management Practice
BRASS	Boquet River Association
CAC	Citizen Advisory Committee
CP	Canadian Pacific (Railway)
CWICNY	Champlain Watershed Improvement Coalition of New York
CWSRF	Clean Water State Revolving Fund
DWSP2	Drinking Water Source Protection Program
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GPD	Gallons per day
GIS	Geographical Information System
GIGP	Green Innovation Grant Program
HABs	Harmful Algal Blooms
HUC12	Hydrologic Unit Code (12)
IMA	Intermunicipal Agreement
LCBP	Lake Champlain Basin Program
LCLGRPB	Lake Champlain Lake George Regional Planning Board
MCL	Maximum Contaminant Level
MCW	Mean Channel Width
MSGP	Multi-Sector General Permit
NTU	Nephelometric Turbidity Unit
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSAGM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDDL	New York State Department of Labor
NYSDOS	New York State Department of State
NYSDOT	New York State Department of Transportation
NYSEFC	New York State Environmental Facilities Corporation
NYS DHSES	New York State Division of Homeland Security and Emergency Services

PBS	Petroleum Bulk Storage
PCS	Potential Contaminant Source
PFAS	Per- and Polyfluorinated Substances
SEQR	State Environmental Quality Review
SPDES	State Pollutant Discharge Elimination System
SWAP	Source Water Assessment Program
SWCD	Soil and Water Conservation District
TA	Technical Assistance
TMDL	Total Maximum Daily Load
USDA NRCS	United States Department of Agriculture Natural Resources Conservation Service
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WQIP	Water Quality Improvement Project

INTRODUCTION

The purpose of this Drinking Water Source Protection Program (DWSP2) Plan for the Town of Chesterfield, Town of Essex and Town of Willsboro is to protect public health and safety by preventing pollutants from entering their drinking water supply. Source water refers to surface water (streams, rivers, lakes, and reservoirs) and groundwater (aquifers) from which water is taken by a public water system for drinking or food processing purposes. DWSP2 is designed to empower municipalities to take action to improve and protect their public water sources and surrounding environment.

The Towns of Chesterfield, Essex, and Willsboro applied for free technical assistance to create a tailored, locally developed DWSP2 Plan that builds off previous work, helps align priorities, and fills gaps within the Towns' current and future source water protection efforts. The Towns were paired with a Technical Assistance Provider (TA Provider) from the New York State Department of Health (NYSDOH) to develop their DWSP2 Plan.

To help guide municipalities and their TA Providers in developing DWSP2 Plans, representatives of key state agencies, including NYSDOH, New York State Department of Environmental Conservation (NYSDEC), New York State Department of State (NYSDOS), New York State Department of Agriculture and Markets (NYSAGM), and other organizations, crafted a draft "Framework for Creating a Drinking Water Source Protection Program Plan." The Program consists of five (5) phases and ten (10) key components (Table 0-1).

Table 0—1: Phases and Key Components

Phase 1. Stakeholder Group
1.1 Form a Stakeholder Group
1.2 Establish Goals and Formulate a Vision
Phase 2. Drinking Water Source Assessment
2.1 Develop an Overview of the Water System
2.2 Prepare a Drinking Water Source Protection Map
2.3 Create a Potential Contaminant Source Inventory
Phase 3. Protection and Implementation Strategies
3.1 Identify Protection and Management Methods
3.2 Develop an Implementation Timeline
Phase 4. Progression and Maintenance
4.1 Designate a Plan Management Team
Phase 5. Implementation
5.1 Implement the Plan
5.2 Progress Reports

This DWSP2 Plan was developed jointly for the three Towns by means of a local stakeholder group who used the series of steps above. The stakeholders were able to provide knowledge of current conditions of

the water supply and emerging concerns. In developing their DWSP2 Plan, the stakeholder group and their TA Provider interpreted data, created maps, identified potential sources of contamination, prepared an actionable list of source water protection methods, and researched funding and partnership opportunities.

This plan prepares the Towns for the most important component of DWSP2: Implementation. The DWSP2 Plan will guide the Towns and their partners to readily apply source water protection methods. This will help the Towns promote public health, avoid preventable drinking water treatment costs, increase community confidence in their drinking water, and strengthen community partnerships.

This document will be updated, maintained, and implemented by the Towns. It is comprehensive and tailored to the Towns' unique needs and goals. Ultimately, this Plan offers a detailed road map for long-term protection of their drinking water sources.

BACKGROUND

Lake Champlain is a rich resource for its surrounding region, spanning 120 miles long and holding 6.8 trillion gallons of water (Lake Champlain Basin Program). The Lake is surrounded by New York, Vermont and the Canadian province of Québec; with over 200,000 people depending on the Lake for drinking water. The Towns of Chesterfield, Essex, and Willsboro are located along the shoreline of Lake Champlain and each Town uses the Lake as a source of drinking water. Refer to Figure 1 for an overview map.

The Town of Willsboro receives water from Willsboro Water District (NY1500299) and the Town of Essex receives water from Essex Water District (NY1500278). Chesterfield has two water systems: (1) Chesterfield Water District, and (2) Port Kent Water District (NY1520370), which supplies the Hamlet of Port Kent. The Town of Chesterfield completed a source water protection plan for Chesterfield Water District's Butternut Pond source water intake in 2021 and decided to focus on Port Kent Water District and Lake Champlain for this DWSP2 effort. The Town of Chesterfield is the governing body of the Hamlet of Port Kent and the Port Kent Water District. Hereafter, the Town of Chesterfield will be referred to as the "Town of Chesterfield and Port Kent" and "Port Kent Water District" will be used when specifically referring to their water system located in Port Kent.

Due to their regional proximity and use of the same source, the Towns of Chesterfield and Port Kent, Willsboro, and Essex collaborated to create this joint DWSP2 Plan. Because Lake Champlain and its contributing watershed covers an expansive area, the surrounding basin is often split into different segments based on sub-watershed boundaries, allowing for targeted management strategies within certain sections of the basin. For example, the section in which the three towns are located is referenced as the "Main Lake" area for phosphorus management purposes by NYSDEC (Figure 30). For this DWSP2 Plan, a targeted focus area was selected within the "Main Lake" area on the New York side of Lake Champlain to help the Towns focus on the most immediate concerns to their water districts.

The lake has a long history of invasive species. All three communities recognize invasive species has exponential negative impacts on the lake, such as changes in lake habitats, water quality and drinking water infrastructure. One example of this is the Zebra Mussels formation around the intakes, which have forced the water districts to send divers into the lake to remove the mussels. However, these issues will not be analyzed for the purpose of this plan.

In 2004, NYSDOH prepared a Source Water Assessment Program (SWAP) report for Port Kent Water District and Willsboro Water District. The SWAP report included delineation of contributing land areas, watershed inventory of potential contaminant sources, and analysis of the susceptibility of a public water supply to contamination. These assessments were referenced and built upon for DWSP2. Essex Water District did not have a SWAP completed. However, the three Towns and their TA Provider compiled and reviewed a variety of additional information, including but not limited to Annual Water Quality Reports (AWQR), local laws, Local Waterfront Revitalization Programs, and Town Comprehensive Plans. Maps were created that analyze different components of water quality for the area around Lake Champlain. For security purposes, specific intake locations were removed from public facing versions of this report.

Lake Champlain currently faces several environmental challenges and there are multiple initiatives and research projects underway in the region to address these concerns, including but not limited to: the Lake Champlain Phosphorous Total Maximum Daily Load (TMDL), the Lake Champlain Harmful Algal Bloom Action Plan, and initiatives led by the Lake Champlain Basin Program (LCBP). These efforts were also reviewed and discussed in the planning of this DWSP2. The Towns recognize the importance of maintaining a quality and reliable drinking water source for the long-term benefits of their residents. This Plan is designed to build off previous work and assess current and future water quality concerns. The Towns will work to help strengthen existing initiatives and maintain the quality of their water source by implementing the identified protection and management methods.

1.0 STAKEHOLDER GROUP

1.1. Form a Stakeholder Group

The first step in developing the Towns' DWSP2 Plan was forming a stakeholder group. Stakeholders with different backgrounds and knowledge assisted with Plan development, including representatives from the NYSDOH Saranac Lake District Office, Essex County Soil and Water Conservation District, Essex County Office of Community Resources, Lake Champlain's Citizens Advisory Committee (CAC), Boquet River Association (BRASS), Indian Bay Marina, as well as the Water Operators and Town Supervisors from each Town. All members of the stakeholder group and their affiliations are listed in Table 1-1. The stakeholder group established monthly meetings with their TA Provider to work through the Framework and develop their DWSP2 Plan. A list of scheduled meetings and discussion summaries are included in Appendix A.2. The stakeholder group assisted in creating a vision statement and goals for their DWSP2 Plan. They provided local knowledge and feedback during the drinking water source assessment phase as well as the protection and implementation strategies phase. Finally, they assisted in making important decisions about current stakeholder group members and job positions that will lead future DWSP2 efforts as the Plan Management Team.

Table 1—1: Towns of Chesterfield and Port Kent, Essex, and Willsboro Stakeholder Group

<u>Stakeholder Members</u>	<u>Relevant Affiliation(s)</u>
Patrick McCauliffe²	Willsboro Water District Water Operator
Tina Gardner	Essex Water District Water Operator
Dave Winter	Chesterfield and Port Kent Water District Water Operator
Shaun Gilliland	Willsboro Town Supervisor
Ken Hughes	Essex Town Supervisor
Clayton Barber	Chesterfield Town Supervisor
Marlene Martin	NYSDOH Saranac Lake District Office
Amanda Lavigne	NYSDOH Saranac Lake District Office
Anna Reynolds¹	Essex County Office of Community Resources
Hannah Neilly	Essex County Office of Community Resources
Alice Halloran	Essex County Soil and Water Conservation District
Vic Putman	Lake Champlain Citizens Advisory Committee
Patty Schwenker	Indian Bay Marina
	<u>Relevant Affiliation(s)</u>
Eric Howe	Lake Champlain Basin program
Katie Darr³	Lake Champlain Basin program
Colleen Hickey⁴	Lake Champlain Basin program

¹ Plan Point of Contact

² Plan Secondary Contact

³ No longer employed with Lake Champlain Basin Program as of Spring 2025

⁴ No longer employed with Lake Champlain Basin Program as of Summer 2025

1.2. Vision Statement and Goals

The Lake Champlain stakeholder group created specific goals and a vision statement for their DWSP2 Plan to guide their efforts. The goals are:

1. Establish a coordinated approach among Town officials and water operators from the Towns of Chesterfield and Port Kent, Essex, and Willsboro to assess and address threats to water quality and public health.
2. Improve rapid response capabilities to source water quality threats.
3. Engage and educate the community about their drinking water and best practices for watershed protection and water conservation.

After consideration of the community's goals, the vision statement was created and followed during the project:

The Towns of Chesterfield and Port Kent, Essex, and Willsboro will commit to proactive protection of Lake Champlain and its watershed in order to provide high quality drinking water to each water district resident in these communities now and into the future.

2.0 DRINKING WATER SOURCE ASSESSMENT

2.1. Water System Overview

Lake Champlain's Main Lake Segment is the sole source of water for Port Kent Water District, Essex Water District, and Willsboro Water District. Because of relatively lower phosphorous levels, cyanobacteria blooms in the Main Lake appear occasionally and are not widespread. However, annual phosphorus loading to the Main Lake segment in 2023 was above average due to the July flooding (LCBP 2024). From 2022 to 2024, ambient total phosphorous samples in the Main Lake increased from 11.7 to 15.2 ug/L (VTDEC 2024).

Each water district operates their own treatment plant and serves residents in each of the respective communities. The surface water intakes for each Town are located near the shoreline of Lake Champlain within each Towns' jurisdiction.

Port Kent Water District (NY1520370) serves approximately 200-230 people through 156 service connections. Water is pumped from the intake into a 9,000-gallon wet well storage tank. Raw water is pumped at an average of 150-200 gallons per minute to their treatment plant where water is filtered through mixed media pressure filters, including a roughing filter, polishing filter, and granulated activated carbon filters. A coagulant is applied prior to filtering. Ultraviolet disinfection units and chlorine are used to treat the water before it is pumped into a 170,000-gallon storage tank and distributed to customers (Port Kent Water District, 2023).

Willsboro Water District (NY1500299) serves about 2,000 people through 1,500 service connections. Water is pumped through four diatomaceous earth pressure filters. The water is disinfected with sodium hypochlorite solution at the treatment plant. Zinc orthophosphate is added to the water as corrosion control to manage levels of lead and copper as water is delivered to customers. The Willsboro treatment plant is capable of pumping, filtering, and disinfecting 650 gallons per minute during routine operations. Finished water is pumped to both a 500,000 gallon and 200,000-gallon storage tank simultaneously before distribution (Willsboro Water District, 2023). At the time of this report, Willsboro is in the process of constructing a new decentralized wastewater treatment facility. The treatment facility is anticipated to be online in 2-3 years and will transition from pressure diatomaceous earth pressure filters to a new coagulation, flocculation, and sedimentation process. The new treatment process will enable Willsboro to produce water more efficiently and at a higher quality than the current treatment process.

Essex Water District (NY1500278) serves approximately 350 people through 177 service connections. Water is pumped at 60 gallons per minute through pressure diatomaceous earth filters at their water treatment plant¹. Chlorine is used for disinfection and zinc orthophosphate is added for corrosion control for lead and copper. The system utilizes a 137,000-gallon glass fused steel storage tank in the distribution system (Essex Water District, 2023). At the time of this report, the Essex Water Treatment Plant is being upgraded with a conventional filtration process including coagulation, flocculation, sedimentation, and filtration. The new plant should eliminate disinfection byproduct (DBP) violations. As of summer 2025, the Town has nearly completed the interior finish of the plant and is now focused on moving forward with plumbing work (Town of Essex 2025).

Table 2-1 provides a summary of water quantity data from each system. Appendix A.4 includes more details about each water system.

Table 2—1: Towns of Chesterfield and Port Kent, Essex, and Willsboro Water Quantity Summary

Water District	Port Kent (Chesterfield)	Essex	Willsboro
Total Permitted Water Withdrawal Capacity*	100,000 GPD	25,000 GPD	865,000 GPD
Average Daily Water Demand (= Yearly Usage / 365)	30,000 GPD	<20,000 GPD	308,000 GPD
Maximum Daily Water Demand (Unofficial 3-day average in peak month – e.g., July)	70,000 GPD	<20,000 GPD	590,000 GPD
Annual Water Losses	2,000 GPD	No Data	0 GPD
Current Water Withdrawal Permit Expiration Date	7/18/2031	No Expiration Date	No Expiration Date

The three systems outlined above are considered community water systems, which serve the same people year-round. Alternatively, a non-community water system serves the public but does not serve the same people year-round. The Crater Club Water Supply (NY1512226) is a non-community water system within the focus area of this report that utilizes water directly

¹ The Essex Water District decommissioned diatomaceous earth filters in early 2024.

from Lake Champlain. While DWSP2 focuses on community water systems, the Crater Club Water Supply is featured on the maps in this report for reference.

2.2. Drinking Water Source Protection Mapping

2.2.1. Drinking Water Source Protection Areas

Lake Champlain and its contributing watershed covers an extensive area spanning the municipal, state, and national boundaries of Canada. While it is important to protect the entirety of the Lake, its watershed, and understand that there is potential contaminant influence occurring outside of New York and the United States control, a smaller focus area was delineated to identify locations in New York State that could have an immediate impact on the source water intakes for each Town developing this Plan.

The DWSP2 Framework recommends that communities with various protection areas be identified. These include the (1) Control and Monitoring Area, (2) Critical Area, and (3) Extended Source Water Area.

The Control and Monitoring Area represents a 1,000-foot radius around each intake. Monitoring land and water activities that occur within this radius is a high priority. The Critical Area highlights a 1,000-foot distance upland from the Lake Champlain shoreline in which potential contaminants could quickly reach the Lake and thus pose a greater risk to the drinking water source. In total, the Critical Area covers over 30 miles of Lake Champlain shoreline. Between Willsboro and Essex, an extension was added to the 1,000-foot Critical Area that represents 20 times the mean channel width upstream of the Boquet River. The extension was calculated by measuring the widest point of the Boquet River, which is where the river enters Lake Champlain. The width was multiplied by 20 to determine how far upstream the Critical Area should be extended as recommended by the DWSP2 Framework.

The Extended Source Water Area represents watershed boundaries from the hydrologic unit code of 12 (HUC12) that contribute to the intake areas in each Town. HUC12 is a numeric code that identifies local subwatershed boundaries. The Extended Source Water Area covers land in the Towns of Chesterfield, Willsboro, and Essex, as well as portions of the Town of Westport, Town of Moriah, and the Hamlet of Port Henry. The portion south of Essex is collectively referred to as Port Henry/Southern Shore in this report. The southernmost HUC12 near Port Henry/Southern Shore was truncated to overlay the area between the railway and the shoreline. In total, the Extended Source Water Area covers over 72,200 acres of land area and 60 miles of Lake Champlain shoreline.

The Extended Source Water Area was calculated using StreamStats. StreamStats is a United States Geological Survey (USGS) web-based Geographic Information Systems (GIS) application that provides users with access to an assortment of analytical tools that are

useful for a variety of water-resources planning, management, engineering, and design purposes. The location of each Towns’ drinking water intake was used in StreamStats to generate the drainage area in which water flows from the surrounding land into Lake Champlain. The DWPS2 Framework provides a step-by-step guide on how this was performed. Refer to Figure 1 for an overview map of the Control and Monitoring, Critical, and Extended Source Water Areas.

Table 2—2 Preparing a Drinking Water Source Protection Map

Protection Areas	Description	Delineation Method
Control and Monitoring Area	1,000 ft buffer around the intakes	Arbitrary Fixed Radius
Critical Area	1,000 ft from Lake Champlain shoreline within each intake’s HUC12 boundaries, additional buffer 20 x Mean Wetted Channel Width (MCW) upstream of the Boquet River	Surface Water Delineation Method
Extended Source Water Area	HUC12 boundaries, southernmost HUC12 truncated to only use area from railway to the shore	HUC12 Delineation Method

2.2.2. Drinking Water Source Protection Maps

ESRI ArcGIS ArcMap Desktop v.10.8.2 was used to generate and analyze the drinking water source protection maps. Figure 1 is the Overview map, which displays locations the Towns’ drinking water systems within NYS and the protection areas described above. Figures 26-29 were provided by the Towns to display current zoning districts. Figure 30 displays the various segments of Lake Champlain as defined by NYSDEC. For security purposes, specific intake locations will not be shown on public facing versions of this report.

Figures 2-25 provide an overview of conditions within the Control and Monitoring, Critical and Extended Source Water Areas. They are as follows:

- Figure 2 – Surficial Geology
- Figure 3 – Bedrock Geology
- Figure 4 – Hydrologic Soil Group
- Figure 5 – Hydrology
- Figure 6 – Steep Slopes – Port Kent
- Figure 7 – Steep Slopes – Willsboro
- Figure 8 – Steep Slopes – Essex

- Figure 9 – Steep Slopes – Port Henry/Southern Shore
- Figure 10 – Land Cover – Port Kent
- Figure 11 – Land Cover – Willsboro
- Figure 12 – Land Cover – Essex
- Figure 13 – Land Cover – Port Henry/Southern Shore
- Figure 14 – Land Use – Port Kent
- Figure 15 – Land Use – Willsboro
- Figure 16 – Land Use – Essex
- Figure 17 – Land Use – Port Henry/Southern Shore
- Figure 18 – Potential Contaminant Sources – Port Kent
- Figure 19 – Potential Contaminant Sources – Willsboro
- Figure 20 – Potential Contaminant Sources – Essex
- Figure 21 – Potential Contaminant Sources – Port Henry/Southern Shore
- Figure 22 – Private Septic Systems – Port Kent
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- Figure 24 – Private Septic Systems – Essex
- Figure 25 – Private Septic Systems – Port Henry/Southern Shore
- Figure 26 – Zoning – Town of Chesterfield
- Figure 27 – Zoning – Willsboro
- Figure 28 – Zoning Essex Land Use
- Figure 29 – Zoning Essex Shoreline Overlay District
- Figure 30 – New York’s Major Lake Champlain Segments

2.2.3. Surface Water Hydrology

Lake Champlain features a significant drainage area, covering 8,234 square miles of land between the Adirondack Mountains in northeastern New York State and the Green Mountains in northwestern Vermont. Spanning 120 miles long and 12 miles wide at its widest point, Lake Champlain covers a surface area of 283,400 acres. The average depth of the Lake is 64 feet with its deepest point at 400 feet. Approximately 37% of the Lake Champlain watershed area is in New York State while 56% of the basin is in Vermont and 7% in Québec, Canada. Water flows south to north, beginning near Whitehall, New York, up to its outlet in the Richelieu River near Rouses Point, New York, before water flows north to the St. Lawrence River towards the Atlantic Ocean. Figure 1 displays the topography of the watershed.

Surficial geology describes sediment materials at or near the Earth’s surface. In Figure 2, the Extended Source Water Area primarily consists of glacial till, which tends to be composed of largely unsorted, mixed materials previously transported and deposited directly by a glacier as it advanced or retreated. Bedrock geology describes the type of solid rock that underlies surface material like soil and gravel (Figure 3). The bedrock within

the Extended Source Water Area primarily consists of sedimentary, igneous, and metamorphic rock.

Soil types play a role in runoff potential during significant storm events. With nearly 90% of the phosphorus entering Lake Champlain stemming from nonpoint sources, managing soil erosion and runoff will play an important role in protecting the Lake as a drinking water source (Lake Champlain Basin Program, 2023). Managing stream bank erosion, sedimentation, and siltation can also help reduce pollution as many pollutants commonly affix to soil particles. The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) groups soils that share similar runoff potentials. Soil group classifications consider runoff, infiltration rates, and the ways in which land activities can affect dynamics such as erosion and sedimentation of waterways. They are ranked by rate of infiltration with group A having the highest infiltration and group D having the lowest infiltration and highest runoff as described below.

- **Group A** soils have a high infiltration rate and low runoff. These soils consist of deep, well drained sands or gravelly sands and have a high rate of water transmission.
- **Group B** soils have a moderate infiltration rate. This group consists chiefly of deep well drained soils with a moderately fine to moderately coarse texture and a moderate rate of water transmission.
- **Group C** soils have a slow infiltration rate. This group consists of soils with a layer that impedes the downward movement of water or fine textured soils and a slow rate of water transmission.
- **Group D** soils have a very slow infiltration rate and high runoff potential. This group is composed of clays that have a high shrink-swell potential, soils with a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission. If a soil is placed in Group **D** because of a high-water table, it may be assigned to a dual hydrologic group: **A/D**, **B/D**, or **C/D**. The first letter of the pair represents the soil's group if drained and the **D** represents the natural condition.

The area near the Port Kent Water District intake is primarily Class A soils while the area around Willsboro and Essex Water District intakes are mainly Group D soils (Figure 4).

Approximately 4,883 miles of freshwater rivers and streams feed into the New York side of Lake Champlain. Among the major tributaries in New York, the Boquet River is a particular focus of this report due to its proximity to the source water intakes. Figure 5 shows the major and minor stream corridors, along with culvert locations. Culverts are categorized into two categories: alpha and beta. Alpha culverts are typically located on a

named or protected stream or have other characteristics that require permitting. Beta culverts are those that do not require permitting and are replaced in-kind as a road is paved.

Terrain slopes can affect land cover, land use, soil development, and runoff. Steep slopes are areas where hillsides with a 15-foot or greater vertical rise over a 100-foot horizontal run (or 15% slope) are found. While these areas can present obstacles to development, they also represent areas with decreased infiltration and increased runoff, which would carry sediments and pollutants more quickly towards the Lake. Figures 6-9 displays steep slopes in each Town. Within the Critical Area, steep slopes primarily occur between Port Kent and Willsboro (Figure 6). It is important to note that the Boquet River descends more than 2,700 feet in 47 miles of its main stem, making it the steepest river in New York State (BRASS, 2023). Consequently, the area surrounding the river is particularly susceptible to flash floods and erosion.

Land cover and land use are important factors in identifying potential contaminant sources. Land cover (Figures 10-13) denotes the mixture of natural and human-influenced systems that cover a region. Land cover can also inform an understanding of influences on water. The National Land Cover Data (2019) in the Extended Source Water Area shows that 43% is forested and 26% of the area is open water. The Extended Source Water Area also consists of 12% hay and pasture, 6% woody wetland, 4% cultivated crops, and 1% emergent herbaceous wetlands. The percentage of development within this area is as follows: 2% open space, 2% low intensity development, 2% medium intensity development and 1% high intensity development.

Table 2—3 Land Cover Percentages in the Extended Source Water Area

Land Cover Type	Percentage in the Extended Source Water Area
Forested	43%
Open Water	26%
Hay and Pasture	12%
Woody Wetland	6%
Cultivated Crops	4%
Emergent Herbaceous Wetlands	1%
Open Space	2%
Low-intensity Development	2%
Medium-intensity Development	2%
High-intensity Development	1%

Land use was analyzed by property type classification codes based on Essex County tax parcels. The land use map (Figures 14-17) provides context as to how each tax parcel in the focus area is intended to be used in the future (i.e. agricultural, residential, commercial, industrial). According to the DWSP2 Framework, areas zoned as low-density residential use (with limited or no septic system use) and open space are considered low risk. The tax parcel data were also utilized to create a visualization of private septic systems in the region (Figures 22-25).

2.3. Potential Contaminant Source Inventory

A potential contaminant source inventory was assembled for the Towns which includes a list of potential contaminant sources (PCS) that may impact the quality of drinking water sources, if improperly managed (Appendix A.6).

The estimated PCS locations were identified by using a wide range of publicly available datasets. It is important to recognize that these are not necessarily sources of contamination but rather represent areas with potential risks based on the history of surface water contaminants associated with certain land uses. The mapped presence of PCS in the Lake Champlain Critical and Extended Source Water Areas provided the stakeholder group guidance on categories of land uses warranting attention. The location of all potential contaminant sources mapped within the Critical and Extended Source Water Areas are included in Figures 18-21. Additionally, the PCS inventory in Appendix A.6 identifies the location of each PCS, with regards to “Protection Area(s) Impacted” (i.e. Control and Monitoring, Critical Area, or Extended Source Water Area) and “Town Area(s) Impacted” (Town of Chesterfield and Port Kent, Willsboro, Essex, or Port Henry/Southern Shore).

The data provided lists the facility, address, and source information in addition to key attributes associated with proximity to the protection areas. The data is classified by overall general category as defined in the Framework. Some PCS are categorized as “other”, which means they did not fall into the general categories. “Other” sources include Parks and Dog Walking Areas as well as Pharmaceutical Disposal. Some sources fall into two or more categories. Potential future sources of contamination are also listed in the PCS inventory. These sources could emerge in the near or far future; keeping track of these sources is critical for long-term protection of the Towns’ water supplies.

Table 2-3 shows all potential contaminant source categories and notes which were found within the Critical and Extended Source Water Areas at the time of this report. There are several items that should be monitored for future contamination. The stakeholder group identified strategies to help mitigate their current and future concerns.

Table 2—4: Potential Contaminant Source Categories and Sources

Potential Contaminant Source Category	Source	Identified
Bulk Storage	Chemical Bulk Storage	No
	Major Oil Storage Facilities	No
	Petroleum Bulk Storage Facilities	Yes
Waste Management and Disposal	Active Landfills	No
	Inactive Landfills (Title 12)	Yes
	Hazardous Waste Management Facilities	Yes
	Land Application Sites	No
	Vehicle Dismantling Facilities	No
Contamination Sites or Incidents	Remediation Sites	Yes
	Spill Incidents	Yes
Mineral Extraction Sites	Oil and Gas Wells	No
	Orphan Oil and Gas Wells	No
	Mines	Yes
	Historical Abandoned Mines	No
Discharge to Water	State Pollutant Discharge Elimination System permitted (SPDES) Facilities	Yes
	Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows	No
Transportation	Airports	Yes
	Transportation Corridors (including roadside ditches and maintenance)	Yes
	Road and Maintenance Facilities	Yes
	Salt and Deicers Storage	Yes
Agriculture	Agricultural Activities	Yes
Residential Sources	On-Site Septic Systems	Yes
	Lawn and Garden Chemicals	Yes
	Waterfront Property Management (including equipment, fuel use, sump pumps)	Yes
Conveyances and Pipelines	Oil and Gas Pipelines	No
Other	Golf Courses	Yes
	Marinas and Boat Launches	Yes
	Stormwater	Yes
	Toxic Release Inventory Facilities	No
	Fire Training and Dedicated Fire Training Facilities	No
	Nutrient Loading (Lakes Only)	Yes
	Saltwater Intrusion	No
	Road Salt Application	Yes
	Other	Yes

3.0 PROTECTION AND IMPLEMENTATION STRATEGIES

Because the Port Kent, Essex, and Willsboro Water Districts depend on Lake Champlain, it is crucial to implement effective strategies for current and future protection. Overall, the Lake is a quality and adequate source of water for residents in the Towns of Chesterfield and Port Kent, Essex, and Willsboro. Numerous initiatives already occur within the basin. However, implementation of the identified strategies in this report will allow the Towns to strengthen current initiatives, maintain or improve the current condition of their source water, and meet the vision and goals outlined by the stakeholder group.

3.1. Protection and Management Methods

A variety of protection and management methods can help address the Towns' priority issues and potential contaminant sources to protect their source water. Summarized below are several regulatory and non-regulatory methods recommended as options in the DWSP2 Framework.

3.1.1. Land Use Tools and Methods

The broad category of land use tools and methods includes both regulatory and non-regulatory methods for mitigating potential contaminant sources. Regulatory methods include zoning ordinances, updating Watershed Rules and Regulations to address current and emerging concerns, designation of Critical Environmental Areas (CEAs) that require additional reviews and oversight, inter-municipal agreements, etc.

Non-regulatory methods include land purchase or voluntary conservation easements, encouraging or incentivizing the Best Management Practices (BMPs), and intermunicipal organizations. Other examples include improved roadway maintenance, enhanced staffing for inspections and enforcement, and planned maintenance of stormwater and wastewater infrastructure. Certain actions can minimize adverse impacts of climate change, including tree planting, vegetated buffers, wetland restoration, and floodplain management to help reduce flood flows and erosion of the stream bed and banks.

3.1.2. Monitoring and Reporting

Additional water quality monitoring throughout the Critical and Extended Source Water Areas may help locate specific areas where contamination is entering the source water. Identifying and addressing sources of contamination before they reach the water intake could eliminate or reduce the need for additional treatment. A detailed review of current monitoring plans and findings can identify gaps and highlight potential areas of vulnerability. Additionally, expanded monitoring could provide early warning of the presence of emerging contaminants.

3.1.3. Public Education and Outreach

Informing the public and providing educational tools to teach them about source water area protection can reduce the risk of contamination from residential sources. Public involvement in monitoring programs, also known as community science, can be a highly

effective means of building understanding of source water area issues and a commitment to stewardship.

The following questions should be considered when identifying potential outreach approaches:

1. Who are your target audience(s) and what do you want them to do in response to your project (e.g., what behaviors you seek to change, or actions you want them to take as a result of the information provided)?
2. What are your key messages and where do you want to direct people to get more information on the topic?
3. Are messages short, long, require graphics, etc.?
4. How do you plan to get the information out? (in person, email, digitally, direct mail)?
5. Who are partners who can help you get the information out?
6. What is your budget? Example strategies for education and outreach include digital/social media, paid advertising, press release, newsletters, factsheets and flyers, email blasts, signage, tabling/presenting, community events, and training.

3.1.4. Priority Issues

Discussions were held with the stakeholder group to understand the priority issues of each municipality. These issues were ranked on a high, medium, or low scale in order of importance based on several factors, including existing concerns, observed issues, gaps identified in existing protection efforts, and the proximity of potential contaminant sources to the source water intakes. To capture localized needs and priorities, certain priority issues were ranked differently among the Towns. With each priority issue, a targeted potential contaminant source was identified, along with goals to reduce or mitigate the issue. At the time of this Plan's development, the top concerns identified by the stakeholder group are summarized below.

Priority 1: The first priority is to monitor and reduce the likelihood of transportation related spills. Contamination events that occur along transportation corridors within the Critical and Extended Source Water Areas may lead to run off or direct contamination of the Lake, including spills from recreational and commercial boaters, airplanes, motor vehicles (i.e. cars, and semi-trucks), ferries, highways or railways. The main concern for all three Towns is the railway that runs along 13 miles of shoreline within the Critical Area. This railway is used to transport crude oil in addition to other chemical and industrial commodities. Extreme weather, aging infrastructure, and human error can lead to spills of hazardous materials into the Lake near the intakes (Scott, 2020). Potential spills from roadway traffic were also ranked as a high priority, as mixed freight and refined fuel cargos are transported through Critical and Extended Source Water Areas frequently. Uncontained spills from transportation incidents could have major impacts on water

quality in Lake Champlain (Scott, 2020). To be more proactive, the Municipalities plan to increase communication with local highway departments, NYSDOT, NYSDEC, and other relevant entities regarding the status and logistics of the county and water districts' respective emergency response plans and spill response efforts in the area. Additional efforts will be made to ensure responsible entities are aware of the Critical Area's location and sensitivity.

Priority 2: The second priority is to raise awareness about private, on-site septic systems by educating residents on best management practices. Biological leaks and spills from failing residential septic systems can cause excess nutrients, E. coli, PFAS, and pharmaceuticals to enter the Lake. The Towns will utilize partnerships to conduct outreach and education for homeowners living in the Critical and Extended Source Water Areas, including working directly with homeowners to discuss management strategies. This outreach effort will also promote participation in the NYS Environmental Facilities Corporation (NYSEFC)'s Septic Replacement Fund Program.

Priority 3: The third priority is to consider future development impacts. New developments such as homes, businesses, or any other new construction can increase impervious surfaces. This increase can cause chemical, physical, and or biological contamination in the Critical or Extended Source Water Area, posing potential risks to water quality. The stakeholder group identified that increased collaboration and coordination among the Towns regarding existing or new source water concerns is important to bridge gaps and strengthen protection efforts in the Critical and Extended Source Water Protection Areas. The Towns will establish quarterly meetings to maintain communication and progress in source water protection efforts.

Priority 4: The fourth priority is to establish a Critical Environmental Area (CEA). Increased development and non-permeable structures near the source water intakes may cause increased amounts of runoff from biological, chemical, and or physical contaminants. A CEA is a formal designation of a geographic area with exceptional or unique character, as defined under subdivision 6 NYCRR 617.14(g) of the State Environmental Quality Review (SEQR) regulations. The designation will alert landowners, developers, and regulatory agencies of the area's importance when considering environmental concerns for potential projects near the Lake. By adopting a CEA for the DWSP2 Critical Area, sensitive areas near the source water intakes would have an added layer of protection during environmental review for new development. Overall, the CEA designation will allow the Towns to be more proactive against changes in development and land use on waterfront properties around the Lake.

Priority 5: The fifth priority is erosion and sediment control. Excess sediments can transport pollutants and increase turbidity in water. The Town of Essex's water operator has observed sediment accumulation near and on intakes. The Town of Essex has

identified this as a high priority due to the potential damage that is caused by sedimentation to the intakes (e.g. storage capacity and damage). Proactive measures to prevent further erosion and build up have been identified. However, no one specific point source for this sedimentation has been identified. At the time of this report, erosion is not the highest concern for the Towns of Chesterfield and Port Kent and Willsboro. However, both Towns recognize that erosion and sediment are future potential concerns for water quality near their intakes. Increasing best management practices in high-risk erosion areas, identifying and prioritizing stabilization projects, and managing undersized culverts are methods recommended to minimize present and future concerns.

3.2. Implementation Timeline

Protection and management methods were identified and tailored to meet the needs of the Towns. Appendix A.7 includes the Implementation Timeline, which details each priority issue, potential contaminant source(s), goal(s), as well as protection and management methods recommended to reduce or mitigate any concerns. The Timeline also identifies project leaders and partnerships needed, potential funding sources, cost estimates and project timing. Appendix B includes project profiles, which build off the Implementation Timeline and provide step-by-step processes the Towns can use to complete implementation. Potential costs are classified into low (\$), medium (\$\$), and high (\$\$\$). Low-cost projects are those that would be able to be completed with the existing municipality's budget or with a budget amendment. Medium-cost projects may require the use of capital funding and may require external or new personnel. High-cost projects would require capital funding and would require additional staff or contracted personnel. Detailed cost estimates are included in Appendix C. Appendix C includes a cost estimates table encompassing projections of time commitment, development cost, and total cost. Please note that potential funding sources are not guaranteed. It is the responsibility of the Towns to determine eligibility and apply for any potential funding sources listed in this report.

The long-term protection of the Towns' water supplies will require leadership and oversight to manage implementation of the recommended actions. Opportunities to partner with local, regional, or state resources for technical support and funding should be explored.

4.0 PLAN PROGRESSION AND MAINTENANCE

This DWSP2 Plan was developed to provide the Towns of Chesterfield and Port Kent, Essex, and Willsboro with the tools and information needed to protect their drinking water, including a potential contaminant source list, cost estimate table, and implementation timeline. A Plan Management Team is recommended to oversee the implementation of this Plan. The Plan Management Team is also responsible for generating and sharing progress reports with the community.

Members are selected based on their knowledge of the water system, position, and potential to lead or contribute to implementing the recommended actions. It is encouraged to include two members from each organization to enable transfer of institutional knowledge and succession planning. The

Plan Management Team will review progress toward implementation and review any issues or emerging concerns during their regularly scheduled meetings. Members are expected to coordinate with one another to share the ideas and methods contained within this Plan. Annual progress reports should be produced and shared with NYSDEC, NYSDOH, and the community. The Plan Management Team is expected to update their DWSP2 every five years to reflect progress and emerging issues.

Table 4-1 provides a list of the Plan Management Team members. The stakeholder group anticipates that the Boquet River Association (BRASS) will lead the implementation of this plan. The Plan Management Team will inform the public through education and engagement activities, including but not limited to, educational materials, public campaigns, and other items outlined in the project profiles.

Table 4—1: Plan Management Team

<u>Name</u>	<u>Relevant Affiliation(s)</u>
Sam Blake	Lake Champlain – Lake George Regional Planning Board
Alice Halloran	Essex County Soil and Water Conservation District
Marlene Martin	NYSDOH Saranac Lake District Office
Vic Putman*	Lake Champlain Citizens Advisory Committee
Colin Powers	BRASS Executive Director
Anna Reynolds*	Essex County Office of Community Services
Erin Vollrath-Vennie	NYSDEC Lake Champlain Basin Coordinator
<i>Advisory Members</i>	
Ken Hughes	Essex Town Supervisor
Tina Gardner	Essex Water Operator
Tracie McGill	Willsboro Town Supervisor
Justin Drinkwine	Willsboro Water Operator
Clayton Barber	Chesterfield Town Supervisor
Dave Winter	Chesterfield Water Operator

*Plan Points of Contact

5.0 IMPLEMENTATION

5.1. Implement the Plan

The Plan Management Team is tasked with overseeing the implementation of the DWSP2 Plan. Steps for implementing the Plan below will aid in ensuring its usefulness to the Towns.

Steps to Implementing the Plan:

1. Start with priority action from the implementation timeline table.
2. Review project profile for the action including steps.
3. Assign how work will be divided for the project.

- a. For example, if one of the earlier steps is to contact a local partner, who will conduct that outreach? Once that individual/group is on board, designate individuals for the remaining tasks.
4. Identify lead for the project.
5. Implement project. Note that certain projects may be recurring. Therefore, certain steps for the project will become routine and allow for projects to be implemented simultaneously. If this is not the case, review the project with the team before considering it completed/closed out and moving on to the next action.
6. The team may decide to complete a retrospective review of how the implementation action went, to enhance the process moving forward.

Items for the Plan Management Team to consider:

- The Plan Management Team may decide to implement one action at a time or have certain actions occur concurrently.
- The Plan Management Team should frequent the state DWSP2 webpage for any new templates or resources that will aid with Plan implementation.
- The Plan Management Team may decide to incorporate their DWSP2 Plan into future Comprehensive Plan updates.

5.2. Progress Reports

An additional responsibility that the Plan Management Team is tasked with is to generate and share progress reports with the community to build support for implementation strategies. Sharing options may include press releases, Town Board meetings, Town website updates, or summaries included in water bills.

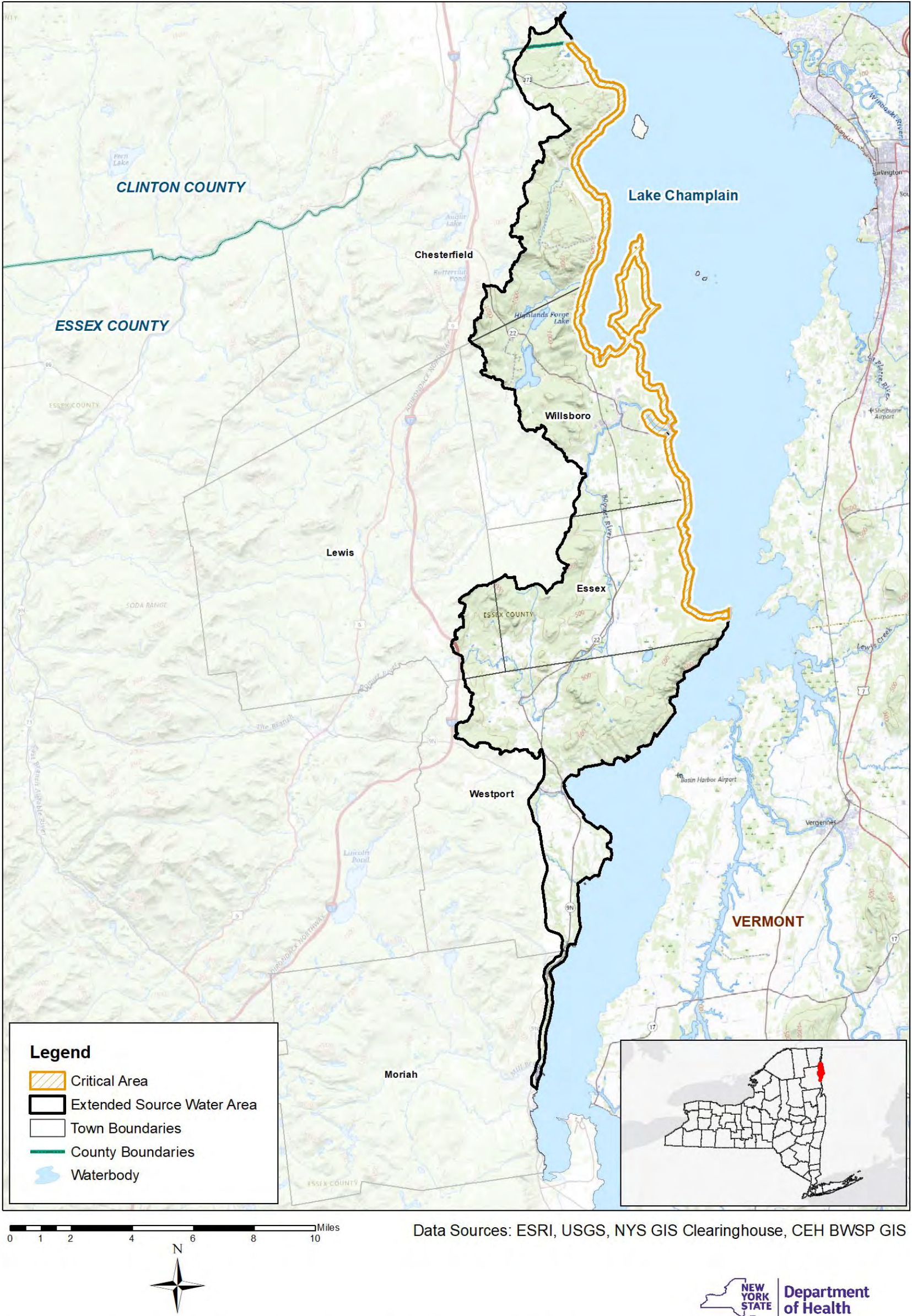
6.0 CONCLUSION

This DWSP2 Plan serves to guide the Towns of Chesterfield and Port Kent, Essex, and Willsboro toward implementation of various methods designed to protect their drinking water source, Lake Champlain. The maps in this report outline the areas that are a priority for protection and the potential contaminant source inventory identifies potential point and nonpoint sources of contamination within these priority areas. The project profiles included in Appendix B of this Plan outline specific goals, partnerships, funding opportunities, and implementation steps that are beneficial for the completion of a variety of projects that align with the Towns' goals and vision. The Plan Management Team will use this Plan to progress forward with their drinking water source protection.

Figures

Figure 1 - Overview

Lake Champlain DWSP2 - Overview

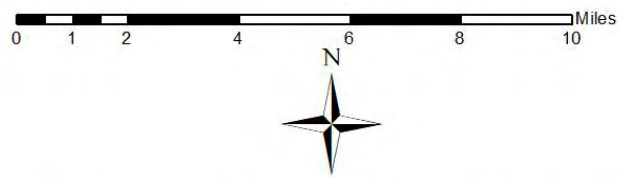
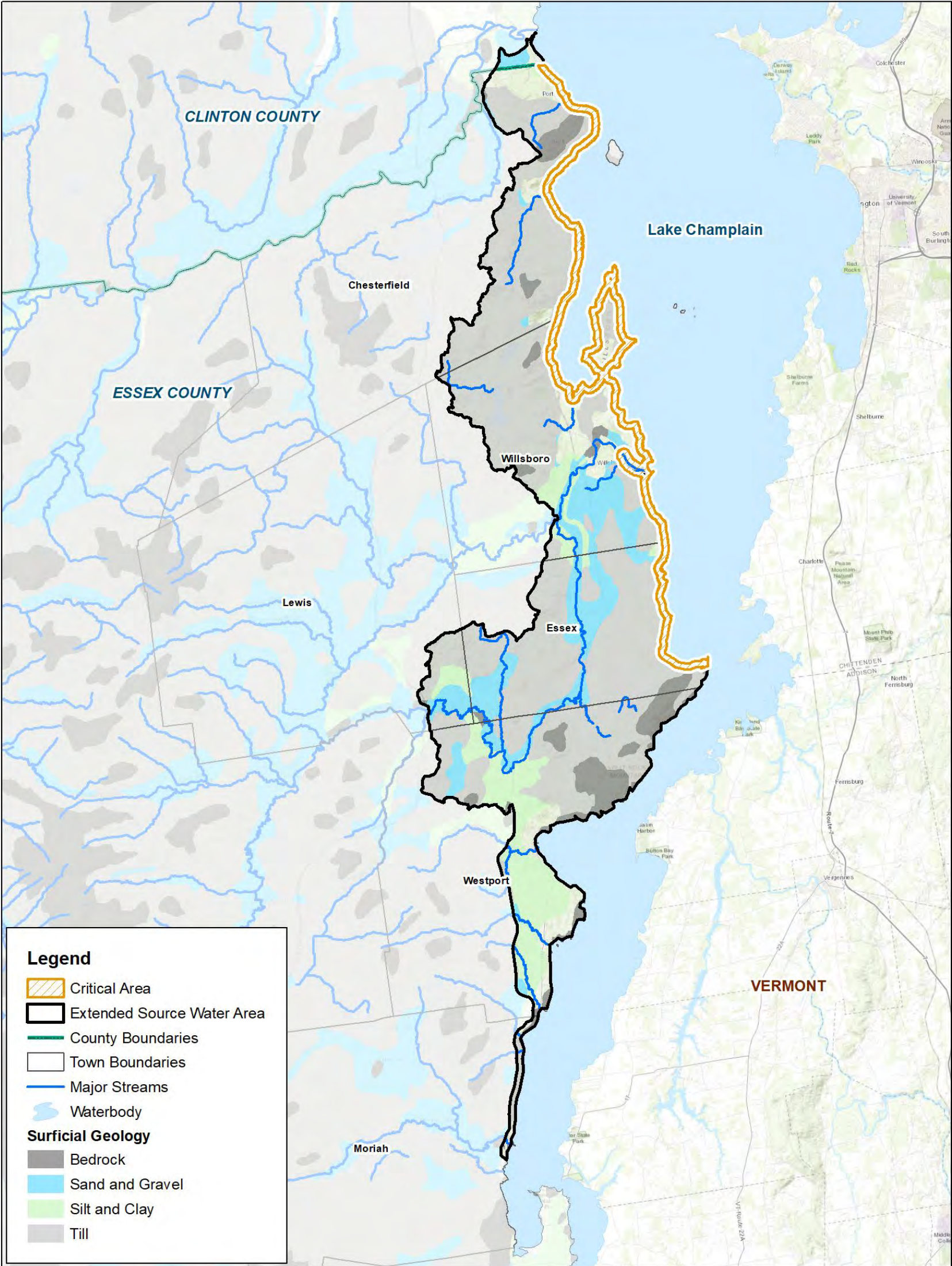


Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

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Figure 2- Surficial Geology

Lake Champlain DWSP2 - Surficial Geology



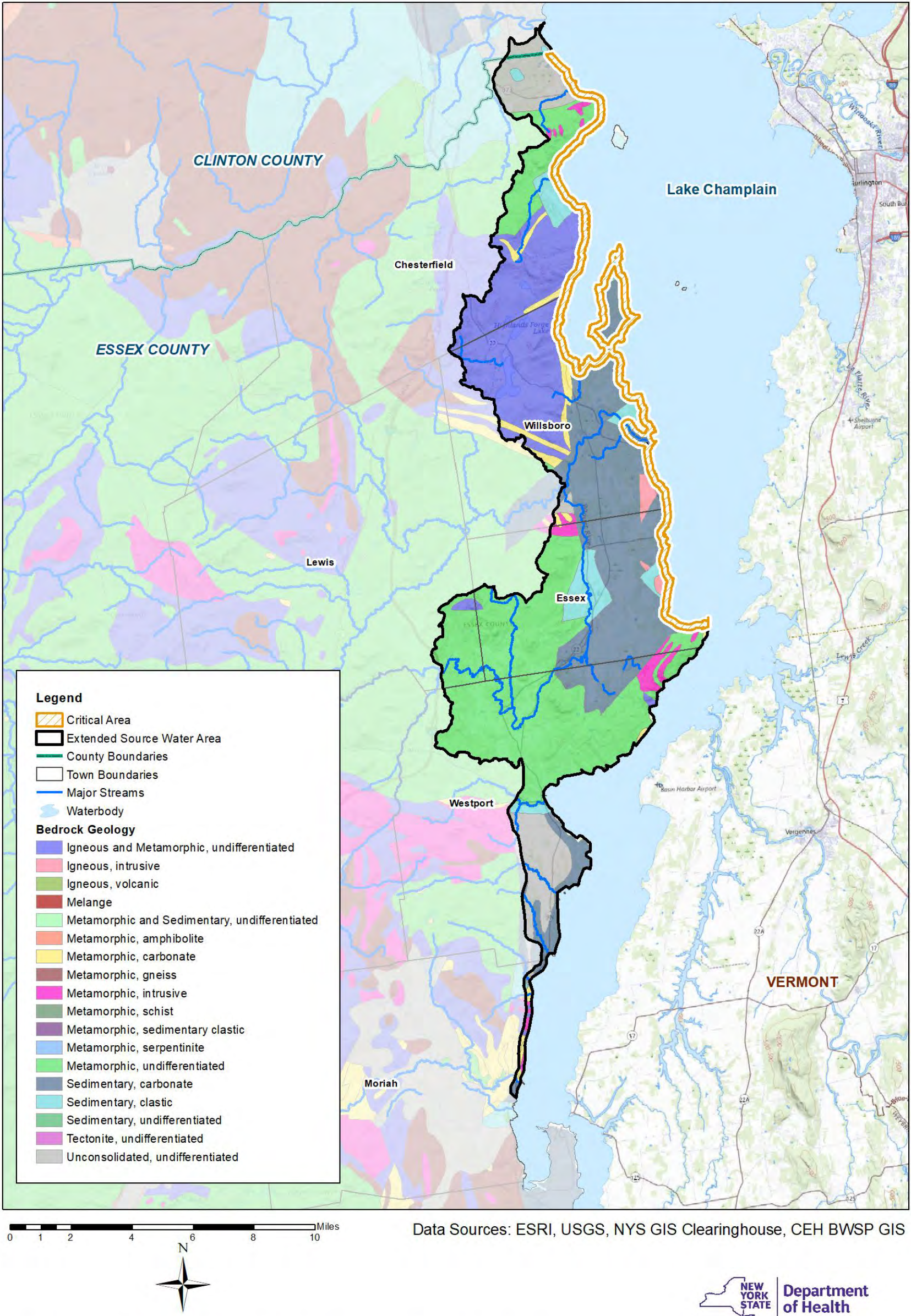
Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

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Figure 3 - Bedrock Geology

Lake Champlain DWSP2 - Bedrock Geology



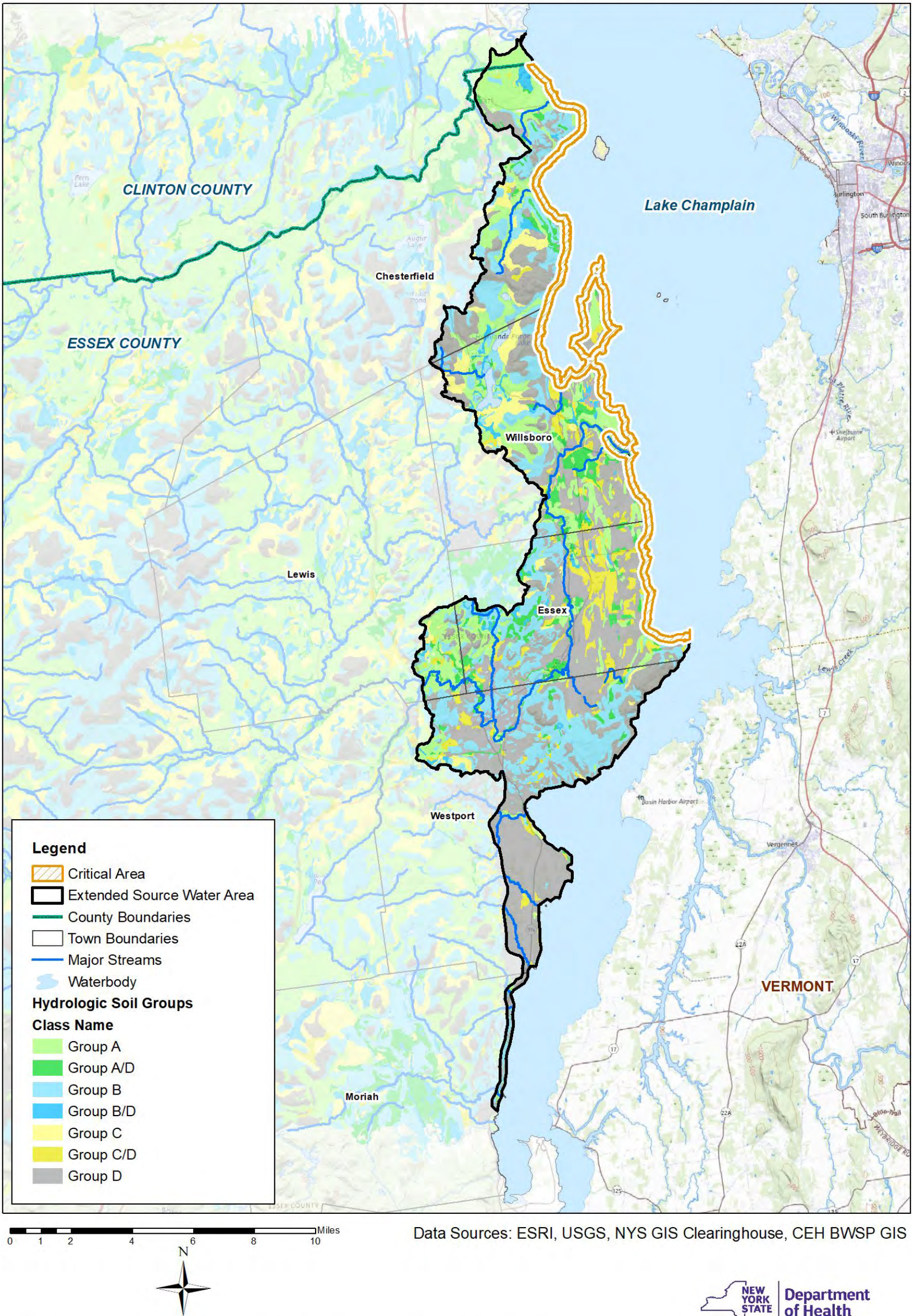
Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

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Figure 4 - Hydrological Soil Group

Lake Champlain DWSP2 - Hydrologic Soil Groups



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

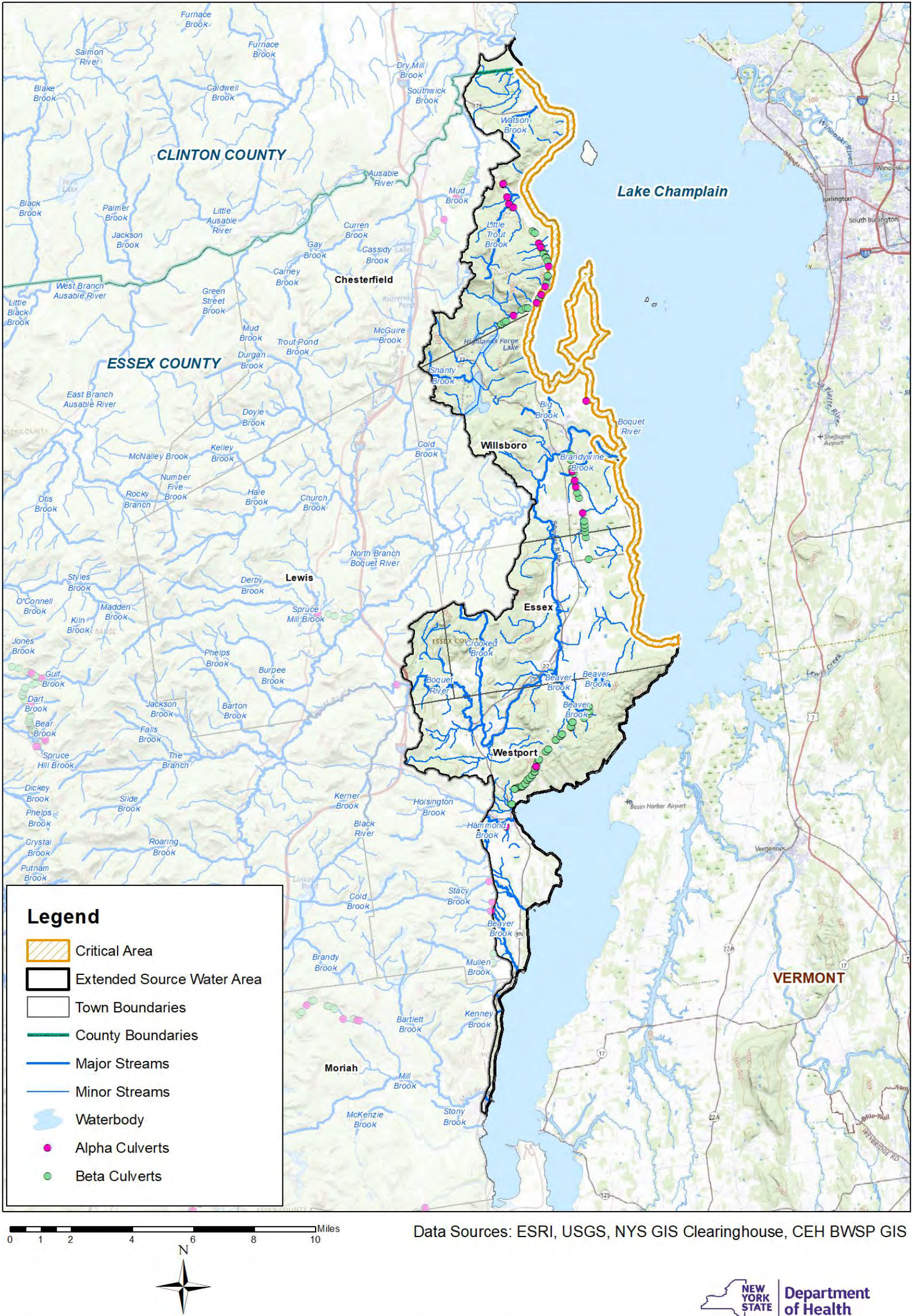
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Figure 5 - Hydrology

Lake Champlain DWSP2 - Hydrology



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

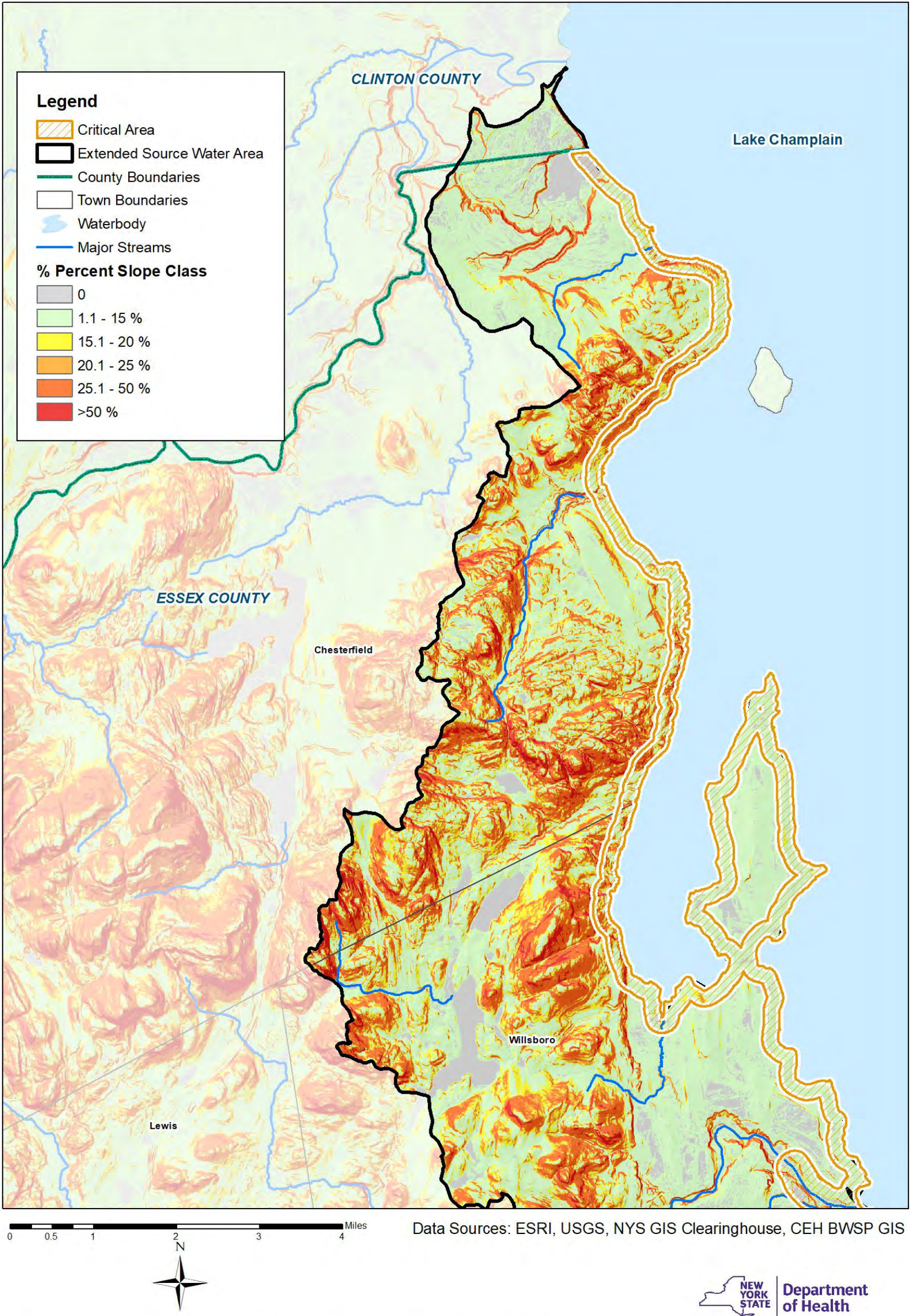


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Figure 6 – Slope - Port Kent Extent

Lake Champlain DWSP2 - Slope - Port Kent



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

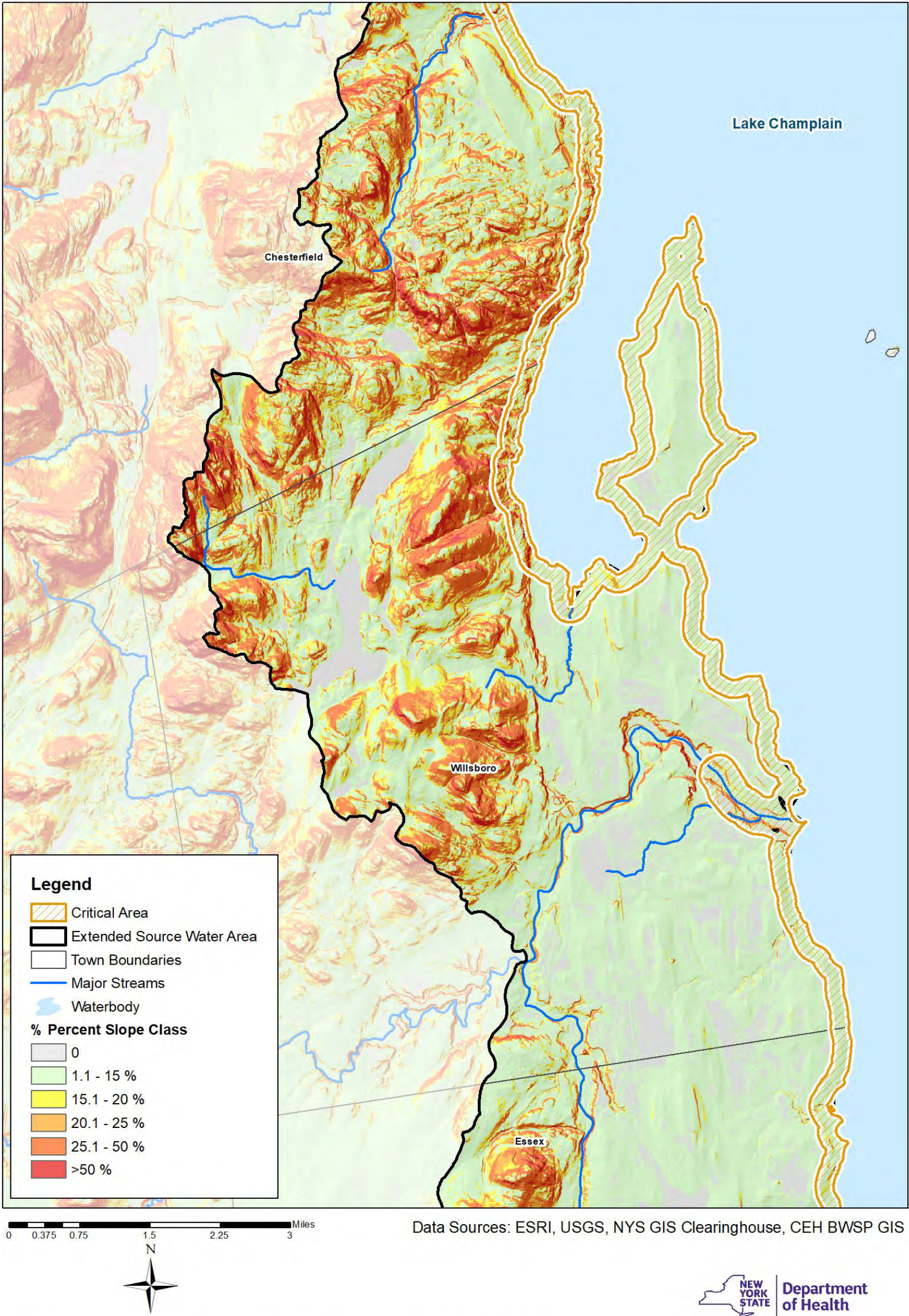


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Figure 7 - Slope- Willsboro Extent

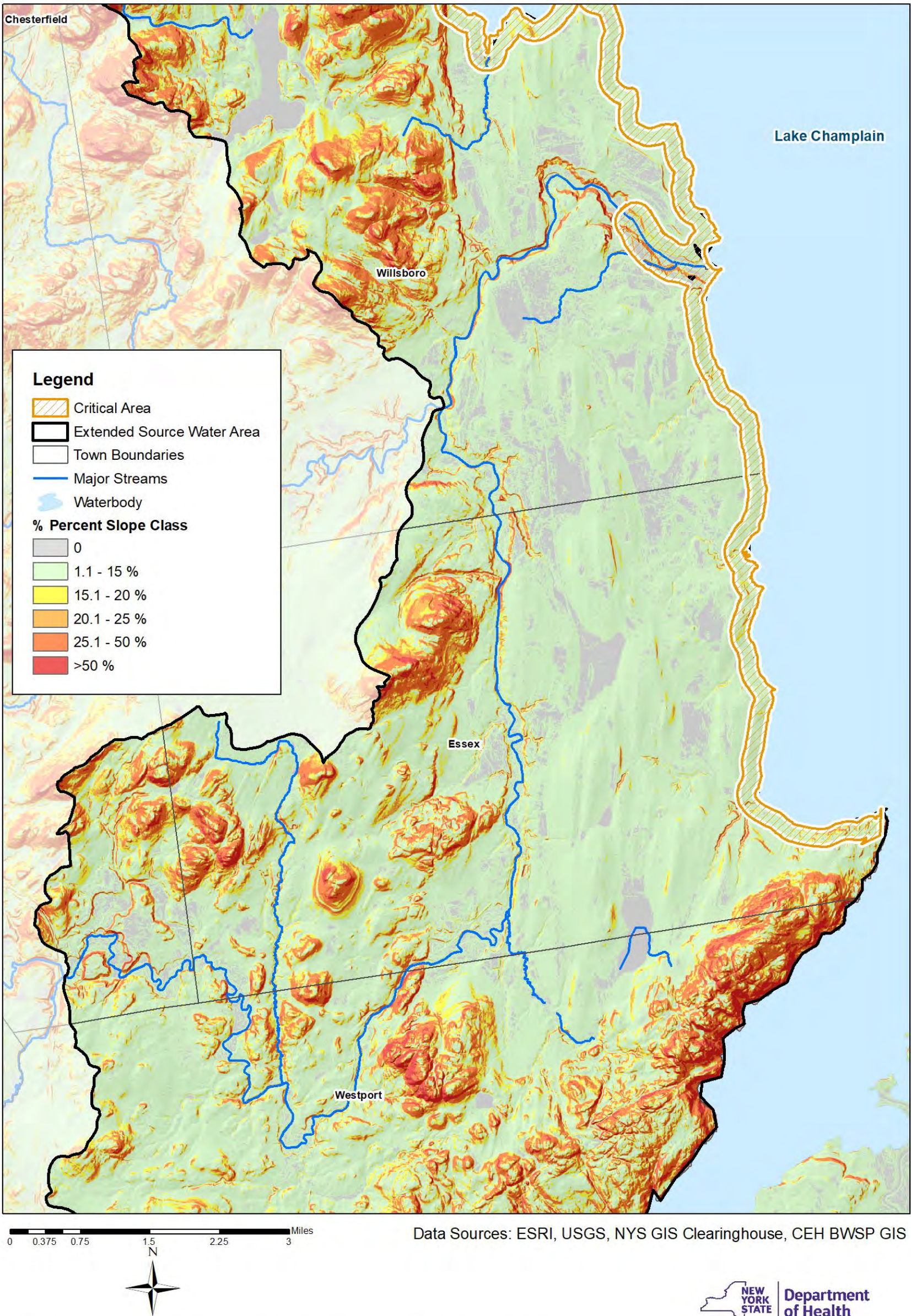
Lake Champlain DWSP2 - Slope - Willsboro



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 8 - Slope - Essex Extent

Lake Champlain DWSP2 - Slope - Essex



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

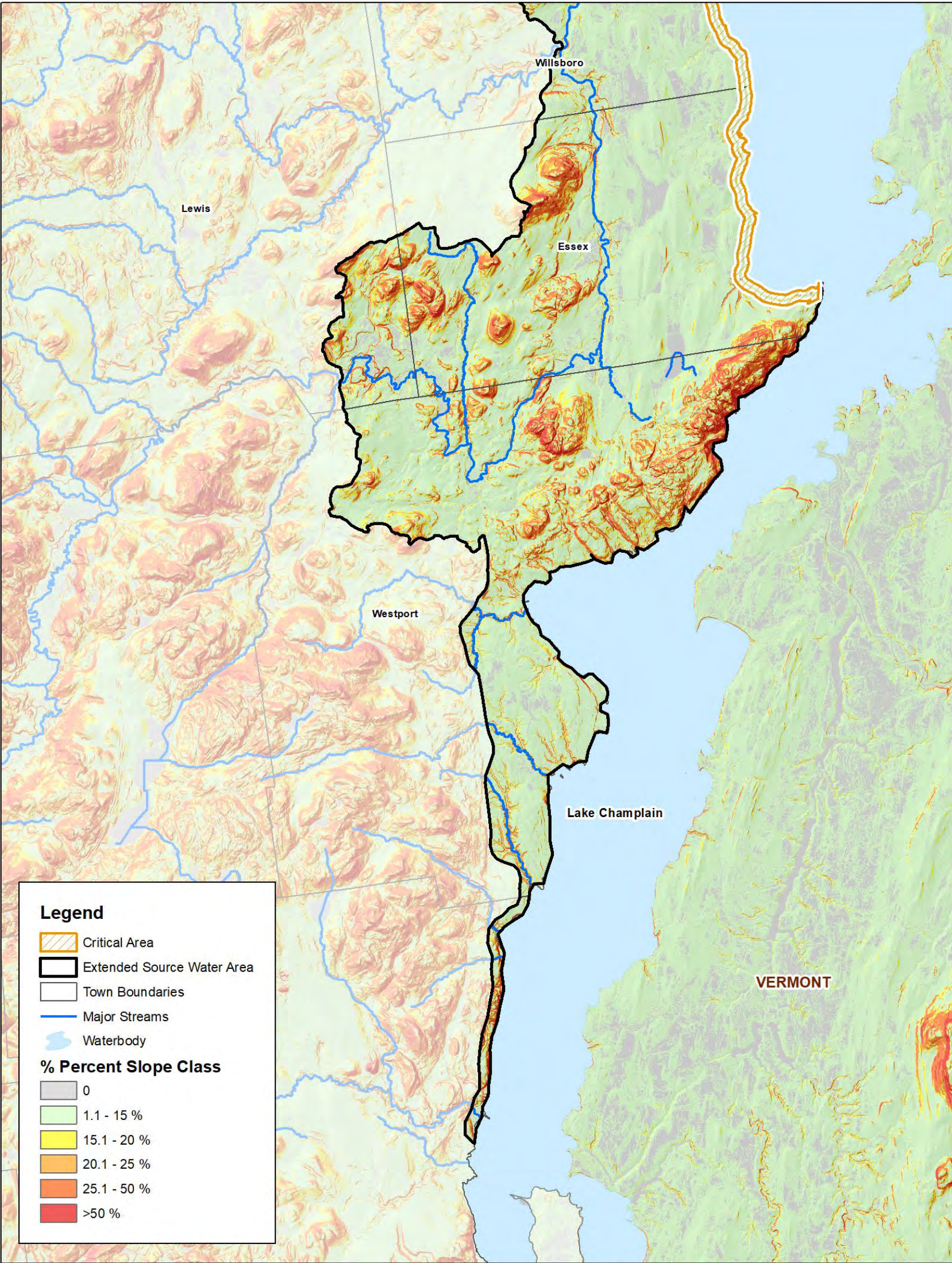
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Figure 9 – Slope Port Henry/Southern Shore Extent

Lake Champlain DWSP2 - Slope - Port Henry/Southern Shore



0 0.75 1.5 3 4.5 6 Miles



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

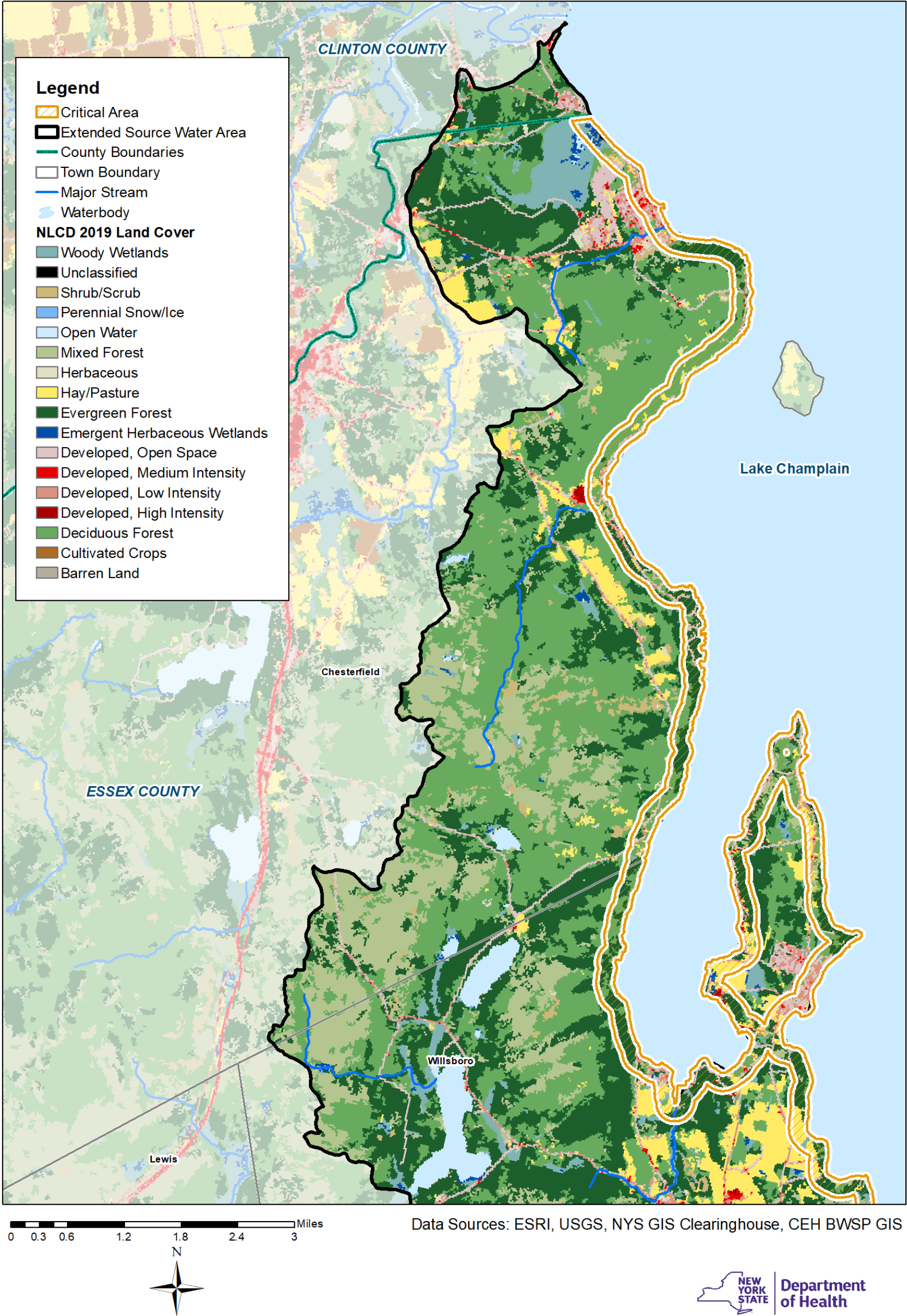
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Figure 10 - Land Cover - Port Kent Extent

Lake Champlain DWSP2 - Land Cover - Port Kent



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

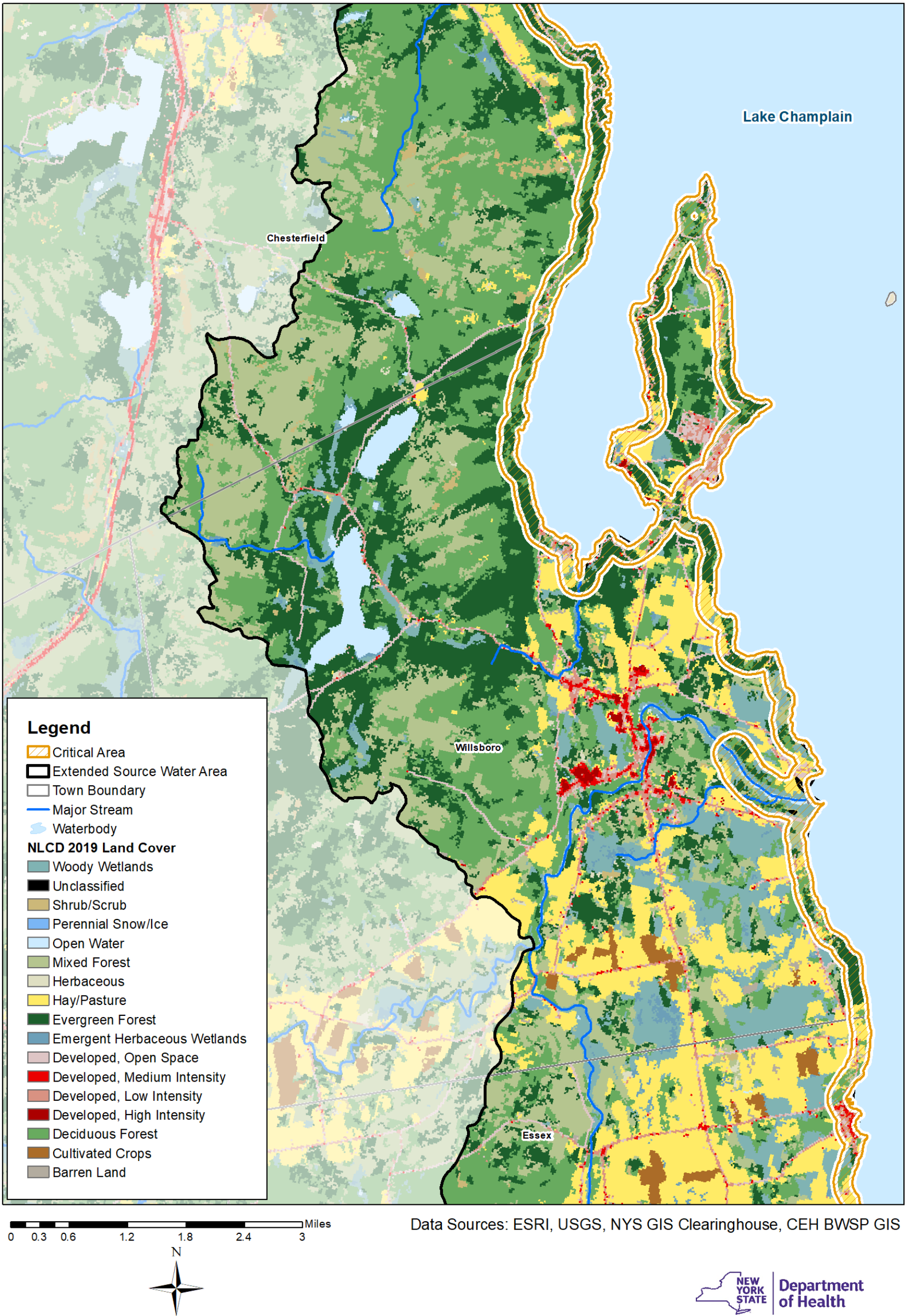
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Figure 11 - Land Cover- Willsboro Extent

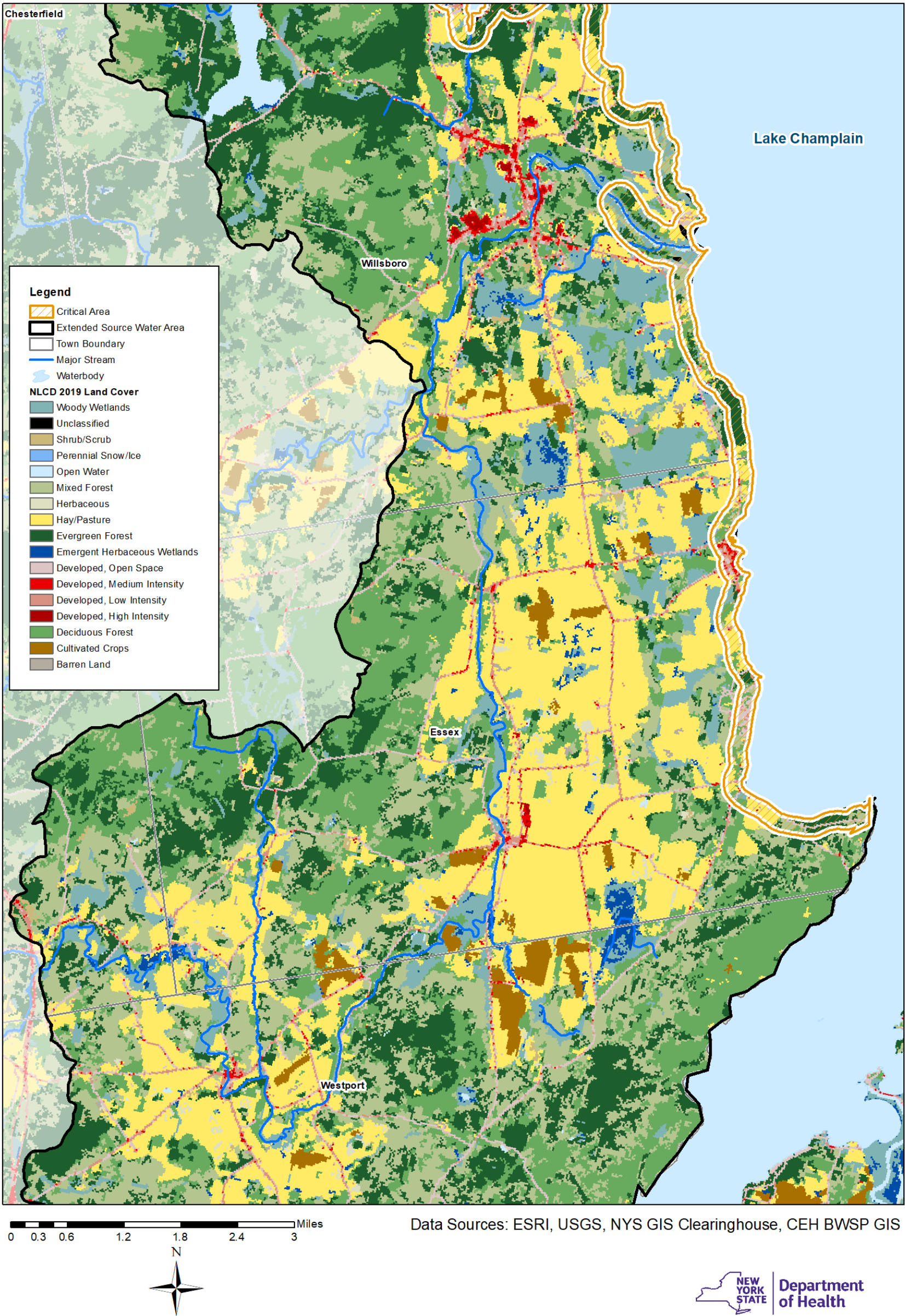
Lake Champlain DWSP2 - Land Cover - Willsboro



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 12 - Land Cover- Essex Extent

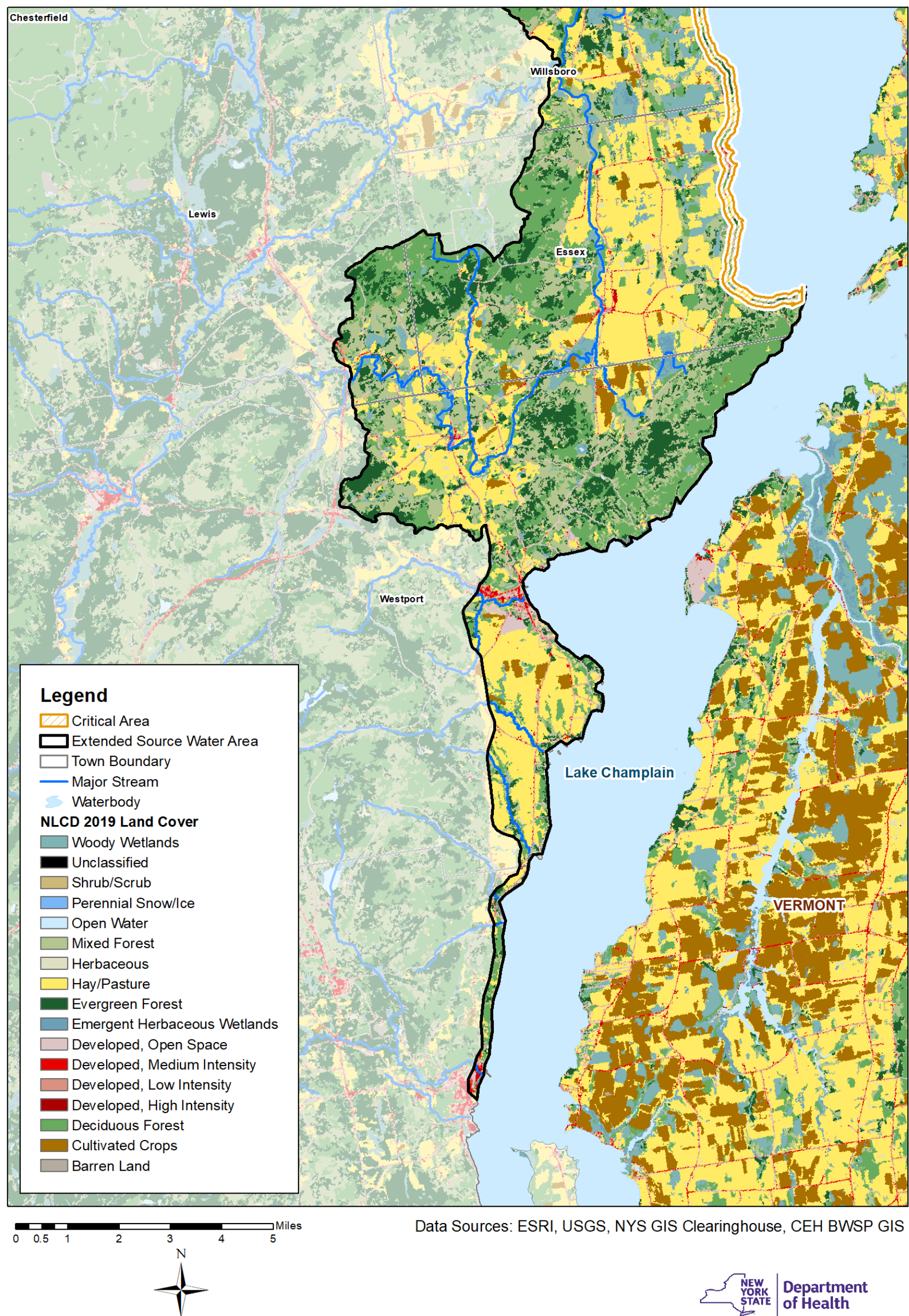
Lake Champlain DWSP2 - Land Cover - Essex



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 13 - Land Cover - Port Henry/Southern Shore Extent

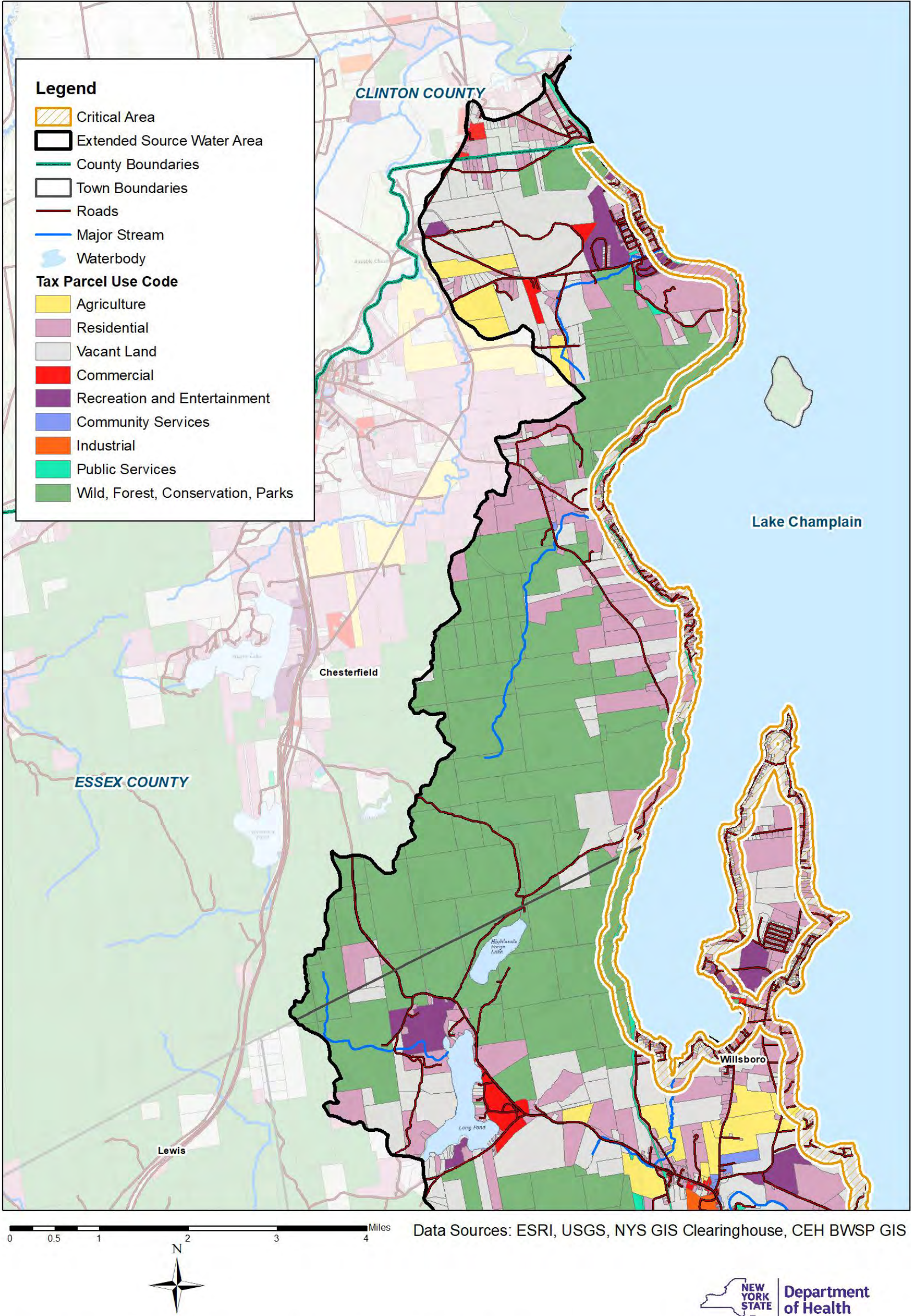
Lake Champlain DWSP2 - Land Cover - Port Henry/Southern Shore



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 14 - Land Use - Port Kent Extent

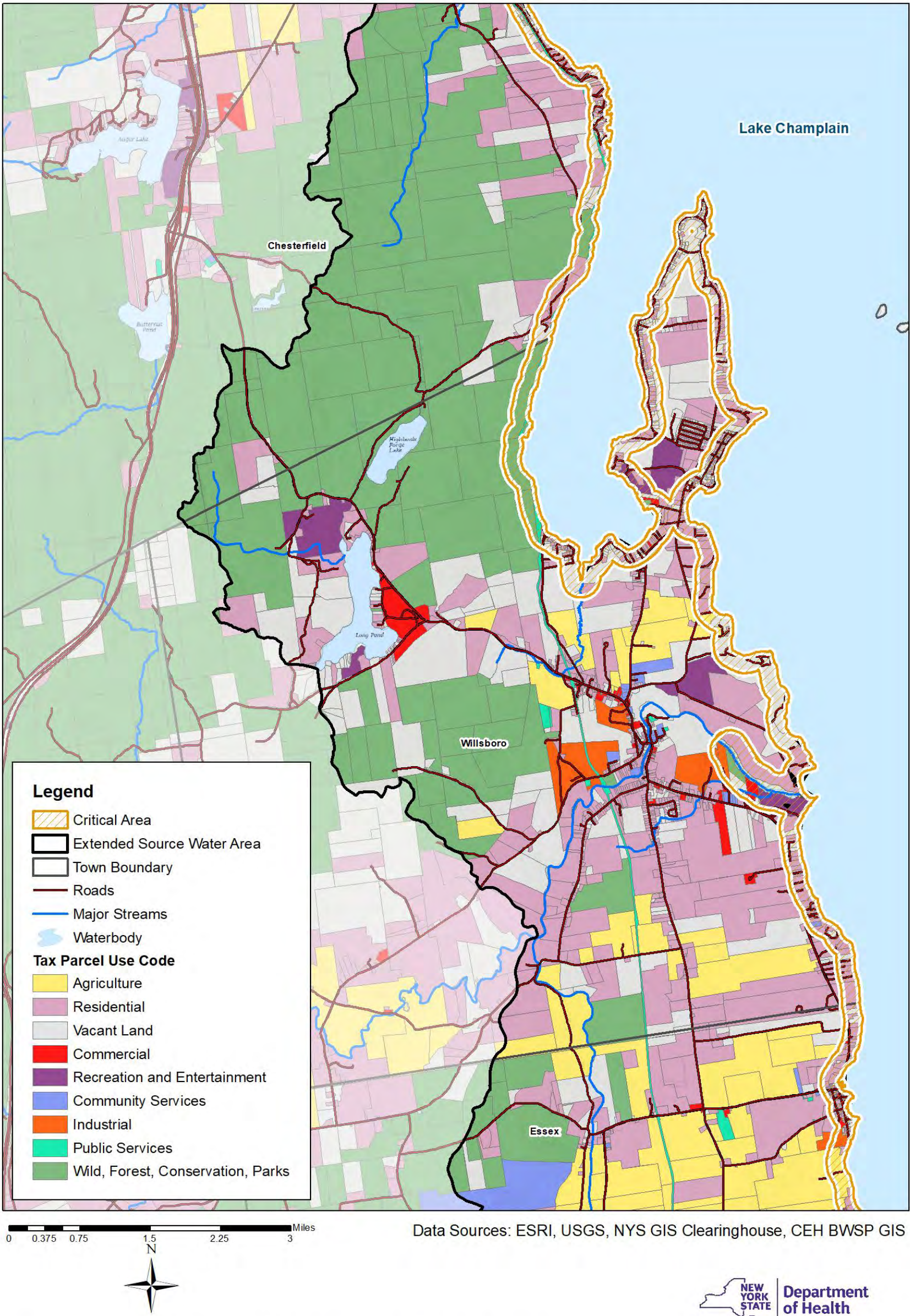
Lake Champlain DWSP2 - Land Use - Port Kent



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 15 - Land Use Willsboro - Extent

Lake Champlain DWSP2 - Land Use - Willsboro



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

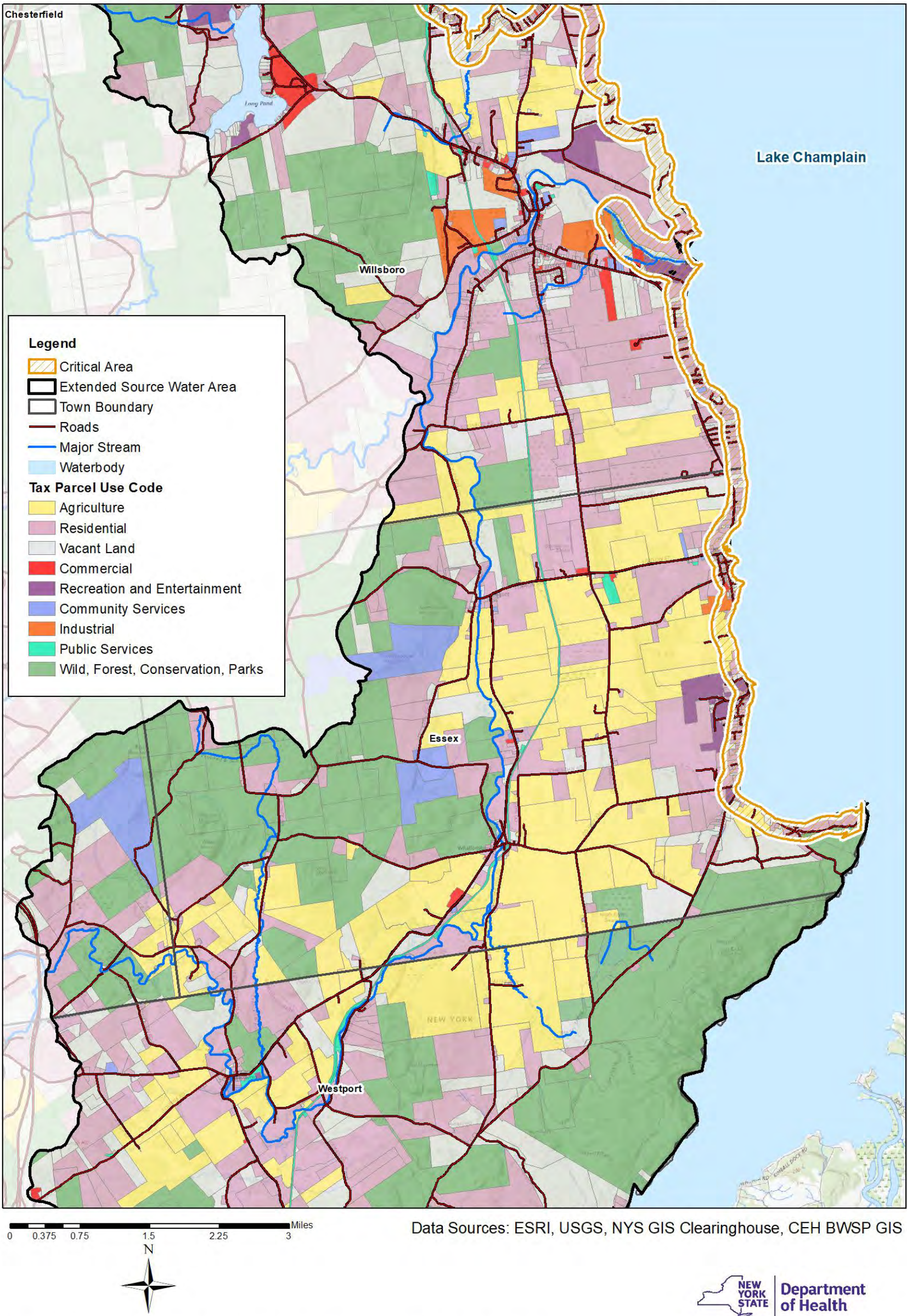
Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).



Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 8/1/2023

Figure 16 - Land Use - Essex Extent

Lake Champlain DWSP2 - Land Use - Essex



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

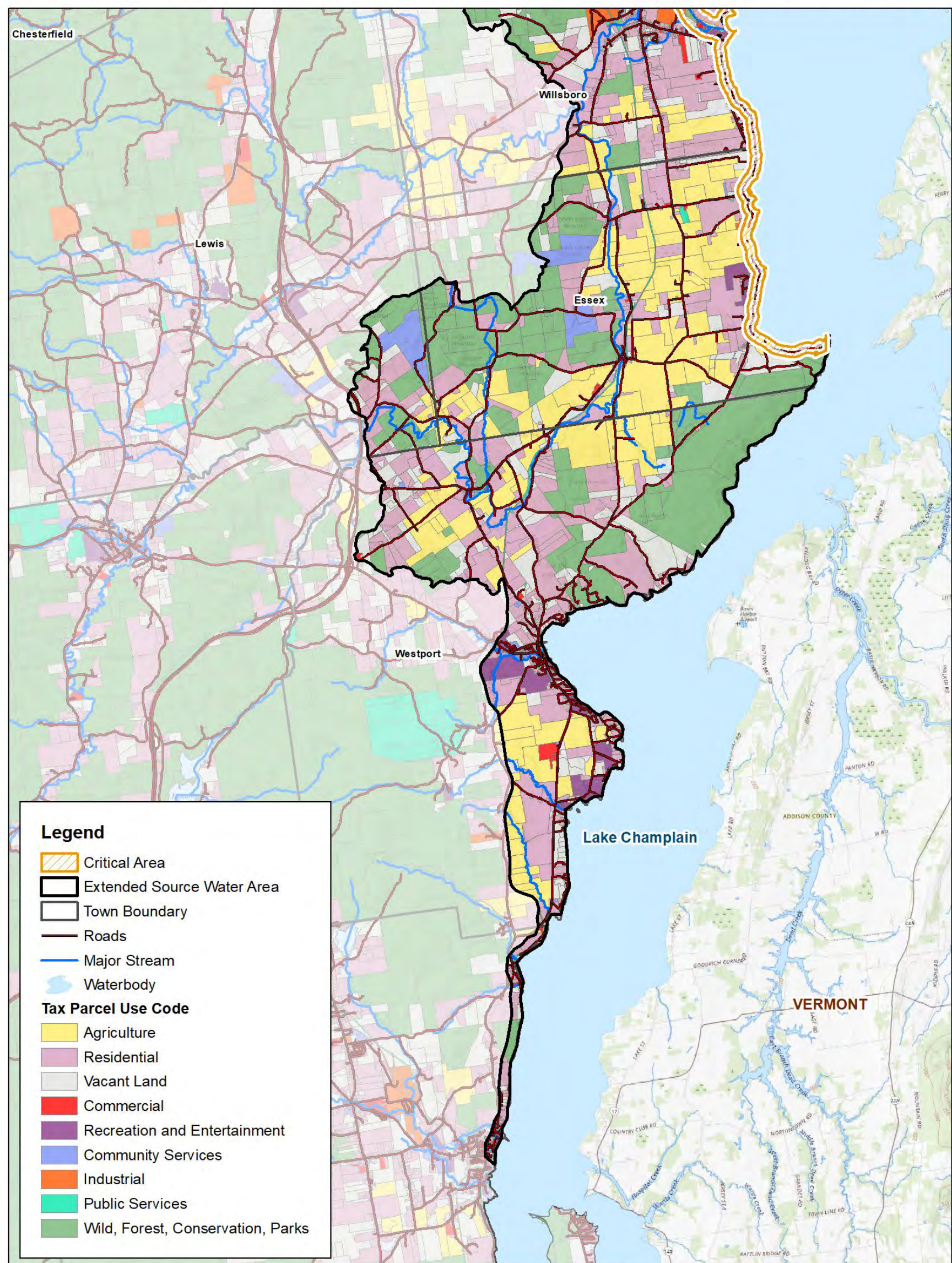
Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).



Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 8/1/2023

Figure 17 - Land Use - Port Henry/Southern Shore Extent

Lake Champlain DWSP2 - Land Use - Port Henry/Southern Shore



0 0.75 1.5 3 4.5 6 Miles



Data Sources: ESRI, USGS, NYS GIS Clearinghouse, CEH BWSP GIS

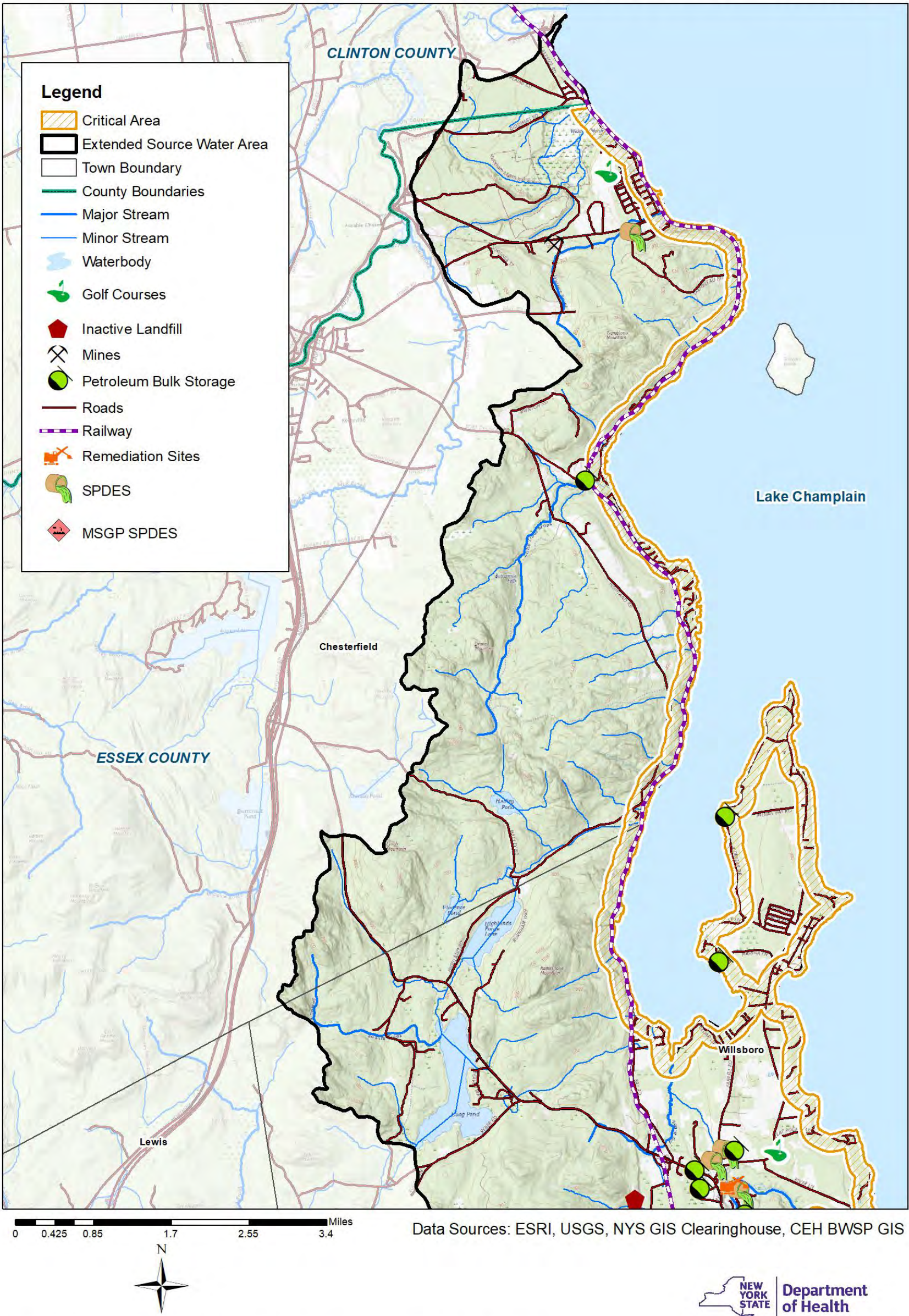
Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).



Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 8/1/2023

Figure 18 – PCS - Port Kent Extent

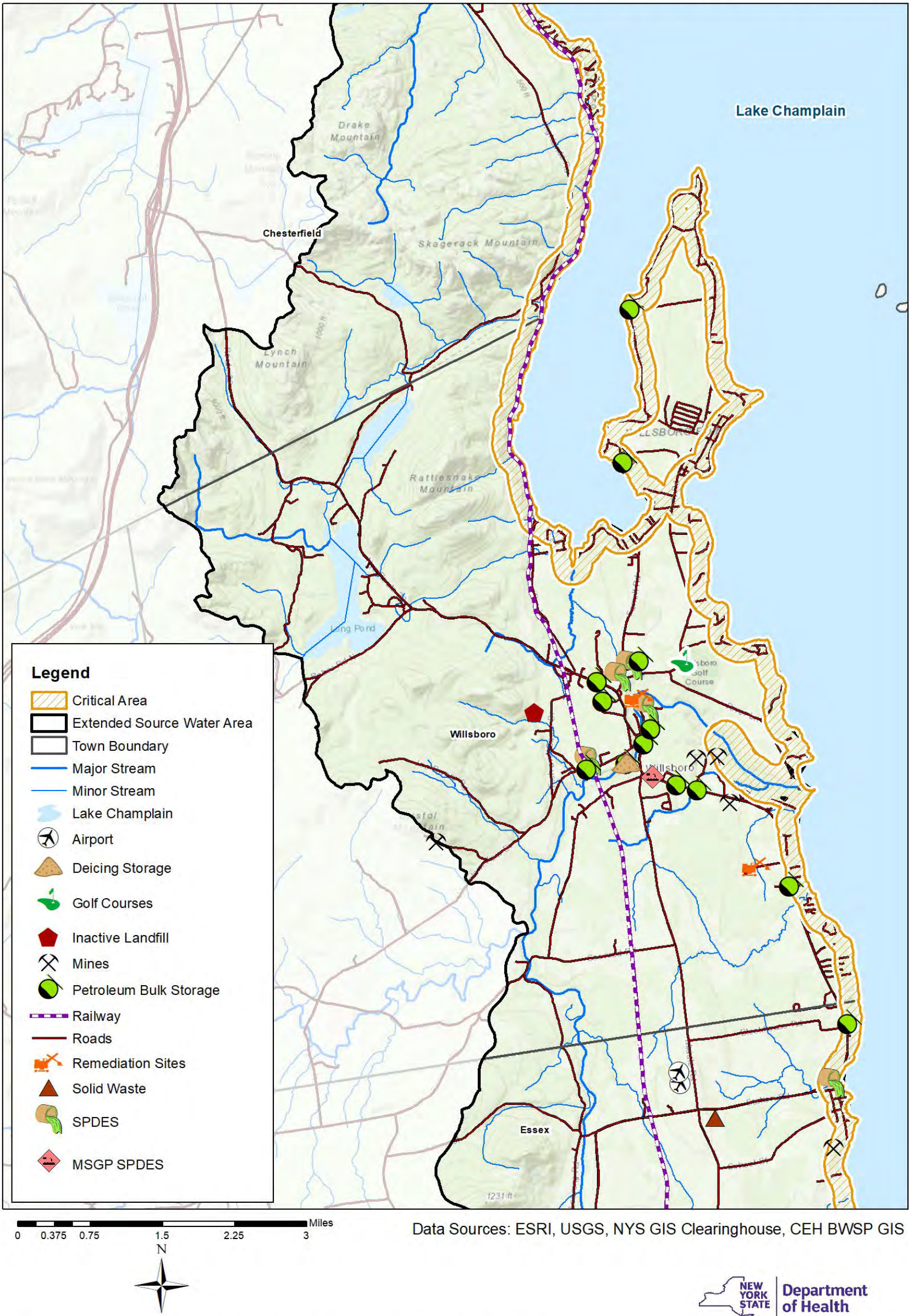
Lake Champlain DWSP2 - Potential Contaminant Sources - Port Kent



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 19 - PCS Willsboro - Extent

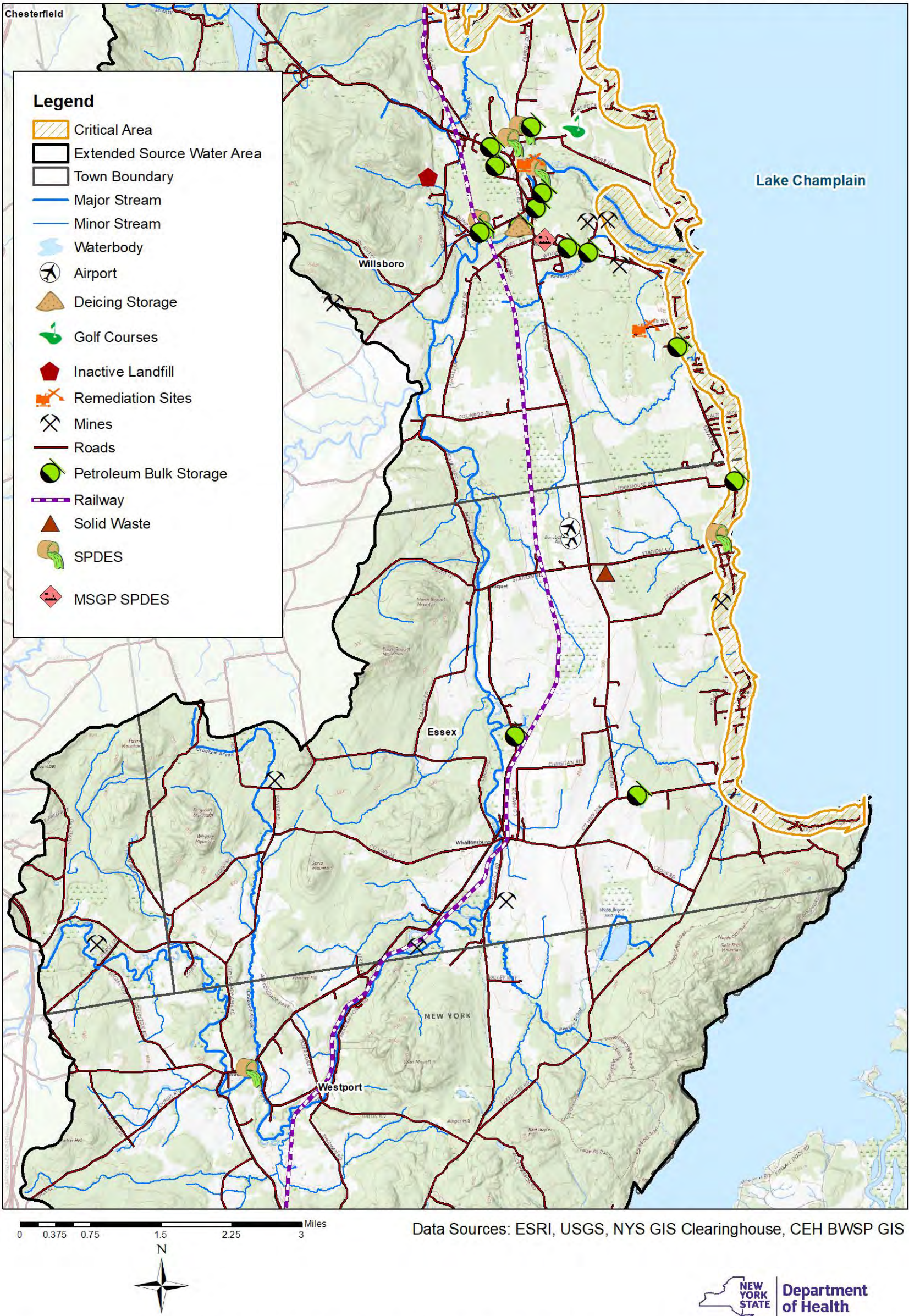
Lake Champlain DWSP2 - Potential Contaminant Sources - Willsboro



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 20 – PCS - Essex Extent

Lake Champlain DWSP2 - Potential Contaminant Sources - Essex



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Figure 21 - PCS Port Henry/Southern Shore Extent

Lake Champlain DWSP2 - Potential Contaminant Sources - Port Henry/Southern Shore

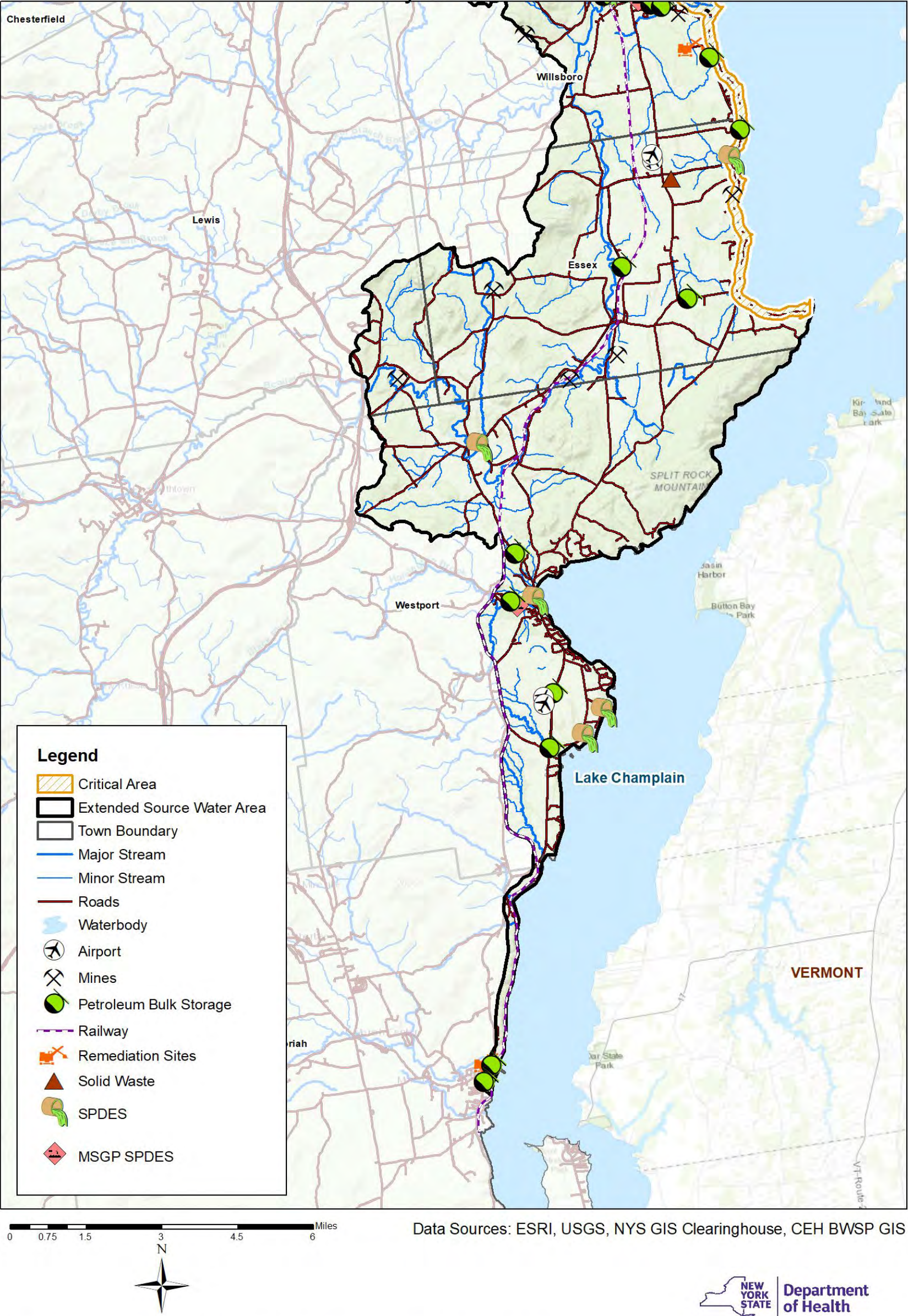
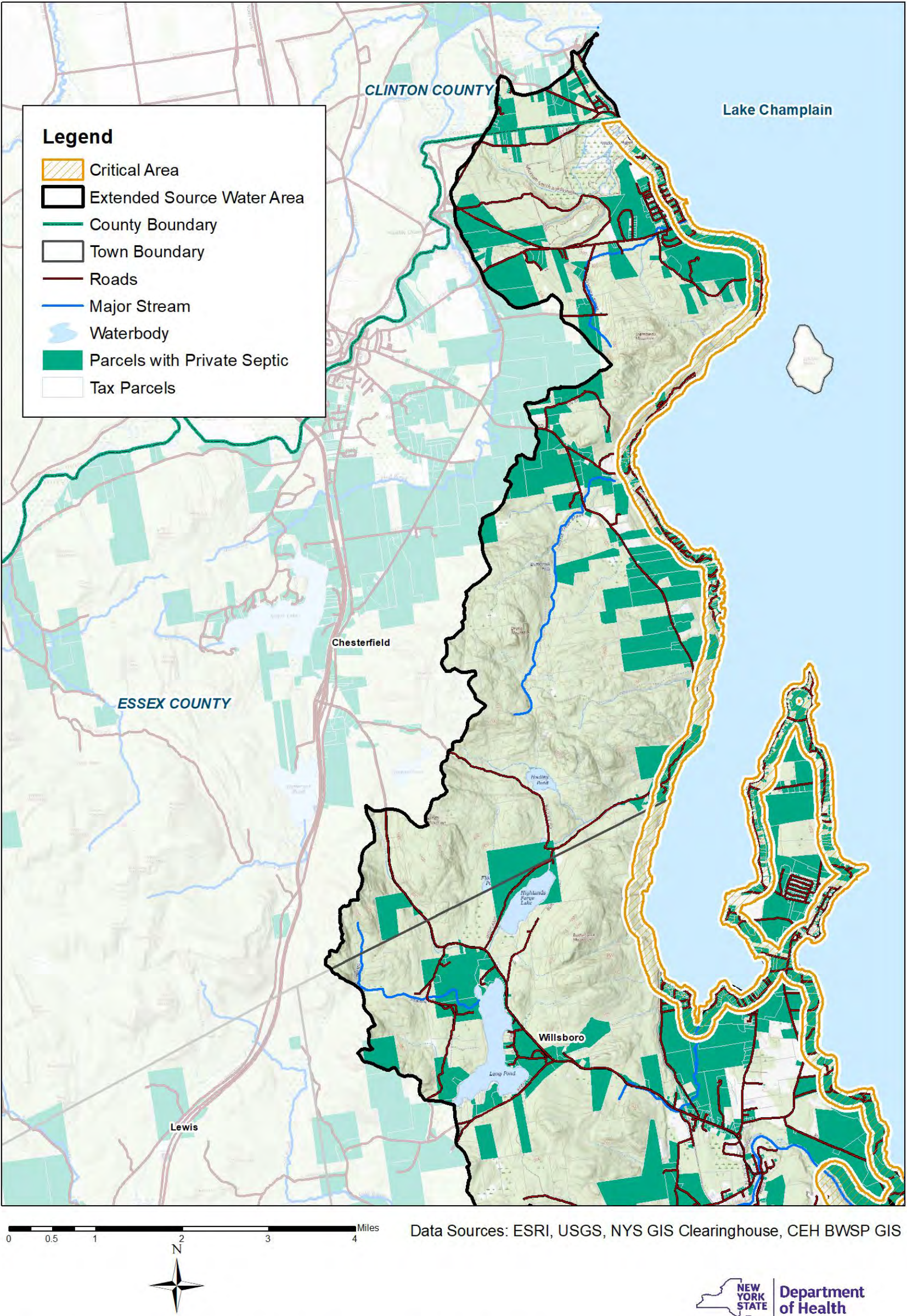


Figure 22 - Private Septic Systems - Port Kent Extent

Lake Champlain DWSP2 - Private Septic Systems - Port Kent

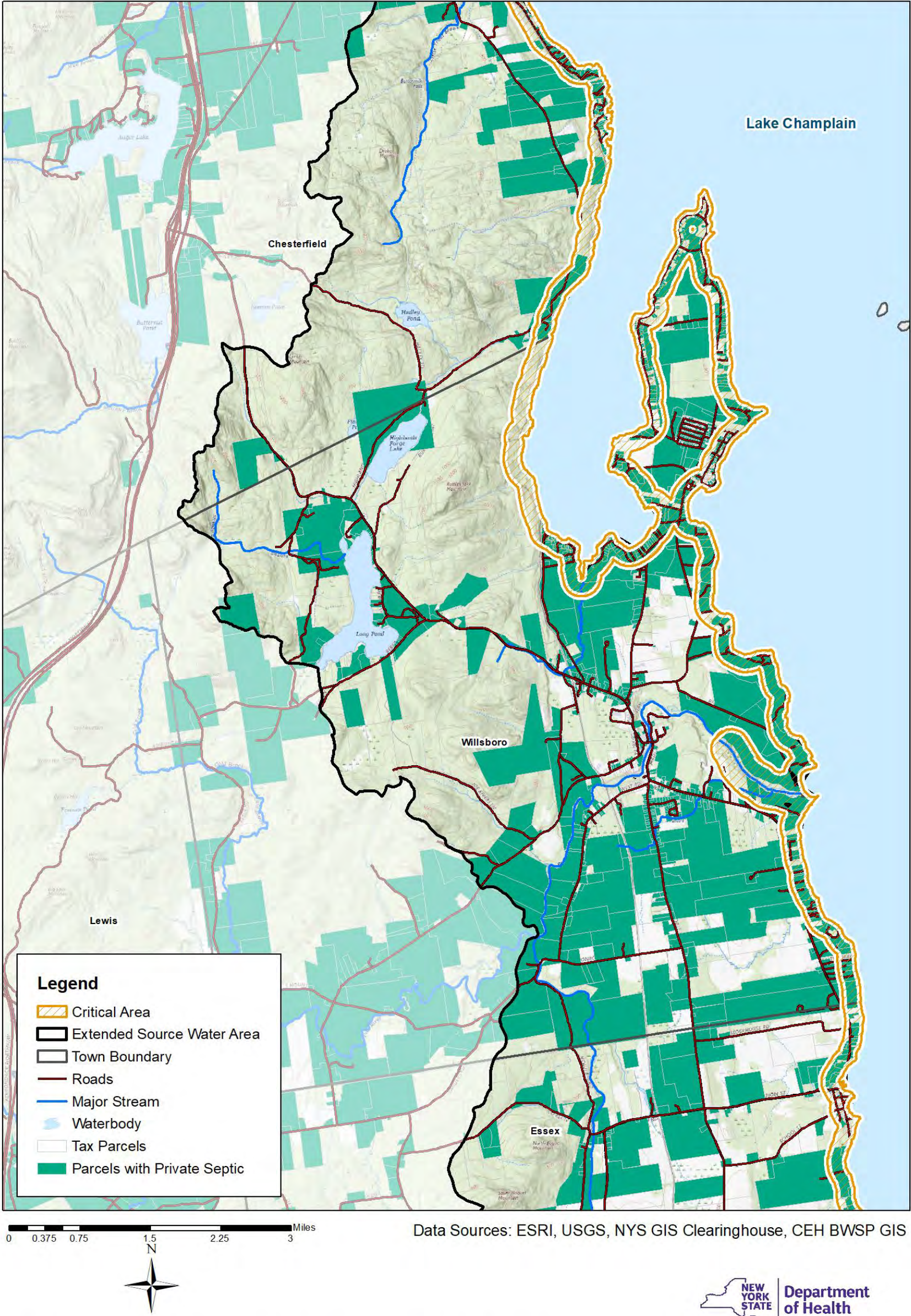


Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 7/19/2022

Figure 23 - Private Septic Systems - Willsboro Extent

Lake Champlain DWSP2 - Private Septic Systems - Willsboro

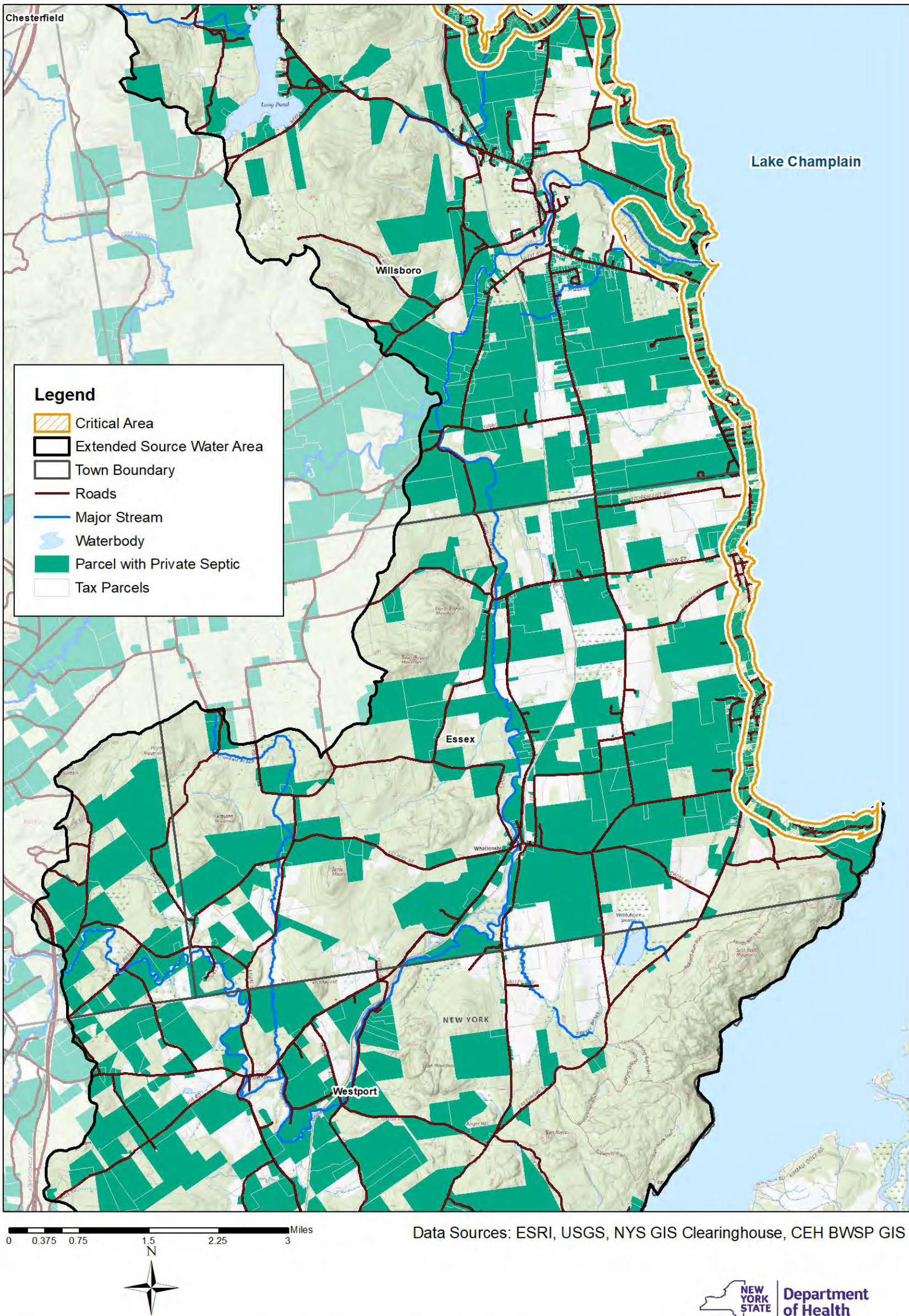


Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 7/19/2022

Figure 24 - Private Septic - Systems Essex Extent

Lake Champlain DWSP2 - Private Septic Systems - Essex

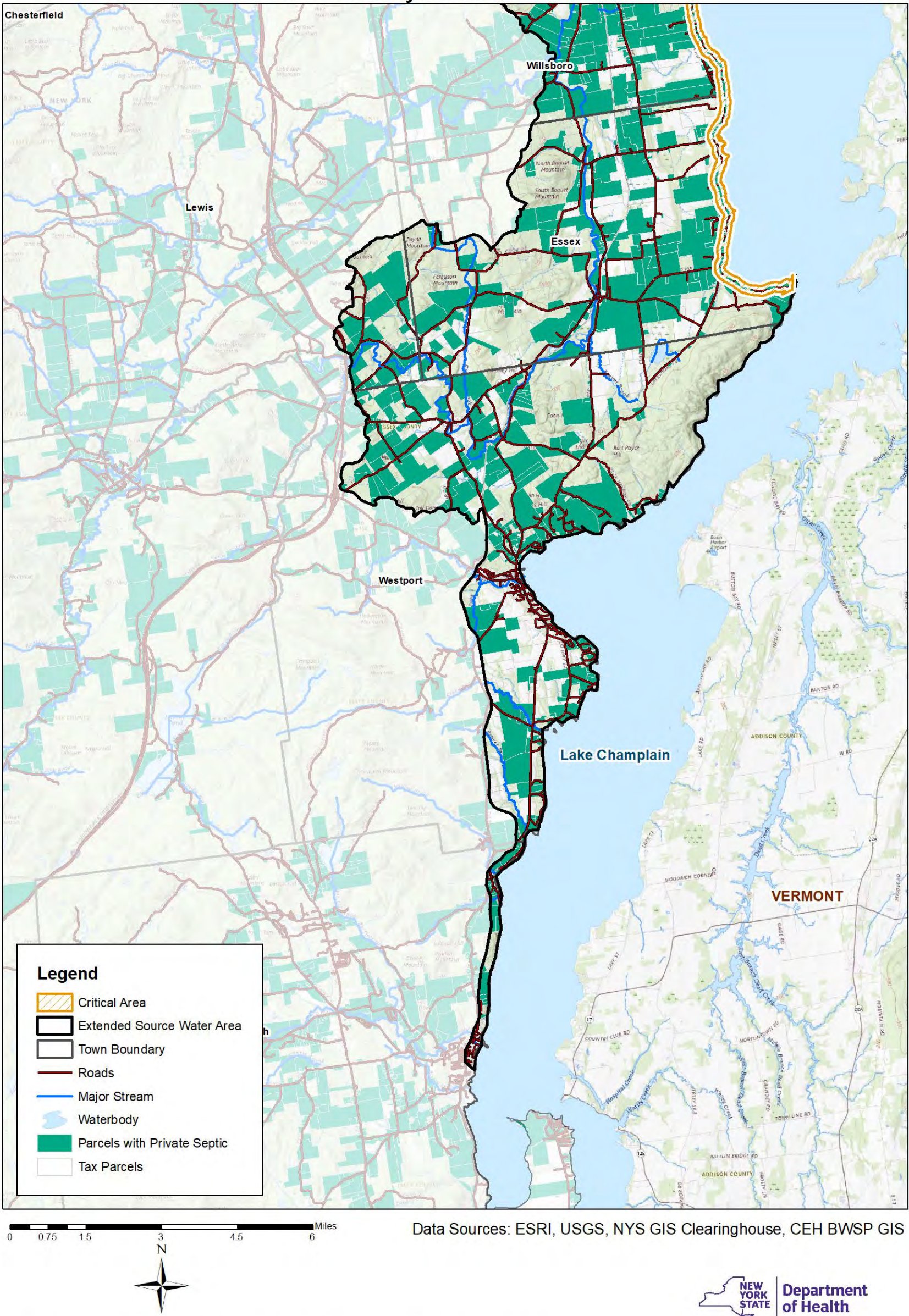


Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 7/19/2022

Figure 25 - Private Septic Systems - Port Henry/Southern Shore Extent

Lake Champlain DWSP2 - Private Septic Systems - Port Henry/Southern Shore



Disclosure: Geographic data represented on this map are based on entries to the Safe Drinking Water Information System (SDWIS), Department of Health, and/or other government agencies. As such, the map may contain errors or inaccuracies, and represents a generalized description of the area. Basemap provided by the Environmental Systems Research Institute (ESRI).

Center for Environmental Health,
Bureau of Water Supply Protection GIS
Data Downloaded: 7/19/2022

Figure 26 - Zoning Town of Chesterfield

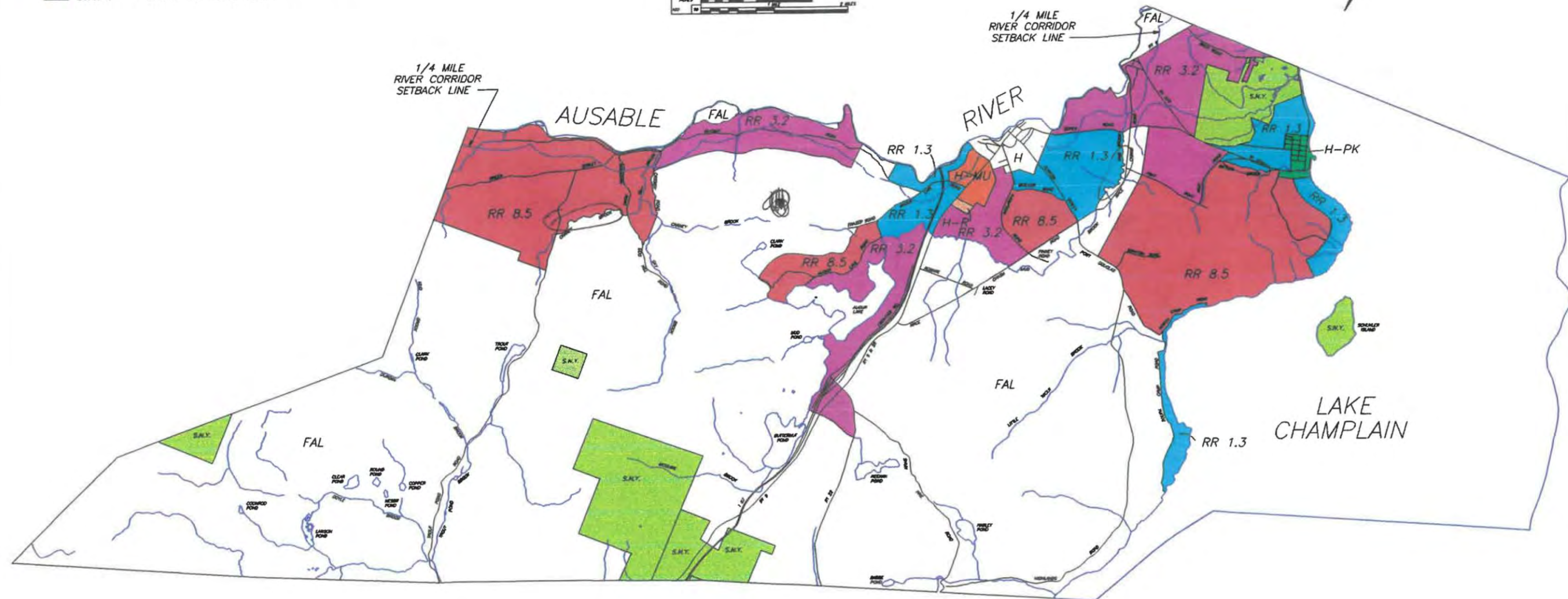
TOWN OF CHESTERFIELD
LAND USE DISTRICTS

H	HAMLET - KEESEVILLE
H-MU	HAMLET - MIXED USE
H-R	HAMLET - RESIDENTIAL
H-PK	HAMLET - PORT KENT
FAL	FOREST AND AGRICULTURAL
RR 1.3	RURAL RESIDENTIAL - 1.3 ACRES
RR 3.2	RURAL RESIDENTIAL - 3.2 ACRES
RR 8.5	RURAL RESIDENTIAL - 8.5 ACRES
S.N.Y.	STATE OF NEW YORK

ZONING MAP

LAND USE DISTRICTS

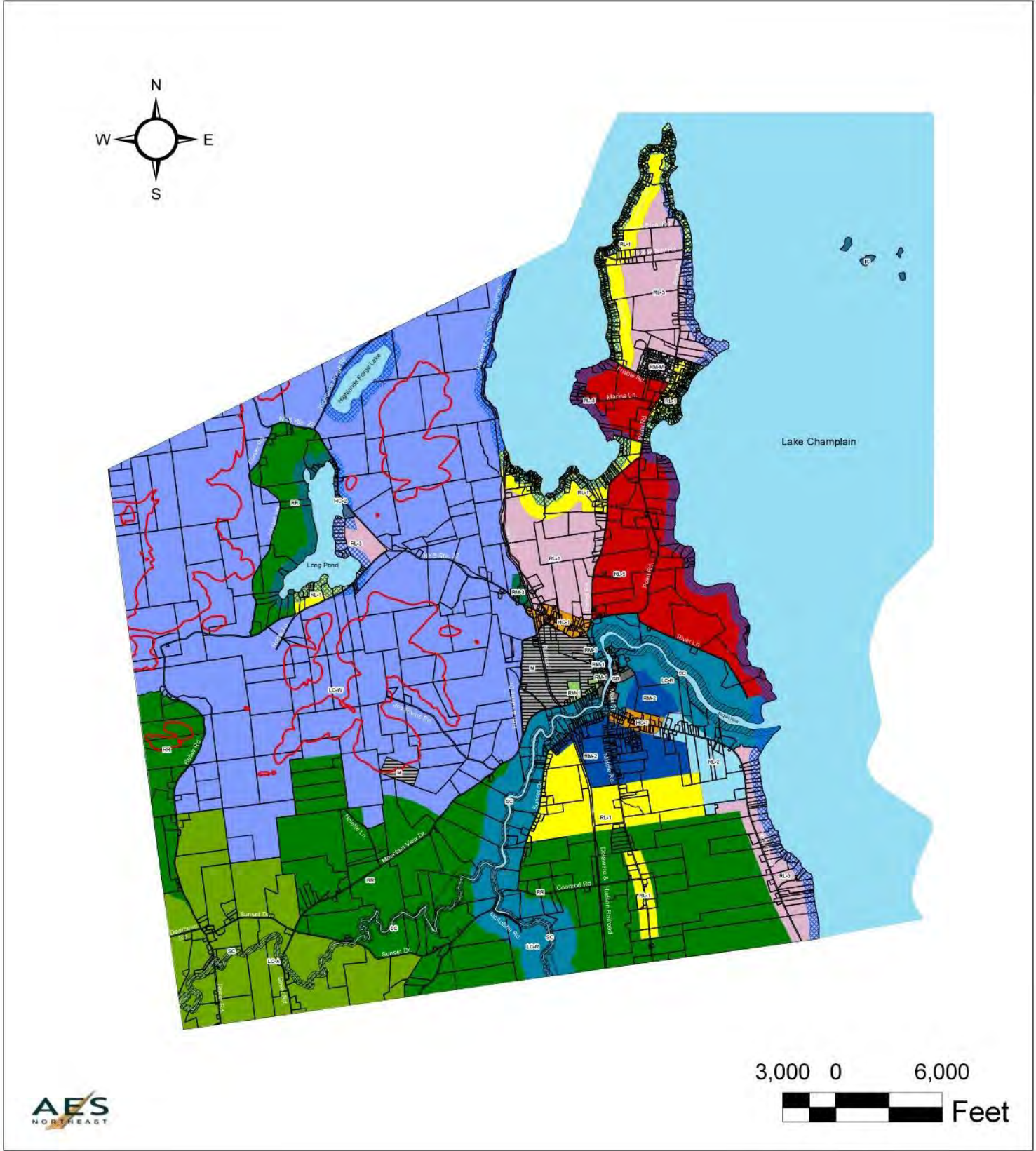
TOWN OF CHESTERFIELD



6 FEBRUARY 2002

ORIGINAL MAP PRODUCED BY KEVIN HALL

Figure 27 - Zoning Willsboro



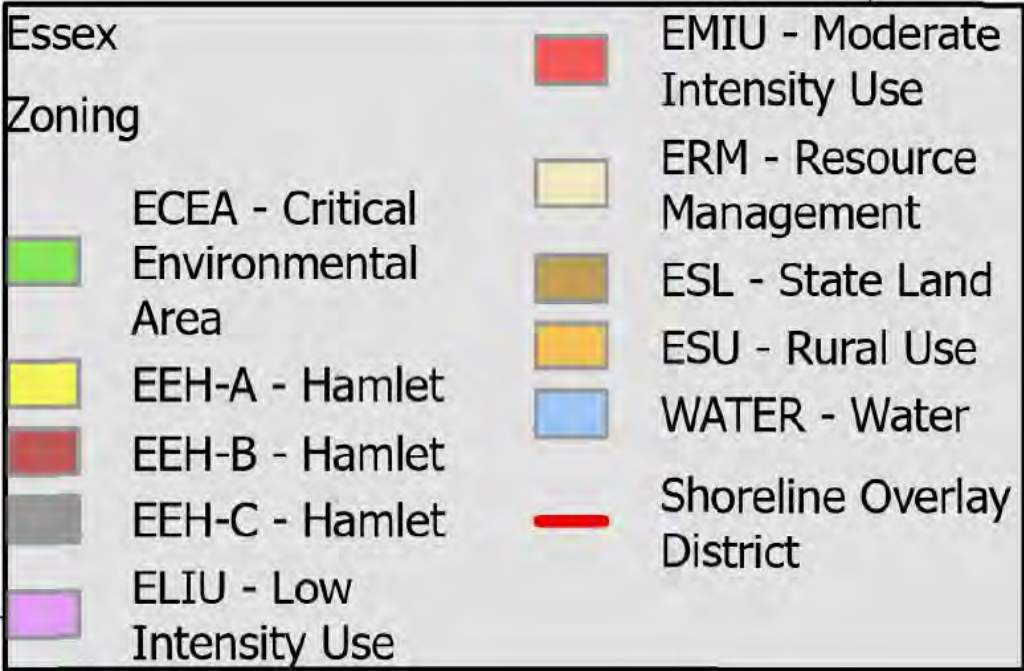
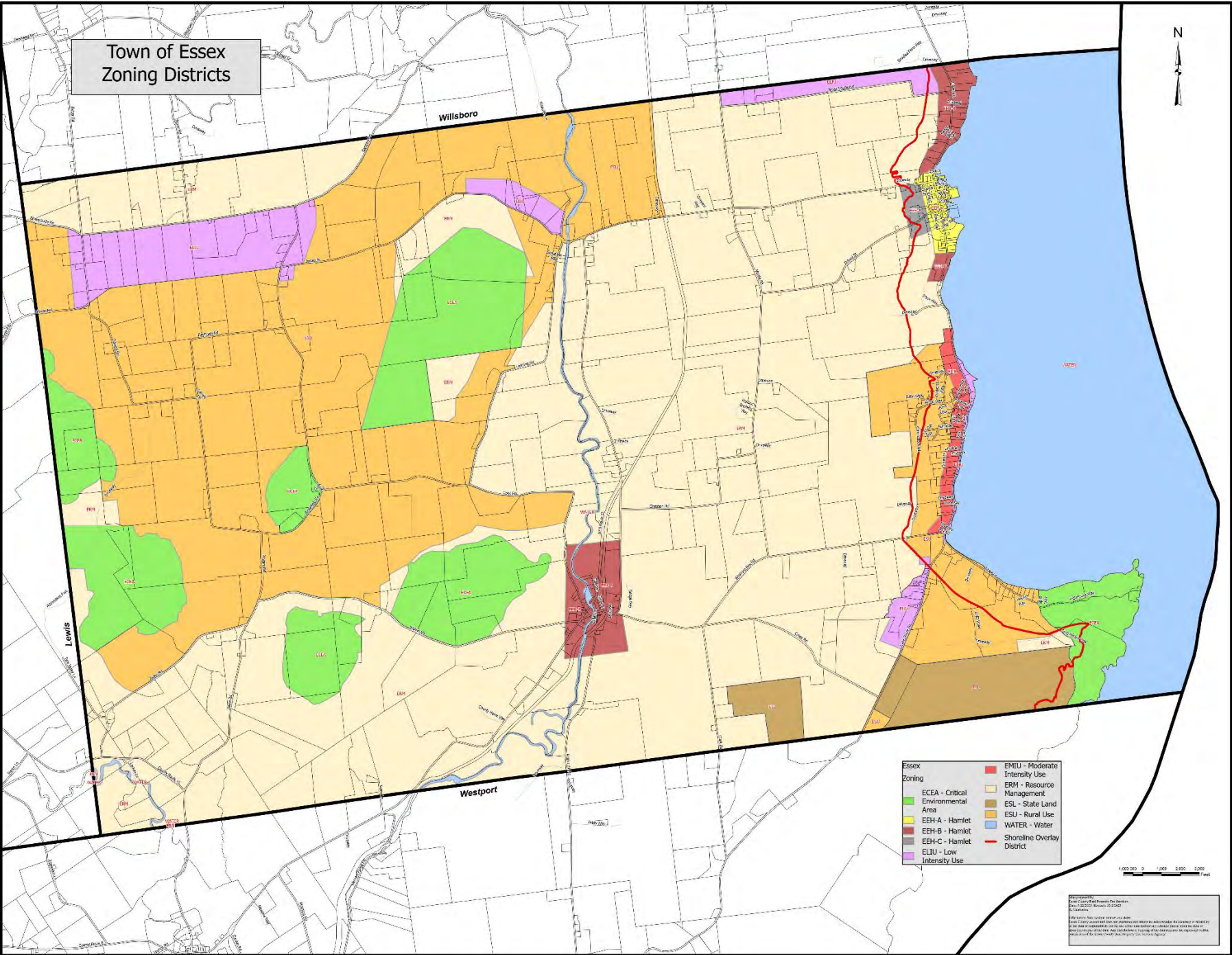
TOWN OF WILLSBORO ZONING MAP

Last Revised 6/2/2015

Legend

- GB - General Business
- HC-1 Highway Commercial 1
- HC-2 Highway Commercial 2
- IC - Land Conservation - Island District
- LC-A Land Conservation - Agriculture District
- LC-R Land Conservation - River District
- LC-W Land Conservation - Woodland District
- M - Industrial District
- RL-1 Residential - Low Density District 1
- RL-2 Residential - Low Density District 2
- RL-3 Residential - Low Density District 3
- RL-5 Residential - Low Density District 5
- RM-1 Residential - Medium Density District 1
- RM-2 Residential - Medium Density District 2
- RM-3 Residential - Medium Density District 3
- RM-M Residential - Medium Density Mobile Homes District
- RR Residential - Rural Density District
- AD - Adult Entertainment Use Overlay
- LF - Lakefront Overlay (500 ft. back from MHWL)
- SC - Stream Conservation Overlay
- Ridge Line

Figure 28 - Zoning Essex Land Use

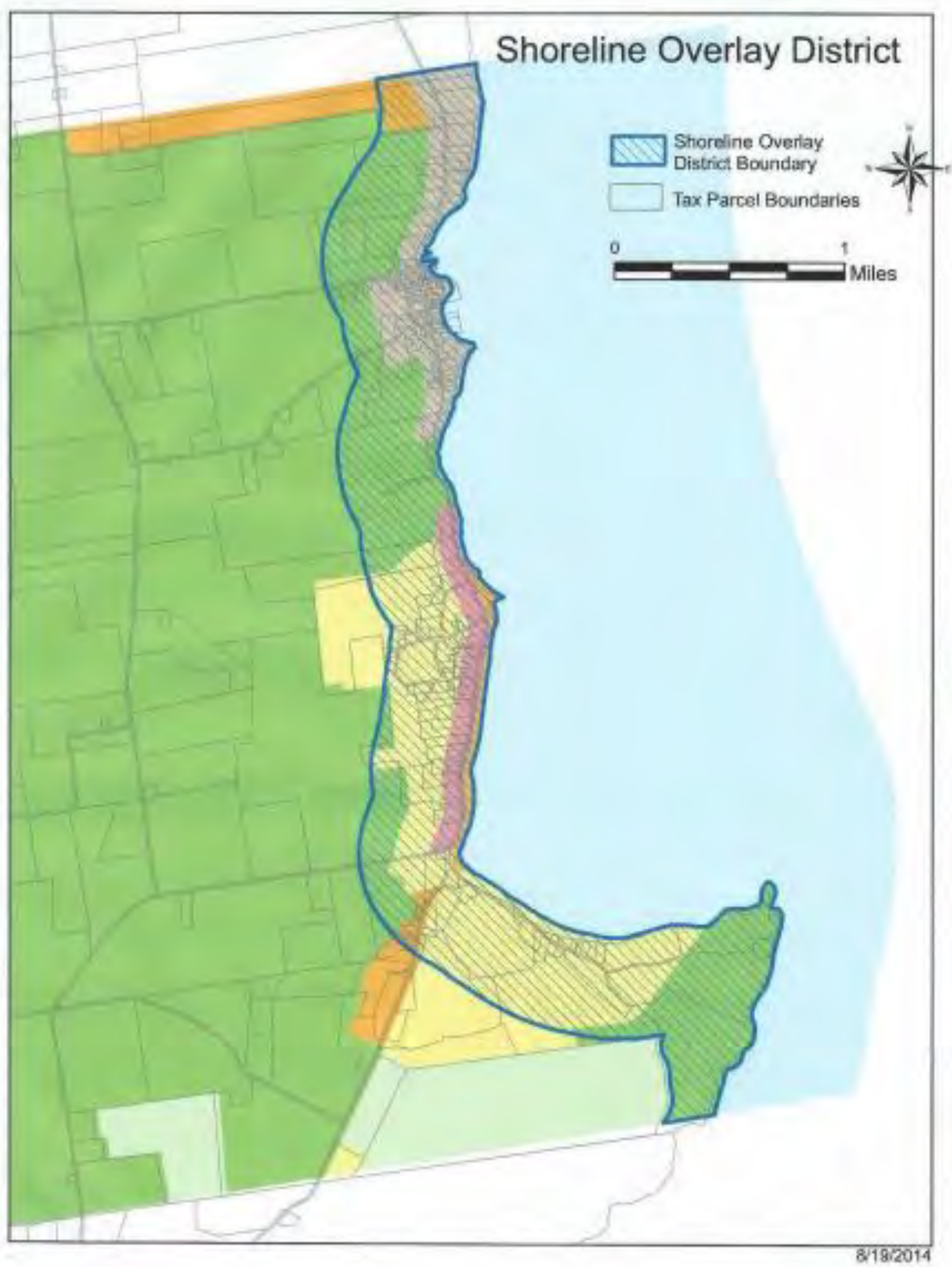


Note: Acres per principal dwelling:

Essex Hamlet A (EEH-A):	.5 acres
Essex Hamlet B (EEH-B):	1.3 acres
Essex Hamlet C (EEH-C):	42.7 acres
Whallonsburgh Hamlet (H):	.5 acres
Moderate Intensity Use (EMIU):	1.3 acres
Low Intensity Use (ELIU):	3.2 acres
Rural Use (ESU):	8.5 acres
Resource Management (ERM):	42.7 acres
Critical Environmental Area (ECEA):	42.7 acres

Figure 29 – Zoning Essex Shoreline Overlay District

Shoreline Overlay District – 2300 ft. from Mean High Water



Schedule D: Essex Hamlet and Historic District

[Larger versions of this map are available from the Zoning Officer]

Figure 30 – New York’s Major Lake Champlain Segments



Appendices

Appendix A

DWSP2 Data Summary

Appendix A.1
DWSP2 Plan Check List

Drinking Water Source Protection Program (DWSP2) Plan Data Summary

Description: This DWSP2 Plan Data Summary is a tool to summarize data gathered throughout the protection planning process using the [DWSP2 Framework](#). The sections in this Data Summary align with the components of the DWSP2 Framework.

Communities may seek to include information beyond what is outlined in this document and should make additions based on local needs. The tables and information in this document will be valuable to include within a community's DWSP2 Plan.

For guidance on writing a DWSP2 Plan, refer to the [DWSP2 Plan Template](#). The DWSP2 Plan Template specifies where the tables from the data summary can be included in a DWSP2 Plan.

DWSP2 Plan Checklist

This checklist can be used throughout the protection planning process to keep track of components that are in-process or complete. Select "in-process" or "complete" under the status dropdown menu for each component.

Component	Status
Phase 1. Stakeholder Group	Complete
1.1 Form a Stakeholder Group	Complete
1.2 Establish Goals and Formulate a Vision	Complete
Phase 2. Drinking Water Source Assessment	Complete
2.1 Develop an Overview of the Water System	Complete
2.2 Prepare a Drinking Water Source Protection Map	Complete
2.3 Create a Potential Contaminant Source Inventory	Complete
Phase 3. Protection and Implementation Strategies	Complete
3.1 Identify Protection and Management Methods	Complete
3.2 Develop an Implementation Timeline	Complete
Phase 4. Progression and Maintenance	Complete
4.1 Designate a Plan Management Team	Complete

Appendix A.2

Stakeholder Group

1.1 Form a Stakeholder Group	
Stakeholder Members	Relevant Affiliation(s)
Patrick McCauliffe ²	Willsboro Water District Water Operator
Tina Gardner	Essex Water District Water Operator
Dave Winter	Port Kent Water District and Chesterfield Water Operator
Shaun Gilliland	Willsboro Town Supervisor
Ken Hughes	Essex Town Supervisor
Clayton Barber	Chesterfield Town Supervisor
Marlene Martin	NYSDOH Saranac Lake District Office
Amanda Lavigne	NYSDOH Saranac Lake District Office
Anna Reynolds ¹	Essex County Office of Community Resources
Hannah Neilly	Essex County Office of Community Resources
Alice Halloran	Essex County Soil and Water Conservation District
Vic Putman	Lake Champlain Citizens Advisory Committee
Patty Schwenker	Indian Bay Marina
Advisory Members	Relevant Affiliations(s)
Eric Howe	Lake Champlain Basin Program
Colleen Hickey	Lake Champlain Basin Program
Katie Darr	Lake Champlain Basin Program
1 Plan Point of Contact: anna.reynolds@essexcountyny.gov , (518)873-3895	
2 Plan Secondary Contact: watersewer@townofwillsborony.gov , (518)572-2873	

Stakeholder Group Meetings	
Date	Topics Covered
2/17/2022	Water operators and Essex County Office of Community Resources met to discuss a program overview and generate a list of source water concerns that impact the three Towns. Discussed mapping capabilities and additional stakeholders to invite.
3/22/2022	Town supervisors joined the group that attended on 2/17/2022. Briefly reviewed DWSP2. Discussed additional stakeholders to invite and designated a plan to reach out to new stakeholders.
4/26/2022	First meeting with full list of stakeholders in attendance. Briefly reviewed program and list of source water concerns. Discussed plans to draft goals/vision statement and collect information on current projects in the area. Reviewed items for water operators to complete. Discussed plans for mapping and integration into Diamond Maps. The group brainstormed ways to address these as time sensitive source water concerns.
6/28/2022	Discussed DWSP2 mapping process and current mapping work. Discussed new additions to the maps based on local knowledge.
7/26/2022	Discussed mapping updates, continued discussion of goals and vision, and reviewed the DWSP2 data summary template.
8/23/2022	Discussed potential contaminant sources as well as the Critical Area and source water areas. Discussed additional map additions. Discussed potential contaminant sources as well as the Critical Area and Extended Source Water Area. Discussed additional map additions.
9/27/2022	Began discussing protection and management strategies, including existing methods utilized in each town. Began discussing protection and management strategies, including existing methods utilized in each Town.
10/25/2022	Continued discussion of protection and management methods.
12/20/2022	Reviewed draft implementation timeline and assigned priority levels for each action in each Town.
1/24/2023	Continued review of draft implementation timeline.
2/28/2023	Discussed outreach and education items in more detail. Brainstormed potential communication channels and priorities.
4/25/2023	Continued outreach discussion, finalized priorities for implementation, and discussed next steps for DWSP2 report writing and review.
9/26/2023	Began review of DWSP2 report draft.
10/24/2023	Continued group review of DWSP2 report draft.
11/28/2023	Continued group review of DWSP2 report draft.
1/23/2024	Continued group review of DWSP2 report draft.
2/27/2024	Continued group review of DWSP2 report draft.
3/26/2024	Reviewed cost estimates and plan management team.

Appendix A.3

Goals and Vision Statement

1.2 Establish Goals and Formulate a Vision

Vision Statement

The Towns of Chesterfield and Port Kent, Essex, and Willsboro will commit to proactive protection of Lake Champlain and its watershed in order to provide high quality drinking water to each water district resident in these communities now and into the future.

Goals

Goal #1	Establish a coordinated approach among Town officials and water operators from the Towns of Chesterfield and Port Kent, Essex, and Willsboro to assess and address threats to water quality and public health.
Goal #2	Improve rapid response capabilities to source water quality threats.
Goal #3	Engage and educate the public about their drinking water and best management practices for watershed protection and water conservation.

Appendix A.4

Overview of Water System

Public Water Supply (PWS) Information	
PWS Name:	Port Kent Water District
PWS ID:	NY1520370
Type of sources identified in the plan:	Surface Water
Name(s) of sources being protected:	Lake Champlain
2.1 Develop an Overview of the Water System	
Water system name:	Port Kent Water District
NYS PWS ID:	NY1520370
Type of water system (e.g. community, non-community, transient, non-transient):	Community
Name of community, or communities, served by system:	Hamlet of Port Kent (Town of Chesterfield)
Population served by the system:	200-230
# of service connections:	156
Summary of wells, intakes, infiltration galleries, and/or springs:	
General treatment information:	Port Kent treatment includes 2 filter trains of 3 vessels each, roughing filter, multimedia finish filter, and a Granular Activated Carbon (GAC) filter, backwash pumps and backwash lagoons, all controlled by operator adjusted SCADA.
Summary of hydrogeographic setting of drinking water sources including watershed:	The Lake Champlain and its Basin was formed by glacial movement, glacial melt, lowering sea levels, and land elevation rise. The Lake is divided into 5 areas that vary in physical and chemical characteristics. The Lake is 120 miles long, 12 miles wide (at its greatest width), with an average depth of 64 feet, and varies in retention time depending on the Lake segment. For Main Lake, it has a retention time of approximately 3 years. The area of the Lake's basin is 8,234 square miles, and 90% of the water that enters Lake Champlain flows through the basin. (LCBP 2024)
Water quality summary including any known raw or ambient water quality information, finished water detections, and/or history of maximum contaminant level (MCL) violations:	Some water quality info is as follows, Alkalinity= 50-100 mg/l Hardness=30-60 mg/l NTU raw water, 1.0 or less pH= 6.9-7.5 Phosphorous in Main Lake Status – Fair Cyanobacteria blooms in Main Lake Status – Fair

	Because of relatively lower phosphorous levels, cyanobacteria blooms in the Main Lake appear occasionally and are not widespread. However, annual phosphorus loading to the Main Lake segment in 2023 was above average due to the July flooding (LCBP 2024). From 2022 to 2024, ambient total phosphorous samples in the Main Lake increased from 11.7 to 15.2 ug/L (VTDEC 2024).
Water quantity summary:	The Total Permitted Water Withdrawal Capacity for Port Kent is 100,000 GPD. The Average Daily Water Demand is 30,000 GPD. Maximum Daily Water Demand is 70,000 GPD. Annual Average Water Loss is approximately 2,000 GPD. The water withdrawal permit expiration date is 7/18/2031.

Public Water Supply (PWS) Information	
PWS Name:	Essex Water District
PWS ID:	NY1500278
Type of sources identified in the plan:	Surface Water
Name(s) of sources being protected:	Lake Champlain
2.1 Develop an Overview of the Water System	
Water system name:	Essex Water District
NYS PWS ID:	NY1500278
Type of water system (e.g. community, non-community, transient, non-transient):	Community
Name of community, or communities, served by system:	Town of Essex
Population served by the system:	350
# of service connections:	177
Summary of wells, intakes, infiltration galleries, and/or springs:	
General treatment information:	Essex utilizes a diatomaceous earth pressure filter², 60 gpm, chlorine for disinfection, chlorine contact tank, and zinc orthophosphate for corrosion control. At the time of this report, the Essex Water Treatment Plant is being upgraded with a conventional filtration process including coagulation, flocculation, sedimentation and filtration. The new plant should eliminate the DBP violations. This upgrade is currently in the construction phase as of 2025.
Summary of hydrogeographic setting of drinking water sources including watershed:	The Lake Champlain Basin and Lake Champlain was formed by glacial movement, glacial melt, lowering sea levels, and land elevation rise. The Lake is divided into 5 areas that vary in physical and chemical characteristics. The Lake is 120 miles long, 12 miles wide (at its greatest width), with an average depth of 64 feet, and varies in retention time depending on Lake segment. For Main Lake it has a retention time of approximately 3 years. The area of the Lake's basin is 8,234 square miles, and 90% of the water that enters Lake Champlain flows through the basin. (LCBP 2024)

² The Essex Water District decommissioned diatomaceous earth filters in early 2024.

Water quality summary including any known raw or ambient water quality information, finished water detections, and/or history of maximum contaminant level (MCL) violations:	DBP violations since 2011, PFOA's, PFOS & dioxane detection Phosphorous in Maine Lake Status – Fair Cyanobacteria blooms in Main Lake Status – Fair Because of relatively lower phosphorous levels, cyanobacteria blooms in the Main Lake appear occasionally and are not widespread. However, annual phosphorus loading to the Main Lake segment in 2023 was above average due to the July flooding (LCBP 2024). From 2022 to 2024, ambient total phosphorous samples in the Main Lake increased from 11.7 to 15.2 ug/L (VTDEC 2024).
Water quantity summary:	The Total Permitted Water Withdrawal Capacity for Essex is 25,000 GPD. Average Daily Water Demand is <20,000 GPD. Maximum Daily Water Demand is <20,000 GPD. Annual Average Water Loss was not available. There is no expiration date for the water withdrawal permit.

Public Water Supply (PWS) Information	
PWS Name:	Town of Willsboro Consolidated Water District
PWS ID:	NY1500299
Type of sources identified in the plan:	Surface Water
Name(s) of sources being protected:	Lake Champlain
2.1 Develop an Overview of the Water System	
Water system name:	Town of Willsboro Consolidated Water District
NYS PWS ID:	NY1500299
Type of water system (e.g. community, non-community, transient, non-transient):	Community
Name of community, or communities, served by system:	Town of Willsboro
Population served by the system:	Approximately 2,400
# of service connections:	Approximately 1,100
Summary of wells, intakes, infiltration galleries, and/or springs:	
General treatment information:	Willsboro utilizes 2 vertical turbine pumps (60hp each) to pump raw water from wet well through 4 diatomaceous earth pressurized water filters at approximately 415 GPM. Sodium Hypochlorite is then added for disinfection purposes, followed by a dose of Zinc Orthophosphate used as a corrosion control inhibitor. Finished water is pumped to both a 500,000- gallon and a 200,000-gallon storage tank simultaneously through a 10-inch transmission main. Water is distributed to the community from these water tanks without the need for any additional pumping. At the time of this report, Willsboro is in the early phases of constructing a new water treatment plant facility. The treatment plant is anticipated to be online in 2-3 years and will transition from diatomaceous earth pressure filters to a new coagulation, flocculation, and sedimentation process. The new treatment process enables Willsboro to produce water more efficiently and at a higher quality than the current treatment process.
Summary of hydrogeographic setting of drinking water sources including watershed:	The Lake Champlain Basin and Lake Champlain was formed by glacial movement, glacial melt, lowering sea levels, and land elevation rise. The Lake is divided into 5 areas that vary in physical and chemical characteristics. The Lake is 120 miles long, 12 miles wide (at its greatest width), with an average depth of 64 feet, and varies in retention time depending on

	Lake segment. For Main Lake it has a retention time of approximately 3 years. The area of the Lake's basin is 8,234 square miles, and 90% of the water that enters Lake Champlain flows through the basin. (LCBP 2024) Drinking water intake is in the southern end of Willsboro Bay on Lake Champlain.
Water quality summary including any known raw or ambient water quality information, finished water detections, and/or history of maximum contaminant level (MCL) violations:	Finished water averages between 0.15 and 0.30 NTU and leaves the treatment plant with a Chlorine Residual between 2.0 and 2.3 mg/L. Willsboro had DBP Violations in the past and are currently testing for PFOA, PFOS and Dioxane. Phosphorous in Maine Lake Status – Fair Cyanobacteria blooms in Main Lake Status – Fair Because of relatively lower phosphorous levels, cyanobacteria blooms in the Main Lake appear occasionally and are not widespread. However, annual phosphorus loading to the Main Lake segment in 2023 was above average due to the July flooding (LCBP 2024). From 2022 to 2024, ambient total phosphorous samples in the Main Lake increased from 11.7 to 15.2 ug/L (VTDEC 2024).
Water quantity summary:	The Total Permitted Water Withdrawal Capacity for Willsboro is 865,000 GPD, the Average Daily Water Demand is 308,000 GPD, Maximum Daily Water Demand is 590,000 GPD. Annual Average Water Loss was not available. There is no expiration date for the water withdrawal permit.

Appendix A.5

DWSP2 Map Creation

2.2 Prepare a Drinking Water Source Protection Map

Protection Areas	Description	Delineation Method
Control and Monitoring Area	1,000 ft buffer around the intakes	Arbitrary Fixed Radius
Critical Area	1,000 ft from Lake Champlain shoreline within each intake's HUC12 boundaries. The extended buffer measures the widest point of the Boquet River, where the river enters Lake Champlain. The width was multiplied by 20 to determine how far the Critical Area should be extended upstream of the Boquet River	Surface Water Delineation Method
Extended Source Water Area	HUC12 boundaries, southernmost HUC12 truncated to only use area from railway to the shore	HUC12 Delineation Method

Below is a list of sources of publicly available data:

URL	Publicly Available Data
https://data.ny.gov/	• Bulk Storage Facilities • Solid Waste Management Facilities • Environmental Remediation Sites • Superfund Sites • Spill Incidents • Oil, Gas and Other Regulated Wells • SPDES Multi-Sector General Permit • Combined Sewer Overflows • Water Withdrawals by Facility • Boat Launch Sites • Inventory & Priority Waterbodies
https://gis.ny.gov/	• State Pollutant Discharge Elimination System • NYS DOT Facilities • NYS Tax Parcels • USGS Digital Raster Graphic Quadrangle • NYS Tax Parcels
https://mrlc.gov/	• National Land Cover Dataset
http://opdgig.dos.ny.gov/index.html#/home	• Unconsolidated Aquifers
https://datagateway.nrcs.usda.gov/GDGOrder.aspx	• NRCS Conservation Easement Areas by State
https://www.conservationeasement.us/	• Conservation Easement Areas US
https://datagateway.nrcs.usda.gov/GDGOrder.aspx#	• National Hydrography Dataset 1:24,000
http://www.dec.ny.gov/lands/5374.html	• Mines
https://www.eia.gov/	• Pipelines
https://www.epa.gov/	• TRI Basic Data Files

Provide a description of the map layers created or acquired to create the source water protection map below:		
Layer	Date created or acquired	Description
Drinking Water Intakes	7/1/2022	Added points using x, y from NYSDOH coordinates.
PCS Layers	7/1/2022	Publicly available data from NYS GIS Clearinghouse.
Critical Area	7/19/2022	Created for this project by measuring 1000ft from Lake Champlain shoreline within each intake's HUC-12 boundaries. Created an additional buffer 20xMCW upstream of the Boquet River.
Extended Source Water Area	8/2/2022	Created for this project using HUC-12 boundaries. Southernmost HUC-12 truncated to only use area from railway to the shore.
Tax Parcels	7/19/2022	Tax parcel property data drawn from NYS GIS Clearinghouse of publicly available geospatial features.
National Land Cover Data	7/1/2022	Satellite-derived 30m, 19-class land cover data, circa 2019 from multi resolution land characteristics/USGS Program.
Transportation Features	7/6/2022	NYS Streets from the NYS GIS Clearinghouse adjusted to display State, County, Town and Village roads only.
Deicing Storage	1/17/2023	Coordinates provided by the Towns.
Culverts	8/17/2022	Shapefiles provided by Essex County Department of Public Works.
County and Town Boundaries	7/1/2022	Boundary polygons for municipal boundaries in New York State.
Regional Land Use	8/1/2023	Created by coding and symbolizing NYS Tax Parcel data, on "Property Type Classification Codes" to illustrate the assigned uses of individual property parcel across the landscape.
Steep Slopes	7/24/2023	Created for this project through a surficial slope model, calculating percent slope categories, upon a 30m resolution Digital Elevation Model (DEM).
Surface Geology	4/3/2023	Rock units constituting the surficial geology (overlying bedrock) of New York State.
Streams	12/14/2022	Stream and rivers of New York State, from the USGS National Hydrological Data Plus (NHD+) Program. Named streams are displayed as "Major Streams."
Bedrock Geology	4/3/2023	Rock units constituting the bedrock lithology of New York State.
Private Septic Systems	3/10/2023	Created for this project by coding and symbolizing NYS Tax Parcel data on the "SEWER_DESC" variable. This is a description of sewer type employed within the property, from possible values of: Private, Common/Public, None or Unknown.
USGS Topographic Map	4/28/2022	Drawn from ESRI Online data library, this base map composition from the USGS contains a wide range of useful spatial and contextual features relevant to identifying locations and landscape patterns.
Inactive Landfill	11/15/2022	Coordinates provided by the Towns.

Shaded Relief	6/13/2023	Created for this project, using 30m DEM image, utilized to highlight terrain and hill shading.
Soil Hydrologic Groups	2/15/2023	Drawn from ESRI Online data library, features illustrate the USDA 7 class SSURGO soils for the region, reflecting the respective soil units rate of runoff or conversely the ability to absorb water during a rainfall event.

Appendix A.6
Potential Contaminant Source Inventory

2.3 Create a Potential Contaminant Source Inventory									
Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Bulk Storage	Petroleum Bulk Storage	Richard & Leanna Deneale	Chemical, Biological (fuel type #1 and kerosene)	Critical Area	Willsboro, Essex	Active	Onsite consumption. Location: aboveground on saddles, legs, stilts, rack or cradle, Site Type: Private Residence. Permit expiration date: 8/15/2016	3221 Essex Rd, Willsboro, NY 12996 Lat: 44.3403, Long: -73.3628	Permit ID: 5-600022
Bulk Storage	Petroleum Bulk Storage	Lewis Family Farm	Chemical, Biological (fuel oil #2)	Extended Source Water Area	Essex	Active	Location: aboveground on saddles, legs, stilts, rack or cradle, Site Type: Farm. Permit expiration date: 12/5/2020	1212 Whallons Bay Rd, Essex, NY 12936 Lat: 44.2722, Long: -73.3836	Permit ID: 5-600556
Bulk Storage	Petroleum Bulk Storage	Boquet Valley Central School District	Chemical, Biological (diesel)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Location: aboveground on saddles, legs, stilts, rack or cradle, Site Type: School. Permit expiration date: 7/1/2024	25 Sisco St, Westport, NY 12993 Lat: 44.1842, Long: -73.4523	Permit ID: 5-101206
Bulk Storage	Petroleum Bulk Storage	Superior Plus Energy Services, Inc.	Chemical, Biological (petroleum type unknown)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Site Type: Storage Terminal/Petroleum Distributor. Permit expiration date: Unknown	24 Dock Lane, Port Henry, NY 12974 Lat: 44.0502, Long: -73.4554	Permit ID: 5-600543
Bulk Storage/Transportation	Petroleum Bulk Storage/Road and Maintenance Facility	Town of Westport Highway Garage	Chemical, Biological (motor oil)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Location: aboveground on saddles, legs, stilts, rack or cradle, Site Type: Municipality. Permit expiration date: 9/10/2025	245 NY-22 Scenic, Westport, NY 12993 Lat: 44.1990, Long: -73.4493	Permit ID: 5-600987
Bulk Storage/Transportation	Petroleum Bulk Storage/Road and Maintenance Facility	Town of Willsboro Highway Garage	Chemical, Biological (diesel)	Extended Source Water Area	Willsboro, Essex	Active	Location: Aboveground on saddles, legs, stilts, rack or cradle. Permit expiration date: 12/14/2022	17 Stoker Lane, Willsboro, NY 12996 Lat: 44.359507, Long: -73.394779	Permit ID: 5-428744
Bulk Storage	Petroleum Bulk Storage	Anjou Development Corp	Chemical, Biological (fuel type #2)	Extended Source Water Area	Willsboro, Essex	Active	Location: aboveground on saddles, legs, stilts, racks or cradle, onsite consumption, Site Type: Manufacturing (Other than Chemical)/Processing. Permit expiration date: 5/5/2021	39 Myers Way, Willsboro, NY 12996 Lat: 44.3671, Long: -73.4057	Permit ID: 5-009903

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Bulk Storage	Petroleum Bulk Storage	Khushi Mart Inc	Chemical, Biological (gasoline)	Extended Source Water Area	Willsboro, Essex	Active	Location: underground including vaulted with no access for inspection, Site Type: Retail Gasoline Sales, Status: Active site within service and closed in place tanks. Permit expiration date: 8/27/2025	3953 NY-22, Willsboro, NY 12996 Lat: 44.3692, Long: -73.4066	Permit ID: 5-037923
Bulk Storage	Petroleum Bulk Storage	Village Meat Mart	Chemical, Biological (gasoline)	Extended Source Water Area	Willsboro, Essex	Active	Location is underground including vaulted with no access for inspection, Site Type: Retail Gasoline Sales. Permit expiration date: 3/5/2026	3609 Essex Rd, Willsboro, NY 12996 Lat: 44.3534, Long: -73.3907	Permit ID: 5-29164
Bulk Storage	Petroleum Bulk Storage	Willsboro Central School District	Chemical, Biological (diesel)	Extended Source Water Area	Willsboro, Essex	In Service	This location has two petroleum Bulk Storage tanks. Tank 1: Underground including vaulted with no access for inspection. Tank 2: Aboveground-in contact with impervious barrier. Permit expirations date: 10/14/2013	29 School Lane, Willsboro, NY 12996 Lat: 44.374682, Long: - 73.391508	Permit ID: 5-600527
Bulk Storage	Petroleum Bulk Storage	Willsboro Central School District	Chemical, Biological (fuel oil #2)	Extended Source Water Area	Willsboro, Essex	Active	Onsite consumption, Location is underground including vaulted with no access for inspection, Site Type: School, Permit was set to expire in 2013. Status of unit/permit is unknown. Permit expiration date: 10/14/2013	17 Library Lane, Willsboro, NY 12996 Lat: 44.3632, Long: -73.3939	Permit ID: 5-461105
Bulk Storage	Petroleum Bulk Storage	Town of Essex Highway Garage	Chemical, Biological (petroleum type unknown)	Extended Source Water Area	Essex	Active	Three tanks currently in service. All aboveground on saddles, legs, stilts, racks, or cradle. One tank contains diesel, the second holds waste/used oil, and the third holds #2 fuel oil.	1854 Route 22, Essex, NY 12936	Permit ID: 5-229482
Bulk Storage	Petroleum Bulk Storage	Whitcomb's Garage	Chemical, Biological (petroleum type unknown)	Extended Source Water Area	Essex	Closed	Three underground tanks vaulted with no access for inspection. All closed. One in place, two have been removed.	Main St, Whallonburg, NY 12994	Permit ID: 5-066885
Bulk Storage	Petroleum Bulk Storage	Willsboro Quarry	Chemical, Biological (diesel)	Extended Source Water Area	Willsboro, Essex	Active	Location is aboveground on saddles, legs, stilts, rack or cradle, Site Type: Manufacturing (Other than Chemical)/Processing. Permit expiration date: 7/17/2025	3564 Essex Road, Willsboro, NY 12996 Lat: 44.354269, Long: -73.380077	Permit ID: 5-601219
Contamination Sites or Incidents	Remediation Site	Republic Steel Corp. (Mesaba)	Chemical (Transformers possibly containing Polychlorinated Biphenyls (PCBs))	Extended Source Water Area	Port Henry/ Southern Shore	Undetermined/ No further action at this time	Waste Name: Transformers possibly containing Polychlorinated Biphenyls (PCBs)	Neartown Road, Mineville, NY 12956 Lat: 44.05327, Long: -73.4564	DEC Site Code: 516003

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Contamination Sites or Incidents	Remediation Site	Atlas Missile Site S-4 Essex	Chemical (diesel)	Extended Source Water Area	Willsboro, Essex	No further action at this time	No additional information	Route 22, Willsboro, NY 12996 Lat: 44.3435, Long: -73.3673	DEC Site Code: 516006
Contamination Sites or Incidents	Remediation Site	Willsboro Black Ash Pond	Chemical (methoxychlor, benzo(a)pyrene, pyrene, antimony, alpha-BHC, dinitrotoluene, nickel, dibutyl phthalate, chromium, dimethyl phthalate, butyl benzyl phthalate, diethyl phthalate, chromium)	Extended Source Water Area	Willsboro, Essex	Completed	No additional information	School Street, Willsboro, NY 12996 Lat: 44.3693, Long: -73.3913	DEC Site Code: E51609
Contamination Sites or Incidents	Solid Waste	Essex-Willsboro Transfer Station	Chemical (Municipal Solid Waste (Residential/Institutional & Commercial))	Extended Source Water Area	Willsboro, Essex	Active	No additional information	2476 Route 22, Essex, NY 12936 Lat: 44.305839, Long: -73.377265	360 Permit #: 16R10001
Discharge to Water/ Other	MSGP SPDES*/Marinas and Boat Launches	Willsboro Bay Marina	Chemical, Biological (specific contaminant unknown)	Critical Area	Port Kent, Willsboro	Terminated	Permit effective date, 10/15/2019	25 Klein Way, Willsboro, NY 12996 Lat: 44.405636, Long: -73.393929	NPDES Permit ID: NYR00B718
Discharge to Water/ Other	MSGP SPDES*/Marinas and Boat Launches	Safe Harbor Marina	Chemical, Biological (specific contaminant unknown)	Critical Area	Port Kent, Willsboro	Active	Permit effective date, 1/17/2020	26 Klein Way, Willsboro, NY 12996 Lat: 44.405636, Long: -73.393929	NPDES Permit ID: NYR00G346
Discharge to Water	MSGP SPDES*	General Composites Inc	Chemical, Biological (specific contaminant unknown)	Extended Source Water Area	Port Henry/ Southern Shore	Terminated	Permit effective date, 3/1/2018	6588 Main Street, Westport, NY 12993 Lat: 44.183450, Long: -73.443156	NPDES Permit ID: NYR00E755
Discharge to Water	MSGP SPDES*/SPDES	Imerys Wollastonite Plant	Chemical, Biological (specific contaminant unknown)	Extended Source Water Area	Willsboro, Essex	Active	Miscellaneous nonmetallic minerals Permit effective date: 6/24/2018	803 Mountainview dr, Willsboro, NY 12996 Lat: 44.359995, Long: -73.403338	NPDES Permit ID: NYR00A936 SPDES Permit ID: NY0006092
Discharge to Water	MSGP SPDES*	Willsboro Stone	Chemical, Biological (specific contaminant unknown)	Extended Source Water Area	Willsboro, Essex	Terminated	Permit effective date: 6/15/2019	3665 ROUTE 22, Willsboro, NY 12996 Lat: 44.356832, Long: -73.390143	NPDES Permit ID: NYR00F764
*MSGP SPDES Permit is a form of SPDES Permit that regulates discharge of stormwater from industrial activities.									

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Discharge to Water	SPDES	Essex Sewer District No 1	Chemical, Biological (specific contaminant unknown)	Critical Area	Willsboro, Essex	Active	Permit expiration date: 5/31/2020	St Rte 22, outfall to Library Brk, Essex NY, 12936 Lat: 44.311595, Long: -73.349912	Permit ID: NY0256471
Discharge to Water	SPDES	Wadhams Sewer District WWTF	Chemical, Biological (specific contaminant unknown)	Extended Source Water Area	Essex	Active	Permit expiration date: 6/30/2024	834 ST RTE 22, Wadhams, NY 12993 Lat: 44.227162, Long: -73.457089	Permit ID: NY0217760
Discharge to Water	SPDES	Port Kent Water Filtration Plant	Chemical, Biological (outfall: treated sanitary)	Extended Source Water Area	Port Kent	Active	Permit expiration date: 8/31/2020	308 Trembleu Rd, Keeseville, NY, 12944 Lat: 44.519747, Long: -73.409388	Permit ID: NY0256480
Discharge to Water	SPDES	Barber RV Camping Park	Chemical, Biological (specific unknown)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Permit expiration date: 4/30/2015	Barber Rd (off Dudley Rd south of Barber Rd), Westport, NY 12993 Lat: 44.151204, Long: -73.407490	Permit ID: NY0239593
Discharge to Water	SPDES	Camp Dudley	Chemical, Biological (specific unknown)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Permit expiration date: 3/31/2021	126 Dudley Rd, Westport, NY 12993 Lat: 44.146284, Long: -73.414592	Permit ID: NY0092983
Discharge to Water	SPDES	Westport Wastewater Treatment Plant (WWTP)	Chemical, Biological (outfall: treated sanitary)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Permit expiration date: 5/31/2021	18 Marks Rd, Westport, NY 12993 Lat: 44.185703, Long: -73.434458	Permit ID: NY0020222
Discharge to Water	SPDES	Smith House Health Center	Chemical, Biological (specific unknown)	Extended Source Water Area	Willsboro, Essex	Active	Permit expiration date: 10/31/2025	39 Farrell Rd, Willsboro, NY 12996 Lat: 44.371873, Long: -73.397323	Permit ID: NY0239674
Discharge to Water	SPDES	Willsboro Senior Housing	Chemical, Biological (specifics unknown)	Extended Source Water Area	Willsboro, Essex	Active	Permit expiration date: 12/31/2022	15 Senior Ln, Willsboro, NY 12996 Lat: 44.371795, Long: -73.391728	Permit ID: NY0239623
Discharge to Water	SPDES	Willsboro Sewer District No. 1 Wastewater Treatment Facility	Chemical, Biological (sanitary wastewater)	Extended Source Water Area	Willsboro, Essex	Active	Permit expiration date: 5/31/2020	76 Gilliland Ln, Willsboro, NY 12996 Lat: 44.366739, Long: -73.389068	Permit ID: NY0239682

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Mineral Extraction Sites	Mine	Mine Name: NA, Permittee Name: J-Mar Construction Co Inc	Physical, Chemical (erosion and chemical runoff from mining actions)	Critical Area	Essex	Reclaimed	Material: Limestone	Ross St, Essex, NY, 12936 Lat: 44.30115, Long:73.35257	Mine ID: 50322
Mineral Extraction Sites	Mine	Sheehen Mine	Physical, Chemical (erosion and chemical runoff from machinery mining actions)	Critical Area	Willsboro, Essex, Boquet River	Active	Material: Sand and Gravel	On the north-side of SR 22 and east of Willsboro, with access through a small cemetery Lat: 44.36028, Long: -73.3753	Mine ID: 50784
Mineral Extraction Sites	Mine	Crooked Brook Sand & Gravel	Physical, Chemical (erosion and chemical runoff from mining actions)	Extended Source Water Area	Essex	Reclaimed	Material: Sand and Gravel	On the north-side of Brookfield and Powers Roads, Essex, NY 12936 Lat: 44.27503 Long: -73.4489	Mine ID: 50923
Mineral Extraction Sites	Mine	Lewis Mine	Physical, Chemical (erosion and chemical runoff from machinery mining actions)	Extended Source Water Area	Essex	Exempt	Material: Limestone Status: Exempt from Mined Land Reclamation Law. NYSDEC determined that the activity at the site did not require a NYS mining permit.	Box 250 Whalons Bay Road, Essex, NY, 12936 Lat: 44.255574, Long: -73.39995	Mine ID: 50869
Mineral Extraction Sites	Mine	Railroad Track Mine	Physical, Chemical (erosion and chemical runoff from mining actions)	Extended Source Water Area	Essex	Reclaimed	Material: Sand and Gravel	County Route 22, south of Whallonsburg, Essex, NY 12936 Lat: 44.250660, Long: -73.419459	Mine ID: 50226
Mineral Extraction Sites/ Transportation	Mine/Road and Maintenance Facility	Town of Essex Highway Dept Pit/Town of Essex Highway Garage	Physical, Chemical (erosion and chemical runoff from mining actions)	Extended Source Water Area	Essex	Reclaimed	Material: Sand and Gravel	Box 355, Essex, NY, 12936 Lat: 44.249087, Long: -73.485592	Mine ID: 50594
Mineral Extraction Sites	Mine	Gordon Brothers Sand and Gravel Mine	Physical, Chemical (erosion and chemical runoff from machinery mining actions)	Extended Source Water Area	Port Kent	Never Permitted	Material: Sand and Gravel	Pray Road and State Route 73, Chesterfield, NY, 12975 Lat: 44.518422, Long: -73.427613	Mine ID: 50988

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Mineral Extraction Sites	Mine	Hathaway Pit	Physical, Chemical (erosion and chemical runoff from mining actions)	Extended Source Water Area	Willsboro, Essex	Reclaimed	Material: Sand and Gravel	County Rt 22, Southeast of Willsboro, Willsboro, NY 12996 Lat: 44.353451 Long: -73.371830	Mine ID: 50280
Mineral Extraction Sites	Mine	Willsboro Mine - Underground	Physical, Chemical (erosion and chemical runoff from machinery & mining actions)	Extended Source Water Area	Willsboro, Essex	Active	Material: Wollastonite	803 Mountain View Dr, Willsboro, NY 12996 Lat: 44.3483, Long: -73.4344	Mine ID: 50003
Mineral Extraction Sites	Mine	Willsboro Stone	Physical, Chemical (erosion and chemical runoff from machinery & mining actions)	Extended Source Water Area	Willsboro, Essex	Active	Material: Limestone	North-side of SR 22 and 0.5 miles Southeast of Willsboro, just east of Carlson Way, Willsboro, NY 12996 Lat: 44.36013, Long: 73.37965	Mine ID: 51061
Transportation	Airport	Bonebender Airport	Chemical (jet fuel, diesel, deicers, solvents, heating oil, firefighting foam)	Extended Source Water Area	Willsboro, Essex	Active	Airports use jet and diesel fuel, deicers, solvents, firefighting foams and heating oil. In addition, stormwater can carry contamination into waterways.	607 Middle Rd, Essex, NY 12936 Lat: -73.383801, Long: 44.310174	NA
Transportation	Airport	Westport Airport	Chemical (jet fuel, diesel, deicers, solvents, heating oil, firefighting foam)	Extended Source Water Area	Port Henry/ Southern Shore	Active	Airports use jet and diesel fuel, deicers, solvents, firefighting foams and heating oil. In addition, stormwater can carry contamination into waterways.	6087 NYS Route 9N Westport NY 12993 Lat: 44.157566, Long: -73.432087	NA
Transportation	Railway	Federal Railroad Administration Rail Line	Physical, Chemical (runoff from petroleum products, metals sediments and organic materials)	Critical Area,	Port Kent, Willsboro	Active	Railways can cause physical or chemical contamination.	NA	NA
				Extended Source Water Area	Willsboro, Essex, Port Henry/ Southern Shore				
Transportation	Deicing Materials (Roads)	Deicing Storage	Chemical (e.g. Sodium chloride, calcium chloride or magnesium)	Extended Source Water Area	Essex, Willsboro	Active	No additional information	Lat: 44.359437, Long: -73.394445	NA

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Waste Management and Disposal	Inactive Landfill	NA	Chemical (PFAS and organic compounds in metal), Biological (leachate)	Extended Source Water Area	Willsboro, Essex	Inactive	Coordinates provided by the Towns. Additional facility information unknown at the time of this report.	Lat: 44.367444, Long: -73.41353	NA
Residential Sources	Onsite Private Septic Systems	NA	Chemical (nutrients from fecal matter and septic maintenance), Biological (effluent may contain bacteria, parasites, viruses, and nutrients)	Critical Area, Extended Source Water Area	Port Kent, Willsboro, Essex, Port Henry/Southern Shore Boquet River	Current/Future	Impact from failing septic systems is a known concern and should continue to be addressed in the future.	NA	NA
Residential Sources	Lawn and Garden chemicals and nutrients	NA	Chemical (pesticides, herbicides and fertilizer)	Critical Area, Extended Source Water Area	Port Kent, Willsboro, Essex, Port Henry/Southern Shore, Boquet River	Current/Future	Improper herbicide and pesticide use is a concern for waterfront properties.	NA	NA
Agriculture	Agricultural Activities	NA	Physical (erosion and sediment runoff), Chemical (pesticides, herbicides and fertilizers), Biological (bacteria, parasites, viruses)	Critical Area, Extended Source Water Area	Port Kent, Willsboro, Essex, Port Henry/Southern Shore	Current/Future	Runoff from agricultural activities can bring excess nutrients into the Lake.	NA	NA
Other	Parks and Dog Walking Areas	NA	Physical, Biological (pet waste, nutrients)	Critical Area	Port Kent, Willsboro, Essex, Port Henry/Southern Shore, Boquet River	Current/Future	Littering and excess nutrients from recreational areas near the shoreline is a concern.	NA	NA
Other	Pharmaceutical Disposal	NA	Chemical (drug residue)	Critical Area, Extended Source Water Area	Port Kent, Willsboro, Essex, Port Henry/Southern Shore, Boquet River	Future	Improper pharmaceutical disposal is a concern as an emerging contaminant.	NA	NA

Potential Source Category	Potential Contaminant Source	Facility	Contaminant(s) of Concern	Protection Area(s) Impacted	Town Area(s) Impacted	Status	Relevant Information	Address	Identification
Other	Nutrient Loading	NA	Chemical (runoff from future contaminant sources)	Critical Area, Extended Source Water Area	Port Kent, Willsboro, Essex, Port Henry/ Southern Shore, Boquet River	Current/Future	Phosphorous is a concern identified by the Lake Champlain TMDL.	NA	NA
Other	Boating Activity and Spills	NA	Physical (garbage), Chemical (fuel oil, paints, cleaners), Biological (aquatic invasives)	Critical Area	Port Kent, Willsboro, Essex, Port Henry/ Southern Shore, Boquet River	Current/Future	Recreational and commercial boat activity is a concern near the intakes, including garbage dumping (both liquid and solid waste) directly into the Lake and improper boat maintenance in sensitive areas.	NA	NA
Other	Golf Course	Willsboro Golf Course	Chemical (fertilizers, herbicides and pesticides)	Extended Source Water Area	Willsboro	Current/Future	Runoff of fertilizers, herbicides and pesticides used for turf maintenance can bring excess nutrients into the Lake.	140 Point Rd, Willsboro, NY 12996 Lat: 44.374703, Long: -73.382219	NA
Other	Golf Course	Harmony Golf Course	Chemical (fertilizers, herbicides and pesticides)	Extended Source Water Area	Port Kent	Current/Future	Runoff of fertilizers and pesticides used for turf maintenance can bring excess nutrients into the Lake.	95 North St, Port Kent, NY 12975 Lat: 44.530124, Long: -73.415527	NA
see narrative section 2.3									

Appendix A.7
Implementation Timeline

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline										
Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
1	Transportation Related Contamination	High: All	Railway	Reduce likelihood and impact of spills directly entering Lake Champlain	Increase communication with CP Rail, fire departments, NYSDOT, and Coast Guard. Develop emergency response protocol, vulnerability assessments, and training materials.	\$	FEMA's Hazard Mitigation Grant Program (HMGP), New York State Division of Homeland Security and Emergency Services (NYSDHSES) Statewide Interoperable Communications Grant (SICG)	Plan Management Team, CP Rail, Water Operators, Fire Departments, Highway Departments, Coast Guard, NYSDOT, Essex County Water Quality Coordinating Committee, Essex County Office of Emergency Management, NYSDOH.	Year 1, ongoing activity once initiated.	Spring 2026
2		High: All	Roadway Spills	Reduce likelihood and increase awareness of any spills in transportation corridors.	Review spill incidents. Ensure response plans are in place. Ensure water operators receive NYS Alert System updates. Educate residents on their role in spill responses.	\$	FEMA's Hazard Mitigation Grant Program (HMGP), New York State Division of Homeland Security and Emergency Services (NYSDHSES) Statewide Interoperable Communications Grant (SICG)	Plan Management Team, Water Operators, Highway Departments, Fire Departments, NYSDOT, NYSEDEC, NYSDOH, Essex County Office of Emergency Management	Year 1, ongoing activity once initiated.	Fall 2026
3	Nutrient Loading	High: All	Private Septic Systems	Reduce the likelihood of nutrients and bacteria from failing septic systems entering Lake Champlain.	Education and outreach to educate homeowners on how to properly maintain their septic systems and existing programs that can support them. Encourage participation in NYSEFC Septic System Replacement Grant. Work directly with homeowners to develop management strategies. Continue to explore septic system maintenance or management district.	\$	NYSP2I, USEPA Environmental Education Grants, LCBP Education and Outreach Grants, NYSEFC Septic System Replacement Fund	Plan Management Team, LCBP, BRASS, CWICNY, LCLGRP, Essex County Office of Community Resources, Essex County SWCD, AFC, Code Enforcement Officers	Years 1-3, ongoing activity once initiated.	Spring 2026

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline										
Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
4	Future Development within the Source Water Area	High: All	Future Sources of Chemical, Physical, or Biological Contamination	Strengthen protection efforts in the critical and source water areas. Increase collaboration and coordination among the Towns of Chesterfield, Essex, and Willsboro regarding existing or new source water concerns.	Establish regular, quarterly meetings to increase source water protection coordination among each Town.	\$	Not Applicable (In House)	Lead Water Operators and Town Supervisors	Year 1, ongoing activity once initiated (quarterly).	Spring 2026
					Work with participating municipalities to include source water protection actions into existing Intermunicipal Agreement.	\$			Year 1-3.	
		Low: All			Strategic land acquisitions for source water protection.	\$\$\$	DEC WQIP Land Acquisition Grant, Adirondack Land Trust, Farmland Trust	ADK Land Trust, Nature Conservancy, Champlain Area Trails, Eddy Foundation, CWICNY, SWCD	Year 1-3.	
					Develop permits, ordinances or site plan review criteria to incorporate stormwater, runoff or drainage pattern control and prevention for new development.	\$	NYSDOS Smart Growth Community Planning and Zoning Grant Program, Nature Conservancy New York Climate Resilience Grant Program	Town Supervisors, Town Planning/Zoning Boards and Code Enforcement Officers	Year 1-3.	

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline

Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
5	Waterfront Property Management	High: All (Designating CEA)	All Potential Contaminant Sources	Protect the drinking water source Critical Area during environmental review of new development. Increase awareness to property owners on how to assist in protection of the watershed (e.g., water conservation, waterfront property management, etc.).	Critical Environmental Area (CEA) designation that alerts landowners, developers, and regulatory agencies of the areas importance when reviewing environmental concerns for potential projects.	\$-\$\$\$	NYSDEC Non-Agricultural Nonpoint source Planning Program, NYSDEC/NYSEFC Engineering Planning Grant Program, NYSDOS Smart Growth Community Planning and Zoning Grant Program,	Plan Management Team, LCBP, BRASS, CWICNY, Essex County Community Resources, Essex County Water Quality Coordinating Committee	Year 1-3.	Fall 2026
		Medium: All (Outreach & Education)			Outreach to landowners and water users on lawn treatment, forest management, water usage and septic/wastewater impacts.	\$	NYSP2I, USEPA Environmental Education Grants, LCBP Education and Outreach Grants		Year 1-3, outreach and tracking are ongoing activities once initiated.	
		Low: All (Zoning & Tracking)			Assess zoning for protection of water quality (Shoreline Overlay Zones).	\$	Not Applicable (In House)		Year 1-3.	
					Track new capital/construction projects within the source water area to ensure consideration of water source is reflected in planning/implementation.	\$	Not Applicable (In House)		Year 1-2.	

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline

Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
6	Erosion and Sediment Control	High: Essex Medium: Chesterfield Low: Willsboro	Erosion, sedimentation, and increased turbidity	Improve conditions during major storm events. Reduce sediment loading in Lake Champlain.	Conduct surveys to identify and prioritize stabilization projects and identify target areas in the Boquet River Watershed. Use best management practices to improve ditch and culvert structures to mitigate environmental impacts during high-flow events. Support the Lake Champlain TMDL Implementation Plan.	\$\$\$	Federal Highway Administration's Culvert Removal, Replacement & Restoration Grants, Clean Water State Revolving Fund (CWSRF), NYSDEC Water Quality Improvement Project (WQIP)'s Nonagricultural Nonpoint Source Abatement and Control, WQIP Aquatic Connectivity Restoration, NYSDEC Green Innovation Grant Program (GIGP), NYSDOS Local Waterfront Revitalization Grants, NYSDEC Non-Agricultural Nonpoint Source Planning Grant Program, NYSDEC/NYSEFC Engineering Planning Grant Program, Trees for Tribs	Plan Management Team, Town supervisors, County and local highway departments, Boquet River Association (BRASS), Essex County Soil and Water Conservation District (SWCD), Essex County Office of Community Resources, Consultant, Champlain Watershed Improvement Coalition of New York (CWICNY), LCBP Streamwise Program, Lake Champlain Lake George Regional Planning Board (LCLGRP)	Years 3-5	Spring 2027
7	Transportation Related Contamination	Medium: Essex Low: Willsboro, Chesterfield	Deicing Materials	Reduce amount of roadway deicing materials from entering Lake Champlain.	Increase coordination with responsible entities. Ensure roadway BMP are being utilized and educate as needed. For example, adequate storage areas are utilized, Explore alternative forms of deicing for major storm events. Identify and map roadway maintenance and salt/sand management facilities in the watershed.	\$\$\$	Green Innovation Grant Program (GIGP), NYSDEC Water Quality Improvement Project (WQIP) Salt Storage and Road Salt Reduction, NYSDEC Non-Agricultural Nonpoint Source Planning Program	Plan Management Team, County/Local Highway Departments, NYSDEC, Essex County Water Quality Coordinating Committee, ADK Action	Years 3-5, ongoing	Fall 2027

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline

Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
8	Nutrient Loading	Low: All	Excess Nutrients from Agricultural Activities	Reduce the amount of overland flow of nutrients.	Increase collaboration between the Towns and Essex County Soil and Water Conservation District. Discuss opportunities to support programs and best management practices.	\$	DAM Agriculture Nonpoint Source Abatement and Control Grant Program, Conservation Reserve Enhancement Program, Trees for Tribs, NYSDAM/NYS Soil and Water Conservation Committee Source Water Buffer Program, USDA NRCS Agricultural Conservation Easement Program, Essex County SWCD Agricultural Environmental Management (AEM)	Plan Management Team, Essex County SWCD, Local Farmers	Years 3-5	Fall 2027
9		Low: All	Lawn and Garden Chemicals and nutrients	Reduce the amount of fertilizers and pesticides applied to mitigate runoff into Lake Champlain.	Outreach and education to homeowners on proper application of fertilizers/pesticides, how to reduce lawn and garden chemicals and excess nutrient use, as well as alternative treatment practices.	\$	USEPA Environmental Education Grants, Lake Champlain Basin Program Education and Outreach Grants	Essex County Soil and Water Conservation District, Plan Management Team, Lake Champlain Basin Streamwise Program, Boquet River Association, CWICNY, Ausable Freshwater Center	Years 1-3, ongoing activity once initiated.	Spring 2027
10		Low: All	Harmful Algal Blooms	Improve conditions to inhibit Harmful Algal Bloom HAB's formation and impact. Reduce sediment and nutrients entering Lake Champlain.	Improve current Harmful Algal Bloom (HAB) monitoring and response plans. Conduct outreach and education to reduce sediment and nutrients entering Lake Champlain.	\$	NYSDAM/Essex County Soil and Water Conservation Committee Agricultural Nonpoint Source Abatement and Control Grant Program, USEPA Environmental Education Grants, LCBP Education and Outreach Grants	Plan Management Team, Essex County Soil and Water Conservation District, Boquet River Association, Lake Champlain Committee, Ausable Freshwater Center, Landowner Associations, CWICNY	Years 1-3, ongoing activity once initiated.	Spring 2027

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline

Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
11	Nutrient Loading	Low: All	Parks and Dog Walking Areas	Reduce the amount of littering and nutrients from recreational and dog walking areas.	Identify target areas and improve signage that emphasizes how excess fecal matter and trash can affect Lake Champlain. Improve resources for dog owners and recreators to dispose of waste properly.	\$	USEPA Environmental Education Grants, Lake Champlain Basin Program Education and Outreach Grants	Plan Management Team, Lake Champlain Basin Program, Boquet River Association, CWICNY, Champlain Area Trails, Ausable Freshwater Center	Years 1-3, ongoing activity once initiated.	Spring 2027
12	Transportation Related Contamination	Low: All	Garbage, Litter, Waste, and Boat Related Spills	Reduce garbage, litter, waste, and boat-related spills.	Conduct inclusive education and outreach to resident and visiting boaters regarding sensitive areas and the impacts of littering, wastewater impacts and improper boat maintenance activities.	\$	NYSP21, USEPA Environmental Education Grants, LCBP Education and Outreach Grants, NYSEFC Clean Vessel Assistance Program, NYSDOS Local Waterfront Revitalization Program	Plan Management Team, LCBP, BRASS, CWICNY, Marinas, AFC, ADK Action, Adirondack Council, Essex County Water Quality Coordinating Committee, AFC	Years 1-3, ongoing activity once initiated.	Spring 2027
13		Low: All	Marinas/Boat Launches	Reduce likelihood of impacts to water quality at marinas and boat launches.	Enhance communication with marina owners. Assess need for additional management practices at marinas.	\$	NYSEFC Clean Vessel Assistance Program, Green Innovation Grant Program (GIGP), LCBP Education and Outreach Grants	Plan Management Team, Indian Bay Marina, Safe Harbor Marina, Essex County Water Quality Coordinating Committee	Year 1, ongoing annual review	Spring 2027

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline										
Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
14	Transportation Related Contamination	Low: All	Airports	Enhance communication with specific facilities and/or DEC staff that work with these regulated facilities to understand potential risks and response efforts.	Obtain copies of permits and stormwater pollution prevention plans. Review contaminants of concern, monitoring data, violations and spills.	\$	Not Applicable	Plan Management Team, NYSDEC Division of Water, Code and/or Zoning Enforcement	Year 1, ongoing annual review.	Fall 2027
15	Emerging Contaminants	Low: All	Future Emerging Contaminants	Monitor and educate on potential/emerging contaminants of concern.	Consider conducting additional ambient water and/or drinking water quality monitoring based on the inventory of potential contaminants within source water areas.	\$-\$\$	USEPA Monitoring Initiative Grants under Clean Water Act Section 106, USEPA CWSRF, USEPA Nonpoint Source Section 319 Grants, Drinking Water State Revolving Fund, NYSDEC/NYSEFC Engineering Planning Grant Program	Lead Water Operators, NYSDOH Saranac Lake District Office, Essex County Water Quality Coordinating Committee	Years 1-3. Annual testing once initiated.	Spring 2027
					Develop educational materials and conduct outreach to the public on the sources and concerns of PFAS and other emerging contaminants of concern.	\$	NYSP2I, USEPA Environmental Education Grants, LCBP Education and Outreach Grants			
16		Low: All	Pharmaceutical Disposal	Coordinated approach for increasing resident awareness of pharmaceutical disposal practices.	Education and outreach for homeowners on proper pharmaceutical disposal, drop off locations, and impacts on water quality.	\$	NYSP2I, USEPA Environmental Education Grants, LCBP Education and Outreach	Plan Management Team, LCBP, BRASS, Ausable Freshwater Center (AFC), CWICNY, Pharmaceutical drop off locations, Essex County Water Quality Coordinating Committee, Hospitals, Police stations	Years 1-3. Ongoing activity once initiated.	Spring 2027

3.1 Identify Protection and Management Methods & 3.2 Develop an Implementation Timeline										
Project Profile #	Priority Issue	Priority Level	Targeted Potential Contaminant Source(s)	Goal	Protection Method and/or Management Method	Potential Cost	Potential Funding Sources	Project Partnerships Needed	Implementation Timing	Implementation Start Date
17	Management of Regulated Potential Contaminant Sources	Low: All	SPDES Discharges	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.	Review SPDES permitted facilities and obtain copies of permits. Refer to DWSP2 maps and PCS inventory for SPDES site locations in source water areas.	\$	Not Applicable	Plan Management Team, Town representatives, NYSDEC Region 5 Division of Water, NYSDOH Saranac Lake District Office, SPDES permitted facilities, Code and/or Zoning Enforcement	Year 1, ongoing annual review.	Fall 2027/ Spring 2028
18		Low: All	Solid Waste Facility		Review waste facilities and obtain copies of permits. Refer to DWSP2 maps and PCS inventory for waste site locations in source water areas.	\$	USDA Solid Waste Management Grants	Plan Management Team, NYSDEC Region 5 Division of Water, NYSDEC Region 5 Division of Materials Management, Code and/or Zoning Enforcement	Year 1, ongoing annual review.	
19		Low: All	Remediation Sites		Review statuses of Remediation Sites in the Extended Source Water Area. Identify priority sites of concern and work with identified partners to establish an action plan if needed.	\$	Not Applicable	Plan Management Team, NYSDEC Region 5 Division of Environmental Remediation Office, Code and/or Zoning Enforcement	Year 1, ongoing annual review.	
20		Low: All	Petroleum Bulk Storage Facilities		Review petroleum bulk storage facilities. Monitor and report. Review any spill incidents, refer to mapping and PCS inventory for storage tank in the Critical Area and/or Extended Source Water Areas.	\$	Not Applicable	Plan Management Team, NYSDEC Region 5 Division of Environmental Remediation, NYSDEC Region 5 Division of Environmental Permits, NYSDOH Saranac Lake District Office, Local PBS facilities, Essex County SWCD, Code and/or Zoning Enforcement	Year 1, ongoing annual review.	
21		Low: All	Mines		Review permits and compliance history.	\$	Not Applicable	Plan Management Team, NYSDEC Region 5 Division of Mineral Resources Office, Code and/or Zoning Enforcement	Year 1, ongoing annual review.	

Appendix A.8
Plan Management Team

4.1 Designate a Plan Management Team	
Name	Contact
Sam Blake	sam.blake@lclgrpb.org , (518) 668-5773
Alice Halloran	ahalloran@essexcountyswcd.org , (518) 962-8225
Marlene Martin	marlene.martin@health.ny.gov , (518) 891-1800
Vic Putman*	vicputman@gmail.com , (518) 593-2887
Colin Powers	colin@boquet-river.org , (518) 534-4378
Anna Reynolds*	anna.reynolds@essexcountyny.gov , (518) 873-3895
Erin Vollrath-Vennie	erin.vennie-vollrath@dec.ny.gov , (518) 897-1267
Advisory Members	
Name	Affiliation
Ken Hughes	Essex Town Supervisor
Tina Gardner	Essex Water District Water Operator
Tracie McGill	Willsboro Town Supervisor
Justin Drinkwine	Willsboro Water Operator
Clayton Barber	Chesterfield Town Supervisor
Dave Winter	Chesterfield Water Operator
*Plan Point of Contact	

Use the table below to document the Plan Management strategy for keeping your DWSP2 Plan up to date:

Plan Management Summary	
Item	Status
Designate a Plan Management Team	Complete
Determine progress report frequency: 6 months	In Progress
Share progress reports	In Progress
Review and share the plan	In Progress
Verification from NYSDOH and NYSDEC for completeness	In Progress
Create a revision schedule	In Progress

Use the table below to track updates and revisions to the DWSP2 Plan. Use the notes section to detail changes made in each update and/or revision:

Update/Revision Tracker		
Report	Date	Notes
First Report		
Update/Revision 1		
Update/Revision 2		
Update/Revision 3		
Update/Revision 4		
Update/Revision 5		
Update/Revision 6		
Update/Revision 7		
Update/Revision 8		

Appendix B

Project Profiles

The suggested project profiles outlined in this document are meant to be a guide to implement protection and management methods. Each project profile outlines the priority issue, targeted potential contaminant sources (PCSs) and concerns, goals and priorities for the project, potential costs, funding sources, potential partnerships for project success, and specific implementation steps. Each project profile also identifies the “Protection Area(s) Impacted” (i.e. Control and Monitoring, Critical Area or Extended Source Water Area) and “Town Area(s) Impacted” (Town of Chesterfield and Port Kent, Willsboro, Essex or Port Henry/Southern Shore). For more information about the protection areas and PCS inventory, refer to Section 2.0 of this report.

Potential costs are classified into low (\$), medium (\$\$) and high (\$\$\$). Low-cost projects are those that would ideally be able to be completed with an existing Town budget or with a budget amendment.

Medium-cost projects may require the use of capital funding and may require external or new personnel. High-cost projects would require capital funding and additional staff or contracted personnel. Detailed cost estimates are included in Appendix C. Please note that potential funding sources are not guaranteed. It is the responsibility of the Towns to determine eligibility and apply for any potential funding source listed in this report.

Project schedules and timelines are incorporated into each implementation project. This includes an approximate schedule for when to begin work for each action, assigning Year 1 actions that may be most urgent or may require less up-front investment of time or funding. Actions assigned to Years 2 and beyond are either less urgently needed or may require more budget or planning to implement. Many of the actions on the implementation timeline should be refreshed annually, particularly those including coordination between local officials and project partners to ensure persisting potential contaminant source awareness or ongoing education practices.

Project profiles are organized based on priority issue categories (e.g. transportation, nutrient loading, etc.). Although all issues listed in the Plan are critical to the Plan’s success, the project profiles are listed in order of highest to lowest priority within each category of priority issue.

Project Profile 1: Transportation - Railway	
DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY	
There is one rail line that passes through the Critical Area and the Extended Source Water Area. The railway is the top concern for each Town since it runs along about 13 miles of shoreline within the Critical Area and poses a risk of spills directly entering the lake.	
Priority Issue:	Transportation Related Contamination
Priority Level:	High: All Towns
Area(s) Impacted:	Critical Area: Chesterfield and Port Kent, Willsboro, Essex Extended Source Water Area: Willsboro, Essex, Port Henry/Southern Shore
Targeted Potential Contaminant Source(s):	Railway
Goals:	Reduce likelihood and impact of spills directly entering Lake Champlain.
Protection Method and/or Management Method:	• Increase communication with Canadian Pacific (CP) Railway, fire departments, NYSDOT, and Coast Guard. • Develop emergency response protocol, vulnerability assessments, and training materials.
Potential Costs:	Estimated Cost: \$7,000 Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	• FEMA's Hazard Mitigation Grant Program (HMGP) (Click Link) • New York State Division of Homeland Security and Emergency Services (NYSDHSES) Statewide Interoperable Communications Grant (SICG) (Click Link)
Project Partnerships Needed:	• Plan Management Team • Canadian Pacific (CP) Railway • Water Operators • Highway Departments • Fire Departments • Coast Guard • NYSDOT • Essex County Water Quality Coordinating Committee • Essex County Office of Emergency Services • NYSDOH
Implementation Timing:	Year 1, ongoing activity
Implementation Start Date:	Spring 2026
Step-by-step Process:	
Step 1:	Ensure appropriate parties are aware of the Critical Area, including CP Railway, fire departments, NYSDOT and the Coast Guard. Ensure that emergency response plans are maintained and practiced regularly.
Step 2:	Review inspection reports.

Step 3:	Make an inventory of containment removal equipment that each town owns and is willing to share in the event of a spill.
Step 4:	Review all local emergency response plans. (e.g. hazardous emergency response plan, drinking water supply emergency response plan)
Step 5:	Consider developing an emergency response manual which lays out an emergency notification chain. Determine who is notifying 911, County Emergency Director, town officials and water operators during an emergency.
Step 6:	Ensure water operators and other appropriate staff are aware of the emergency response plans in place.
Step 7:	Educate the public of the ways in which the fire departments are working to clean and contain spills and what is needed to protect the area.
Step 8:	Water operators work to create or update water system an emergency response plan and vulnerability assessment. Contact NYSDOH about technical assistance.
Step 9:	Initiate further conversations with CP rail about source water protection. Ensure they follow protocol and reduce sediment and erosion concerns when completing maintenance projects.
Step 10:	Establish a schedule to check in with appropriate parties and maintain lines of communication.

Project Profile 2: Transportation – Roadway Spills DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY	
Accidental releases of petroleum or hazardous chemicals are reported to NYSDEC. The Spill Response Program oversees the investigation and cleanup of these spills. There is concern regarding car traffic and semi-trucks traveling through the Critical Area, particularly in Essex and Willsboro where there is traffic on route to the ferry.	
Priority Issue:	Transportation Related Contamination
Priority Level:	High: All Towns
Area(s) Impacted:	Critical Area: All Towns Extended Source Water Protection Area: All Towns
Targeted Potential Contaminant Source(s):	Spills from roadway traffic and semi-trucks
Goals:	Reduce likelihood and increase awareness of spills in transportation corridors.
Protection Method and/or Management Method:	• Review spill incidents. • Ensure response plans are in place. • Ensure water operators receive NYS Alert System updates
Potential Costs:	Estimated Cost: \$7,000 Effort hours to review spill database. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	• FEMA’s Hazard Mitigation Grant Program (HMGP) (Click Link) • New York State Division of Homeland Security and Emergency Services (NYSDHSES) Statewide Interoperable Communications Grant (SICG) (Click Link)
Project Partnerships Needed:	• Plan Management Team • Water Operators • Highway Departments • Fire Departments • NYSDOT • NYSDEC • NYSDOH • Essex County Emergency Services
Implementation Timing:	Year 1, ongoing activity
Implementation Start Date:	Fall 2026
Step-by-step Process:	
Review spill incidents	

Step 1:	Develop a monitoring schedule to locate any new and significant reported spill incidents within the Critical Area and the Extended Source Water Area. The Spill Incident Database Search can be used to identify previous spill incidents. This database can be queried to provide a list of spills along with information about the material spilled and the status of the cleanup. To access NYSDEC's Spill Incidents Database Search, visit: https://dec.ny.gov/environmental-protection/site-cleanup/database-search .
Step 2:	Request a meeting with the NYSDEC Division of Environmental Remediation Regional Office to understand the cleanup process of all the open and future spill incidents and ensure the contaminants of concern are adequately contained and not migrating to the water supply. Contact DEC Region 5 Division of Environmental Remediation at (518) 897-1241 (Ray Brook sub-office) or (518) 623-1200 (Warrensburg sub-office).
Step 3:	For those spills incidents that will require long-term remedial action, work with the NYSDOH Saranac Lake District Office if interested in developing a raw water and/or ambient water sampling plan for contaminants of concern.
Step 4:	Inform the NYSDOH Saranac Lake District Office of any detection of contaminants, including but not limited to, petroleum or chemicals transported by semi-trucks.
Step 5:	Regularly check the NYSDEC Spills Database for any spills on the transportation corridors in the community. Follow up with NYSDEC for clean-up and any concern of impacting the community's drinking water supply.
Ensure response plans are in place	
Step 1:	Review the County of Essex emergency response plans that focus on chemical roadway spills.
Step 2:	Communicate with highway department/road maintenance staff, fire department/emergency services, and other necessary partners and ensure they are aware of protection areas.
Step 3:	Ensure response plans are in place and appropriate parties (water operators, etc.) are being notified when spill incidents occur.
Step 4:	Make the public aware of whom to contact in case they witness a spill.
Step 5:	Educate the public of the ways in which the fire departments are working to clean and contain spills and what is needed to protect the area.
Ensure certified water operators receive NYS Alerts	
Step 1:	As new certified water operators are onboarded, ensure they are signed up for the NYS Alert System to be notified of spills in the area.
Step 2:	Increase communication among certified water operators when an incident occurs.

Project Profile 3: Private Septic Systems DWSP2 Implementation – Chesterfield and Port Kent, Essex, & Willsboro, NY	
Biological leaks and spills from private on-site septic systems can enter Lake Champlain and impact water quality. Septic system leaks can be a source of E. coli, nutrients, etc. Essex County is eligible for the New York State Environmental Facilities Corporation (NYSEFC) Septic System Replacement Fund Program. This is a 50/50 matching grant program which cannot exceed \$10,000 in reimbursement.	
Priority Issue:	Nutrient Loading
Priority Level:	High: All Towns
Area(s) Impacted:	Critical Area: All Extended Source Water Area: All
Targeted Potential Contaminant Source(s):	Private Septic Systems
Goals:	Reduce the amount of nutrients and bacteria from failing septic systems entering Lake Champlain.
Protection Method and/or Management Method:	• Education and outreach to educate homeowners on how to properly maintain their septic systems and existing programs that can support them. • Encourage participation in NYSEFC Septic System Replacement Grant. • Continue to explore septic system maintenance or management district.
Potential Costs:	Estimated Cost: \$25,000/annually Effort hours to conduct outreach and communicate with appropriate parties. Potential material costs for outreach and education materials.
Potential Funding Sources:	• Lake Champlain Basin Program Education and Outreach Grants (Click Link) • NYSP2I Community Grants (Click Link) • NYSEFC Septic System Replacement Fund Program (Click Link)
Project Partnerships Needed:	• Plan Management Team • Lake Champlain Basin Program (LCBP) • Boquet River Association (BRASS) • Champlain Watershed Improvement Coalition of New York (CWICNY) • Lake Champlain-Lake George Regional Planning Board (LGLCRPB) • Essex County Soil and Water Conservation District • Essex County Office of Community Resources • Ausable Freshwater Center (AFC) • Code Enforcement Officers
Implementation Timing:	Years 1-3. Once initiated, ongoing.
Implementation Start Date:	Spring 2026
Step-by-step Process:	
Septic System Maintenance Education and Outreach	

Step 1:	Gather information on private septic systems within the Critical Area, including locations, age, status of owner, and maintenance practices. Gather information on any public sewer systems that residents are serviced by. Consider combining outreach and education efforts from each project profile to consolidate and streamline efforts (e.g. consider combining efforts for septic maintenance and lawn/garden chemicals outreach if targeting the same audience).
Step 2:	Research best management practices to manage septic systems. Look into pre-existing materials that can be distributed or used as a reference (EPA, State, DEC Publications, etc.). Highlight the connection between septic system maintenance and water quality in Lake Champlain. Refer to the Outreach and Education highlight in the 'Protection and Management Methods' section of this report.
Step 3:	Identify gaps in knowledge or actions based on best management practices for septic system maintenance and eligibility for the State Septic System Replacement Program.
Step 4:	Coordinate across the Towns to discuss methods to reach landowners in the Lake Champlain critical and extended source water areas.
Step 5:	Determine which communication channel(s) would be most effective to reach residents in the target areas. These may include social media, mailings, newspaper postings, websites, email lists, public forum or workshops, event outreach, resolutions published by the Town, etc.
Step 6:	Consider targeting celebration weeks throughout the year (e.g., clean water week). Consider creating a content calendar for the various outreach and education initiatives, especially seasonally relevant topics.
Step 7:	Coordinate with Code Enforcement Officers on private septic system policies and on local water supply location and impact.
Step 8:	Utilize partnerships to apply for funding as needed. Apply for such funding and create a plan to utilize funding if awarded.
Step 9:	Present communications in a simple, informative manner to landowners in the Towns.
Step 10:	Keep up with all forms of communication and monitor feedback received. Monitor for new residential development with septic systems and reach out accordingly.
Encourage Participation in NYSEFC's Septic Replacement Program	
Step 1:	Gather information on areas that are eligible for the State Septic System Replacement Program to encourage participation.
Step 2:	Identify gaps in knowledge or action regarding eligibility and participation in the State Septic System Replacement Program.
Step 3:	Determine which communication channel(s) would be most effective to reach target residents. These may include social media, mailings, newspaper postings, websites, email lists, public forum or workshops, event outreach, etc.
Step 4:	Utilize partnerships for assistance or funding as needed.
Step 5:	Identify a strategy to work directly with homeowners, including priority issues to address via direct communication and target areas.
Step 6:	Present communications in a simple, informative manner to landowners in the Towns.
Step 7:	Keep up with all forms of communication and monitor feedback received. Monitor for new residential development with septic systems and reach out accordingly.

Continue to explore septic system maintenance or management district	
Step 1:	Continue researching options and feasibility of establishing a septic system management district in the Town of Willsboro. Consider adapting similar programs to fit the Town's needs (e.g. Lake George Park Commission Septic Maintenance District).
Step 2:	Partner with appropriate entities to implement the management district.

Project Profile 4: Future Development

DWSP2 Implementation – Willsboro, Chesterfield and Port Kent, & Essex, NY

Partnerships and increased communication among the Towns of Chesterfield, Essex, and Willsboro can promote consistent coordination across municipal boundaries. As a result, the Towns can maintain progress, institutional knowledge, and overall support for DWSP2 during new personnel or elected officials' transitions.

Uncoordinated decisions and activities can leave source water vulnerable to contamination. A high priority item of this DWSP2 Plan is to improve source water protection by increasing coordination among the Towns.

Priority Issue:	Future Development within the Source Water Areas
Priority Level:	High: All Towns
Area(s) Impacted:	Critical and Extended Source Water Areas: All Towns
Targeted Potential Contaminant Source(s):	Future sources of chemical, physical or biological contamination.
Goals:	Strengthen protection efforts in the critical and source water areas. Increase collaboration and coordination among the Towns of Chesterfield, Essex, and Willsboro regarding existing or new source water concerns.
Protection Method and/or Management Method:	- Establish regular quarterly meetings with municipalities to increase source water protection coordination among each Town. - Consider inclusion of source water protection activities in existing Intermunicipal Agreement (IMA). - Strategic Land Acquisitions. - Conduct regulatory oversight for source water protection.
Potential Costs:	Estimated Cost: \$30,000 For regulatory oversight, \$10,000 for each town.
Potential Funding Sources:	- Municipal budget - NYSDOS Smart Growth Community Planning and Zoning Grant Program (Click Link) - NYSDEC WQIP Land Acquisition Grant (Click Link)
Project Partnerships Needed:	- Lead Water Operators - Town Supervisors - ADK Land Trust - Nature Conservancy - Champlain Area Trails - Eddy Foundation - CWICNY - Essex County Soil and Water Conservation District - Code and/or Zoning Enforcement
Implementation Timing:	Ongoing, quarterly
Implementation Start Date:	Spring 2026
Step-by-step Process:	

Establish regular quarterly meetings	
Step 1:	Consider a quarterly meeting schedule for coordination purposes. Establish structure and goals for quarterly meetings.
Step 2:	Invite additional members of plan management team as needed.
Step 3:	Work towards implementing other DWSP2 Plan priorities.
Step 4:	Update DWSP2 Plan at regular intervals (e.g. every 5 years).
Intermunicipal Agreement	
Step 1:	Review current IMA between Essex and Willsboro to share general water system services.
Step 2:	Conduct preliminary meetings with relevant parties to determine how to incorporate the Town of Chesterfield, the Hamlet of Port Kent, and source water protection into existing IMA.
Step 3:	Using DWSP2 Plan priorities, define roles for each jurisdiction in the updated IMA. Decide overall objectives, deliverables, and timelines to incorporate source water protection into the IMA.
Step 4:	Consult with legal counsel from each municipality to ensure the agreement is legally sound and complies with relevant statutes.
Step 5:	Attend Town Board and additional municipal meetings (as needed) to present IMA updates/modifications and incorporate any additional public input.
Step 6:	Draft updated IMA and send to all involved Towns and parties for review. Have authorized representatives from each municipality sign the IMA to make it legally binding.
Step 7:	Develop a detailed plan outlining the steps needed to execute the agreement, including timelines, responsibilities, and monitoring mechanisms.
Step 8:	Implement IMA and monitor progress.
Strategic land acquisitions	
Step 1:	Learn more about the NYSDEC WQIP Land Acquisition (LA) grant program. • Visit DEC's WQIP webpage to learn more about the grant program and when funding is available. Refer to WQIP LA fact sheet for summarized overview. • Visit WQIP Land Acquisition Projects For Source Water Protection Toolkit - NYSDEC webpage to learn more about land acquisition and available resources for an awardee to complete such a project.
Step 2:	Gather information. • Review your Drinking Water Source Protection Plan (DWSP2) to understand the area that drains to your surface water intake.
Step 3:	Prioritize parcels and monitor land for sale within protection areas. • Use the information gathered in Step 2 to prioritize parcels or an area for outright purchase or conservation easement that will protect the public drinking water source. • If you need assistance with identifying parcels, consider working with land acquisition and source water protection experts in your area that could aid with the Town's land acquisition for source water protection goals. For example, a consulting firm or land trust may be a great partner and aid with the transaction side (e.g., appraisals, survey, environmental assessments, title, etc.) of the land acquisition program.

Step 4:	Apply for funding. • Utilize the information gathered in Steps 2 and 3 to fill out a NYSDEC WQIP Land Acquisition application when available through the NYS Consolidated Funding Application.
Step 5:	Acquire parcels. • If you receive a NYSDEC WQIP Land Acquisition grant, acquire parcels for source water protection. • Review WQIP Land Acquisition Projects For Source Water Protection Toolkit - NYSDEC webpage for program and document resources that will aid with the land acquisition process.
Step 6:	Steward and monitor land. • Steward the land and make sure it is only used for activities that will not harm the public drinking water source.
Regulatory oversight of source water protection	
Step 1:	Perform gap analysis of current regulatory oversight via zoning ordinances, permits, and site plan reviews.
Step 2:	Develop permits, ordinances, or site plan review criteria to incorporate stormwater, runoff, or drainage pattern control and prevention for new development.
Step 3:	Coordinate with code and/or zoning officers to implement new criteria.

Project Profile 5: Waterfront Property Management

DWSP2 Implementation – Chesterfield and Port Kent, Essex, & Willsboro NY

Protecting the Critical Area identified in this DWSP2 Plan is a priority for the Towns of Chesterfield and Port Kent, Essex, and Willsboro. A Critical Environmental Area (CEA) is a formal designation of a geographic area with exceptional or unique character with respect to one or more of the following: a benefit or threat to human health, a natural setting such as fish and wildlife habitat, forest and vegetation, open space, and areas of important aesthetic or scenic quality; agricultural, social, cultural, historic, archeological, recreational, or educational values; or an inherent ecological, geological, or hydrological sensitivity that may be adversely affected by any change. CEAs are defined under subdivision 6 NYCRR 617.14(g) of the State Environmental Quality Review (SEQR) regulations.

The Towns aim to designate their DWSP2 Critical Area as a CEA to protect the contributing areas to Lake Champlain during an environmental review for new development. The Towns also plan to increase public awareness of residents who can assist in protecting Lake Champlain and the surrounding watershed. The Towns would like to build awareness of best practices in waterfront property management and water conservation to reduce (1) source water quality impacts and (2) potential added treatment costs.

Priority Issue:	Waterfront Property Management
Priority Level:	High: All Towns
Area(s) Impacted:	Critical Area: All Towns
Targeted Potential Contaminant Source(s):	All potential chemical, physical, or biological contamination source
Goals:	- Protecting the drinking water source's Critical Area during environmental review of new development - Increase awareness to property owners on how to assist in protection of the watershed (e.g. water conservation, waterfront property management, etc.)
Protection Method and/or Management Method:	High Priority (All): - Critical Environmental Area (CEA) designation that alerts landowners, developers, and regulatory agencies of the areas importance when reviewing environmental concerns for potential projects. Medium (All): - Outreach to landowners and water users on lawn treatment, forest management, water usage and septic/wastewater impacts. Low Priority (All): - Assess zoning for protection of water quality (Shoreline Overlay Zones) - Develop a system to track new capital/construction projects within the source water area to ensure consideration of water source is reflected in planning/implementation.
Potential Costs:	Estimated Cost: \$90,000 Effort hours to designate CEA. Effort hours to plan and conduct outreach. Potential material costs for outreach and education projects. Effort hours to assess zoning and track new construction projects.

Potential Funding Sources:	• NYSDEC Non-Agricultural Nonpoint Source Planning Program (Click Link) • NYSDEC/NYSEFC Engineering Planning Grant Program (Click Link) • NYSDOS Smart Growth Community Planning and Zoning Grant Program (Click Link) • Lake Champlain Basin Program Education and Outreach Grants (Click Link) • NYSP2I (Click Link) • Cornell Cooperative Extension Essex County (Click Link)
Project Partnerships Needed:	• Essex County Office of Community Resources • Plan Management Team • LCBP • BRASS • CWICNY • Essex County Water Quality Coordinating Committee • Code and/or Zoning Enforcement
Implementation Timing:	Years 1-3
Implementation Start Date:	Fall 2026
Step-by-step Process:	
CEA Designation	
Step 1:	Communicate with the County Planning Department and request assistance to create an official map of the proposed CEA.
Step 2:	Prepare an inventory of any landowners and/or parties that may be impacted by the CEA designation.
Step 3:	Gather information specifying: • Characteristics of the potential CEA that make it worth considering for the designation. • The kind of actions that would require environmental review under SEQR by the proponent agency and by other likely involved agencies. • Possible CEA boundaries. • Adverse impacts likely to be incurred if the area is not designated as a CEA. • Management plans for the CEA.
Step 4:	Submit a written public notice that identifies the CEA boundaries and the specific environmental characteristics of the area warranting CEA designation.
Step 5:	Conduct a public hearing regarding CEA designation.
Step 6:	Follow the SEQR process for the action of designating the CEA. Since this is an Unlisted Action, a Short Environmental Assessment Form (SEAF) would be filled out. Likely, the act of designating the CEA only warrants a negative determination of significance. A negative declaration must contain: ■ A statement that it is a negative declaration for purposes of Article 8 of the Environmental Conservation Law. ■ The name and address of the lead agency.

	■ The name, address and telephone number of a person who can provide further information. ■ The SEQR classification for the action. ■ A brief and precise description of the nature, extent, and location of the action; and ■ A brief statement of the reasoning that supports the determination.
Step 7:	Pass a resolution to designate the CEA.
Step 8:	File the notification of the CEA designation with the commissioner of the NYSDEC, the NYSDEC regional office, and any other agencies regularly involved in undertaking, funding, or approving actions in the area. The notification should include a suitably scaled map, written justification, along with proof of the public hearing. It may also be sensible to include a copy of the approved resolution, the public notice, the Short Environmental Assessment Form, and the negative declaration.
Outreach and Education	
Step 1:	Identify audiences, gaps of knowledge or action, and key messages. Topics include lawn treatment, forest management, water usage, and septic/wastewater impacts.
Step 2:	Partner with appropriate entities to discuss methods to reach landowners and water users in source water protection areas. Determine target audiences (e.g. new homeowners, current homeowners).
Step 3:	Determine which communication channel(s) would be most effective to reach target audiences. The stakeholder group identified the following methods as potential options: signage, social media, newsletters, email blasts, Town board presentations, flyers in water bills, website pages, resolutions published by the Town. The stakeholder group also discussed mailing outreach packets to new homeowners on zoning regulations and land practices. To target turnover on lakefront properties, obtain a list of property transfers from the Towns to begin targeted outreach.
Step 4:	Consider targeting celebration weeks throughout the year (e.g. invasive species week, clean water week). Consider creating a content calendar for the various outreach and education initiatives, especially seasonally relevant topics.
Step 5:	Utilize partnerships to apply for funding as needed. BRASS may be a helpful partner in coordinating funding opportunities.
Step 6:	Present communications in a simple, informative manner to target audiences.
Step 7:	Keep up with all forms of communication and monitor feedback received.
Assess Zoning for Water Quality Protections	
Step 1:	Assess current zoning restrictions and identify opportunities for water quality protection actions, including: • Shoreline Protection Overlay District • Riparian protection implemented through setback requirements in the zoning code. • Zoning ordinances that encourage infill and redevelopment, such as incentive zoning. • Zoning ordinances that encourage Low Impact Development (LID), such as conservation design (e.g. Decreasing impervious services and/or promoting permeable surfaces)

	• Steep slope protections • Forest land conservation • Stormwater runoff mitigation • Stormwater Management Plan
Step 2:	Identify Site Plan Review standards and requirements to protect and improve water quality.
Step 3:	Use model laws from DOS and other entities to craft proposed text.
Step 4:	Revise and adopt ordinances and enforce codes in future decision making.
Track new capital/construction projects within the Source Water Protection Areas	
Step 1:	Identify relevant project types that would impact Source Water Protection Areas.
Step 2:	Establish a method of tracking new projects. Consider incorporating this method as a standing agenda item in quarterly coordination calls.
Step 3:	Coordinate with project leaders to ensure Lake Champlain is considered in planning and implementation of new projects.
Step 4:	Follow through with tracking and communication.

Project Profile 6: Erosion and Sediment Control DWSP2 Implementation – Chesterfield and Port Kent, Essex & Willsboro, NY	
Erosion, exacerbated by extreme storm events, and lack of soil stability on steep slopes can cause excess sediments to enter Lake Champlain. Excess sediments can increase turbidity and transport pollutants. The Town of Essex determined erosion and sediment control to be a high priority due to its observed presence near and on Essex's intakes. Chesterfield, Port Kent, and Willsboro have not seen the same level of impact at their intakes but understand that erosion may become an issue in the future. Several protection methods identified by the Lake Champlain DWSP2 stakeholder group overlap with the recent Draft TMDL Implementation Plan completed by NYSDEC. Completion of these priorities will support the reduction of sediment loading contributing to phosphorous in Lake Champlain.	
Priority Issue:	Existing Development within the Source Water Areas: Erosion and Sediment in the Critical Area.
Priority Level:	High: Essex Medium: Chesterfield Low: Willsboro
Area(s) Impacted:	Critical Area: Essex, Chesterfield, Willsboro
Targeted Potential Contaminant Source(s):	Erosion and sedimentation, increased turbidity, transportation of pollutants.
Goals:	Improve conditions during major storm events. Reduce sediment loading in Lake Champlain.
Protection Method and/or Management Method:	• Conduct surveys to identify and prioritize stabilization projects and identify target areas in the Bouquet River Watershed. • Use BMPs to improve ditch and culvert structures to mitigate environmental impacts during high-flow events. • Support the Lake Champlain TMDL Implementation Plan.
Potential Costs:	Estimated Cost: \$1,000,000 / annually For surveys as well as culvert and ditch improvements.
Potential Funding Sources:	• Water Quality Improvement Project (WQIP) Nonagricultural Nonpoint Source Abatement and Control (Click Link) • WQIP Aquatic Connectivity Restoration (Click Link) • NYSEFC Green Innovation Grant Program (GIGP) (Click Link) • Department of State Waterfront Revitalization Grants (Click Link) • DEC Non-agricultural Nonpoint Source Planning Grant Program (Click Link) • NYSDEC/NYSEFC Engineering Planning Grant Program (Click Link) • Clean Water State Revolving Fund (CWSRF) (Click Link) • Federal Highway Administration (FHWA) Culvert Removal, Replacement & Restoration Grants (Click Link) • Trees for Tribes (Click Link) • Environmental Bond Act (Click Link) • USDA NRCS Environmental Quality Incentive Programs (EQIP) (Click Link)
Project Partnerships Needed:	• Plan Management Team • Town Supervisors • County and Local Highway Departments • BRASS • Essex County Soil and Water Conservation District • Essex County Office of Community Resources

	• LCLGRP • Lake Champlain Basin Program (Streamwise Program) • CWICNY
Implementation Timing:	Years 3-10
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Identify and prioritize stabilization projects	
Step 1:	Collaborate with appropriate project partners (e.g. BRASS, LCLGRP, CWICNY, potential consultant).
Step 2:	Coordinate with project partners on any current or future comprehensive study of the Boquet River to identify target areas for erosion and sediment control (Draft TMDL Implementation Plan p.64). Target areas may include the Main Stem and North Branch of the Boquet River.
Step 3:	Consider need for additional surveys in the Main Stem and North Branch of the Boquet River to identify and prioritize needed stabilization projects in the Critical Area.
Step 4:	Utilize survey studies to research best management practices and evaluate the need for soil erosion control systems (e.g., catch basins, bioswales, vegetated filter strips, hydroseeding etc.).
Step 5:	Prioritize erosion and sediment control projects. Locate any projects from the TMDL that has begun.
Step 6:	Using identified priority sites, develop a comprehensive plan on erosion and sediment control in the Boquet River.
Manage areas at risk of erosion with BMPs	
Step 1:	Partner with appropriate entities such as groups working on implementing efforts in other plans such as TMDL.
Step 2:	Utilize erosion survey results and the identified priorities to manage areas at risk of erosion with BMPs (e.g., stabilization, restoration, increased vegetation, hydroseeding, and riparian buffers). Note that Essex County Soil and Water Conservation District can assist with hydroseeding.
Step 3:	Support the implementation of a roadside erosion reduction program and county erosion control program (Draft TMDL Implementation Plan p.72).
Step 4:	Identify appropriate funding sources.
Step 5:	Apply for funding.
Step 6:	Implement BMPs in areas identified as a concern.
Step 7:	Create a monitoring and/or maintenance plan.
Identify and prioritize undersized culverts contributing to erosion	
Step 1:	Partner with appropriate entities.
Step 2:	Conduct culvert assessments to determine areas of concern.
Step 3:	Create a priority list of culverts in need of upgrades or replacements.
Step 4:	Identify appropriate funding sources.
Step 5:	Apply for funding.
Step 6:	Implement BMPs during culvert replacements and maintenance.

Step 7:	Monitor outcomes.
Evaluate ditches and the need for retention basins	
Step 1:	Inventory ditches with erosion and sediment control concerns (i.e. Willsboro Boat Launch, Essex ferry landing).
Step 2:	Consider need for alternative erosion control systems.
Implement overlapping projects from the DRAFT Lake Champlain TMDL Implementation Plan	
Step 1:	Maintain communication and participation in the Draft TMDL Implementation Plan (Click Link)
Step 2:	Compare recommendations included in the Draft TMDL Implementation Plan to recommendations in the DWSP2 Plan to combine similar projects when practicable and create common successful outcomes. Overlapping items include but are not limited to: • Complete a stormwater and erosion Boquet River Tributary Assessment (Draft TMDL Implementation Plan p.64). • Implementation of a roadside erosion reduction program (Draft TMDL Implementation Plan p.64). Implement county roadside erosion control program (Draft TMDL Implementation Plan p.64).
Step 3:	Set up a schedule to revisit progress of the Draft TMDL Implementation Plan and DWSP2 so that collaboration can be maximized.

Project Profile 7: Transportation - Deicing Materials

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

Chemical, physical, or biological spills from transportation corridors can directly enter Lake Champlain and/or its tributaries. Roadway deicing materials (including salt) can enter waterways from vehicles spreading the materials and vehicles that transport it (tires, frames, etc.) as they traverse the corridor.

Essex and Willsboro are both building or have recently built salt storage sheds. Chesterfield and Port Kent is looking into building a new salt storage shed as well.

Priority Issue:	Transportation Related Contamination
Priority Level:	Medium: Essex Low: Willsboro, Chesterfield and Port Kent
Area(s) Impacted:	Critical Area: Essex, Willsboro Extended Source Water Area: Essex, Willsboro
Targeted Potential Contaminant Source(s):	Deicing materials
Goals:	Reduce the amount of roadway deicing materials from entering Lake Champlain.
Protection Method and/or Management Method:	• Increase coordination with responsible entities. • Education and application of roadway best management practices. • Ensure adequate storage areas are utilized. • Explore use of alternatives during major storm events. • Identify and map roadway maintenance and salt/sand management facilities in the watershed.
Potential Costs:	Estimated Cost: \$25,000 Effort hours to communicate with responsible parties. Effort hours for education of best management practices. Potential material costs for alternative deicing materials or additional storage facilities as necessary.
Potential Funding Sources:	• NYSEFC Green Innovation Grant Program (GIGP) (Click Link) • NYSDEC WQIP Salt Storage and Road Salt Reduction (Click Link) • NYSDEC Non-Agricultural Nonpoint Source Planning Program (Click Link)
Project Partnerships Needed:	• Plan Management Team • Town Supervisors • County and Local Highway Departments • Essex County Water Quality Coordinating Committee • AFC • ADK Action • NYSDEC
Implementation Timing:	Years 3-5, ongoing
Implementation Start Date:	Fall 2027

Step-by-step Process:	
Step 1:	Communicate with county and local highway departments across the three Towns to increase coordination and gain information on current practices.
Step 2:	Review best management practices highway departments are utilizing and suggest additional recommendations as applicable.
Step 3:	Coordinate with responsible entities to explore the use of alternative deicing materials during major storm events.
Step 4:	Identify current and new, locations (refer to plan maps) of roadway maintenance and salt/sand management facilities in the watershed.
Step 5:	Ensure adequate (covered) storage is utilized in the source water protection areas. If storage is not adequate, resolve by repairing facilities or establishing proper storage.
Step 6:	Identify and map the location of roads treated with what form of deicer within the watershed for public and internal knowledge.
Step 7:	Continue to utilize and update the PCS inventory to track spills, bridges and/or roadways of concern.

Project Profile 8: Agricultural Activities DWSP2 Implementation – Chesterfield and Port Kent, Essex, & Willsboro, NY	
Runoff from agricultural activities can bring excess nutrients into Lake Champlain and its tributaries. The Critical Area and Extended Source Water Area in this report typically fall within the top priority area for Essex County Soil and Water Conservation District's Agricultural Environmental Management Strategic Plans.	
Priority Issue:	Nutrient Loading
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: Essex Extended Source Water Area: Chesterfield and Port Kent, Willsboro, Port Henry/Southern Shore
Targeted Potential Contaminant Source(s):	Excess nutrients from agricultural activities.
Goals:	Reduce the amount of overland flow of nutrients
Protection Method and/or Management Method:	Increase collaboration between the Towns and Essex County Soil and Water Conservation District and discuss opportunities to support programs and best management practices.
Potential Costs:	Estimated Cost: \$5,000 Effort hours for communicating with responsible parties and developing materials.
Potential Funding Sources:	• DAM Agriculture Nonpoint Source Abatement and Control Grant Program (Click Link) • Conservation Reserve Enhancement Program (Click Link) • Trees for Tribs (Click Link) • NYSDAM/NYS Soil and Water Conservation Committee Source Water Buffer Program (Click Link) • USDA NRCS Agricultural Conservation Easement Program (Click Link) • Essex County SWCD Agricultural Environmental Management (AEM) (Click Link)
Project Partnerships Needed:	• Plan Management Team • Essex County Soil and Water Conservation District • Local Farmers
Implementation Timing:	Years 3-5
Implementation Start Date:	Fall 2027
Step-by-step Process:	
Step 1:	Plan Management Team and Soil and Water Conservation District will further discuss overlapping goals and potential gaps in current efforts to protect water quality.
Step 2:	Utilize suggestions from the SWCD to determine additional partners and targeted participants active in programs (i.e. Agricultural Environmental Management (AEM))
Step 3:	Discuss with partners ways to support SWCD programs (i.e. AEM outreach to farms in the source water area).
Step 4:	Schedule check-ins to frequently discuss with partners actions to support

	best management practices, such as sediment control, vegetative riparian buffers, limiting removal of vegetation along streambanks, etc.
Step 5:	Work with partners and SWCD to review and identify potential funding sources that can assist with the actions above.
Step 6:	Apply for funding and create a plan to utilize funding and support projects if funding is awarded.

Project Profile 9: Lawn and Garden Activities DWSP2 Implementation – Chesterfield and Port Kent, Essex, & Willsboro, NY	
Overland flow from activities on residential land can bring excess nutrients from fertilizers and excess chemicals from pesticides into Lake Champlain.	
Priority Issue:	Nutrient Loading
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: All Extended Source Water Area: All
Targeted Potential Contaminant Source(s):	Lawn and Garden Chemicals (i.e. pesticides) and Nutrients (i.e. fertilizers)
Goals:	Reduce the amount of fertilizers and pesticides applied to mitigate runoff into Lake Champlain.
Protection Method and/or Management Method:	Outreach and education to homeowners on the proper application of fertilizers and pesticides, how to reduce lawn and garden chemical and nutrient use, and alternative treatment practices.
Potential Costs:	Estimated Cost: \$5,000 Effort hours to research best management practices. Effort hours to conduct the outreach. Potential material costs for outreach and education materials.
Potential Funding Sources:	Lake Champlain Basin Program Education and Outreach Grants (Click Link)
Project Partnerships Needed:	- Plan Management Team - Lake Champlain Basin Program (Streamwise Program) - BRASS - CWICNY - AFC - Essex County Soil and Water Conservation District
Implementation Timing:	Years 1-3. Once initiated, ongoing.
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Step 1:	Gather information on previous or current concerns, current efforts of outreach, and current community knowledge. Consider combining outreach and education efforts from each project profile to consolidate and streamline efforts (e.g. consider combining efforts for septic maintenance and lawn/garden chemicals outreach if targeting the same audience).
Step 2:	Research best management practices for fertilizers, and pesticides application. Look into pre-existing materials that can be distributed or used as a reference (EPA, State, DEC Publications etc.). Highlight the connection between water quality and lawn, and garden activities. Refer to the Outreach and Education highlight in the 'Protection and Management Methods' section of this report.

Step 3:	Identify gaps in knowledge or actions based on best management practices for lawn and garden chemical/nutrient application.
Step 4:	Coordinate across the Towns to discuss methods to reach landowners in the Lake Champlain critical and extended source water areas.
Step 5:	Determine which communication channel(s) would be most effective to reach residents in the target Towns. These may include social media, mailings, newspaper postings, websites, email lists, public forum or workshops, event outreach, resolutions published by the Town, etc.
Step 6:	Consider targeting celebration weeks throughout the year (e.g. invasive species week, clean water week). Consider creating a content calendar for the various outreach and education initiatives, especially seasonally relevant topics.
Step 7:	Utilize partnerships to identify and apply for funding as needed, including existing campaigns through the Lake Champlain Basin Program (e.g., Phosphorous fertilizer campaign, raise the blade campaign, healthy soils campaign, Streamwise).
Step 8:	Present communications in a simple, informative manner to landowners in the Towns.
Step 9:	Keep up with all forms of communication and monitor feedback received. Monitor for new landowners in the area and reach out accordingly.

Project Profile 10: Harmful Algal Blooms Mitigation

DWSP2 Implementation – Chesterfield and Port Kent, Essex & Willsboro, NY

Public water supplies in New York State that use surface waters are treated, monitored, managed, and have operational controls to prevent people from being exposed to blue-green algae, associated toxins, and other contaminants. Additionally, there are existing volunteer monitoring and reporting programs in the Lake Champlain basin. Lake Champlain is one of the 12 priority lakes impacted by harmful algal blooms (HABs) as identified by New York State. A HAB Action Plan has been created for Lake Champlain that prioritizes a section of the Extended Source Water area near the Hamlet of Port Henry/Southern Shore.

The goal of this project is to further reduce the likelihood and impact of HAB formation. Other projects in this report will help reduce the source of nutrients contributing to HAB formation. Projects related to sedimentation and nutrient loading should be referenced as they may contain overlapping goals.

Priority Issue:	Nutrient Loading
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: All Towns
Targeted Potential Contaminant Source(s):	Harmful Algal Blooms (HABs), Nutrients contained in sediments (i.e. phosphorus)
Goals:	Improve conditions to inhibit HABs formation and impact. Reduce sediment and nutrients entering Lake Champlain.
Protection Method and/or Management Method:	- Improve current Harmful Algal Bloom (HAB) monitoring and response plans - Conduct outreach and education
Potential Costs:	Estimated Cost: \$1,500 Effort hours to monitor and update response forms. Effort hours for outreach. External funding may be necessary for future land acquisitions.
Potential Funding Sources:	- Lake Champlain Basin Program Education and Outreach Grants (Click Link) - Soil and Water Conservation Committee Agricultural Nonpoint Source Abatement and Control Grant Program (Click Link)
Project Partnerships Needed:	- Plan Management Team - Essex County Soil and Water Conservation District - BRASS - Lake Champlain Committee - AFC - CWICNY - Landowner Associations
Implementation Timing:	Years 1-3, ongoing
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Reduce sediment and nutrients entering Lake Champlain	
Step 1:	Refer to Project Profiles 3, 6, 8, 9, and 11 to target nutrient loading that may contribute to the formation of HABs.

Monitoring and Response	
Step 1:	Continue to support existing monitoring programs.
Step 2:	Increase communication between water operators and NYSDOH Saranac Lake District Office regarding state-assisted microcystin sampling and analysis available to water systems serving less than 3,300 persons. The water districts of Port Kent, Willsboro, and Essex are eligible based on populations served.
Step 3:	Evaluate need for additional monitoring.
Step 4:	Complete or update the Public Water System Harmful Algal Bloom (HAB) Response plan template provided by NYSDOH. This template is intended to be used by public water system operators that use surface water sources to organize relevant information about source water, treatment, and monitoring, as well as a guide on how to respond if a HAB impacts the system. Share completed form with other water system operations staff and the health department.
Step 5:	Support actions listed in the Lake Champlain HAB Action Plan and review actions that overlap with the Extended Source Water Area in Port Henry/ Southern Shore. An example action includes, stabilize select segments of Stony Brook and establish permanent riparian buffers
Outreach and Education	
Step 1:	Gather information on previous or current concerns, current efforts of outreach, and current community knowledge of HABs.
Step 2:	Look into pre-existing materials that can be distributed or used as a reference (EPA, State, NYSDEC Publications etc.). Refer to the Outreach and Education highlight in the 'Protection and Management Methods' section of this report.
Step 3:	Identify gaps in knowledge or actions. The stakeholder group discussed highlighting HABs, and actions taken by the water systems to treat, monitor and manage HAB occurrences near the drinking water intakes.
Step 4:	Coordinate across the Towns to discuss methods to reach residents and visitors in the Lake Champlain Critical and Extended Source Water Areas.
Step 5:	Determine which communication channel(s) would be most effective to reach audiences. The stakeholder group discussed the potential for late spring/early summer social media posts and/or mailers. Other options may include newspaper postings, website posts, email lists, event outreach, resolutions passed by the Towns, etc.
Step 6:	Consider targeting celebration weeks throughout the year (e.g. invasive species week, clean water week). Consider creating a content calendar for the various outreach and education initiatives, especially seasonally relevant topics.
Step 7:	Work with partners to identify which potential funding sources should be applied to. Apply for such funding and create a plan to utilize funding if awarded.
Step 8:	Present communications in a simple, informative manner to landowners in the Towns.
Step 9:	Keep up with all forms of communication and monitor feedback received.

Project Profile 11: Parks and Dog Walking Areas DWSP2 Implementation – Chesterfield and Port Kent, Essex, & Willsboro, NY	
Littering and runoff from recreational parks and dog walking areas can increase chemical and bacteriological contaminants flowing into Lake Champlain.	
Priority Issue:	Nutrient Loading
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: Essex, Willsboro
Targeted Potential Contaminant Source(s):	Parks and Dog Walking Areas.
Goals:	Reduce amount of littering and nutrients from recreational and dog walking areas.
Protection Method and/or Management Method:	- Identify target areas and improve signage that emphasize how excess fecal matter and trash can affect Lake Champlain. - Improve resources for dog owners and recreators to dispose of waste properly.
Potential Costs:	Estimated Cost: \$15,000 (\$1,000 per trailhead) Effort hours to research and conduct outreach. Potential material costs for signage and other resources.
Potential Funding Sources:	Lake Champlain Basin Program Education and Outreach Grants (Click Link)
Project Partnerships Needed:	- Plan Management Team - LCBP - BRASS - CWICNY - Champlain Area Trails - AFC - Nature Conservancy
Implementation Timing:	Years 1-3. Once initiated, ongoing.
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Step 1:	Gather information on previous or current concerns, current efforts of outreach, and current community knowledge. Identify areas where excess fecal matter and trash are a concern. Potential target areas could include parks along the lake, boat launches and marinas as well as trailheads along the Boquet River and its tributaries.
Step 2:	Identify any areas that should have a designated dog walking area further inland from the lake and keep this in mind when researching and developing communication materials.
Step 3:	Research best management practices for dog walking locations and litter prevention techniques in sensitive source water areas. Look into pre-existing materials that can be distributed or used as a reference (EPA, State, DEC Publications, etc.) or pre-existing campaigns that have overlapping goals (e.g., Lake Champlain Basin Program Scoop the Poop campaign).

Step 4:	Identify gaps in knowledge or action.
Step 5:	Coordinate with partners and Towns to discuss outreach methods recreators in the Critical Area. Options may include added signage at target locations, brochures, and trash bins or “doggie depots” at trailheads and dog walking areas.
Step 6:	Utilize partnerships to identify potential solutions for maintenance concerns (e.g., who will clean out trash bins at trail entrances. Consider collaborating with Champlain Area Trails for assistance.
Step 7:	Utilize partnerships to apply for funding as needed. Apply for such funding and create a plan to utilize funding if awarded.
Step 8:	Implement the identified strategies to reduce waste near Lake Champlain and Boquet River.
Step 9:	Keep up with all forms of communication, monitor feedback received, and evaluate success.

Project Profile 12: Transportation – Garbage Dumping, Litter, Waste, and Boat-Related Spills

DWSP2 Implementation – Chesterfield and Port Kent, Essex, & Willsboro, NY

The Towns are concerned about garbage, litter, human wastes (liquid and solid) and other potential spills near sensitive intake areas. Garbage dumping can refer to either (1) dropping physical bags of garbage into the water from boats and (2) liquid waste dumped directly into the water. Littering from land activity is also a concern. The stakeholder group suggests that education is needed to explain the impact of garbage dumping and where to refuel or perform boat maintenance.

Priority Issue:	Transportation Related Contamination
Priority Level:	Low: All Towns
Area(s) Impacted:	Control and Monitoring Area: All Towns
Targeted Potential Contaminant Source(s):	Litter, waste, and improper boat maintenance.
Goals:	Reduce garbage, litter, waste and boat related spills.
Protection Method and/or Management Method:	Conduct inclusive education and outreach to resident and visiting boaters regarding sensitive areas and the impacts of littering, wastewater impacts, and improper boat maintenance activities.
Potential Costs:	Estimated Cost: \$17/hr Effort hours to conduct outreach. Potential material costs for outreach.
Potential Funding Sources:	• Lake Champlain Basin Program Education and Outreach Grants (Click Link) • NYSEFC Clean Vessel Assistance Program (Click Link) • NYSDOS Local Waterfront Revitalization Program (Click Link)
Project Partnerships Needed:	• Plan Management Team • LCBP • BRASS • CWICNY • Marinas • ADK Action • Adirondack Council • Essex County Water Quality Coordinating Committee • Volunteers • AFC
Implementation Timing:	Years 1-3. Once initiated, ongoing.
Implementation Start Date:	Spring 2027
Step-by-step Process:	

Step 1:	Gather information on previous or current concerns, current efforts to reach out, and current community knowledge (e.g., understanding of impact on drinking water, understanding of where to refuel or perform boat maintenance). Potential areas of concern include overnight boat activity in Whallons Bay, which is close to the Essex Water District intake.
Step 2:	Research best management practices of boating activity and littering prevention. Look into pre-existing materials that can be distributed or used as a reference (EPA, State, DEC Publications etc.). Highlight the connection between boating activity and source water. Refer to the Outreach and Education highlight in the 'Protection and Management Methods' section of this report.
Step 3:	Identify gaps in knowledge or actions based on best management practices.
Step 4:	Coordinate across the Towns to discuss methods to reach boaters that utilize the bays, marinas, and boat launches in the Main Lake. Potential target areas could include but not limited to marinas pump stations where boaters supply gas, boat washing stations, rest areas, Willsboro Marina.
Step 5:	Determine which communication channel(s) would be most effective to reach boaters. These may include signage, flyers at marinas, educational LBP boat stewards, social media, YouTube campaign, resolutions published by the Town, etc. Note that signage and other printed media should be multilingual (i.e., English and French) to accommodate visiting boaters. Messaging could also be incorporated into existing outreach initiatives (e.g., tabling about invasive species).
Step 6:	Consider targeting celebration weeks throughout the year (e.g. invasive species week, clean water week). Consider creating a content calendar for the various outreach and education initiatives, especially seasonally relevant topics.
Step 7:	Consider develop and implement brochures or other educational material to hand out to participants in fishing tournaments and/or other boating events from other municipalities. Material content will include awareness of the lake as a drinking water source and actions to protect its quality.
Step 8:	Utilize partnerships to apply for funding as needed.
Step 9:	Present communications in a simple, informative manner to boaters.
Step 10:	Keep up with all forms of communication and monitor feedback received.

Project Profile 13: Transportation - Marinas/Boat Launches DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY	
The Towns aim to increase communication with marina owners to reduce potential spill impacts at marinas and boat launches.	
Priority Issue:	Transportation Related Contamination
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: All Towns
Targeted Potential Contaminant Source(s):	Marina and Boat Launch Activity
Goals:	Reduce likelihood of impacts to water quality at marinas and boat launches.
Protection Method and/or Management Method:	• Enhance communication with marina owners. • Assess need for additional management practices at marinas.
Potential Costs:	Estimated Cost: NA Effort hours to communicate with responsible parties. Effort hours to apply for funding for any relevant projects identified.
Potential Funding Sources:	• NYSEFC Clean Vessel Assistance Program (Click Link) • NYSEFC Green Innovation Grant Program (GIGP) (Click Link) • Lake Champlain Basin Program Education and Outreach Grants (Click Link)
Project Partnerships Needed:	• Plan Management Team • Indian Bay Marina • Safe Harbor Marina • Essex County Water Quality Coordinating Committee
Implementation Timing:	Year 1, ongoing annual review
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Step 1:	Ensure marina owners are aware of Critical Area.
Step 2:	Assess the need for added signage at marinas and boat launches explaining proper fueling, spill prevention and spill reporting procedures at fueling stations. See Project Profile #5.
Step 3:	Develop and implement brochures or other educational material to hand out to participants in fishing tournaments and/or other boating events. Material content will include awareness of the lake as a drinking water source and actions to protect its quality.
Step 4:	Assess need for added management practices at the marinas, including the following options: • Providing pump-out service at convenient times of day when customers want to use them. To learn more, visit: www.epa.gov/sites/production/files/2015-10/documents/2001_10_30_nps_mmssp_section4.pdf (US EPA, Search On: "Marinas and Recreational Boating" and click on "National Management

	Measures Guidance to Control Nonpoint Source Pollution from Marinas and Recreational Boating” and then “Section 4: Management Measures”). • Construct grass swales, vegetated strips or infiltration basins to manage stormwater at the marina. • Ensure boat washing occurs over a drain connected to a sanitary sewer. • Ensure holding tanks are emptied using pump-out stations away from the shoreline. To learn more, visit: www.dec.ny.gov/docs/water_pdf/marinasbmp.pdf (NYSDEC, Search On: “Marina Operations for Existing Facilities”). • Build curbs, berms or other barriers around areas used for liquid material storage to contain spills. • Designate hull maintenance areas outside of the waterbody to encourage marina patrons to avoid doing any hull maintenance while their boats are in the water.
Step 5:	Utilize partnerships to apply for funding as needed.
Step 6:	Apply for identified funding and create a plan to utilize funding if awarded.

Project Profile 14: Transportation - Airports

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

Airports use jet and diesel fuel, deicers, solvents, firefighting foams, and heating oil. Stormwater can carry contamination into waterways. If wastes are improperly discharged or maintained, fuel, deicer chemicals, oil, and other hazardous chemicals can runoff into waterways. These contaminants have the potential to contaminate the water supply causing potential health impacts.

There are two (2) airports in the Extended Source Water Area: Bonebender Airport and Westport Airport.

Priority Issue:	Transportation Related Contamination
Priority Level:	Low: Essex, Willsboro
Area(s) Impacted:	Extended Source Water Area: Essex, Willsboro, Port Henry/Southern Shore
Targeted Potential Contaminant Source(s):	Airports
Goals:	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.
Protection Method and/or Management Method:	• Obtain copies of permits and stormwater pollution prevention plans. • Review contaminants of concern, monitoring data, violations, spills. • Develop a list of concerns, if applicable.
Potential Costs:	Estimated Cost: \$1,200 Effort hours to collect and review permits, monitor data. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	Not applicable
Project Partnerships Needed:	• Plan Management Team • NYSDEC Division of Water • Code and/or Zoning Enforcement
Implementation Timing:	Year 1, ongoing annual review of permit and spill data
Implementation Start Date:	Fall 2027
Step-by-step Process:	
Step 1:	Obtain a copy of each facility's current Multi-Sector General Permit (MSGP) from NYSDEC Division of Water Regional Office. For more information about the MSGP, visit: www.dec.ny.gov/chemical/9009.html (NYSDEC, Division of Water, Search On: "Multi-Sector General Permit"). Contact DEC Region 5 Division of Water at (518) 897-1241 (Ray Brook sub-office or (518) 623-1200 (Warrensburg sub-office).

Step 2:	Request a copy of the facility's Comprehensive Stormwater Pollution Prevention Plan (SWPPP) from the facility owner or operator to ensure compliance with the conditions of the MSGP. For more detailed information about the NYSDEC MSGP, visit: https://dec.ny.gov/environmental-protection/water/water-quality/stormwater/msgp (NYSDEC, Search On: "SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity" and click on "Sector S - Air Transportation").
Step 3:	Use the DECInfo Locator website to learn the contaminants of concern and, if applicable, the status of any clean-ups at the site. The NYSDEC Info Locator can be accessed at: www.dec.ny.gov/pubs/109457.html (NYSDEC, Search On: "DECinfo Locator").
Step 4:	Review EPA's ECHO database for facility-specific information including monitoring data, permit data, inspection dates and findings, violations, enforcement actions and penalties assessed. The USEPA ECHO database can be accessed at: www.echo.epa.gov (US EPA, Search On: "Enforcement and Compliance History Online"). Any permit violation that presents a potential threat to the drinking water supply should be remediated as soon as possible by working with NYSDEC Division of Water.
Step 5:	Regularly check the NYSDEC Spills Database for any spills from the facility. Follow up with NYSDEC for clean-up and any concern of impacting the community's drinking water supply. The NYSDEC Spills Database can be accessed at: www.dec.ny.gov/chemical/8437.html (NYSDEC, Division of Environmental Remediation, Search on: "Environmental Site Database Search").
Step 6:	Make sure the emergency response plan is up to date to manage any spills from the facility.
Step 7:	Airports may use firefighting foam. See Fire Training Centers and Designated Fire Training Facilities for management methods to address using and disposing of the foam. More information on PFAS-Containing Firefighting Foam can be accessed here (Click Link) .
Step 8:	Consider working with the NYSDOH Saranac Lake District Office if interested in developing a raw water and/or ambient water sampling plan for contaminants of concern. Inform the health department of any detection of contaminants.

Project Profile 15: Emerging Contaminants - General

DWSP2 Implementation – Chesterfield and Port Kent, Essex & Willsboro, NY

Emerging contaminants, including PFAS, microplastics, and personal care products could require treatment plant upgrades and increasing treatment costs for the community. Increasing the ability to monitor and develop protection methods against these emerging contaminants could mitigate potential adverse impacts on treatment requirements and related costs.

Priority Issue:	Emerging Contaminants
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: All Extended Area: All
Targeted Potential Contaminant Source(s):	Emerging Contaminants
Goals:	Monitor and educate on potential/emerging contaminants of concern.
Protection Method and/or Management Method:	- Consider conducting additional ambient water and/or drinking water quality monitoring based on the inventory of potential contaminants within source water areas. - Develop educational materials and conduct outreach to the public on the sources and concerns of PFAS and other emerging contaminants of concern.
Potential Costs:	Estimated Cost: \$1,000 Water quality monitoring and analysis costs.
Potential Funding Sources:	- USEPA Monitoring Initiative Grants under Clean Water Act Section 106 (Click Link) - USEPA Clean Water State Revolving Fund (CWSRF) (Click Link) - USEPA Nonpoint Source Section 319 Grants (Click Link) - Drinking Water State Revolving Fund (Click Link) - NYSDEC/NYSEFC Engineering Planning Grant Program (Click Link) - Lake Champlain Basin Program Education and Outreach Grants (Click Link) - NYSP2I (Click Link)
Project Partnerships Needed:	- Lead Water Operators - NYSDOH Saranac Lake District Office - Essex County Water Quality Coordinating Committee
Implementation Timing:	Years 1-3
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Develop Monitoring and Testing	
Step 1:	Consider an ambient water and/or drinking water quality monitoring program for emerging contaminants of concern. Refer to Appendix A.6 (Potential Contaminant Source Inventory) to help determine potential contaminants of concern within the Critical and Extended Source Water Areas. This could include current unregulated drinking water contaminants.

Step 2:	Consult with the NYSDOH Saranac Lake District Office regarding sampling plans.
Step 3:	Conduct community outreach (refer to the steps below) and adjust information depending on the nature of the emerging contaminant of concern.
Step 4:	When future emerging contaminants become prevalent, refer to this project profile and take action to mitigate the threat.
Education and Outreach	
Step 1:	Identify audiences, gaps of knowledge or action, and key messages. Topics include What is the concern, how contaminants enter the water and how to prevent water contamination.
Step 2:	Determine target audiences (e.g. homeowners, business owners, schools, the public, etc....).
Step 3:	Determine which communication channel(s) would be most effective to reach target audiences.
Step 4:	Utilize partnerships to apply for funding as needed. BRASS may be a helpful partner to coordinate funding opportunities
Step 5:	Present communications in a simple, informative manner to target audiences.
Step 6:	Keep up with all forms of communication and monitor feedback received.

Project Profile 16: Emerging Contaminants – Pharmaceutical Disposal

DWSP2 Implementation – Chesterfield and Port Kent, Essex & Willsboro, NY

The Towns recognize that pharmaceutical disposal is an emerging contaminant that should be specifically targeted as a proactive protection method. Improper disposal of medications entering the Lake Champlain and contributing waterways can impact water quality. The Towns aim to create a coordinated approach for distributing information about pharmaceutical drop off events and locations, as well as educate residents on how these actions impact water quality.

Priority Issue:	Emerging Contaminants
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: All Extended Source Water Area: All
Targeted Potential Contaminant Source(s):	Pharmaceuticals
Goals:	Coordinated approach for increasing resident awareness of pharmaceutical disposal practices.
Protection Method and/or Management Method:	Education and outreach for homeowners on proper pharmaceutical disposal, drop off locations, and impacts on water quality.
Potential Costs:	Estimated Cost: \$5,000 Effort hours to conduct outreach. Potential material costs for outreach materials.
Potential Funding Sources:	• Lake Champlain Basin Program Education and Outreach Grants (Click Link) • NYSP2I (Click Link)
Project Partnerships Needed:	• Plan Management Team • LCBP • AFC • BRASS • CWICNY • Pharmaceutical drop off locations (Sherriff's offices, DOH's Drug Take Back Program, etc.) • Essex County Water Quality Coordinating Committee • Hospitals • Police Stations
Implementation Timing:	Years 1-3. Once initiated, ongoing.
Implementation Start Date:	Spring 2027
Step-by-step Process:	
Step 1:	Gather information on previous or current concerns, current efforts to reach out, and current community knowledge. Consider combining outreach and education efforts from each project profile to consolidate and streamline efforts (e.g. consider combining efforts if targeting the same audience).

Step 2:	Gather information on drop-off locations for pharmaceuticals, drug take-back events, and recommendations for pharmaceutical disposal (e.g., do not flush drugs down the toilet). Look into pre-existing materials that can be distributed or used as a reference (EPA, State, DEC Publications etc.). Highlight the connection between water quality and pharmaceutical disposal. Refer to the Outreach and Education highlight in the 'Protection and Management Methods' section of this report. DEC has a mapper of disposal locations: Safe Medication Disposal for Households-NY'S Dept. of Environmental Conservation, Drug Takeback Program Drop-off Locations
Step 3:	Identify gaps in knowledge or action. Barriers to action may include lack of motivation or ability to attend drug take-back events, lack of year-round drop off locations nearby, or hesitancy to drop off pharmaceuticals at existing locations (e.g., drop off locations at the sheriff's office).
Step 4:	Coordinate across the Towns to discuss methods to reach residents in the Lake Champlain Critical and Extended Source Water Areas.
Step 5:	Determine which communication channel(s) would be most effective to reach residents in the targeted Towns. These may include social media, posters, mailings, newspaper postings, websites, email lists, public forum, workshops, event outreach, resolutions published by the Town, etc. Locations for placing outreach materials could include hospitals, police stations, etc.
Step 6:	Consider targeting celebration weeks throughout the year (e.g. invasive species week, clean water week). Consider creating a content calendar for the various outreach and education initiatives, especially seasonally relevant topics.
Step 7:	Utilize partnerships to identify and apply for funding as needed.
Step 8:	Present communications in a simple, informative manner to landowners in the Towns.
Step 9:	Keep up with all forms of communication and monitor feedback received.

Project Profile 17: Management of Regulated Potential Contaminant Sources - SPDES

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

NYSDEC Division of Water regulates wastewater discharge to groundwater and surface water through the State Pollutant Discharge Elimination System (SPDES). SPDES permitted dischargers include both municipal and industrial operations. Examples of industrial dischargers are laundromats, car washes, food processing, photographic manufacturing operations, and pharmaceutical research facilities. Municipal dischargers include wastewater treatment facilities which treat either residential wastewater or a mixture of residential and industrial wastewater. MSGP (Multi-Sector General Permit) SPDES regulates stormwater discharges associated with industrial activity specifically. The MSGP covers 31 different industrial sectors which include activities such as mining, land transportation, and scrap recycling.

SPDES facilities may discharge biological or chemical contaminants of concern to surface water. If improperly maintained, these contaminants could contaminate the water supply, causing potential health impacts. There is one (1) SPDES facility and one (2) MSGP SPDES in the Critical Area. In total, there are ten (10) SPDES and five (5) MSGP SPDES in the extended source water area.

Priority Issue:	Management of Regulated Potential Contaminant Sources
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: Essex Extended Source Water Area: Chesterfield and Port Kent, Essex, Willsboro, Port Henry/Southern Shore
Targeted Potential Contaminant Source(s):	State Pollutant Discharge Elimination System (SPDES) Facility Discharges.
Goals:	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.
Protection Method and/or Management Method:	Review SPDES permitted facilities. Refer to DWSP2 maps and PCS inventory in this report for waste site locations in source water areas.
Potential Costs:	Estimated Cost: \$1,200/annually Effort hours to collect and review permits, monitoring data. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	Not applicable
Project Partnerships Needed:	• Plan Management Team • Town representatives • Code and/or Zoning Enforcement • NYSDEC Region 5 Division of Water • NYSDOH Saranac Lake District Office • SPDES permitted facilities
Implementation Timing:	Year 1, ongoing annual review of permits and spill data.

Implementation Start Date:	Fall 2027/Spring 2028
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Step-by-step Process:	
Step 1:	Use DECinfo Locator Environmental Quality Map Viewer to obtain a copy of the SPDES permit for all permitted facilities in the critical and extended source water areas. The permit may include information including effluent limitations, monitoring requirements and compliance schedules.
Step 2:	Review DEC's Permit Applications Database for information about the permit application history of the facility.
Step 3:	Use information and data collected from the regulated facility. Use the DWSP2 Framework Form titled "Questions to Ask the Regulated Entity" and EPA's Enforcement and Compliance History Online (ECHO) database to record facility-specific information including monitoring data, permit data, inspection dates and findings, violations, enforcement actions and penalties assessed.
Step 4:	Using the facility information from DEC and EPA, notify the owner of the facility that the facility is discharging in the critical protection area.
Step 5:	Using the facility information on the permits from DEC and EPA, provide the owner of the permitted facility with the proper contacts for emergency notifications of any unpermitted wastewater discharges.
Step 6:	Make sure the facility emergency response plan for spills is up to date.
Step 7:	Work with the NYSDOH Saranac Lake District Office to develop a raw water and/or ambient water sampling plan for contaminants of concern. Notify the health department of any detection of the contaminants of concern.
Step 8:	Follow up with NYSDEC Division of Water if there are concerns of the facility impacting the community's drinking water supply. DEC Region 5 Division of Water: (518) 897-1241 (Ray Brook sub-office) or (518) 623-1200 (Warrensburg sub-office).
Step 9:	Stay up to date on SPDES effluent emerging contaminant regulations from NYSDEC (Click Link)

Project Profile 18: Management of Regulated Potential Contaminant Sources - Solid Waste Management Facility

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

There is one (1) solid waste management facility in the Extended Source Water Area. This is a permitted transfer facility, meaning solid waste is received for the purpose of subsequent transfer to another solid waste management facility for further processing, treatment, and transfer or disposal.

Priority Issue:	Management of Regulated Potential Contaminant Sources
Priority Level:	Low: All Towns
Area(s) Impacted:	Extended Source Water Area: Essex, Willsboro
Targeted Potential Contaminant Source(s):	Solid Waste Facility
Goals:	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.
Protection Method and/or Management Method:	Review waste facilities and obtain copies of permits. Refer to DWSP2 maps and PCS inventory in this report for waste site locations in source water areas.
Potential Costs:	Estimated Cost: \$1,200/annually Effort hours to collect and review permits and monitor data. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	USDA Solid Waste Management Grants (Click Link)
Project Partnerships Needed:	• Plan Management Team • NYSDEC Region 5 Division of Water • NYSDEC Region 5 Division of Materials Management • Code and/or Zoning Enforcement
Implementation Timing:	Year 1, ongoing annual review
Implementation Start Date:	Fall 2027/Spring 2028
Step-by-step Process:	
Step 1:	Request a copy of the facility registration or permit from NYSDEC's Division of Material Management Regional Office. DEC Region 5 Division of Materials Management: (518) 897-1215 (Ray Brook sub-office) or (518) 623-1203 (Warrensburg sub-office).
Step 2:	Check if the registration or permit is current and inform Division of Materials Management if you discover any discrepancy with the owner and/or emergency contact information.
Step 3:	Request a meeting with the Regional Material Management Engineer that has jurisdiction of the facility. The purpose of the meeting is to discuss any violations at the facility that could impact the public drinking water supply and to understand the contaminants of concerns related to the facility.
Step 4:	Work with the NYSDOH Saranac Lake District Office if considering a raw water and/or ambient water sampling plan for contaminants of concern.

Step 5:	Report any detection of the contaminants of concern to the health department and work with them for appropriate response.
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Project Profile 19: Management of Regulated Potential Contaminant Sources - Remediation Sites

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

Contaminated properties can be cleaned up under one of three DEC programs: The Brownfield Cleanup Program, State Superfund Program, and Environmental Restoration Program. Contaminated properties can also be cleaned up under EPA's Superfund Program. Remediation Sites pose a risk of hazardous chemical substances which, if improperly managed, can pose a serious threat to human health and the environment. There are three (3) remediation sites in the extended source water area.

Priority Issue:	Management of Regulated Potential Contaminant Sources
Priority Level:	Low: All Towns
Area(s) Impacted:	Extended Source Water Area: Essex, Willsboro
Targeted Potential Contaminant Source(s):	Remediation Sites
Goals:	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.
Protection Method and/or Management Method:	- Review statuses of Remediation Sites in the Extended Source Water Area. Refer to DWSP2 maps, the PCS inventory, and NYSDEC Info Locator. - Assess these sites for any changes in sampling and specific contaminants. - Identify priority sites of concern and work with identified partners to establish an action plan if needed.
Potential Costs:	Estimated Cost: \$1,200/annually Effort hours to collect and review permits, monitoring data. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	Not applicable
Project Partnerships Needed:	- Plan Management Team - NYSDEC Region 5 Division of Environmental Remediation Office - Code and/or Zoning Enforcement
Implementation Timing:	Year 1, ongoing annual review
Implementation Start Date:	Fall 2027/Spring 2028
Step-by-step Process:	
Step 1:	Use the NYSDEC Info Locator to review the status of Remediation Sites in the Extended Source Water Area. Understand the sites' clean-up status as well as their contaminants of concern. The DECInfo Locator can be accessed at: www.dec.ny.gov/pubs/109457.html (NYSDEC, Search On: "DECinfo Locator").

Step 2:	Contact NYSDEC Division of Environmental Remediation Regional Office and request a meeting to understand the cleanup process and ensure that the contaminants of concern are adequately contained and not migrating to the water supply. DEC Region 5 Division of Environmental Remediation: (518) 897-1241 (Ray Brook sub-office) or (518) 623-1200 (Warrensburg sub-office).
Step 3:	Work with the NYSDOH Saranac Lake District Office if considering a raw water and/or ambient water sampling plan for contaminants of concern.
Step 4:	Inform the health department of any detection of the contaminants.

Project Profile 20: Management of Regulated Potential Contaminant Sources - Petroleum Bulk Storage Facilities

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

Petroleum Bulk Storage (PBS) facilities are those that store more than 1,100 gallons of petroleum in aboveground and underground storage tanks, or facilities with one or more underground storage tanks larger than 110 gallons. Petroleum is a mixture of hydrocarbons that originally come from crude oil. Exposure to these hydrocarbons can cause negative health effects in humans. Once a PBS facility no longer falls under one of these criteria, they are no longer subject to NYSDEC regulations. Some PBS sites may still have in service tanks but are no longer considered active/regulated by NYSDEC (New York State Department of Environmental Conservation). There are two (2) PBS in the Critical Area and nine (9) in the extended source water area.

Priority Issue:	Management of Regulated Potential Contaminant Sources
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: Essex Extended Source Water Area: Essex, Willsboro, Port Henry/Southern Shore
Targeted Potential Contaminant Source(s):	Petroleum Bulk Storage Facilities
Goals:	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.
Protection Method and/or Management Method:	- Review petroleum bulk storage facilities. - Monitor and report. - Review any spill incidents, refer to mapping and PCS inventory for storage tank in the Critical Area and/or Extended Source Water Area.
Potential Costs:	Estimated Cost: \$1,200/annually Effort hours to collect and review permits and monitor data. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	Not applicable
Project Partnerships Needed:	- Plan Management Team - NYSDEC Region 5 Division of Environmental Remediation - NYSDEC Region 5 Division of Environmental Permits - NYSDOH Saranac Lake District Office - Local PBS facilities - Essex County Soil Water Conservation District - Code and/or Zoning Enforcement
Implementation Timing:	Year 1, ongoing annual review
Implementation Start Date:	Fall 2027/Spring 2028
Step-by-step Process:	
Step 1:	Check to ensure each facility has a current registration including the

	owner and emergency contact information. Information for facilities can be accessed using the NYSDEC Info Locator at www.dec.ny.gov/pubs/109457.html (NYSDEC, Search On: “DEC Info Locator”). These facilities are required by state law to report any spills within two hours. Contact all petroleum bulk storage facilities and request them to add the community’s emergency contact to their spills. notification procedures.
Step 2:	Regularly check the NYSDEC Spills Database at www.dec.ny.gov/chemical/8437.html (NYSDEC, Division of Environmental Remediation. Search on: “Environmental Site Database Search”) for any spills from these facilities. Follow up with NYSDEC for clean-up and any concern of impacting the community’s drinking water supply.
Step 3:	To the extent the community has access to these facilities, regularly visit the facilities to see if there are any obvious spills or mishandling of the stored materials/chemicals that would likely cause a release of the materials and report it to the environment to NYSDEC Spills Hotline.
Step 4:	Work with the NYSDOH Saranac Lake District Office if considering a raw water and/or ambient water sampling plan for contaminants of concern.
Step 5:	Work with partners to review and apply for funding as needed.
Step 6:	Conduct an annual emergency response practice to ensure that the emergency response plan is up to date.

Project Profile 21: Management of Regulated Potential Contaminant Sources - Mines

DWSP2 Implementation – Chesterfield and Port Kent, Essex and Willsboro, NY

Mines may present chemical contaminants of concern, including petroleum hydrocarbons. DEC's Division of Mineral Resources oversees operations and activities related to non-fuel mining and mined land reclamation. The Mined Land Reclamation Law Article 23, Title 27, and its supporting regulations 6 New York Codes, Rules and Regulations Parts 420-425 require permittees to assess potential impacts through hydrogeologic assessments incorporated into the mined land use plan, allowing NYSDEC to mitigate potential impacts through permit conditions and detailed monitoring plans.

There are two (2) mines in the Critical Area and eight (8) mines in the Extended Source Water Area.

Priority Issue:	Management of Regulated Potential Contaminant Sources
Priority Level:	Low: All Towns
Area(s) Impacted:	Critical Area: Essex Extended Source Water Area: All Towns
Targeted Potential Contaminant Source(s):	Mines
Goals:	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response efforts.
Protection Method and/or Management Method:	Review permits and compliance history in the source water areas.
Potential Costs:	Estimated Cost: \$1,200/annually Effort hours to collect and review permits, monitoring data. Effort hours to communicate with responsible parties as necessary.
Potential Funding Sources:	Not applicable
Project Partnerships Needed:	• Plan Management Team • NYSDEC Region 5 Division of Mineral Resources Office • Code and/or Zoning Enforcement
Implementation Timing:	Year 1, ongoing annual review
Implementation Start Date:	Fall 2026/Spring 2027
Step-by-step Process:	
Step 1:	Obtain a copy of the mine permit(s) from the NYSDEC Division of Mineral Resources Regional Office for the community and make sure they are all current. DEC Region 5 Mineral Resources (Mined Land): (518) 897-1305 (Ray Brook sub-office) or (518) 623-1287 (Warrensburg sub-office).

Step 2:	Request a meeting with the Division of Mineral Resources and inquire about the compliance history of the permitted mine(s).
Step 3:	Any permit violation that presents a potential threat to the drinking water supply should be remediated as soon as possible by working with Division of Mineral Resources.
Step 4:	Work with the NYSDOH Saranac Lake District Office if considering a raw water and/or ambient water sampling plan for contaminants of concern related to the mining activity.
Step 5:	Notify the health department of any detection of the contaminants of concern.
Step 6:	If historical abandoned mines are found within the Critical Area or the source water area of the water supply intake, contact NYSDEC Division of Mineral Resources Regional Office for the community for assistance. DEC Region 5 Mineral Resources (Mined Land): (518) 897-1305 (Ray Brook sub-office) or (518) 623-1287 (Warrensburg sub-office).

Appendix C
Cost Estimates

Preliminary Cost Estimates									
Note: These estimates are based on an opinion of time requirement and transactional costs. Dependent on emerging needs or altered priorities, these could change. It is recommended that dedicated staff are designated to assist with these efforts, and it is not assumed that consultants will be hired to lead these efforts. The wage rate is based on one staff person with a salary of \$79,000, including a 75% increase for staff benefits, overhead costs, etc. This cost estimate is based off occupational wage rates estimated by New York State Department of Labor (NYSDOL) in Q1 2024 dollars for an average environmental scientist. All transactional costs are preliminary and subject to change greatly. THIS IS NOT INTENDED TO BE A FINAL EXACT ESTIMATE. Please note that many efforts across various projects can be combined to save costs. For the purposes of this estimate, each project is estimated individually. It is likely that actual costs will be lower given that efforts for steps like education and outreach are combined.									
Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
1	Transportation Related Contamination	Reduce likelihood and impact of spills directly entering Lake Champlain (railway).	Increase communication with CP Rail, fire departments, NYSDOT, and Coast Guard. Develop emergency response protocol, vulnerability assessments, and training materials.	1 year	Essex County Emergency Services	One time effort (~40-80 hours) to develop training. Training would occur on annual or semi-annual basis (~1 day).	FEMA'S HMGP, DHSES' SICG	Education materials, printing, posters mailings, website, time (labor)	\$7,000.00
2		Reduce likelihood and increase awareness of any spills in transportation corridors.	Review spill incidents. Ensure response plans are in place. Ensure water operators receive NYS Alert System updates. Educate residents on their role in spill responses.	1 year	CP Rail, Essex County Emergency Services, Towns, NYSDOT, Essex County Highway Department	One time effort (~40-80 hours) to develop training. Training would occur on annual or semi-annual basis (~1 day).	FEMA'S HMGP, DHSES' SICG	Education materials, printing, posters mailings, website, time (labor)	\$7,000.00

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
3	Nutrient Loading	Reduce the likelihood of nutrients and bacteria from failing septic systems entering Lake Champlain.	Education and outreach to educate homeowners on how to properly maintain their septic systems and existing programs that can support them. Encourage participation in NYSEFC Septic System Replacement Grant. Work directly with homeowners to develop management strategies. Continue to explore septic system maintenance or management district.	1-5 years	Towns, DOH, Landowner Associations, CWICNY, SWCD	Full time (ongoing)	NYSP2I, LCBP Education and Outreach Grants, NYSEFC Septic System Replacement Fund	Materials, printings, posters, mailings, website, time (labor)	\$25,000 a year

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
4	Future Development within the Source Water Area	Strengthen protection efforts in the critical and source water areas. Increase collaboration and coordination among the Towns of Chesterfield, Essex, and Willsboro regarding existing or new source water concerns.	Establish regular, quarterly meetings to increase source water protection coordination among each Town.	Year 1, ongoing activity once initiated (quarterly).	Towns	8 Hours / Year	Not Applicable (In House)	None (meetings)	\$0.00
			Work with participating municipalities to include source water protection actions into existing Intermunicipal Agreement.	Year 1-3.	Towns	8 Hours / Year	Not Applicable (In House)	None (meetings)	\$0.00
			Strategic land acquisitions for source water protection.	Year 1-3.	ADK Land Trust, Nature Conservancy, Champlain Area Trails, Eddy Foundation, CWICNY, SWCD	Full time (on going)	DEC WQIP Land Acquisition Grant, Adirondack Land Trust, Farmland Trust	Assessed values of properties/appraisal	Appraised Value
			Develop permits, ordinances or site plan review criteria to incorporate stormwater, runoff or drainage pattern control and prevention for new development.	Year 1-3.	Planning/Zoning Boards and Code Enforcement Officers	3 years	NYSDOS Smart Growth Community Planning and Zoning Grant Program, Nature Conservancy New York Climate Resilience Grant Program	\$10,000 per Town	\$30,000.00

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
5	Waterfront Property Management	Protect the drinking water source Critical Area during environmental review of new development. Increase awareness to property owners on how to assist in protection of the watershed (e.g., water conservation, waterfront property management, etc.).	Critical Environmental Area (CEA) designation that alerts landowners, developers, and regulatory agencies of the areas importance when reviewing environmental concerns for potential projects.	Year 1-3	Consultant	12-18 months	NYSDEC Non-Agricultural Nonpoint source Planning Program, NYSDEC/NYSEFC Engineering Planning Grant Program, NYSDOS Smart Growth Community Planning and Zoning Grant Program,	RFP to develop cost across three towns	\$50,000.00
			Outreach to landowners and water users on lawn treatment, forest management, water usage and septic/wastewater impacts.	Year 1-3, outreach and tracking are ongoing activities once initiated.	Watershed Organization (TBD)/SWCD, CWICNY	Annual (seasonal)	NYSP2I, LCBP Education and Outreach Grants	Outreach materials	\$3,000-\$5,000
			Assess zoning for protection of water quality (Shoreline Overlay Zones).	1-3 years	Towns/Consultant	10 Hrs per Town	Not Applicable (In House)	RFP to develop cost estimate across three towns	\$30,000.00
			Track new capital/construction projects within the source water area to ensure consideration of water source is reflected in planning/implementation.	1-2 years	Town, Code Enforcement, Planning Boards	Monthly	Not Applicable (In House)	Labor time, local enforcement	This will be an existing cost from current staff's salary

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
6	Erosion and Sediment Control	Improve conditions during major storm events. Reduce sediment loading in Lake Champlain.	Conduct surveys to identify and prioritize stabilization projects and identify target areas in the Boquet River Watershed.	3-5 Years	Consultant	2 years	Federal Highway Administration's Culvert Removal, Replacement & Restoration Grants, Clean Water State Revolving Fund (CWSRF), NYSDEC Water Quality Improvement Project (WQIP)'s Nonagricultural Nonpoint Source Abatement and Control, WQIP Aquatic Connectivity Restoration, NYSDEC Green Innovation Grant Program (GIGP), NYSDOS Local Waterfront Revitalization Grants, NYSDEC Non-Agricultural Nonpoint Source Planning Grant Program, NYSDEC/NYSEFC Engineering Planning Grant Program, Trees for Tribes	Request for proposal	\$200,000
			Use Best Management Practices to Improve ditch and culvert management to mitigate environmental impacts during high flow events.	5-8 Years, ongoing	SWCD, Town and County Highway Departments, DOT	Full time (on going)		Materials, equipment, labor	\$1,000,000/year
			Support the Lake Champlain TMDL Implementation Plan priorities.	5-10 years	Refer to TMDL Implementation Plan	Full time (on going)		Refer to TMDL Implementation Plan	Refer to TMDL Implementation Plan

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
7	Transportation Related Contamination	Reduce amount of roadway deicing materials from entering Lake Champlain.	Increase coordination with responsible entities. Ensure roadway BMPs are being utilized and educate as needed. For example, adequate storage areas are utilized, Explore alternative forms of deicing for major storm events. Identify and map roadway maintenance and salt/sand management facilities in the watershed.	2 years	Consultant	80 hours	Green Innovation Grant Program (GIGP), NYSDEC Water Quality Improvement Project (WQIP) Salt Storage and Road Salt Reduction, NYSDEC Non-Agricultural Nonpoint Source Planning Program	Salaries, staff time, consultant	\$25,000.00
8	Nutrient Loading	Reduce the amount of overland flow of nutrients.	Increase collaboration between the Towns and Essex County Soil and Water Conservation District to discuss opportunities for supporting programs and best management practices.	3-5 years	SWCD	Once per year	Plan Management Team, Essex County SWCD, Local Farmers	Once a year workshop and poster, fees for planning, printing, staff time	\$5,000.00
9		Reduce amount of fertilizers and pesticides applied and mitigate runoff into Lake Champlain.	Outreach and education to homeowners on proper application of fertilizers, how to reduce lawn and garden chemical use, and alternative treatment practices.	1-3 years	Towns, BRASS, AFC, SWCD, LCBP, CWICNY	Annual outreach	Essex County Soil and Water Conservation District, Plan Management Team, Lake Champlain Basin Streamwise Program, Boquet River Association, CWICNY, Ausable Freshwater Center	Materials (existing or new), printings, posters, mailings, website, time (labor), site visits.	\$5,000 per year

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
10	Nutrient Loading	Improve conditions to inhibit HAB formation and impact	Education and outreach about HABs response completed by the water systems	1-3 years	Towns, Landowner Associations, Volunteers, CWICNY, SWCD	Full time (on going)	Plan Management Team, Essex County Soil and Water Conservation District, Boquet River Association, Lake Champlain Committee, Ausable Freshwater Center, Landowner Associations, CWICNY	Materials, printings, posters, mailings, website, time (labor)	\$1,000-\$1,500 for additional materials (signage)
11		Reduce amount of littering and nutrients from recreational and dog walking areas.	Identify target areas and improve signage that emphasize how excess fecal matter and trash can affect Lake Champlain. Improve resources for dog owners and recreators to dispose of waste properly.	1-3 years	Champlain Area Trails, DEC, Nature Conservancy and other Trailheads, CWICNY	40 hours	Plan Management Team, Lake Champlain Basin Program, Boquet River Association, CWICNY, Champlain Area Trails, Ausable Freshwater Center	Identify trailheads and parks, design and purchase signage, install	\$15,000 (\$1,000 per trailhead)
12	Transportation Related Contamination	Reduce garbage dumping, litter, waste, and boat related spills	Conduct inclusive education and outreach to resident and visiting boaters regarding sensitive areas and the impacts of garbage dumping and improper boat maintenance activities, roadway litter management	1-3 years	DEC, Marina Owners, Towns, Volunteers	Seasonal - 3 Months per Town	NYSP2I, LCBP Education and Outreach Grants, NYSEFC Clean Vessel Assistance Program, NYSDOS Local Waterfront Revitalization Program	Seasonal salary, lake steward	\$17.00/hr

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
13		Reduce likelihood of impacts to water quality at marinas and boat launches.	Enhance communication with marina owners. Assess need for additional management practices at marinas, such as boat washing runoff, etc.	1 year	Marina Owners, DEC	Seasonal - 40 hrs	NYSEFC Clean Vessel Assistance Program, Green Innovation Grant Program (GIGP), LCBP Education and Outreach Grants	Site visits to the marinas and boat launches during rain events	No cost due to nature of the task (communication). Additional funding could be accessed if other practices are needed (boat washing example). Total cost is uncertain without further information.
14	Transportation Related Contamination	Enhance communication with specific facilities and/or DEC staff that work with these regulated facilities to understand the nature of the threat as associated with risk and response efforts	Obtain and review copies of permits and stormwater pollution prevention plan for airports. Develop list of concerns.	1 year	Town, Code and/or Zoning Enforcement	Annual	Not Applicable (In House)	In-person training, additional staff	\$1,200 per year per person

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
15	Emerging Contaminants	Monitor potential/emerging contaminants of concern.	Consider conducting additional ambient water and / or drinking water quality monitoring based on the inventory of potential contaminants within source water areas.	1-3 years	Consultant / Operator, Saranac Lake District Health Office	Annual testing (3 sites per year)	USEPA Monitoring Initiative Grants under Clean Water Act Section 106, USEPA CWSRF, USEPA Nonpoint Source Section 319 Grants, Drinking Water State Revolving Fund, NYSDEC/NYSEFC Engineering Planning Grant Program	Endyne, or other Labs	Test dependent on findings of future contaminants. \$300.00-\$1,000.00
			Develop educational materials and conduct outreach to the public on the sources and concerns of PFAS and other emerging contaminants of concern.	1-3 years	Towns, BRASS, AFC, SWCD, LCBP, CWICNY	Annual outreach	NYSP2I, LCBP Education and Outreach Grants	Materials, printings, posters, mailings, website, time (labor)	\$5,000 a year
16		Coordinated approach for increasing resident awareness of pharmaceutical disposal practices.	Education and outreach for homeowners on proper pharmaceutical disposal, drop off locations, and impacts on water quality.	1-3 years	EC Water Quality Coordinating Committee	6 months, ongoing (annual)	NYSP2I, LCBP Education and Outreach Grants	Outreach materials	\$3,000-\$5,000

Project Profile #	Priority Issue	Goal	Protection Method and/or Management Method	Timeline	Responsible Party	Time Commitment	Funding	Cost development	Total Cost
17	Management of Regulated Potential Contaminant Sources	Enhance communication with specific facilities or DEC staff that work with these regulated facilities to understand potential risks and response effort	Review SPDES permitted facilities	1 year	Town, Code and/or Zoning Enforcement	Once per year	Time commitment	In-person training, additional staff	\$1,200 per year per person
18			Review waste facilities and obtain copies of permits. Refer to DWSP2 maps and PCS inventory for waste site locations in source water areas.	on going	Town, Code and/or Zoning Enforcement	Once per year	Time commitment		
19			Review contaminants of concern and site status of remediation sites.	on going	Town, Code and/or Zoning Enforcement	Once per year	Time commitment		
20			Review petroleum bulk storage facilities. Monitor and report. Review any spill incidents, refer to mapping and PCS inventory for storage tank in the Critical Area and/or Extended Source Water Areas.	1 year	Town, Code and/or Zoning Enforcement	Annual	Time commitment		
*Cost estimates are based on existing labor resources. For projects beyond the scope of internal resources that require contractual support, costs will be higher; excepted range is 30-70% increase from base estimates.								Total \$1,164,000	

Appendix D

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