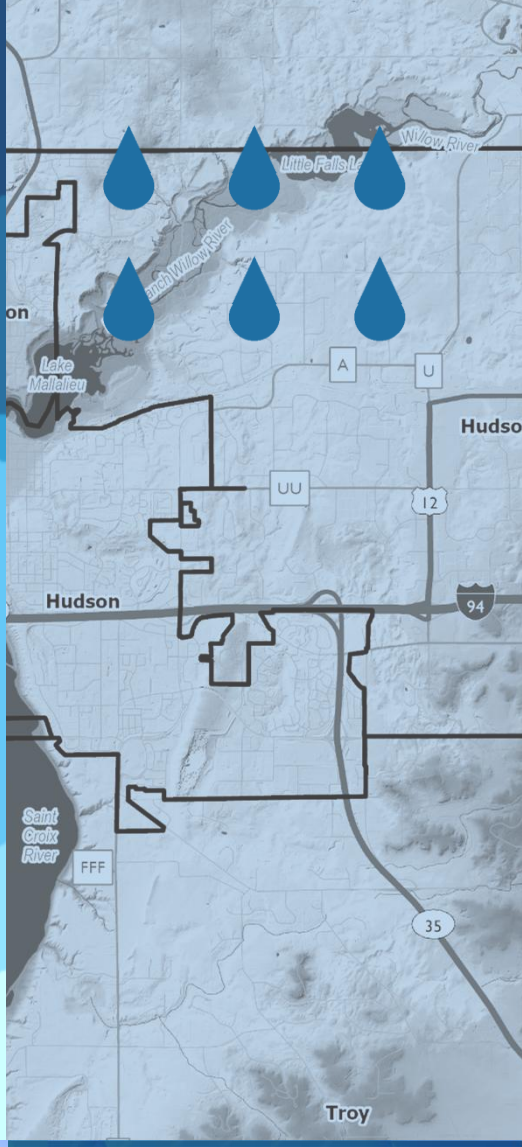
Hudson Urban Sewer Service Area Plan for 2045





Locally Approved Draft

10/21/26

<INSERT WDNR APPROVAL>

HUDSON URBAN SEWER SERVICE AREA PLAN FOR 2045

Prepared by:

Hudson Area Local Water Quality Advisory Committee
and
West Central Wisconsin Regional Planning Commission
(WDNR-designated Local Planning Agency)

Approved by:

Wisconsin Department of Natural Resources
XXXX XX, 2026

WEST CENTRAL WISCONSIN
REGIONAL PLANNING COMMISSION

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Town of St. Joseph	--	Theresa Johnson
Town of Troy	--	Doug Rowen
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Hudson Urban SSA Plan
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CHAPTER 1 – INTRODUCTION

1.1 WHAT IS A SEWER SERVICE AREA (SSA) PLAN?

In short, Sewer Service Area (SSA) Plans anticipate and forecast growth for a planning (study) area for the next 20 years and identify the most cost-effective and environmentally sound regional mix of wastewater treatment solutions for the study area with an emphasis on protecting surface water quality.

The passage of the Federal Water Pollution Control Act Amendment (P.L. 92-500) in 1972 marked the beginning of a new approach to the planning, design, and construction of municipal wastewater collection and treatment facilities. This law established Areawide Water Quality Management Planning under Section 208, and also the Facility Planning Grant Program under Section 201. One of the principal purposes of areawide plans is to identify cost-effective solutions to wastewater collection and treatment problems on a regional basis. To accomplish this objective, areawide plans are required to include "the identification of treatment works necessary to meet the anticipated municipal and industrial waste treatment needs of the area over a twenty year period," and a program to "regulate the location, modification and construction of any facilities within such area which may result in any discharge in such area" [Public Law 92-500, Section 208(b)(2)(A)]. The overarching planning tool used to address these requirements in the Chippewa Falls-Eau Claire area is the urban sewer service area plan.

The State of Wisconsin has incorporated many of the Federal areawide and facility planning requirements into the Wisconsin Administrative Code. As reflected below, the SSA Plan is part of a collection of locally guided areawide water quality management policies and plans (AWQMP) driven by Section 208 of the Federal Clean Water Act and Chapters NR 110 & 121 of Wisconsin Administrative Code. WDNR has overall responsibility for areawide water quality planning as described under NR 121, which includes sewer service area planning.



NR121, supplemented by WDNR planning guidance, largely sets forth the requirements for sewer service area planning. SSA Plans:

- Anticipate the study area's future needs for wastewater treatment.
- Evaluate alterative means for achieving water quality goals/standards and identifies the most cost-effective regional wastewater treatment approach.
- Encourage efficient and environmentally-sound sewer collection and treatment systems.
- Discourage the degradation of water quality and encroachment upon environmentally sensitive areas, especially when development would have an adverse impact on water quality.
- Help coordinate water quality protection plans, programs, and policies within the urban area.
- Are used by local, State, and Federal agencies when considering municipal wastewater facility plans, permitting for municipal sewer extensions (i.e., 208 reviews), certain private interceptor sewer mains, and certain related grant applications.
- Are not intended to restrict growth, obligate municipalities to provide sewer service, or affect community annexation policies.

A SSA Plan is required for designated urban areas and communities with a population over 10,000 in nondesignated areas. For most urban areas in the State, WDNR partners with regional planning commissions to serve as the region's areawide coordinating and local planning agency. For the Hudson urban area, a nondesignated area under NR 121, WDNR has identified West Central Wisconsin Regional Planning Commission (WCWRPC) as the local planning agency.

The SSA Plan has a strong relationship with Facility Plans for wastewater treatment facilities, which is described under NR 110. Approved facility plans are required before approval of plans/specs for reviewable sewage collection and treatment projects. Facility plans must demonstrate the need for proposed projects by systematically evaluating feasibility alternatives and selecting the most cost-effective means of meeting effluent limits and water quality stands. Facility plans and plans/specs for all sewage projects must be in conformance with the approved AWQP, which includes the SSA Plan. The following subsection of NR 121 best summarizes these relationships:

> *"The most cost-effective regional wastewater systems for all urban areas shall be identified over a 20-year planning period based upon an analysis of alternative waste treatment system configurations. Wherever possible, applicable recommendations of approved facility plans shall be used to determine the urban area[s treatment needs. This analysis shall be consistent with s. NR 110.09, and shall include a cost-effectiveness analysis of regional versus individual treatment plants for the outlying areas including subsurface waste disposal systems. Water quality and other environmental impacts shall be considered."*

Other key SSA planning concepts:

- From a State rules perspective, the SSA Plan is "blind to annexation", but is driven by cost-effectiveness and water quality protection. Water quality issues and the provision of sanitary sewer may cross municipal boundaries and there are mechanisms for changing the SSA Plan and its boundary in the future.
- The boundary is not driven by water quality or the water bodies, but is driven by growth. Major areas unsuitable for waste treatment systems should be excluded from the acreage included within the SSA boundary, including environmentally sensitive areas. Otherwise, the boundary is largely driven by the growth forecasts, wastewater facility plans, and the cost-effective provision of wastewater treatment.
- NR 110.08(5) restricts the construction of new sewage treatment facilities in order to protect water quality (i.e., "the non-proliferation policy").
- When evaluating the most cost-effective regional wastewater solution, it ultimately comes down to regional cost-effectiveness and the ability to protect water quality. If an area is not yet sewered, what is the most cost-effective approach considering distance, gravity flow, development density, construction costs, benefits, etc.? A municipal wastewater treatment system (sanitary sewer) provides the highest level of environmental protection, planning, management, and monitoring; such facilities are the preferred treatment system when service can be provided in a cost-effective manner.
- When evaluating cost-effectiveness, utilize NR 110 as a guide and all infrastructure and resource costs and efficiencies should be considered, not just the cost of construction or density of development. Cost-effectiveness should also consider the societal and resource costs for the area as a whole over the 20-year planning period. Duplication of treatment systems or overlapping types of services is not efficient. Part of effectiveness is also identifying where sewers and treatment systems should not be installed because associated development would adversely impact water quality.

It is important to recognize that regulatory enforcement of SSA planning rests with the State of Wisconsin. The roles of the local planning agency, local plan administrator, and the local water quality advisory committee are advisory to the communities and the Wisconsin Department of Natural Resources.

1.2 LOCAL SEWER SERVICE AREA PLANNING HISTORY

This urban sewer service area (SSA) plan updates the *Hudson Urban Sewer Service Area Plan for 2020*, which was approved by WDNR in October 1998. All previous SSA Plans for the urban area have been facilitated by West Central Wisconsin Regional Planning Commission (WCWRPC).

Similar to this plan update process, during the 1998 SSA Plan update, the local water quality advisory committee included three appointees from the City of Hudson, two from the Village of North Hudson, one each from the Towns of Hudson, St. Joseph, and Troy, and one from St. Croix County Planning Department. The non-voting Committee Chair was from WCWRPC. SSA Plan administration has been performed by the St. Croix County Community Development Department,

with WCWRPC assistance if necessary. Since the 1998 Plan's adoption, there have been two SSA boundary amendments and one Type IV amendment for an encroachment upon a steep slope.

1.3 SSA PLANNING SCOPE

The urban SSA Plan is intended to be an important planning and development guide for local communities[1]. SSA planning fosters intergovernmental coordination and is useful in the development of other community and water quality-related plans. And being grounded in State law, consideration of local development proposals within the sewer service area must be consistent with the SSA Plan.

To support these roles, the SSA Plan must include the following key components described within NR 121.05:

1. Define a planning or study area.
2. Utilize State-defined population forecasts and locally approved density standards to project future needs for sewer service and establish the geographic extent of the sewer service area for a twenty-year planning period. The SSA boundary shows where urban growth is most likely to occur but is not a guarantee of such growth.
2. Incorporate technical data, such as wastewater flow projections and wastewater treatment plant capacity assessments. The sewer service area plan shall include criteria for the construction of future treatment systems within the areawide planning area (NR110.08(5)).
3. Define and identify environmentally sensitive areas that should be protected from development within the SSA. Areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints are to be excluded from the sewer service area.
4. Define policies, procedures, and responsibilities to achieve plan goals, administer plan conformance (e.g., 208 reviews), and for the review of plan amendments and updates.

State rules suggest that the approved urban sewer service area plan is required to be reviewed and potentially updated every five years to reflect changes in statutes and policies, and to review data, such as population projections and housing densities. While this update of the plan was comprehensive, WDNR advised that a complete re-write was not necessary.

It is recognized the NR 110 and NR 121 are outdated due to changes in resources, complexity of growth, and other factors; some things in State code no longer exist and the State no longer prepares basin-level water quality management plans. The SSA Plan is not intended to be an Areawide Water Quality Management Plan (AWQMP). There are subsections of NR 121.05 that are addressed in other plans and do not need to be included or updated in the SSA Plan, though should be referenced when possible. The SSA Plan should support and complement these other

[1] While this plan can be an important planning and development tool, the plan should not be used or viewed to promote nor hinder annexation petitions or urban density development.

plans. The SSA Plan is not intended to duplicate or replicate other plans, but can explain how the plans are connected.

1.4 SSA Plan Update Process

NR121 requires "the preparation of the [SSA] plan be carried out if possible by a local planning agency under contract with the [Department] and "a local policy advisory committee made up of representatives of the various local units of government in the planning area shall be established, or an existing body used, to assist the department in the preparation of the plan and to act in an advisory role to the department in matters concerning the implementation of the plan."

The 1998 SSA Plan did not include any guidance regarding SSA Plan updates and, in the interim, the Local Water Quality Advisory Committee (LWQA Committee) was "activated" on an ad hoc basis to address three proposed SSA Plan amendments. For the 2026 SSA Plan update, WCWRPC continued to serve as the local planning agency responsible for preparing the SSA Plan and leading the planning meetings. The LWQA Committee was re-activated that included representatives similar to discussed previously in Section 1.2, except the Town of St. Joseph choose not to participate. The LWQA Committee re-constituted in 2025 included three appointees from the City of Hudson, two from the Village of North Hudson, one each from the Towns of Hudson and Troy, and one from St. Croix County Community Development Department. The Town of Warren and Village of Roberts were invited to participate in initial meetings when the study/planning area was being determined.

The LWQA Committee (steering committee) was a working group without a formal structure or meeting minutes for planning meetings, except for following the public hearing meeting during which a vote was taken on the draft SSA Plan update. The public hearing notice was published in the City of Hudson's official newspaper at least 14 days prior to the public hearing. Chapter 9 of the SSA Plan outlines the SSA Plan administration approach once the plan is approved by WDNR, including future plan updates.

The following table provides the general timeline and major steps during the plan update.

Project Initiation – agreements, flyer, press release, begin data collection, activate committee	Nov '24 – Jan '25
LWQA Committee Meeting #1 – introductions, project overview, SSA planning and related codes background , related plans, and set study/planning area	April 12, 2025
Initial Data Collection & Review – WCWRPC review of data, plans, etc.; includes consultation with municipalities and other stakeholders	April - July 2025
LWQA Committee Meeting #2 – data review, discuss draft ESA definitions & policies; introduce water quality components of NR 121.5; continued discussion on growth and development trends & plans	August 26, 2025

WCWRPC analysis of land use trends & development constraints. Draft ESA section & potential policy changes.	July-Sept 2026
LWQA Committee Meeting #3 – confirm ESA definitions, wastewater treatment alternatives; discuss growth trends and sewer growth acreage needs, barriers, & potential infill opportunities; initial plan administration approach	December 18, 2025
WCWRPC prepared growth projections & initial land use analysis; continued to update plan text	Oct 2025 – Jan 2026
LWQA Committee Meeting #4 – growth projections & potential sewered growth areas, holding tanks & private hookup policies, initial policy discussion	March 10, 2026
WCWRPC prepared an initial SSA boundary alternatives and begins to provide initial draft sections of the SSA Plan to the Committee for review. Meetings conducted with City of Hudson and Town of Troy regarding growth planning.	Mar - June 2026
LWQA Committee Meeting #5 – discuss draft plan sections, especially policies and plan administration chapters; discuss potential SSA boundary.	June 15, 2026
WCWRPC modified SSA boundary map as needed and prepares full initial draft SSA Plan Update document for Committee Review	June 2026
LWQA Meeting #6 – Review key draft SSA Plan sections & address any remaining issues. Committee finalizes proposed SSA boundary and makes advisory recommendation on draft SSA Plan to WDNR.	September 9, 2026
Public Hearing Notice issued, including in the City of Hudson's official newspaper.	published October 1, 2026
Public Hearing on Draft Plan– including noticing, invitations, and distribution of summary	October 21, 2026
LWQA Meeting #7 – Consideration of public comments and Committee advisory recommendation on the draft plan	October 21, 2026
Final Draft Plan provided to WDNR for Review & Approval	October 26, 2026

CHAPTER 2 – STUDY AREA

2.1 DEFINING THE STUDY (PLANNING) AREA

The Study Area defines the geographic area used to collect and evaluate data for the Sewer Service Area (SSA) Plan. Required under NR 121.05, the Study (or planning) Area provides the basis for analyzing existing conditions, future growth, wastewater needs, and environmental resources. The Study Area is used solely for planning purposes and has no regulatory significance.

The criteria used in delineating the Study Area included:

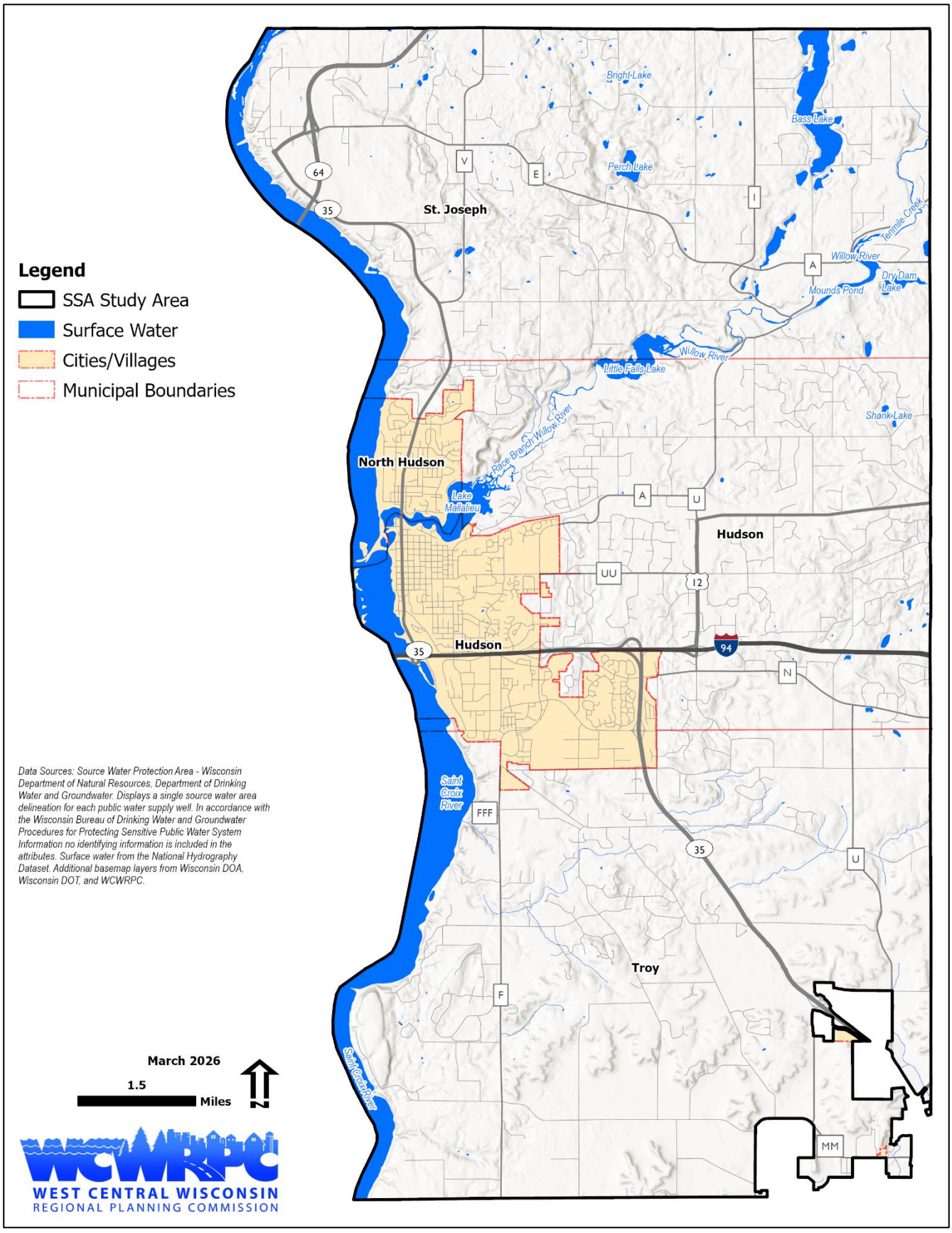
1. Existing and planned growth patterns. g growth areas defined in local land use and comprehensive plans.
2. Regional land use and water quality considerations.
3. Previous SSA planning efforts.
4. Areas with the potential for sewer service over the next 20 years.
5. Existing development concentrations.
6. Municipal boundaries, when practical.

For this SSA Plan, the Study Area will also be referred to as the Hudson urban area.

2.2 THE STUDY AREA

The Water Quality Advisory Committee, after consultation with representatives from the Town of Warren and Village of Roberts, considered the above criteria and agreed to an updated Study Area boundary. Compared to the 1998 SSA Plan, the Study Area was modified to exclude the Town of Warren, Village of Roberts, and any incorporated land within the City of River Falls. The revised Study Area encompasses approximately 69,092 acres consisting of the City of Hudson, Village of North Hudson, and the Towns of Hudson, St. Joseph, and Troy in their entireties as shown in Map 2.1.

Map 2.1 SSA Plan Study Area



CHAPTER 3 – PHYSICAL SETTING

This chapter summarizes the key physical characteristics of the Study Area. As part of a water quality management plan created under NR121, Chapter 3 gives emphasis to and is largely limited to aspects of the Study Area's physical setting related to water quality or the cost-efficient provision of sewer service.

3.1 OVERVIEW

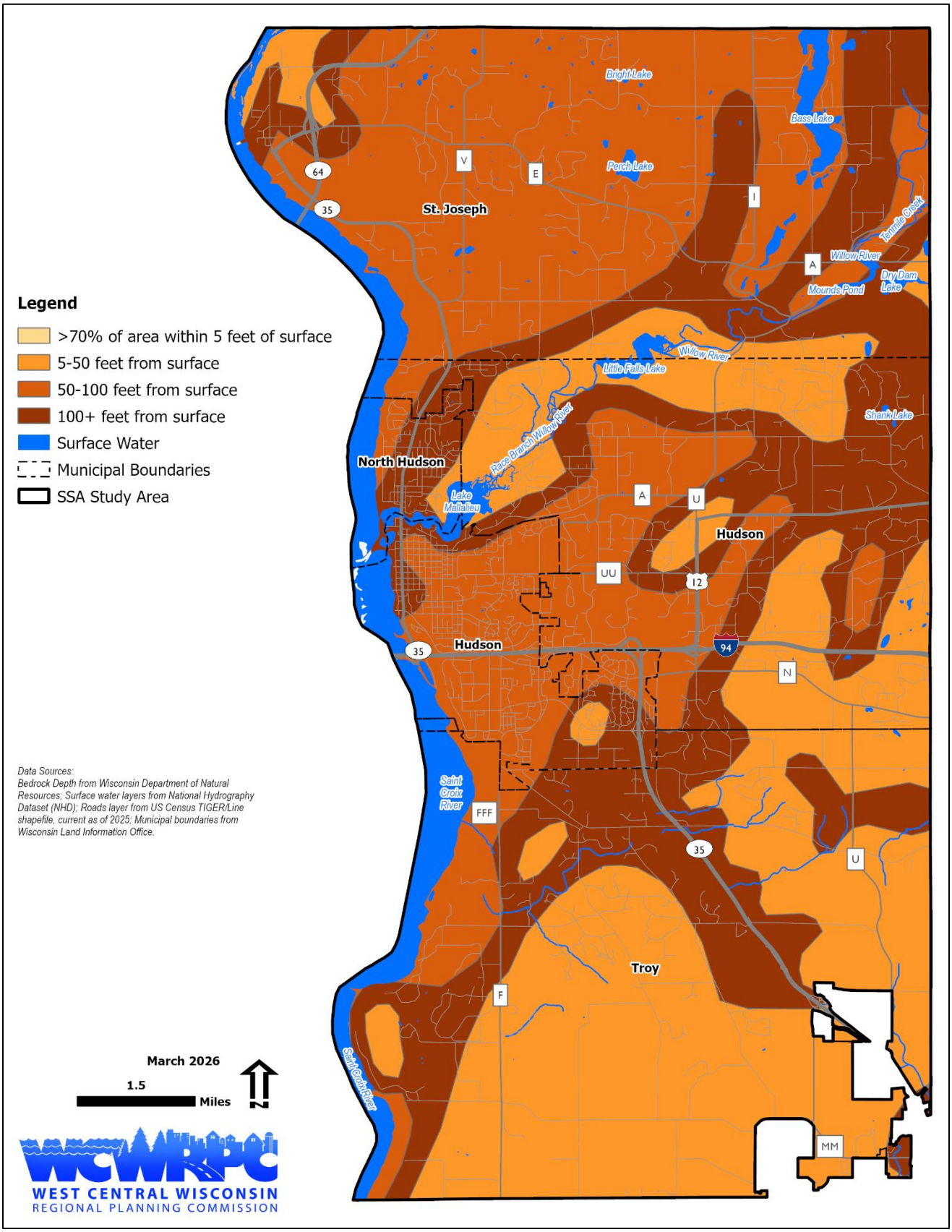
Geology & Topography

The Study Area's bedrock consists of Cambrian sandstone in the northwestern portion and Prairie du Chein group's Ordovician rocks in the southeastern portion of the Study Area. Cambrian sandstone formed between 600 to 425 million years old and is typically covered by the deepest glacial deposit layers. Ordovician rocks are comprised of dolostone and shale and can be characterized by steep, rugged hillslopes with deep drainage. Distributions of shallow bedrock are mainly within the southern half of the Study Area. It is important to note that due to the absence of a filtering soil layer, shallow bedrocks yield higher construction costs related to basements, as well as increased groundwater contamination risk from on-site septic systems.

As shown in **Map 3.1**, in most areas the bedrock is between 50 feet and 100 feet below the surface; however, in the southeastern portion of the Study Area and surrounding the Willow River and its impoundments, it is between 5 feet and 50 feet of the surface. Where depth to bedrock is shallow, contaminants generally have less time with the earth's natural pollutant removal process found in unconsolidated surficial deposits. Depth to bedrock is also used to evaluate the importance of bedrock type in determining an area's susceptibility to groundwater contamination. The greater the bedrock depth, the more likely it is that the water table is located above the bedrock. When the bedrock is shallow, the bedrock type can affect the ease with which infiltrating waters flow to the groundwater. Factors such as bedrock type and depth may influence the most cost-efficient and environmentally sound solution for wastewater treatment.

Karst topography is present in the Study Area and poses risks to the landscape and for groundwater contamination. Karst features are developed over the course of thousands of years and are influenced by bedrock composition and glaciation. Areas with highly soluble bedrock like those of the Prairie du Chein Dolomite group (e.g., limestone, dolomite, gypsum), have the greatest karst potential due to bedrock porosity which forms sinkholes which increases the potential of groundwater contamination. Another topographic result of glacial recession and deposition are kettles, also known as closed depressions. Kettles form when large blocks of glacial ice get buried within the deposits which then melt and leave a hole in the landscape. An important consideration with closed depressions is the absence of sufficient soil layers between the depression and underlying bedrock, creating greater potential for groundwater contamination from surface water runoff. Section 3.6.3 of this document further discusses closed depressions and groundwater risk.

Map 3.1. Depth to Bedrock



Map 3.2 shows the general topography of the Study Area, which ranges from 678 feet in the County's southwest to 1,128 feet above sea level in the hilly, southeastern portion of the Study Area. The topography of the northwestern two-thirds of the Study Area is comprised of rolling hills with greater slope variation in the southeast portion of the Town of Troy. The landscape variance is attributed to two primary factors: glacial deposits and fluvial geomorphic processes. Some of the steepest slopes occur along stream banks. As the slope increases, the potential for erosion, runoff to surface waters, and flash flooding also increases. Groundwater recharge also tends to be lower on steeper slopes when compared to flatter areas. For such reasons, steep slopes are considered environmentally sensitive areas (ESAs) under this plan and are further described in Chapter 3.5.5.

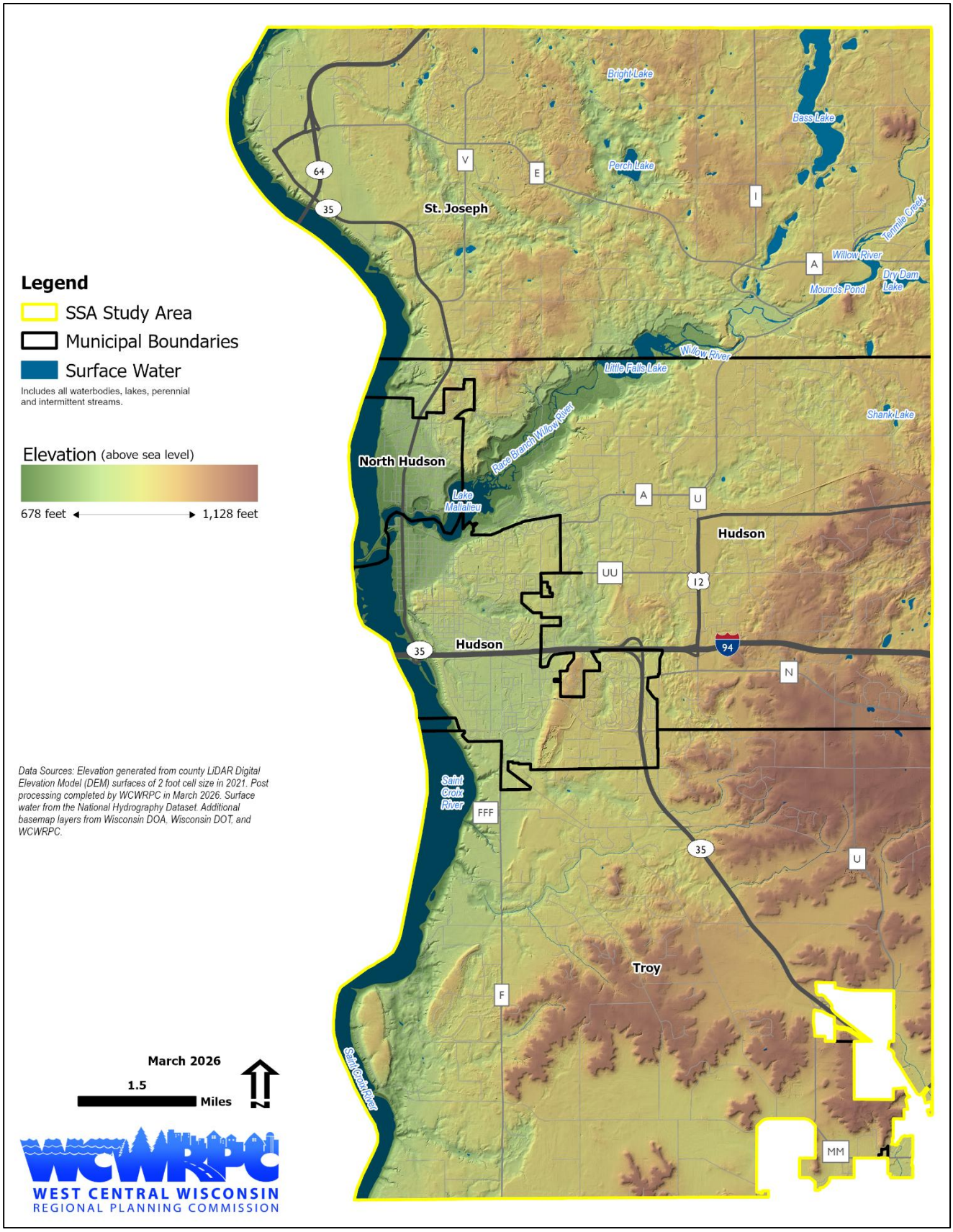
Groundwater

Groundwater is a limited resource, and is the primary source of drinking water and water for business and institutional use within the Study Area. The protection of its quality and quantity is consistently a top priority during planning efforts across west-central Wisconsin. Precipitation percolates through the soil and bedrock, eventually reaching a saturated zone known as an aquifer. An aquifer is an underground layer of permeable or fractured material that can store, transmit, and supply water. The St. Croix County Comprehensive Plan notes that the County has five aquifers that store and transmit water.

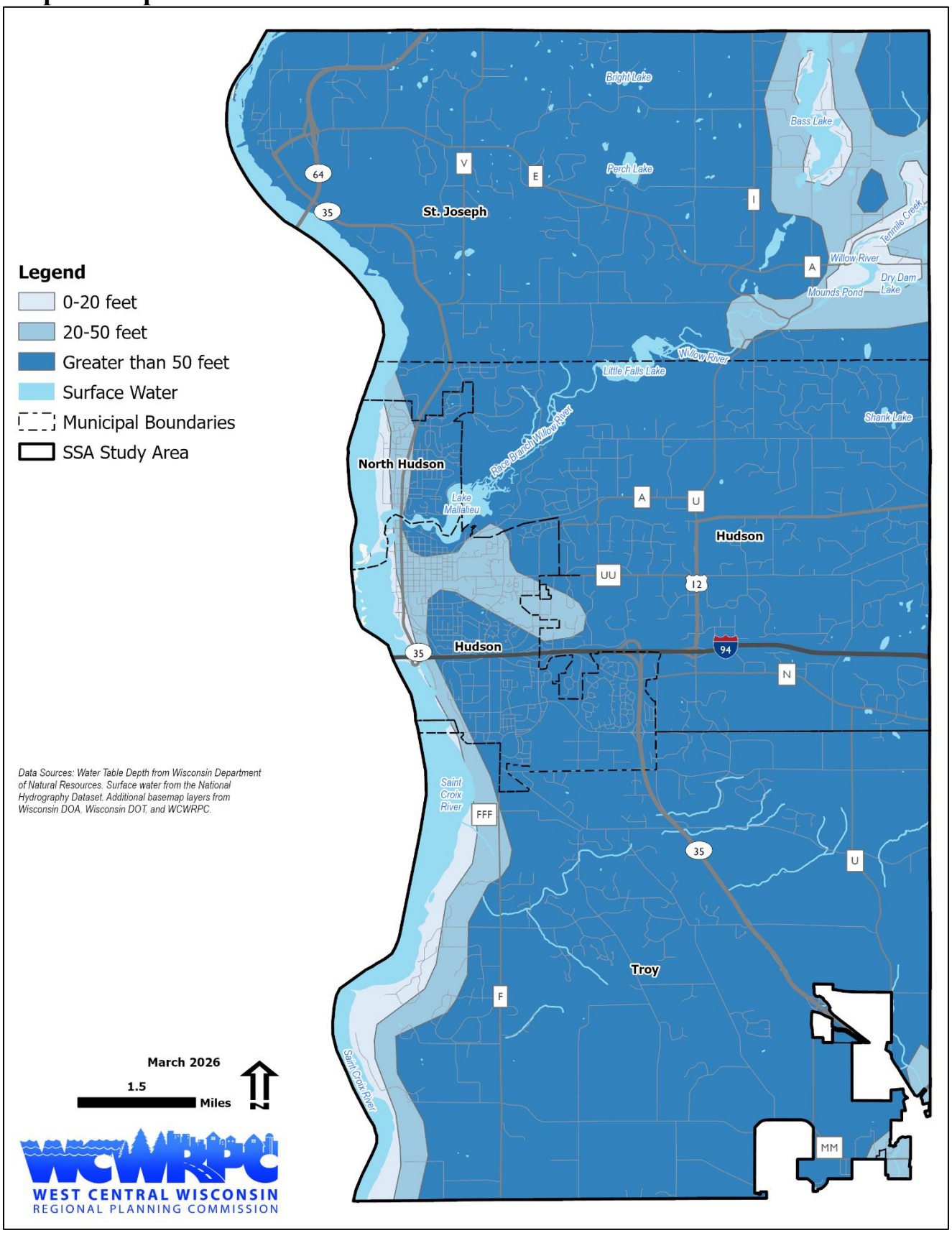
As shown in **Map 3.3**, some areas within the Study Area have very high groundwater levels (i.e., a high water table), which have an increased susceptibility to pollutants. As noted in the previous subsection, the potential for contamination of groundwater is also influenced by both depth to bedrock and karst geology. Wetlands, an ESA-type further described in Section 3.5.4, are typically a place where high groundwater levels intersect with the land surface. The Study Area's depth to groundwater is relatively shallow given its proximity to the St. Croix River, Lake Saint Croix, and Lake Mallalieu.

A Groundwater Flow System model that included St. Croix County was completed in 2009. The movement of groundwater is primarily influenced by gravity and topography, flowing from areas of higher recharge and higher elevation to lower areas where groundwater discharge to lakes and rivers might occur. However, well pumping also influences flow and can change regional groundwater flow toward the wells instead of its natural flow direction. Groundwater levels also change over time, especially as surface recharge changes. The general flow of groundwater within the Study Area is towards the St. Croix and Mississippi Rivers. These rivers are the lowest lying levels in the area, and as a result, catch any groundwater that is not caught uphill by tributary streams.

Map 3.2 Topography & Surface Waters



Map 3.3 Depth to Groundwater



Surface Waters

Maps 3.2 & 3.4 delineate the Study Area's surface waters, which are divided among three HUC-12 sub-watersheds. The surface waters in the Study Area have a total surface area of approximately 4,408 acres or 36.6 square miles. Primary water bodies include Bass Lake, Bright Lake, Dry Dam Lake, the Kinnickinnic River, Mounds Pond, Perch Lake, Willow River (including Little Falls Lake and Lake Mallalieu), and the St. Croix River (including Lake St. Croix). Surface waters in the Study Area have a total surface area of approximately 4,408 acres or 36.6 square miles. Bordering the Study Area from the west lies the St. Croix River, which widens to Lake Saint Croix. To the northeast of the Study Area and spanning over the Towns of St. Joseph and Hudson, the Little Falls Lake drains into to the Willow River, through Lake Mallalieu to the St. Croix River, and eventually to the Mississippi River. In the northeastern portion Town of St. Joseph, Bass Lake spans approximately 335 acres within the Study Area. These reservoirs, lakes, and the rivers and their impoundments are recreational resources for St. Croix County and the larger Twin Cities metropolitan area.

Land Cover

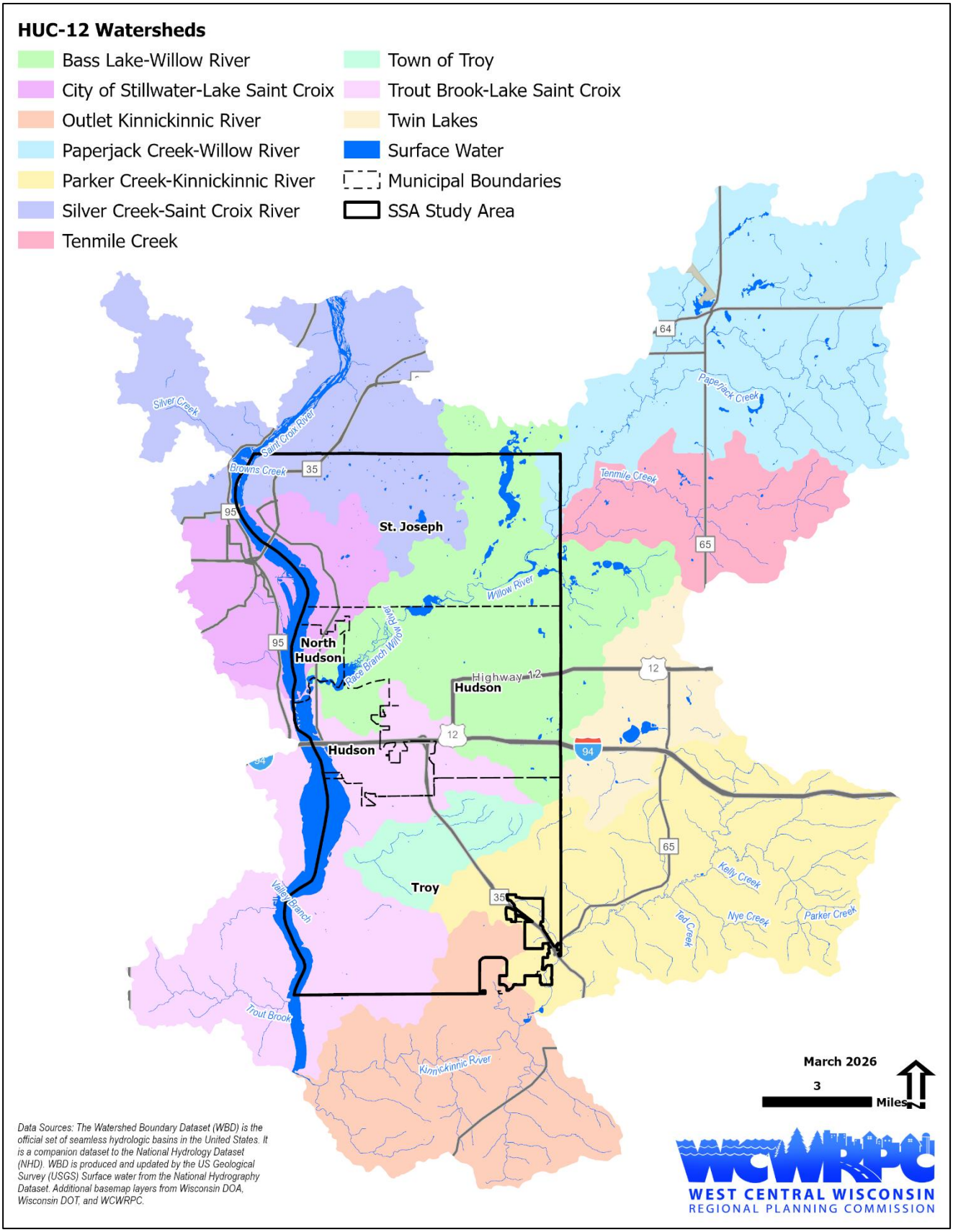
Historically, the Study Area's landscape was primarily oak savannah, prairie, mixed hardwoods and coniferous forests, as well as wetlands which were controlled by frequent fires that led to deforestation. As a result, the landscape shifted to predominantly agricultural until the 1940s when urban expansion began, which continues in present day.

Map 3.5 shows that the dominant land cover within the Study Area today taken from 2024 USGS satellite imagery, which is summarized in **Table 2**. In 2024, cultivated cropland and hay/pasture were the predominate cover types, encompassing nearly 43% of the Study Area. Developed areas comprise about a quarter of the area with 6% of the area represented as open surface waters and wetlands.

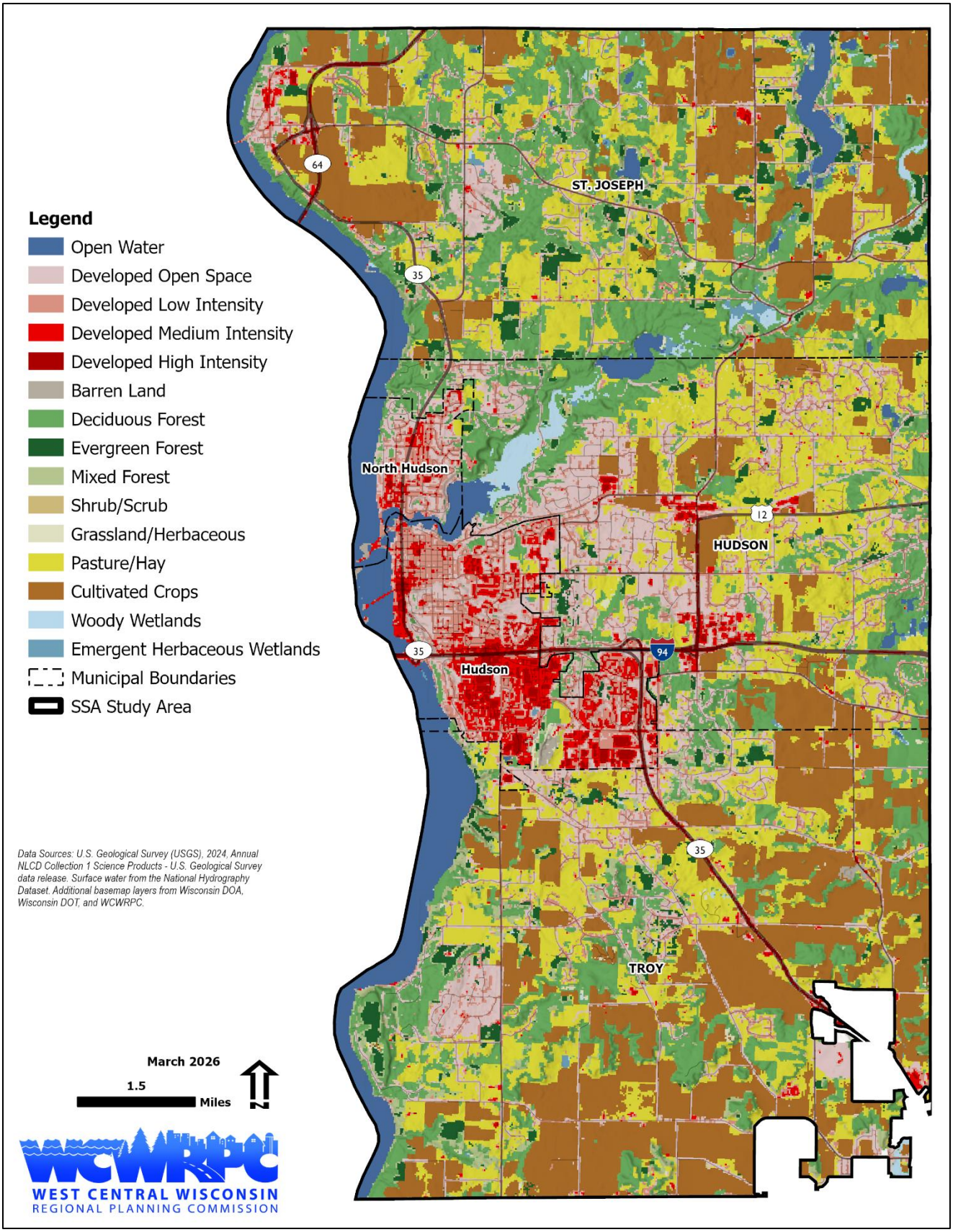
Table 2. Study Area Land Cover, 2024

Land Cover Type	Acres	Percent
Open Water	4,269	6.2%
Developed, Open Space	8,930	12.9%
Developed, Low Intensity	5,947	8.6%
Developed, Medium Intensity	2,119	3.1%
Developed, High Intensity	508	0.7%
Barren Land	120	0.2%
Deciduous Forest	12,973	18.8%
Evergreen Forest	1,855	2.7%
Mixed Forest	1,838	2.7%
Shrub/Scrub	23	0.0%
Herbaceous	169	0.2%
Hay/Pasture	14,488	21.0%
Cultivated Crops	14,982	21.7%
Woody Wetlands	583	0.8%
Emergent Herbaceous Wetlands	257	0.4%

Map 3.4 Surface Waters & HUC-12 Watersheds

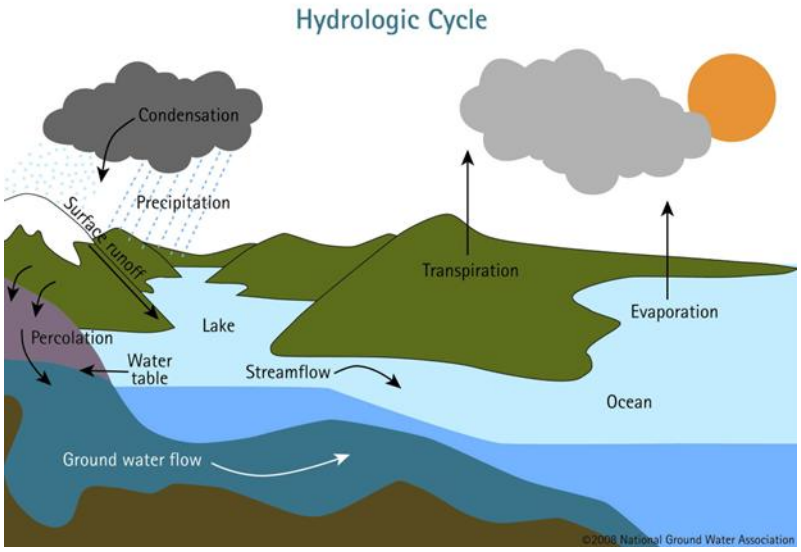


Map 3.5 Land Cover



3.2 GROUNDWATER QUALITY ASSESSMENT

Groundwater is a limited resource, and both its quality and quantity are important factors. These factors are primarily influenced by local geology and local land use. Precipitation percolates through the soil and bedrock where it eventually reaches a saturated zoned known as an aquifer. It is from these aquifers that wells are used to draw water.



Groundwater in the Study Area is generally abundant and of good quality. All public and most private potable water used within the Study Area comes from groundwater sources. Municipal water supplies and private wells from groundwater sources also support the area's economy, services, and other domestic uses. The hydrologic conditions of aquifers can influence their use as water supplies. The sandstone aquifer can provide an available supply of water for municipal water supplies, whereas the sand and gravel aquifer is suited to individual domestic water supplies.

Some Potential Sources of Groundwater Contamination

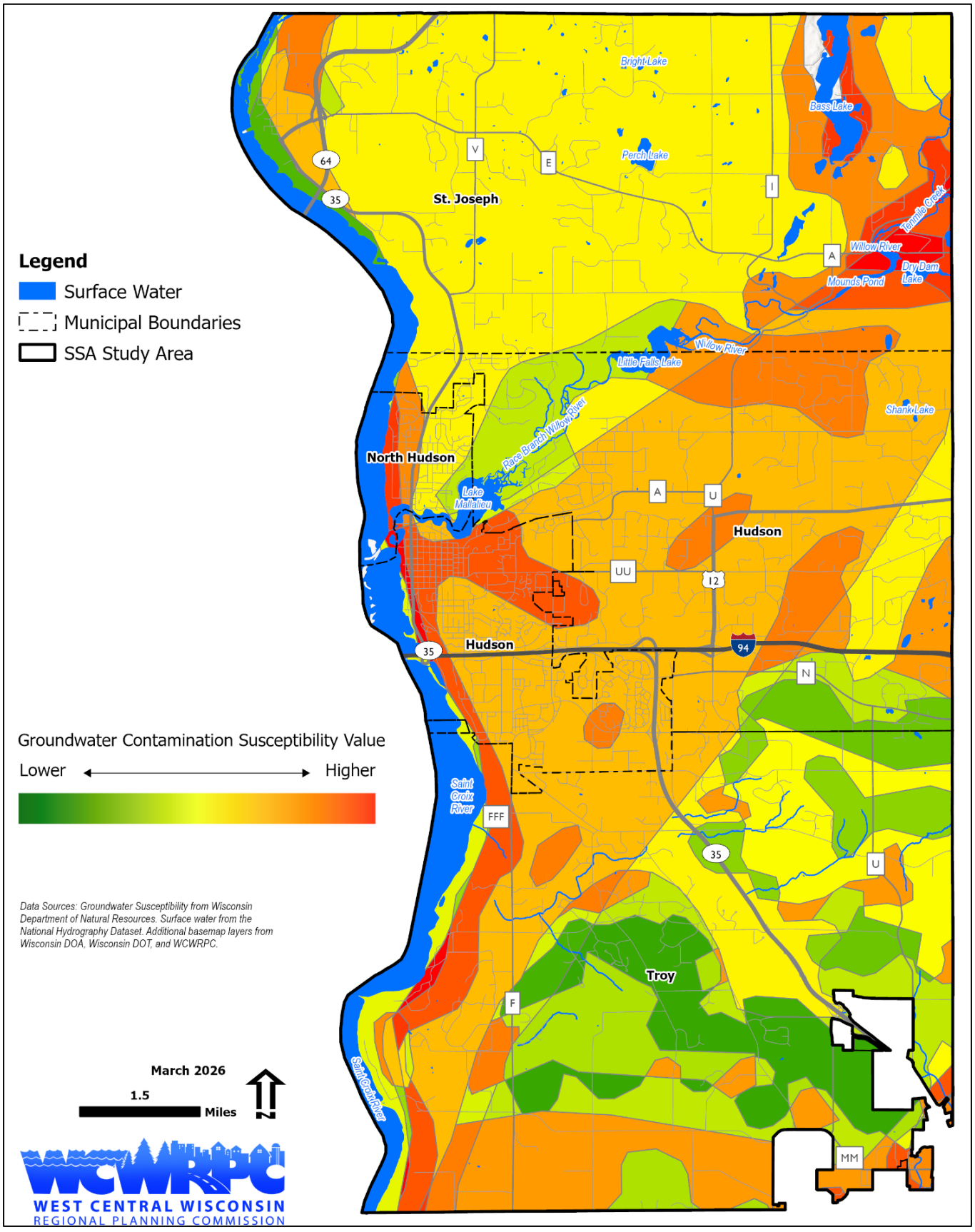
- Chemical storage
- Landspreading of animal, sewage, and industrial waste
- Road salt usage and storage
- Animal feedlots
- Use and spillage of fertilizers and pesticides
- Accidental spills
- Septic tanks and drainfields
- Underground storage tanks
- Underground pipelines and sewers
- Landfills
- Mines, pits, and quarries

3.2.1 Groundwater Quality Conditions

Groundwater quality has been a greater concern than quantity in the Study Area. Contamination is most likely to occur where fractured bedrock is near the ground surface, in very sandy soils, or where only a thin layer of soil separates the ground surface from the water table.

Map 3.6 shows generalized locations within the Study Area with a potential for elevated Groundwater Contamination Susceptibility. The susceptibility varies due to the presence of permeable glacial deposits, sandy soils, and shallow depth to groundwater in some areas. Areas with these conditions, particularly in outwash plains and along river and stream corridors, are more susceptible to contamination from surface activities such as agricultural practices, on-site wastewater treatment systems, and land development.

Map 3.6 Groundwater Contamination Susceptibility



Areas with elevated contamination risk may benefit from increased groundwater/well monitoring, lower densities of development, and/or municipal wastewater treatment rather than private, on-site systems, if cost-efficient. Alternative on-site systems, such as holding tanks, might be considered in existing developed areas when alternatives are not cost-efficient.

Significant private well testing has been conducted in St. Croix County, and additional studies are underway. A 2024 *Wisconsin Groundwater Coordinating Council Report to the Legislature*[2] identifies nitrate contamination as a serious problem in Wisconsin's groundwater due to sources like fertilizers, manure, and septic systems. The report estimates that 12.2% of private wells in St. Croix County exceed the safe drinking standard for nitrate contamination, though some studies suggest that the actual percentages may be significantly higher. The current safe drinking water standard for nitrates is 10 milligrams per liter; infants and pregnant women in particular are advised to avoid drinking water that exceeds this limit. Many households with private wells have installed reverse osmosis systems to mitigate the health risks. Well testing data also identifies nitrates as the most common groundwater pollutant concern for the Study Area. **Map 3.7** shows average nitrate test results from 1980-2024 for the general area by section. Some sections may have one test results while others may represent multiple tests.

There are no atrazine prohibition areas within the Study Area. **Map 3.8** shows a large area within the Study Area that has special deep well casing requirements due to the existence of VOC contamination. A number of scattered sites throughout the Study Area have experienced contamination. There are no Superfund National Priority List sites within the Study Area, but there is a nearby site within EPA's Superfund Enterprise Management System impacting the Study Area:

> Town of Warren TCE Site & St. Croix River TCE (tetrachloroethylene) Plume – Though listed as two separate locations in the database, they are related. The sites were first reported to the EPA in 2004, and include a well advisory area located in the Town of Warren and is related to the deep well casing area within the Study Area. According to the initial discovery, groundwater contamination by TCE has impacted several nearby private wells near the suspected source area. TCE contamination has been documented as far back as 1984. The suspected source is not known but may be related to illegal dumping in the past. TCE is known to cause cancer and damage the nervous and immune systems. Children and seniors are especially vulnerable to TCE's toxic effects.

Remediation efforts for the above TCE contamination have been continuing and may be nearing completion. In the interim, WDNR has been providing alternative drinking water supplies, though this funding recently expired.

Map 3.8 also shows the location of known landfills within the Study Area for which setback requirements apply for public and private wells.

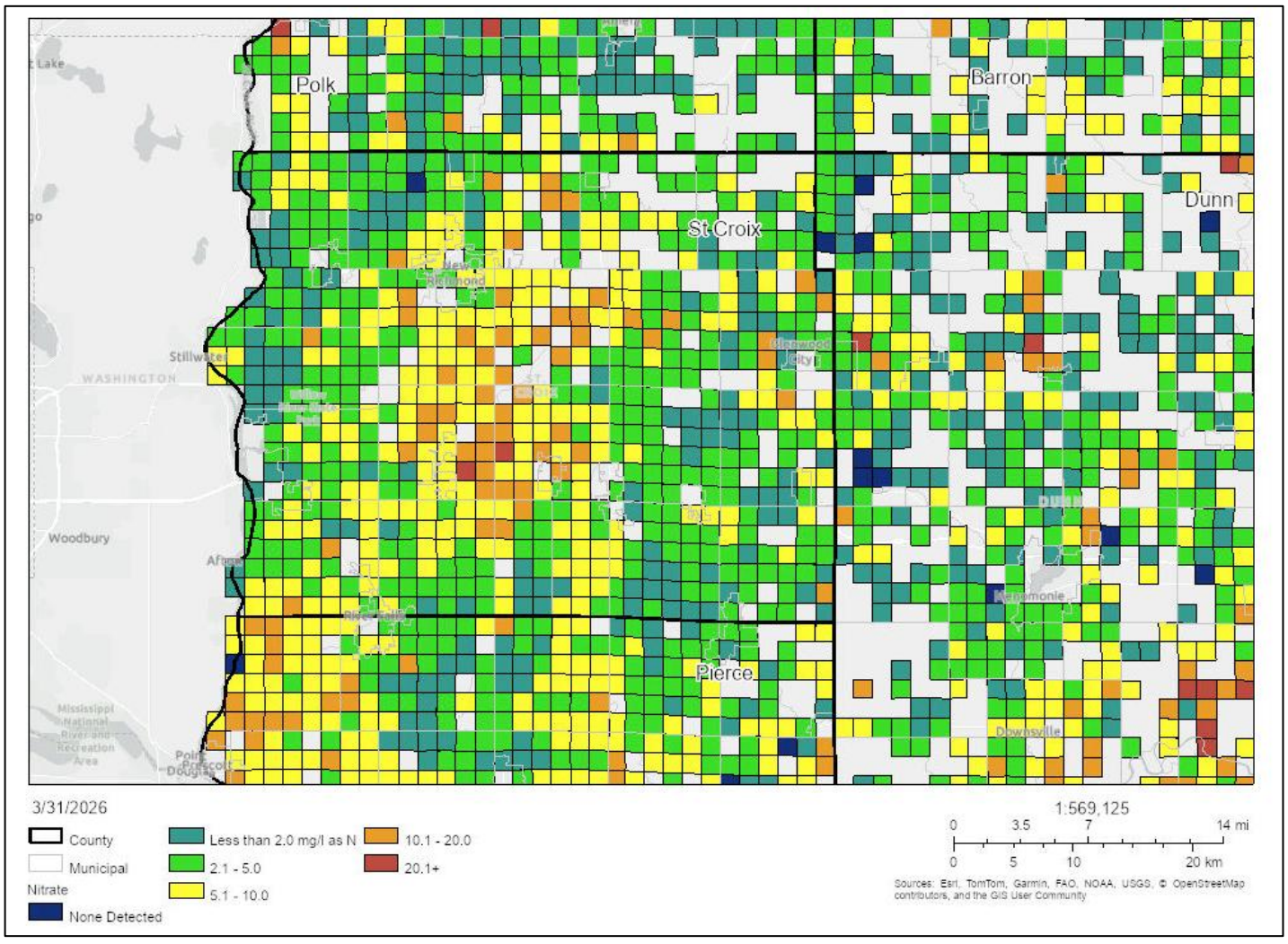
Additional groundwater contamination concerns do exist within the Study Area, including chloride (salt) and manganese. Bacteria (e.g., coliform, E Coli) can get into well water when work is

[2] *Wisconsin Groundwater Coordinating Council Report to the Legislature*. Fiscal Year 2024. https://widnr.widen.net/view/pdf/c5e61bs1x6/DG_GCC_Report_2024.pdf

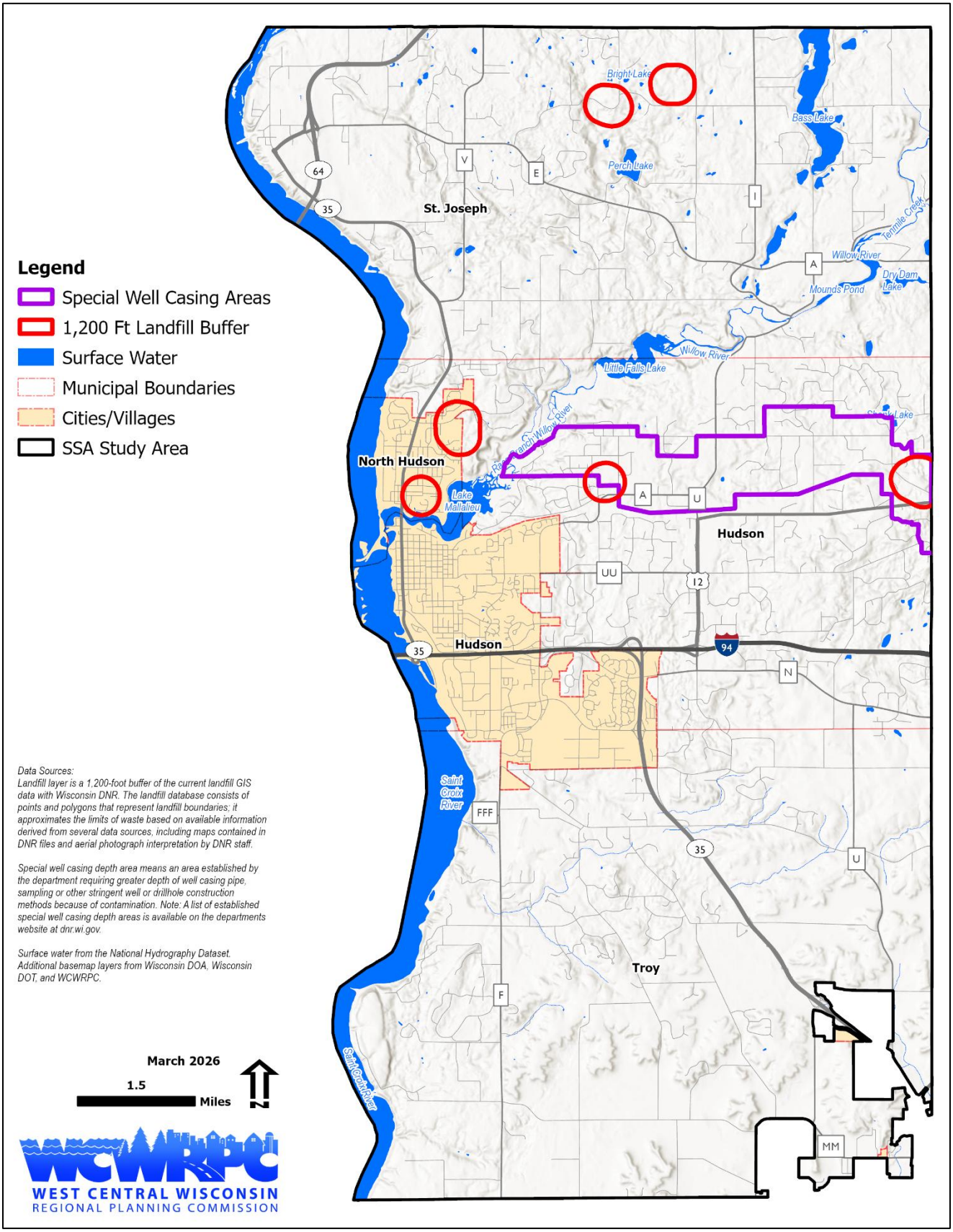
performed on a well, if a well is not properly built, or if there are nearby sources of animal or human waste. Testing for these other contaminants is not as robust compared to nitrates.

During community planning efforts, there has been increasing concern expressed over contamination threats due to pharmaceuticals and Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS). As of Fall 2024, PFAs have not been detected above the WI DHS hazard index in the municipal water of City of Hudson, which is the only municipal waterworks in the Study Area. Elevated PFAs levels have been detected for one site within the Study Area at Junker's Landfill within the Town of Hudson, which is open and under investigation.

Map 3.7 Well Testing Averages for Nitrates, 1985-2024



Map 3.8 Landfills & Special Well Casing Areas



What are PFAS?

PFAS are a group of human-made chemicals used for decades in numerous products.



Products that **may contain PFAS**.

What is Wisconsin Doing About It?



establishing PFAS health standards for drinking water, groundwater and surface water



soil & water testing



researching fish & wildlife



listening & feedback sessions



state collaboration

Additional efforts include a **PFAS Action Committee** (WisPAC) and a **PFAS Technical Advisory Group.**

Why Should I Care?

PFAS persist in the environment and the human body for long periods of time. Recent findings indicate that exposure to certain PFAS may have harmful health effects in people.



certain types of cancers



thyroid & heart issues



infertility & low birth weight



developmental delays

What You Can Do...



Test Your Water
dnr.wi.gov/u/?q=177



Check State Fish Advisories
dnr.wi.gov/u/?q=176



Learn More About PFAS Health Risks
dnr.wi.gov/u/?q=175

Visit **dnr.wi.gov**, search **PFAS**.

RR-114b-E

3.2.2 Drinking Water Sources & High-Capacity Wells

Groundwater is the only source of potable, drinking water within the Study Area, unless bottled water is imported from outside the area. Most of the Study Area's urban population is served by municipal wells in the City of Hudson and Village of North Hudson, while the remaining population are served by individual private wells for each home.

The City of Hudson owns eight wells—six are located in the City and two in the Village of North Hudson, with the City providing water service to the Village. The City is planning for an additional well to support a fire station within the next year. Many additional transient, non-community wells exist for public locations outside the City or Village where people do not reside for long periods of time such as campgrounds, gas stations, churches, or taverns.

Chapter 3.5.3(b) discusses groundwater recharge & wellhead protection areas for these public wells that should be considered as part of water quality management planning.

What is a High-Capacity Well?

The Wisconsin DNR defines a high-capacity well as any well, or combination of wells on the same property, with the capacity to withdraw more than 100,000 gallons of water per day. It excludes residential and fire protection wells. WDNR approval is required for the construction and operation of these wells due to potential impacts on groundwater resources.

There are 53 high-capacity wells permitted by the State of Wisconsin within the Study Area, which include ten of the municipal/community wells. Additional public high-capacity wells are provided for fire protection or to serve public buildings. UW-River Falls has five wells within the Study Area and WDNR has eight wells at Willow River State Park. There are two wells at the St. Joseph fire hall and the Town of Troy is installing a well at its fire hall in late 2026.

During the planning process, the Local Water Quality Advisory Committee expressed concerns with WDNR permitting of high-capacity wells without consultation with local units of government.

3.2.3 Groundwater Quality Management Plans and Policies

This Sewer Service Area (SSA) Plan is part of the larger collection of water-related plans constituting the areawide water quality management plan described under NR 121. As noted in Chapter 1, it is the intent of this SSA Plan to identify and reference, but not duplicate, these other related plans. Key plans and policies pertaining to groundwater quality include:

State of Wisconsin

Wisconsin Statutes §160 establishes the framework for developing numeric groundwater quality standards, both enforcement standards and preventive action limits, with the scope of minimizing the concentration of contaminants concentration in groundwater and to protect public health and the environment. Chapter 160 also established the Groundwater Coordinating Council (GCC) to strengthen coordination among state agencies involved in groundwater protection and research.

While Ch. 160 defines the statutory framework for establishing Wisconsin's groundwater standards, Wisconsin Administrative Code NR 140 contains such standards and provides guidelines and procedures for regulatory authorities to manage regulated activities and facilities that may impact groundwater resources. NR 809 establishes drinking water standards for public water systems. Rulemaking for NR140 and NR809 is underway to establish new state groundwater and drinking water standards for certain PFAs substances.

These groundwater policies are primarily administered by the Wisconsin Department of Natural Resources (WDNR) through its Drinking Water & Groundwater Program. The groundwater and drinking water standards are recommended by Wisconsin Department of Health Services (DHS) and/or based on federal benchmarks. Various State departments have groundwater-related roles, and they may collaborate with WDNR and DHS in identifying substances of concern and establish appropriate standards. For example, the Department of Agriculture, Trade and Consumer Protection (DATCP) takes a lead role in groundwater education and monitoring for pesticides. WDNR also partners with many Federal, State, and local partners in the protection of groundwater resources, such as the GCC and the Groundwater-level Monitoring Network. The GCC makes an annual report to the Legislature describing the state of groundwater in Wisconsin, summarizing council activities, and making recommendations. The primary 2025 Annual Report recommendations focus on:

- Addressing PFAS contamination in groundwater.
- Addressing nitrate contamination in groundwater.
- Addressing pesticide contamination in groundwater.
- Finding solutions for water-stressed areas affecting communities, economic activity and water resources.

Other key State groundwater policies include:

- Wisconsin Statutes §280 – Well Drilling, Heat Exchange Drilling, & Pump Installing
- NR 123 – Well Compensation Program
- NR 141 – Groundwater Monitoring Well Requirements
- NR 811 – Requirements for the Operation & Design of Community Water Systems
- NR 812 – Well Construction & Pump Installation
- NR 820 – Groundwater Quantity Protection
- NR 845 – County Administration of NR 812 for Private Wells

St. Croix County Land & Water Resource Management Plan

Wisconsin law requires each county to have a land and water resource management plan (LWRM Plan) that has been approved by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP). The LWRM Plan guides the activities of county land and water management departments in their efforts to protect and improve land and water resources over a 10-year period. The State requires each county to update its LWRM Plan every five years to remain eligible for conservation staff funding and cost-share grants. Groundwater protection is a significant component of the St. Croix County LWRM Plan 2018-2028 update, which was adopted in October 2018. As of June 2026, St. Croix County is forming a technical advisory committee to help guide the next update of the County's LWRM Plan.

St. Croix County 2017 Surface & Groundwater Quality Study

Nitrates in groundwater and a manure spill near Emerald were driving factors in the County Board's creation of a Surface and Groundwater Quality Protection Study Group in December 2016. After 14+ data gathering and discussion meetings, the Study Group presented their findings to the County Board of Supervisors in October 2017 in a report titled "*Background, Main Findings, and Recommendations Report for the Protection of Surface and Groundwater Quality in St. Croix County*." The report included: a summary of existing groundwater conditions in the County; regulations, management, and programming related to surface and groundwater; a review of existing studies; findings regarding wells, nutrient management planning, and livestock operations; and eight core recommendations. In November 2017, the County Community Development Department prepared a more detailed implementation guide with estimates of staff hours and costs for addressing the core recommendations.

Core Recommendations from the St. Croix County 2017 Surface & Groundwater Quality Study

Implementing the eight core recommendations of the 2017 Study is important to mitigating potential water quality impacts of hazardous materials spills. These recommendations are summarized below; see the full report for more detail:

1. Explore regulatory and licensing options for the siting and monitoring of livestock operations.
2. Increase the number of acres in nutrient management plans.
3. Revise the County's land use policy and zoning ordinances to protect groundwater resources.
4. Develop a County protocol for urgent response to actual or potential water resource pollution events.
5. Develop a scientifically sound drinking water well testing program and create baseline data to measure quality over time.
6. Inventory and map environmentally sensitive areas and conduits to groundwater as well as areas with high vulnerability to pollutants.
7. Develop a plan for an inset model and conduct additional research on the source of nitrate issues.
8. Establish an active water quality committee.

source: Background, Main Findings, and Recommendations Report for the Protection of Surface and Groundwater Quality in St. Croix County

Wellhead Protection Plans

Chapter 3.6.3 discusses wellhead and source water protection planning and policies.

Other St. Croix County Initiatives

- Continues to coordinate and promote well testing through the County Land & Water Conservation
- St. Croix County Community Development Department offers various programs year-round to provide residents opportunities to test their private well water and provides summary data to communities for planning purposes

3.3 SURFACE WATER QUALITY ASSESSMENT

Generally, Sewer Service Area (SSA) planning has a primary emphasis on protecting surface water quality from the impacts of growth.

3.3.1 Surface Water Quality Conditions

Impairments (303d-listed)

Table 3 lists the surface waters shown on **Map 3.9** that are impaired (303d-listed) as not meeting water quality standards.

Table 3. Impaired/303d-Listed Waters

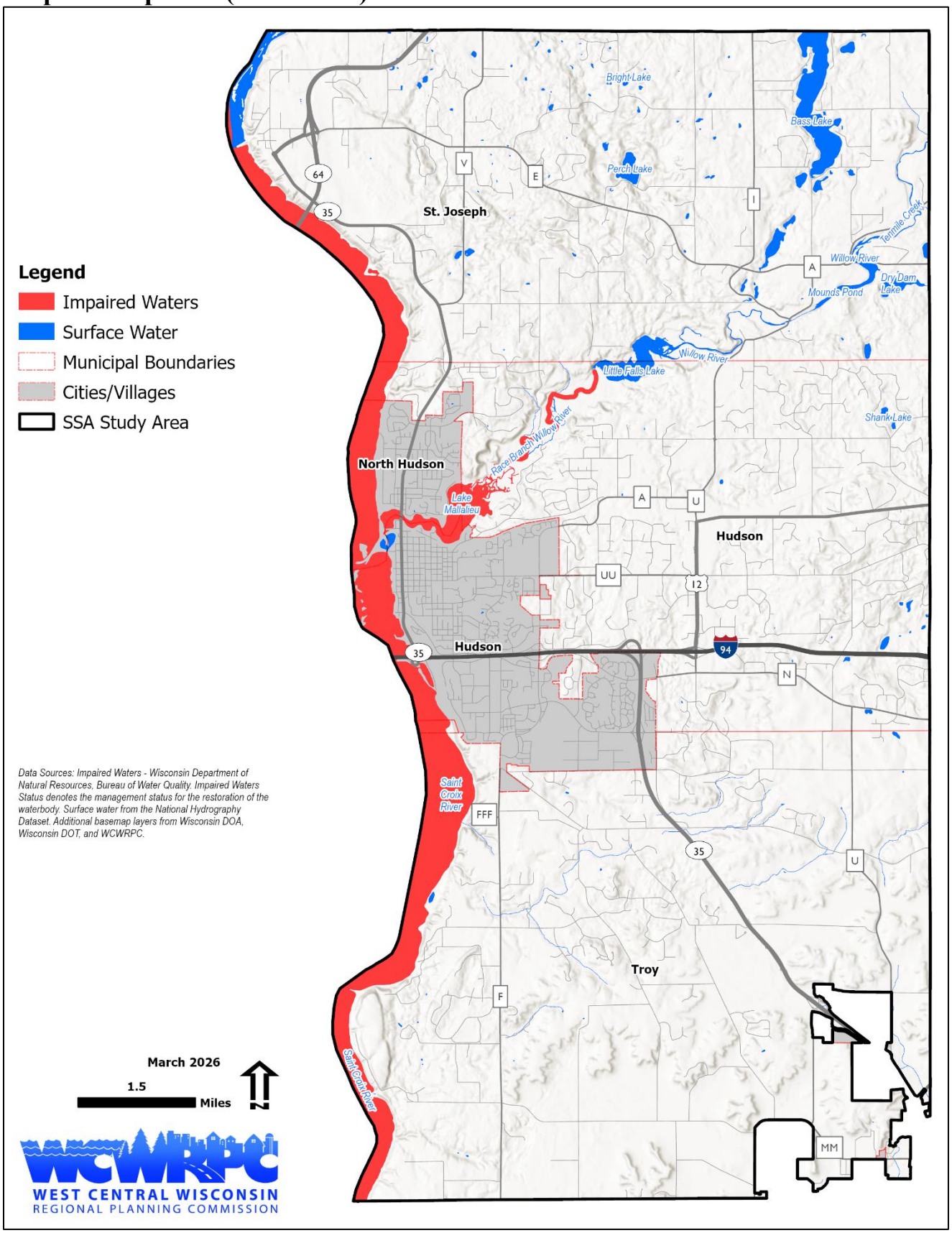
Water Body	Pollutant(s)	Related Impairments
Lake Mallalieu	Total Phosphorus	Excess Algal Growth; Elevated pH; Eutrophication
St. Croix River	PCBs	PCBs Contaminated Fish Tissue
Willow River (Mouth to Dam)	Total Phosphorus	Unsupported Aquatic Life

Phosphorus is the primary pollutant, largely from the rural or urban non-point runoff sources such as nutrient and sediment from farm fields, stormwater, and shoreland areas. While models suggest that agricultural lands are the principal source of this excessive phosphorus, communities, landowners, and farmers all have a role in land planning, managing stormwater, and promoting best management practices to reduce such runoff and nutrient-loading into our surface waters.

The St. Croix River has been listed since 1998 due to polychlorinated biphenyl (PCBs) contamination in fish tissue, while Lake Mallalieu has been listed since 2004 for eutrophication, excess algal growth, and elevated pH from phosphorus levels. The Willow River (mouth to dam portion) which feeds into Lake Mallalieu has also been listed since 2020 for elevated phosphorous levels creating an unhealthy environment for aquatic life.

Some of the Study Area's water bodies have had struggles with unhealthy levels of bacteria or other disease-causing micro-organisms. Potential sources of bacteria can include sewage overflows, failing septic systems, animal waste (e.g., waterfowl, manure), and other polluted runoff. Beach closures related to high bacteria are not uncommon on some of the water bodies, such as at Willow River State Park's Little Fall Lake Beach, Pembles Beach, and the Lakefront Park beach in Hudson; especially during the summer months for several days following heavy rains and runoff events. On occasion, algae-related health notices have been posted at Troy Beach.

Map 3.9 Impaired (303d-listed) Waters



Water Conservation Features

Though impairments exist, most of the waterbodies and streams or rivers in the Study Area have been identified by the WDNR Healthy Watersheds, High-Quality Waters initiative as high-quality waters due to it being a unique or rare resource (e.g., trout streams), biotic integrity, or its overall quality. However, none of the watersheds in the Area have been identified as being among the State's healthiest.

Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs) are WDNR-designated surface waters that provide outstanding recreational opportunities, support valuable fisheries, wildlife habitats, and have good water quality. ORWs do not have any point source pollutants directly to the water, though they may receive non-point runoff. If a waterbody has existing point sources at the time of designation, they may be designated as an ERW. The following are the ORWs/ERWs within the Study Area:

- Lake Saint Croix (Exceptional)
- Kinnickinnic River (Outstanding)
- Perch Lake (Outstanding)
- St. Croix River (Outstanding)
- Willow River (Exceptional)

Of these ORWs/ERWs, portions of the Willow River and Kinnickinnic River are classified as trout streams. A mix of factors contribute to trout stream health, including streambed geology, temperature, pH, aquatic plants, cover/shade, and clean water. DNR uses three categories to classify trout streams. The class definitions are as follows:

Class 1 High-quality trout waters that have sufficient natural reproduction to sustain populations of wild trout, at or near carry capacity. Consequently, streams in this category require no stocking of hatchery trout. These streams or stream segments are often small and may contain small or slow-growing trout, especially in the headwaters.

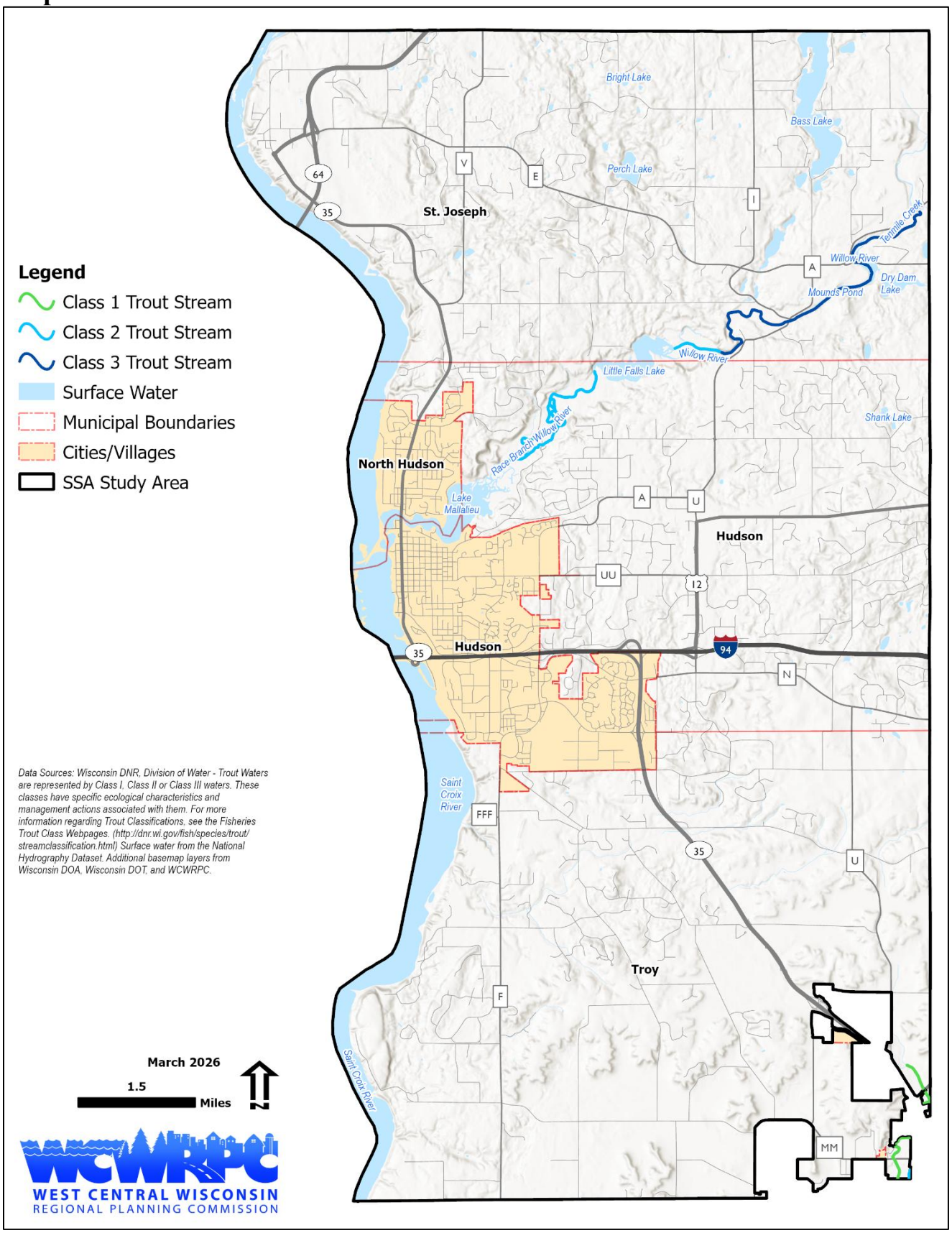
Class 2 Streams in this classification may have some natural reproduction, but not enough to utilize available food and space. Therefore, stocking is required to maintain a desirable sport fishery. These streams have good survival and carryover of adult trout, often producing some fish larger than average size.

Class 3 These waters are marginal trout habitat with no natural reproduction occurring. They require an annual stocking of trout to provide trout fishing. Generally, there is no carryover of trout from one year to the next.

Map 3.10 shows the trout streams within the Study Area:

- Kinnickinnic River
- Unnamed Creek (SE corner of Study Area feeding into Kinnickinnic)
- Willow River

Map 3.10 Trout Streams



3.3.2 Point Sources of Potential Pollutants and Permitted Discharges

Surface water pollution comes from point sources and nonpoint sources. Point source pollution originates from a specific entry point, such as a wastewater treatment plant, industrial discharge, stormwater pipe, or hazardous materials spill. Since these sources can be traced to a specific location, they are easier to monitor and regulate. Many regulated point sources spend millions of dollars to comply with phosphorous or other water quality standards, even though they often represent a relatively low percentage of the pollutant-loading problem.

DNR is authorized to issue Wisconsin Pollutant Discharge Elimination Systems (WPDES) individual and general permits authorizing discharges to surface water and/or groundwater. Individual (i.e., site-specific) WPDES permits are issued to municipal and industrial facilities discharging to surface water and/or groundwater. General permits are issued for a wide range of categories of industrial, municipal, and other wastewater discharges.

There is one wastewater treatment facility (WWTF) in Study Area with individual permits that discharge into the St. Croix River, which are further discussed in Chapter 5.1. The following summarizes the daily permit limits (unless otherwise stated) for the Hudson Wastewater Treatment Facility:

Hudson WWTF Permit Limits	
BOD_5	25mg/L*
Suspended Solids	45mg/L*
pH	9.0 su
Ammonia Nitrogen	29 mg/L
Chlorine	UV/no limit
Mercury	6.8 ng/L
Phosphorus	1.0 mg/L*

*Monthly average

Stormwater discharges to surface waters may fall under an individual or general permit. Stormwater management and permitting is discussed in Chapter 3.3.5. According to the 2024 St. Croix Comprehensive Plan, the following are the permitted municipal and industrial wastewater discharge permits for the Study Area as of July 2023:

Permittee	Permit Type	Receiving Water Body	Total 2022 Flow (MG)	Average 2022 Flow (MGD)
Houlton MHP LLC	Municipal	Groundwater	0	
Hudson Water Treatment Plant	Municipal	Groundwater	2,574	
Hudson WWTF	Municipal	St. Croix River	113,099	0.31
Travel Centers of America	Industrial	Groundwater	1.7903	0.0053
NLMB Holding LLC / Norlake – RSG	Industrial	Groundwater		0.00095
United Stars Inc	Industrial	Groundwater	0.0079	

3.3.3 Non-Point Sources of Potential Pollutants

Nonpoint-source (NPS) pollution, largely polluted runoff, is the biggest cause of surface water pollution in Wisconsin, degrading or threatening an estimated 90% of inland lakes. Runoff occurs

when water cannot infiltrate the soil; rain or snow melt washes sediment, nutrients, and other pollutants off the landscape, threatening downstream surface water resources.

Polluted runoff comes from both rural and urban sources. In an urban or developed setting, this is largely due to runoff from the hardscape (e.g., roof tops, parking areas, compacted soils). Many city and village residents do not realize that stormwater drains bypass wastewater treatment facilities and empty directly into our rivers, lakes, and streams. In a rural setting, runoff is the result of compacted soils, soil erosion, and other attributes of poor soil health from agricultural, forestry, and recreational uses. Runoff also increases flooding, peak flow events, and shoreland/bank erosion, thereby exacerbating pollutant loading into our rivers, lakes, and streams.



As noted previously, phosphorus is the primary surface water quality impairment in the Study Area. Phosphorus is essential to plant life, and some level of phosphorus is naturally occurring. Farmers add fertilizers and animal manure that are rich in nitrogen and phosphorus to fields to increase yields. Landowners who use lawn fertilizer have similar goals. Phosphorus is also added to our surface waters from organic sources and effluent, such as from livestock and municipal wastewater treatment plants. When runoff and soil erosion containing nutrients such as phosphorus washes into our water bodies, the result is excess nutrient loading. Sediment is often travelling with the phosphorus as erosion occurs.

An emphasis of watershed and county conservation plans is partnering with farmers, farmland owners, forestry/logging businesses, agri-business, lake groups, and other support partners to promote soil health best management practices and other land conservation initiatives that benefit farmers, water quality, healthy forests, and the environment.

Agriculture is the primary source of phosphorus loads in Wisconsin waters. However, like groundwater, surface water is susceptible to other contamination, such as chloride from road salt, oil or grease from equipment and parking lots, and sediment from erosion during construction. Stormwater management is a crucial tool in mitigating pollutant runoff as will be further discussed in Chapter 3.3.5.

3.3.4 Surface Water Quality Management Plans

As noted previously, this Sewer Service Area (SSA) Plan is part of the larger collection of water-related plans constituting the areawide water quality management plan described under NR 121. It is the intent of this SSA Plan to identify and reference, but not duplicate, these other related plans. Key plans pertaining to surface water quality include:

Total Maximum Daily Load (TMDL)

A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant. A TMDL was established in 2006 for Lake St. Croix due to phosphorous levels.

Lake, Stream, & Watershed Management Plans

These plans are created to improve or protect the surface water and its ecosystem as a whole, but may also include recommendations related to the use of that water. Most commonly, a lake management plan is created by a lake group or municipality that meets the guidelines under NR 191.45, which serves as a prerequisite for funding under NR 193. The scope and content of such plans will vary by water body, and may incorporate additional studies and sub-plans (e.g., aquatic invasive species, aquatic plant management plan, shoreland/woody habitat assessment, water quality & macro-invertebrate studies). In addition to the previous TMDL, recent management plans in the Study Area include:

- St. Croix County Land and Water Resource Management Plan (2018)
- State of the St. Croix Basin (2002)
- Bass Lake Management Plan (2017)
- Perch Lake Management Plan (2016)

County Land & Water Conservation Plans

Surface water quality protection and restoration as major components of the Land & Water Conservation Plan for St. Croix County. Conservation staff actively participate in the creation of water-quality plans within their counties and provide support to landowners, lake groups, and other partners in the implementation of these plans.

3.3.5 Stormwater Management

Our rivers, lakes, and streams are part of and are impacted by our stormwater management and flood control systems. Stormwater management, shoreland regulations, and best practices are primarily intended to protect our surface waters from sediment and other pollutant loading. On the other hand, floodplain regulations and flood controls are mainly for public safety and to avoid or mitigate flood damage.

Stormwater management is often associated with urban areas and development, where practices such as detention basins, rain gardens, porous pavement, etc., are installed to accommodate runoff or mimic natural drainage systems lost due to development. Stormwater management also includes strategies farmers and timber managers use to prevent run-off, such as filter strips, grass swales, settling basins, and soil stabilization on slopes.

Urban Stormwater (MS4) Permits

The City of Hudson and Town of St. Joseph have been required to obtain Municipal Separate Storm Sewer System (MS4) permits to reduce stormwater runoff by implementing stormwater management programs with best management practices.

These State and Federal MS4 storm sewer discharge permits, collectively, are frequently referred to as the Phase I and Phase II rules, with Phase I mainly affecting the largest communities, such as Madison and Milwaukee, and Phase II later impacting smaller municipalities. More than 200 Wisconsin municipalities must meet these Phase I and II rules.

Below are the MS4 permit statuses of all the communities within the SSA Study Area:

Unit of Government	Permit Status
St. Croix County	Not Required
Town of Hudson	Not Required
Town of Troy	Not Required
Town of St. Joseph	Granted (for Houlton area)
City of Hudson	Granted
Village of North Hudson	Granted

While MS4 permits usually do not include effluent limits like other WPDES permits, MS4 communities are required to conduct a variety of educational, enforcement, and best practices activities. The regional Rain to Rivers of Western Wisconsin group was created, in part, to meet MS4 public outreach and education requirements, of which the City of Hudson is a participating member



Industrial Stormwater Permits

Pollutants carried in storm water runoff from industrial facilities threaten or degrade water quality in many areas of the state. Because of this problem, state and federal laws require that certain dischargers of industrial storm water have a storm water discharge permit. The purpose of the permit is to identify conditions under which industrial storm water can be discharged so that the quality of surface waters, wetlands and groundwater is protected. NR 216 contains a list of industries that must obtain stormwater discharge permit coverage and related rules.

For those municipalities within the Study Area, 21 industries in St. Croix County that have been issued stormwater permit coverage by WDNR.

WDNR Stormwater Construction Permits

NR 151, NR 216, and SPS 320-325 identify the runoff management performance standards, prohibitions, and measures for farms as well as the urban standards to control construction site erosion, manage runoff from roads and manage fertilizer use on large turf areas. Landowners of most construction projects where one or more acres of land will be disturbed must submit an application called a Notice of Intent (NOI) to request coverage under the Construction Site Storm Water Runoff General Permit No. WI-S067831-6. The NOI shall include:

- a written erosion control and, as applicable, a post-construction stormwater management plan.
- an erosion control map (construction plans) including topography, wetlands, waters, proposed limits of land disturbances, grading, permanent vegetation, post-construction stormwater features, etc.
- soil loss/sediment discharge calculations
- wetland assessment method
- consideration of endangered species or threatened resources (will be reviewed by WDNR)
- long-term maintenance agreements and/or permission letter for stormwater practices
- additional evaluation and modeling, and agreement requirements depending on the site, infiltration practices, etc.
- site photos

These permits are issued by WDNR. Permit applications to WDNR include the creation of an erosion control and stormwater management plan describing the best management practices that will be used on-site for erosion control consistent with the requirements of the construction site storm water permit. Certain agricultural activities are exempt from permit requirements under NR 216. And depending on the project scope, a site may or may not be required to include post-construction stormwater management practices.

Municipal Stormwater Management Plans & Local Ordinances

Local plans and regulations to protect surface water quality from erosion and runoff are crucial to achieving the ultimate purpose of areawide water quality management planning and the goals of this SSA Plan.

Most communities do not have a municipal-level stormwater management plan and such plans are not required as part of MS4 permit but can guide permit-related activities. Municipal stormwater management plans analyze stormwater and guide public stormwater infrastructure capacity, improvements, and maintenance. Such plans may be created for all or a part of a community. Stormwater management can also be incorporated into a variety of other local planning tools, including conservation plans, comprehensive plans, capital improvement plans, zoning and land division ordinances, and site plan review procedures.

The following units of government in the Study Area reported that they have a stormwater management plan:

- St. Croix County
- City of Hudson
- Village of North Hudson

In addition to the WDNR Stormwater Construction permit discussed previously, local erosion control and stormwater permitting requirements also apply and may regulate smaller areas of disturbance. These local ordinances are often based on NR 151 and NR 216 requirements and typically include both erosion control during construction as well as post-construction stormwater management. Some local ordinances also require such a permit for new land divisions and/or subdivisions, if significant impervious surface will be created, or if environmentally sensitive areas will be disturbed. In short, a proposed construction project in the urban area will often need to obtain both a WDNR and local stormwater and erosion control permit.

Most local governments in the Study Area do not have separate stormwater management and erosion control ordinances, but regulate such matters within their land division and subdivision ordinances.

Unit of Government	Stormwater Management & Erosion Control Policies
Town of Hudson	Addressed as part of Chapter 90 (Subdivisions) and Development Plan approval under Chapter 105 (Zoning)
Town of St. Joseph	Addressed as part of Chapter 81 (Design Regulations), Chapter 149 (Roads, Erosion, Sediment Control & Stormwater Management), Chapter 168 (Subdivisions), and Chapter 170 (Zoning)
Town of Troy	Addressed as part of Chapter 135 (Subdivisions) and Chapter 170 (Zoning)
City of Hudson	Chapter 240 of City's Code of Ordinances
Village of North Hudson	Article IV of Chapter 94 of Village's Code of Ordinances
St. Croix County	Addressed as part of Chapter 13 (Land Division) and Chapter 15 (Zoning)

Stormwater runoff is further addressed in other ordinances related to specific uses (e.g., nonmetallic mining) or in specific areas (e.g., shorelands, Lower St. Croix Riverway). Some public facilities have their own stormwater management or stormwater pollution prevention plans.

3.4 LONG-TERM WEATHER PATTERNS AND IMPLICATIONS

The National Oceanic and Atmospheric Administration (NOAA) classifies the Study Area as having a moist sub-tropical mid-latitude climate. Warm, humid summers and mild winters are the main characteristics. The average monthly temperature ranges from 13 degrees Fahrenheit in January to 70 degrees Fahrenheit in July. Annual precipitation averages 36 inches, with the majority falling in May-August. Seasonal snowfall ranges from 28 to 83 inches (2013-2022).

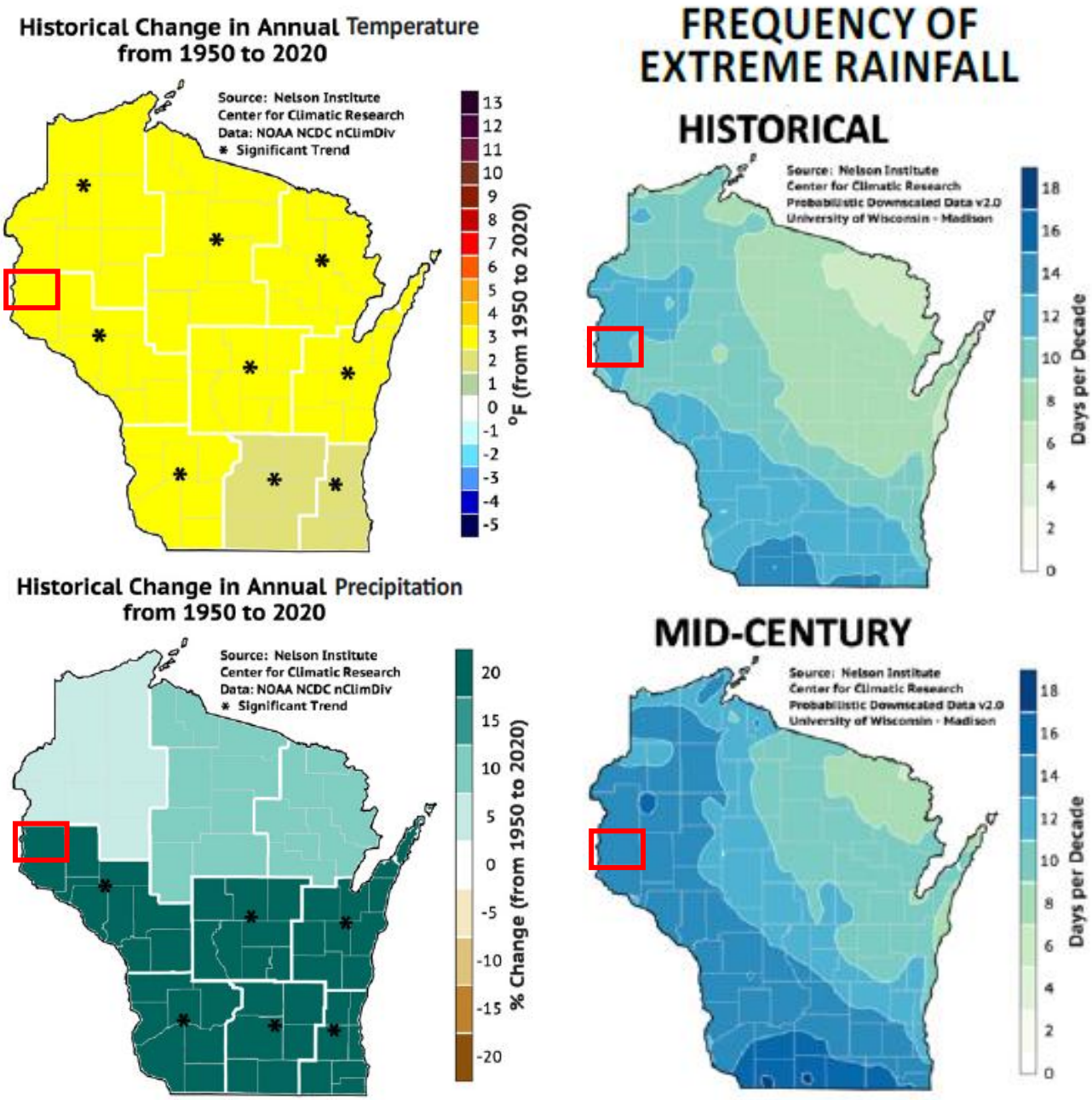
Regardless of the debate over the causes, there is substantial evidence that Wisconsin's long-term weather patterns are changing. The 2003 report Confronting Climate Change in the Great Lakes Region, published by the Union of Concerned Scientists and the Ecological Society of America, projected that by 2030, summers in Wisconsin may resemble those in Illinois overall in terms of temperature and rainfall, and by 2100, the summer will resemble that of current-day Arkansas, and the winter will feel much like current-day Iowa. And a University of Maryland model suggests that by 2080, the climate of Hudson will be similar to that of northern Oklahoma. Increasing temperatures and shifting precipitation patterns are the two primary factors that will impact our water resources.

To further document these changes in weather patterns and explore their impacts on our State, the Wisconsin Initiative on Climate Change Impacts (WICCI) was formed as a collaborative effort of the University of Wisconsin and the Wisconsin Department of Natural Resources. **Map 3.11** includes maps from the 2021 Assessment Report showing longer-term weather trends for Wisconsin. Temperatures and annual precipitation have increased in the Study Area at a rate higher than the State average. As a result, the area must anticipate increased extreme precipitation events annually, as well as greater severity within individual events.

Wisconsin's average daily temperature has become three degrees Fahrenheit warmer since the 1950's and the last two decades have been the warmest on record. By 2050, the WICCI report projects that the number of extreme heat days in St. Croix County will grow from about 25 to 35 per year. Higher temperatures will result in increased evapotranspiration and longer growing seasons. Over time, these trends have the potential to impact surface and groundwater. Trout streams, in particular, are especially vulnerable to increases in water temperature. Temperature can also change water biology and chemistry, such as increasing algal blooms.

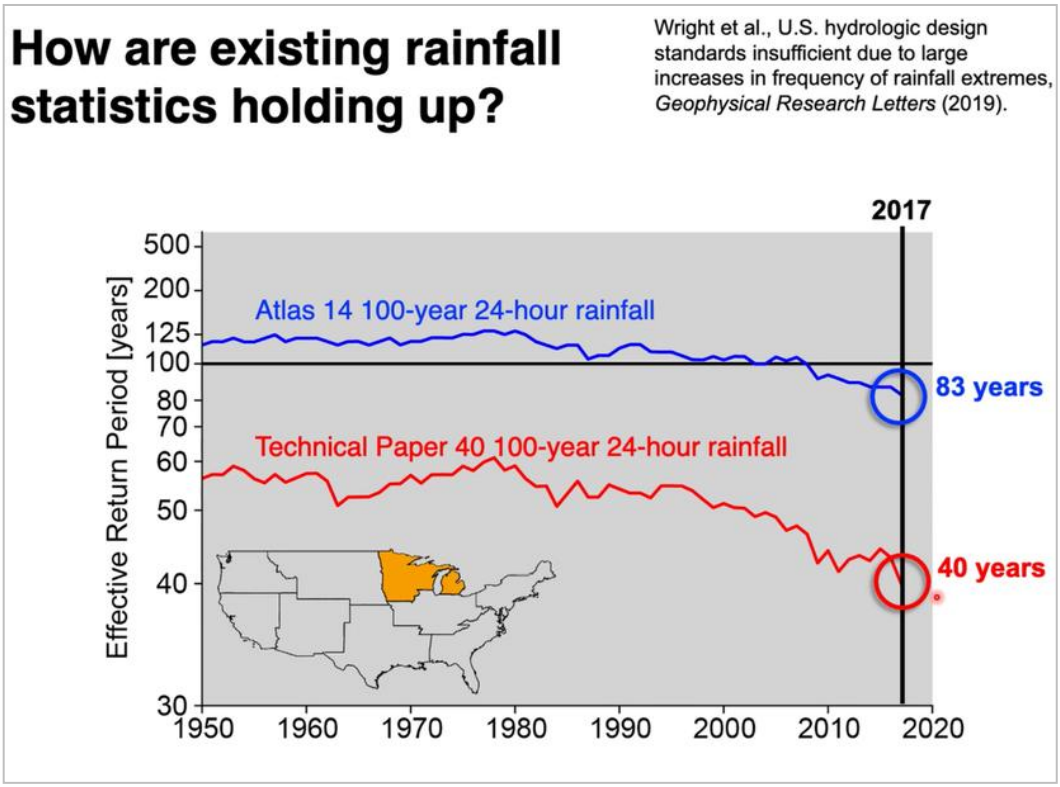
Wisconsin has also become wetter; the average precipitation has increased 17 percent (about 5 inches) since 1950, with most of this increase occurring during the winter months. By 2050, the WICCI report projects that the Study Area will experience 20% more winter and spring precipitation and between 15 and 20% increase in summer and fall. This is a positive trend for groundwater recharge, potentially offsetting increased evapotranspiration. However, most notable for surface water quality, the frequency of extreme rainfall events is also increasing. The WICCI report projects that the frequency of extreme rainfall events (2+" within 24 hours) will increase from about 10 per decade to 16-18 per decade. The report details that the Study Area is already experiencing an increase in 100-year rainfall events, with such events ranging from 6" to 7.3" in magnitude. These increasing heavy rainfall and flooding events are not reflected in current floodplain maps and stormwater management models.

Map 3.11 Selected Maps from the 2021 WICCI Report



Most stormwater modeling and design standards for Wisconsin municipalities use the precipitation frequency data from NOAA's Atlas 14 (based on 1900-2010 trends) and the older Technical Paper 40 (published in 1961). A 2019 study summarized by the graphic below shows that a 100-year rainfall event based on Atlas 14 was occurring every 83 years by 2017 in the upper Midwest, and the frequency of such events has been increasing significantly since 2010. A separate National Weather Service-funded study from 2019 suggests that today's 100-year rainfall event will be a 20-year storm by the late 21st century. Atlas 15 reflecting more recent trends is not expected to be released before 2027. In the interim, some Wisconsin municipalities are already considering these

trends. As an example, Dane County continues to use Atlas 14 data, but in 2021 it updated its erosion control and stormwater management ordinance to require peak rate control based on 200-year storms, instead of 100-year storms.



An increase in flooding will not only impact the built environment, but it will also impact the natural environment. Steep slopes, shorelines, and riparian areas will be more vulnerable to damage, erosion, and habitat degradation with increases of flooding intensity and runoff. In addition, more opportunities will exist for pollutants, sediment, and debris to enter our surface waters. This is consistent with the comments of many local officials during area mitigation planning efforts, who felt that there has been an increase in heavy rainfall events, which have been contributing to localized flash or stormwater flooding.

3.5 ENVIRONMENTALLY SENSITIVE AREAS

3.5.1 What are Environmentally Sensitive Areas (ESAs)?

Wisconsin Department of Natural Resources (WDNR) states that environmentally sensitive areas (ESAs) are "critically important" to sewer service area planning and are defined as:

> "**Major areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints are to be excluded from the service area. Areas to be considered for exclusion from the sewer service area** because of the potential for adverse impacts on the quality of the waters of the state from both point and non-point sources of pollution include but are not limited to wetlands, shorelands, floodways and floodplains, steep slopes, highly erodible soils and other limiting soil types, groundwater recharge areas, and other such physical constraints." NR 121.05(1)(g)(2)(c).

NR 121 suggests the types of ESAs that should be excluded from development in order to prevent adverse effects on water quality should an ESA be degraded or encroached upon. WDNR has further stated that it is ultimately a local decision and the types of ESAs can vary by SSA plan, though certain ESAs, such as surface waters, 100-year floodplains, wetlands, and steep slopes, are common to all plans.

For purposes of creating, updating, amending, and administering the *Hudson Urban Sewer Service Area Plan*, environmentally sensitive areas (ESAs) are:

- features of the natural environment of significant size that, if substantially disturbed, could degrade or negatively impact surface or groundwater quality,
- mapped and delineated for purposes of creating, updating or amending the SSA boundary and in greater detail for the review of specific projects and sanitary sewer extensions to determine consistency with the SSA Plan (i.e., 208 Review),
- protected from intensive land disturbances within the entire SSA regardless of the status or type of wastewater treatment,
- excluded from the developable acreage within the SSA, but may be located within the SSA boundary,
- preferably excluded from the SSA if large, contiguous ESAs are adjoining the existing or proposed SSA boundary,
- potential barriers to the provision of cost-efficient services, which could influence the SSA boundary, and,
- not encroached upon by an intensive land disturbance of this SSA Plan, unless: (i) no reasonable alternative exists or the encroachment is necessary to mitigate/remedy an existing environmental problem, (ii) if appropriate best practices are taken to protect water quality, and (iii) the ESA classification is removed through a SSA Plan amendment, subject to the definitions, policies, and exemptions of the State of Wisconsin and this SSA Plan.

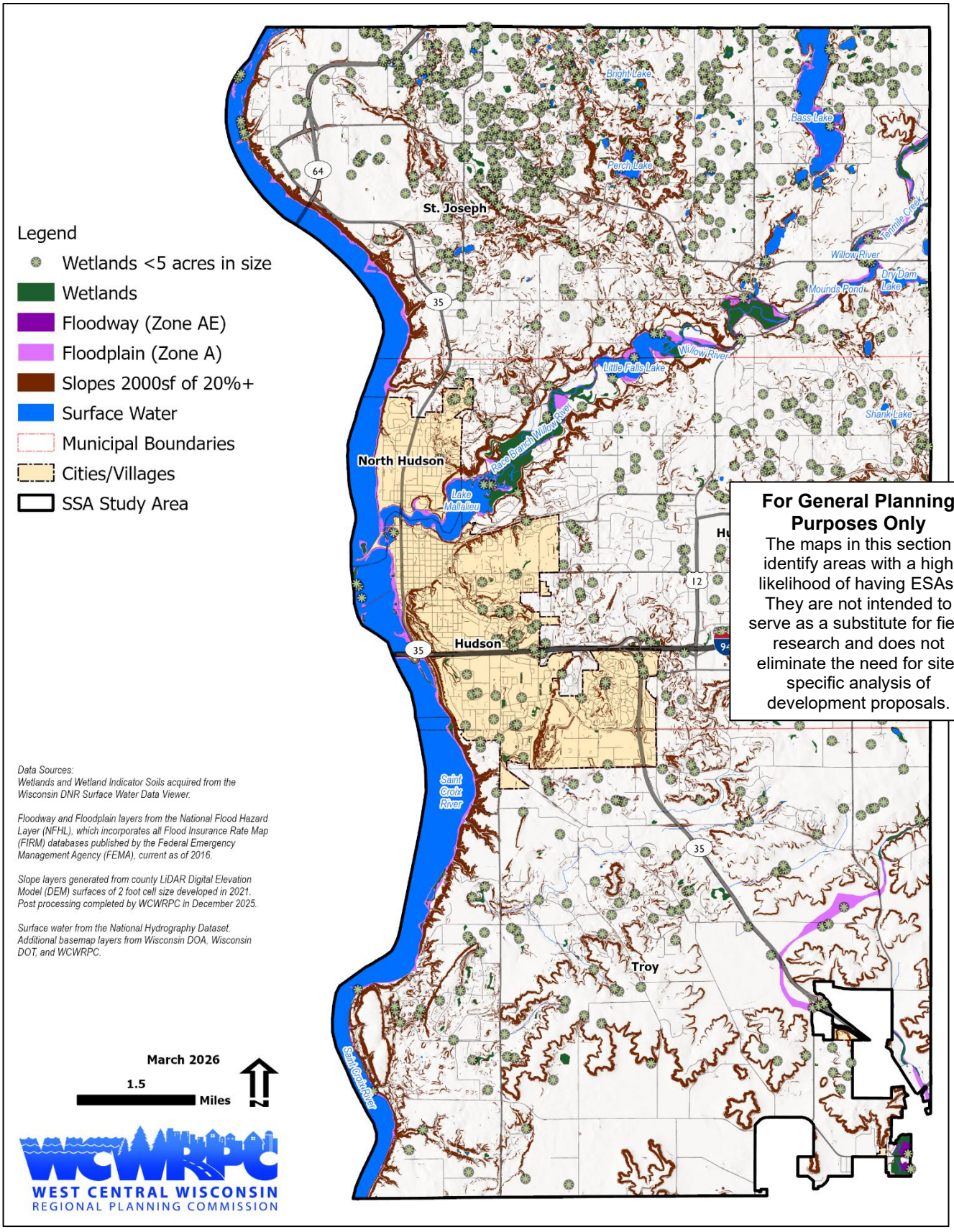
Certain areas within the SSA are already protected and not expected to be intensively developed within the 20-year planning period, such as public parks, conservancy areas, and the airport grounds. For such areas, they are treated similarly to an ESA in that their acreage can be excluded from the developable acreage within the SSA, even though some improvements may occur (e.g., a new park pavilion or trailhead).

After considering the guidance of NR 121, existing environmental protections, and the natural features of the SSA Study Area, the Hudson Area Local Water Quality Advisory Committee, in consultation with Wisconsin Department of Natural Resources determined that the following are environmentally sensitive areas (ESAs) for purposes of this SSA Plan:

ESA	ESA Guidance
Surface Waters, with no 100-year floodplain determined.	All surface waters, regardless of navigability, as shown in the WDNR Surface Water Data Viewer, though mapped intermittent streams may be removed as an ESA if sufficient verification and documentation is provided.
100-Year Floodway or Floodplain	As delineated on FEMA Flood Insurance Rate Maps and subject to any approved revisions or amendments: • The 100-year floodway, if delineated as part of Zone AE, or • The entire 100-year floodplain (Zone A), if the floodway is not mapped
Wetlands	As identified on WDNR Wetland Inventory. If wetland-indicator soils exist, a certified wetland delineation may be required and any areas identified as wetlands become a Wetland ESA.
Steep Slopes	• 20% of greater in slope • Natural or unengineered • Contiguous area at least 2,000 square feet in size • Measured over 50’ in run
Class A Steep Slope	• Partially or wholly located within any other ESA
Class B Steep Slope	• Not a Class A Steep Slope

Map 3.12 is a compilation of the ESA maps found in this section demonstrating that these barriers to development are distributed throughout the Study Area. These mapped ESAs will change over time as more accurate information becomes available. The most recent, available maps and GIS data will be used to delineate the ESAs for review of proposed sewer extensions and hookups, as well as more accurate survey information provided by the applicant. Due to the accuracy limitations of some mapping information, field research may be needed and actual site-specific data will also be used to determine plan conformance, such as in the case of endangered species and habitats.

MAP 3.12 Environmentally Sensitive Areas (ESAs)



3.5.2 Surface Waters

*A **Surface Water** is a natural or artificial named or unnamed lake or naturally flowing stream as defined by NR 103.02, Wisconsin Administrative Code. Surface waters include all springs, stream headwaters, streams, lakes, and waterfalls shown in the WDNR Surface Water Data Viewer.*

The surface waters within the Study Area are shown on **Map 3.13**. Intermittent streams, drainageways, and non-navigable streams may be considered surface water ESAs if they are mapped as a surface water on the WDNR Surface Water Data Viewer. However, on a case-by-case basis, a mapped intermittent stream will not be considered an ESA (i.e., is not an actual intermittent stream) if sufficient field verification and documentation is provided that the stream experiences flow only in response to precipitation events (rainfall or snowmelt), lacks seasonal flow (water flows continuously for parts of the year), lacks a well-defined channel, and/or has physical characteristics more closely matching the surrounding upland landscape.

The following man-made water-related features are generally not identified as ESAs: cooling lakes, farm ponds, ponds created as the result of an approved quarry or infrastructure project, facilities constructed for the treatment of wastewaters, roadside ditches, and most stormwater detention ponds or similar artificial stormwater management improvements. However, should appropriate regulatory agencies determine that such man-made features are waters of the United States or waters of the State, and if development or disturbance would pose a significant risk to water quality, the ESA criteria and restrictions set forth in this plan shall apply. Since 100-Year Floodplain ESA includes the surface water area, this surface water ESA does not include areas were the floodplain has been determined in order to avoid redundancy.

Surface Waters Background

Left unsaid in previous SSA plans for the urban area prior to 2018 is that surface waters are also an environmentally sensitive area. Protection of the water quality of area surface waters is the primary overarching purpose of this plan. The Hudson area is blessed with an abundance of surface waters of relatively good quality that perform important environmental, wildlife habitat, recreational, economic, and quality of life functions for the region, including a National Scenic Riverway. The state of the surface waters within the Study Area is previously discussed in Chapter 3.3.

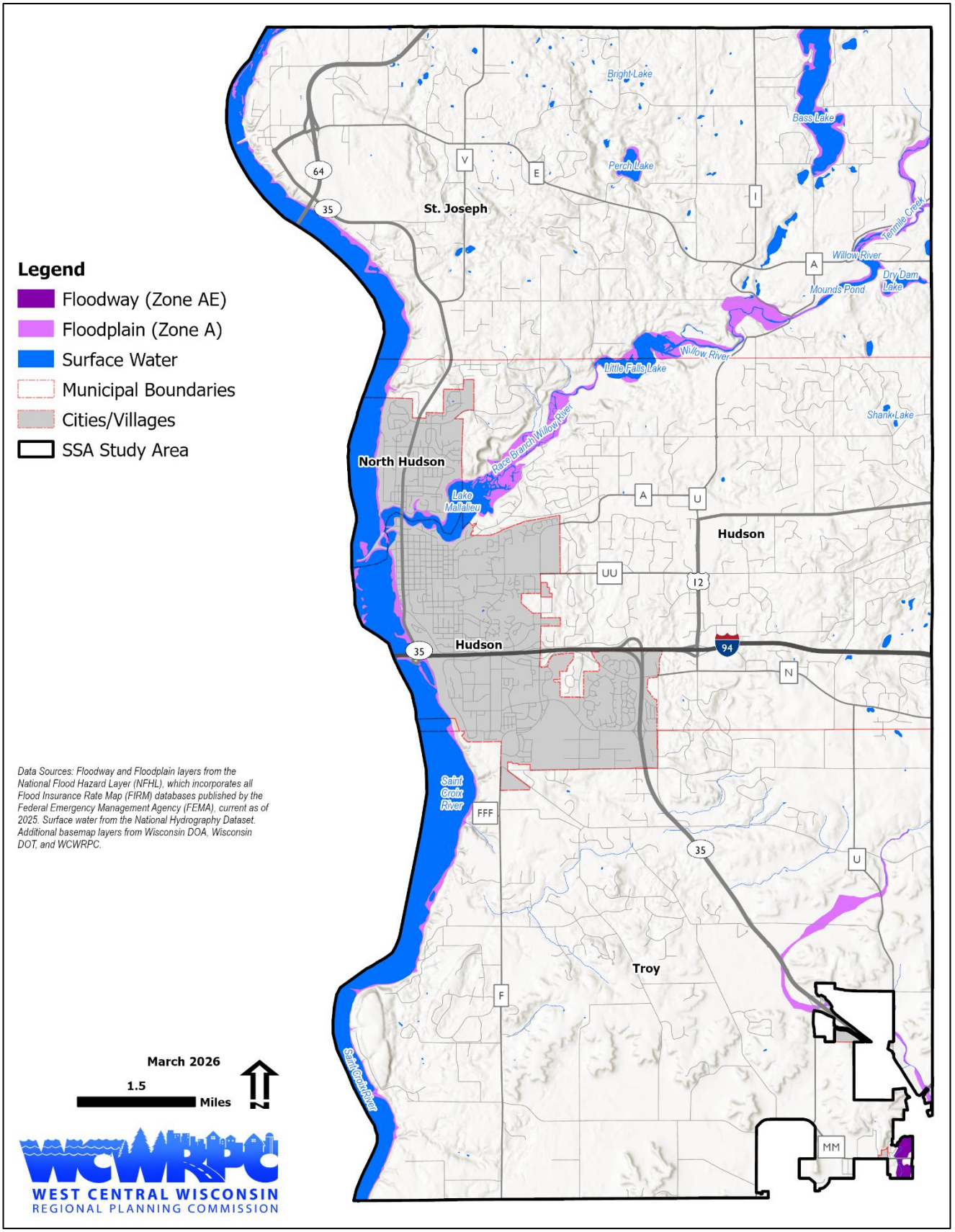
Surface waters include all springs, stream headwaters, streams, lakes, and waterfalls, and some can have special status, such as trout streams and outstanding or exceptional resource waters. Surface waters are also often adjacent to or part of shoreland, wetland, and floodplain areas, which may help explain its absence in previous SSA Plans. No inventory of natural springs exists, so they will be considered on a case-by-case basis. However, natural springs are often associated with surface water, wetlands, or steep slopes, so most will be included within other ESAs.

Encroachment upon intermittent streams can degrade water quality downstream, even though they do not have a continuous year-round flow in at least a portion of the streambed. An intermittent (non-continuous) stream has a seasonal flow (i.e., water flows continuously during wetter parts of the year but is typically dry during drier parts of the year) with flow sourced from continual precipitation patterns (rainfall or snowmelt) and upstream flows or when groundwater is sufficiently high to provide base flow and typically characterized by a well-defined channel often

containing riffles/pools, evidence of ongoing scour such as exposure of rock, gravel, or sand in the channel bottom, and likely hydric soils. Presence of aquatic species would indicate it is an intermittent or perennial stream. Accurate map data of intermittent streams is lacking and the WDNR Surface Water Data Viewer may suggest that an intermittent stream exists but may require field investigation to confirm.

As discussed later in this sub-section, additional shoreland and shoreland-wetland regulations are enforced by St. Croix County and municipalities within the Study Area, though shorelands and surface water setbacks are not included or regulated as an additional ESA in the context of this plan. Local units of government may have additional setbacks or buffer areas for surface waters or certain resource waters (e.g., trout streams); no such buffers are included as part of the ESA.

MAP 3.13 Surface Waters & 100-Year Floodplains



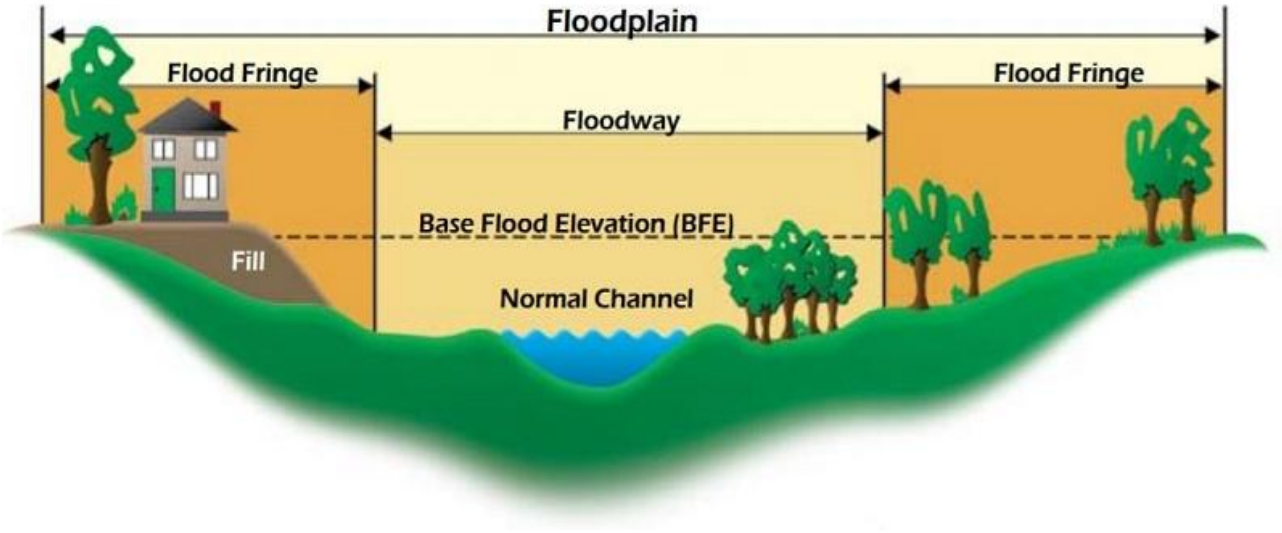
3.5.3 100-Year Floodways or Floodplains

The 100-Year floodplain is the area (floodway and flood fringe) that has been or may be covered by flood water during a regional flood event having a 1-percent chance of being equaled or exceeded in any given year as defined by NR 116.03, Wisconsin Administrative Code. For this SSA Plan, the following shall be an ESA as delineated on FEMA Flood Insurance Rate Maps and subject to any approved revisions or amendments:

(1) The 100-year floodway, if delineated and mapped as part of the Special Flood Hazard Area (Zone AE)

(2) Otherwise, the Special Flood Hazard Area (i.e., 100-year floodplain) in its entirety typically mapped as Zone A, if the floodway has not been delineated and mapped.

A floodplain is typically an area of relatively flat land on either side of a water body covered by water during a regional (100-year) flood event. It contains layers of sediments deposited by the river or lake during floods and encompasses both the floodway and flood fringe. The **floodway** is the main channel of the river and the adjoining land, which are required to carry the main flow of a 100-year flood event. The **flood fringe** is that part of the floodplain outside the floodway, which plays a water storage role during a flood event, but water depth and velocity is generally much lower than compared with the floodway; some development may be allowed in the flood fringe if carefully planned and elevated sufficiently above the Base Flood Elevation with dryland access. Floodplains play an important role in filtering stormwater before it reaches surface water and by removing pollutants and debris from inland river waters during a flood event. Floodplains also offer important water storage areas during flood events to help reduce the impacts of flooding downstream.



Elements of a Floodplain.
Source: Wisconsin Department of Natural Resources.

Federal Emergency Management Agency Flood Insurance Rate Maps (FIRMs) identify the 100-year floodplain and were used to delineate flood hazard areas within the planning area. These maps are now available in a digital form (i.e., D-FIRMs).

The 100-year floodplains are delineated as the "A" or "AE" zones on the FIRMs, including any FEMA-approved map changes, revisions, amendments, including Conditional Letters of Map Revision or Amendment (e.g., CLOMR, CLOMA), until such time that an effective FIRM is revised or amended. Since surface waters are also an ESA, the floodplain/floodway ESA overlaps the adjacent surface water ESA.

Zone A and Zone AE map the same thing—a 100-year flood event—though Zone AE has greater map accuracy. More detailed data is available for Zone AE, including calculated Base Flood Elevations (BFEs) and delineation of the floodway vs. flood fringe, in most cases. During the 2026 SSA Plan update, local units of government noted that the flood fringe can potentially be developed in some areas. As such the definition of this ESA was modified so that the flood fringe is not an ESA (i.e., not protected from encroachment) when the flood fringe has been delineated and mapped. Encroachment may be allowed if a structure is elevated at least two feet above the base flood elevation, dryland access is available, and net flood storage[3] is not reduced. Due to such challenges, developing in the flood fringe can be costly and is relatively uncommon.

100-Year Floodplain/Floodway Background

The FIRMs for St. Croix County were last updated and made effective in March 2009. The accuracy of the D-FIRMs remains a major concern for some local officials and residents. Detailed topographic data (LiDAR data) was not available during the last FIRM update in order to improve floodplain map accuracy.

The 100-year floodplains are shown previously on **Map 3.13**. Though improved since 1998 SSA Plan, significant concerns remain regarding the accuracy of floodplain mapping in some areas, especially within the Flood Hazard Zone A where detailed engineering and survey work has not been completed. Further, some areas within Zone AE do not have a delineated floodway. Given such uncertainties, the entire 100-year floodplain acreage is included as part of the ESA acreage for this SSA Plan update. Further, during SSA Plan administration (e.g., 208 reviews for sewer extensions), applicants may be required to provide documentation from WDNR and/or FEMA to confirm that proposed development is located outside of a floodplain or floodway. And the actual floodplain/flood fringe maps and ESA acreages will change over time as FIRM maps are updated and amended.

There is some existing development potentially located within the 100-year floodplains of the Study Area as identified in the County's Hazard Mitigation Plan. The largest concentrations of existing floodplain development lie along the St. Croix and Willow Rivers. However, local topography may effectively minimize the risk of flooding to structures in many of these areas.

Floodplain zoning is required to be implemented by counties, cities and villages by Wisconsin Statute 87.30(1), which has sharply limited future floodplain development in the planning area. Flooding is also mitigated locally by natural hazards or flood mitigation plans that encourage

[3] For purposes of this plan, **flood storage** refers to an area's ability to temporarily hold excess water, such as during a heavy rain or snow melt event, to reduce the volume, velocity, and peak flow of water moving downstream. For this plan, such areas may or may not be formally designated or mapped as flood storage areas.

restrictions on future floodplain development. Due to the inherent risks to development in floodplain areas, WDNR guidelines for SSA planning recommend that floodplains should be excluded from local sewer service areas and that proposals to reduce floodwater conveyance capacity or flood storage should be denied unless remedial actions (in conformance with NR 116) are identified and approved. WDNR will not approve a SSA Plan or plan amendment that is inconsistent with local or State floodplain regulations.

3.5.4 Wetlands

*A **Wetland** is any area in which water is at, near, or above the surface long enough to support hydrophytic vegetation or water-loving plants and which has soils indicative of wet conditions as defined by NR 103, Wisconsin Administrative Code.*

Wetlands may be seasonal or permanent and are sometimes referred to as swamps, marshes, or bogs. Wetlands may or may not be mapped as part of the Wisconsin Wetlands Inventory as shown on the WDNR's Surface Water Data Viewer. If wetland-indicator soils (i.e., potential hydric or poorly drainage soils or areas of high water table) are shown on the Data Viewer, a site-specific survey and/or certified wetland delineation may be required as part of the land division process or when sewered development is being proposed on the site; if wetlands are identified and confirmed, the area becomes a Wetland ESA. Additional wetland setbacks may be required by the State, county, or local government, but no setback areas or buffers are considered part of the ESA.

Wetlands Background

Wetland areas serve as groundwater recharge zones, as water storage areas during flooding events, and also as a habitat for a variety of plants and animals. Wetlands act like a sieve, filtering out silts before they can enter streams and lakes. Particular attention must be given wetlands within shorelands due to potential surface water impacts from disturbance. Activities such as flooding, draining, ditching, excavating and building are all regulated in wetlands.

WDNR guidelines for sewer service area planning state that all wetlands, regardless of size, are environmentally sensitive areas and should be excluded from local sanitary sewer areas. According to WDNR SSA planning guidance, proposed development projects near a wetland should be evaluated according to the following:

- The presence or absence of physical alterations in the wetland resulting from human activity. Wetlands which have not been altered should be given high priority for preservation.
- The availability of reasonable alternatives to development of the wetland. Where alternatives are available, wetlands should be protected from development.
- The potential impacts of the proposed actions on other scarce natural resources in or outside of the wetland. Consideration should be for protection of the wetland when the area is or has been known to be a habitat for state or federally designated rare, threatened or endangered species; or where it is determined that the wetland type is scarce or rare either statewide or regionally.

- Presence of or proximity to scientific study areas, sanctuaries, and refuges. Direct or indirect adverse impacts in these areas should be evaluated when reviewing an amendment to the plan.
- Effect on water quality of adjacent stream. SSA Plan amendments should not result in an adverse effect on an adjacent stream. Such effects include interference with the maintenance of dry season stream flow; increasing sediment, nutrient or other pollutant loading to the stream and decreasing the instream plant and animal habitat conditions.

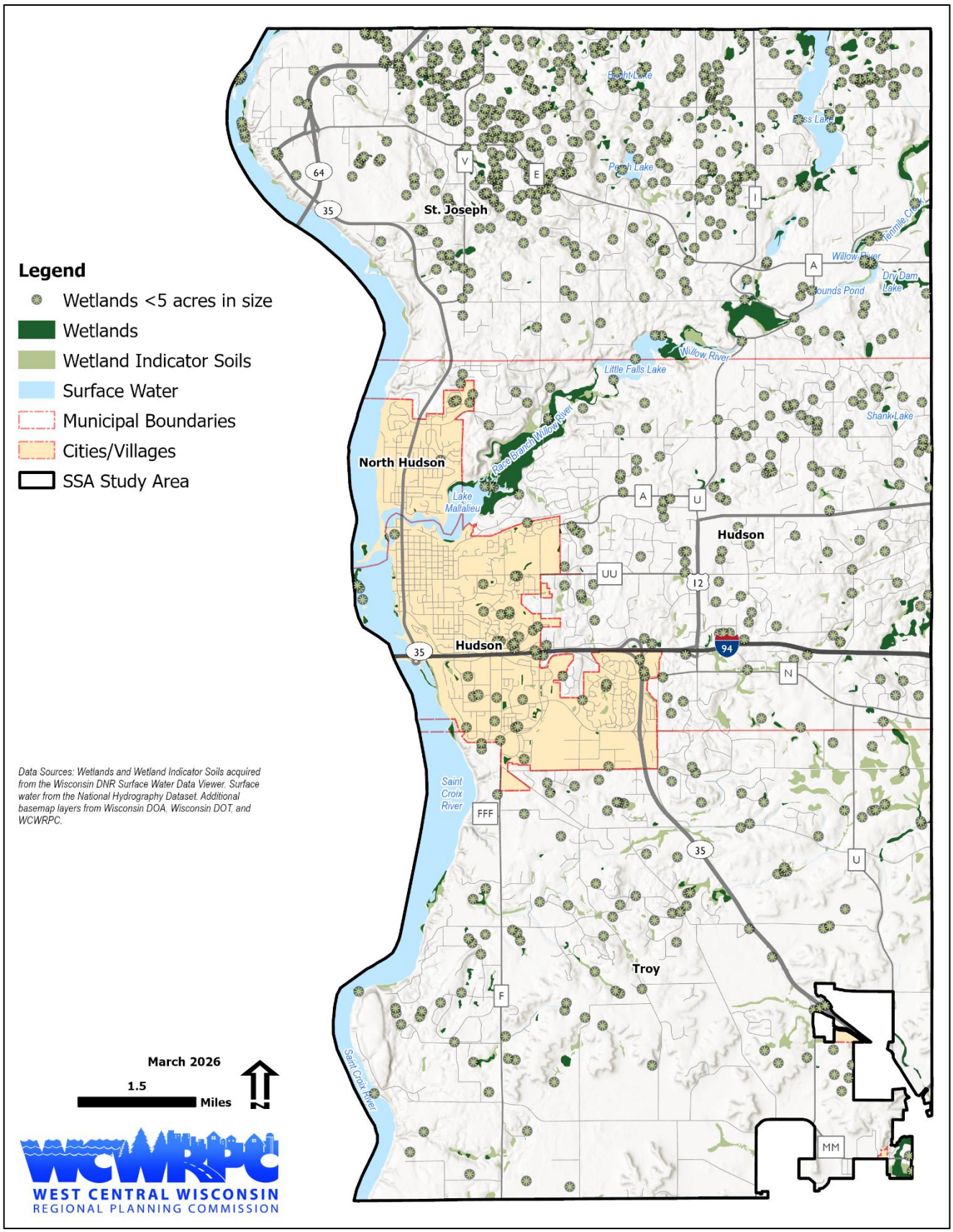
WDNR Wisconsin Wetland Inventory maps were used to identify known regulated wetlands within the Study Area, which are shown in **Map 3.14**. Although WDNR is now mapping wetlands of 2 acres or more, the Inventory was originally designed to identify wetlands of 5 acres or more. Many of the smaller wetlands are not mapped, though wetlands are regulated even if they do not appear on the Wisconsin Wetlands Inventory.

Map 3.14 also includes **wetland indicator soils** (e.g., hydric or poorly drained soils) based on NRCS soil survey data. These soils are an indicator that a potential wetland may exist, but an on-site investigation is often required to confirm or delineate whether the possible presence and extent of a wetland. The WDNR Surface Water Data Viewer will be used to ensure access to the latest wetland mapping, unless a wetland determination has been accepted by WDNR.



Photos courtesy of Tim Miland, Pat Trochlell, Kyle Magyera, Cheric Hagen, and Joanne Kline

MAP 3.14 Wetlands



3.5.5 Steep Slopes

For delineating ESAs in this plan, a steep slope is a contiguous area of natural or un-engineered slope that is at least 2,000 square feet total in size and a combination of slopes that are 20% or greater. Steep slope ESAs for this plan are further divided into two classes:

***Class A Steep Slope ESA** – A Class A steep slope is a contiguous area of steep slope ESA that are partially or wholly located within any of the aforementioned ESAs (e.g., surface waters, floodplains, wetlands); in such a case, the entire, contiguous area of steep slope ESA become part of the Class A steep slope ESA.*

***Class B Steep Slope ESA** - Any steep slope ESA not a Class A steep slope is a Class B steep slope.*

For this SSA Plan:

- **Natural or Un-Engineered Slopes.** Only natural or un-engineered slopes are considered ESAs if they meet the other criteria in this section. The following are generally not considered steep slope ESAs:
    - Engineered, man-made steep slopes, including walk-out basements, if a grading/stabilization plan has been approved by the pertinent regulating jurisdiction(s).
    - Older, man-made slopes that were purposefully engineered or graded according to standards at the time and have since stabilized and revegetated and temporary stockpiles, spoil heap, or overburden. Such artificial slopes will be evaluated on a case-by-case basis with WDNR consultation and may be treated as a steep slope ESA depending on site characteristics, management practices, soil erodibility, and proximity to surface waters or other ESAs.
- **Minimum Slope Size.** A contiguous area of steep slope less than 2,000 square feet total (about 0.05 acres) shall not be considered an ESA due to its small size.
- **Minimum Slope Width.** Slopes shall be measured over a horizontal distance of 50 feet, excluding any Class A buffer area. Slopes shall be measured as the change in elevation over the horizontal distance between consecutive contour lines and expressed as a percent. If the elevation change over the 50 feet distance is less than 20%, the area is not a Steep Slope ESA.
- **Special Considerations.** Large contiguous areas of steep slopes exist that have varying drainage characteristics and level of risk to surface water quality. When determining steep slope ESAs, the following may be considered on a case-by-case basis:
    a. **Determining the steep slope ESA when multiple areas of steep slope ESA are separated by a small area of slope that does not meet minimum size or slope**. Areas exist where a single steep slope topographic feature may be separated or divided by a small area that does not meet the minimum slope (e.g., along the length of a single hillside there is a small section of 20+% slope with a run less than 50', but the hillside overall meets the steep slope ESA definition). Such areas may still be considered an ESA if:

- The area is 20% or greater as measured over 50 feet and
- The area is part of the same topographic slope that connects two other areas that otherwise meets the steep slope ESA definition and is within 50' of the two other adjoining steep slope ESA areas.

b. **A portion of a connected steep slope ESA may be a different class based on drainage and distance to other ESAs.** When determining if a Steep Slope ESA overlaps another ESA (i.e., determining whether it is Class A or Class B), local natural drainage and runoff patterns may need to be considered. If it can be reasonably demonstrated that the natural drainage for a portion(s) of a Steep Slope ESA is not connected to another ESA, likely due to distance, or otherwise threatens water quality, then the slope can be considered a Class B slope.

Steep Slopes Background

The definition of Steep Slope ESAs may vary among the local governments within the SSA Study Area. Consistent with most jurisdictions in the urban area, this SSA Plan recognizes that 12% (or 13%) up to 20% slopes can often be encroached upon without soil erosion or runoff with good management practices, **so this Plan does not consider slopes less than 20% to be an ESA.**

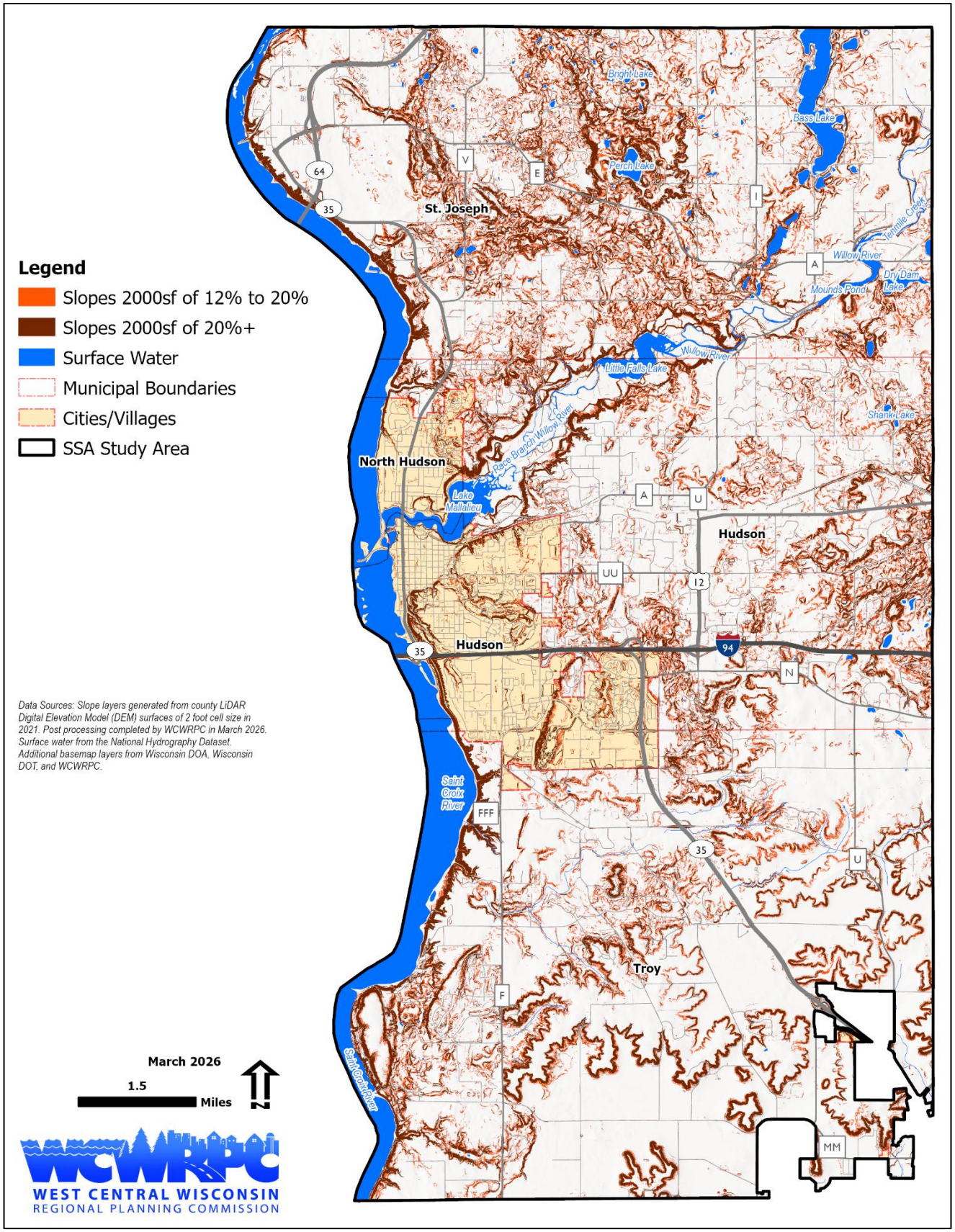
Mapping Steep Slopes. Map 3.15 shows locations of potential steep slope ESAs of 2,000 square foot or more in size within the Study Area. While this data is helpful for generally identifying areas where steep slope ESA may exist, it has a number of shortcomings requiring case-by-case consideration:

- The slopes are based on remote-sensing technology (LiDAR), which doesn't distinguish between natural and man-made slopes.
- There is no reliable way to consider the minimum 50' run criteria or to easily classify the slopes into Class A vs. Class B.
- Site-specific land surveys will have a higher level of accuracy.

For project-specific decisions, such as 208-conformance reviews, topographic/elevation maps prepared by a licensed engineer are preferred and will often be required, especially if steep slopes potentially exist within the project area.

Measuring the Slopes. Measurements are made from a point at the top of the slope in a straight line immediately downgrade and connected to a dot at the bottom (or toe) of the slope. Slope is defined as RISE divided by RUN. Slope is measured by the amount of elevation increase over a certain distance; slope is not equal to the degree of the angle. For instance, a 100% slope would be a 45-degree angle over the length of the run, since the rise and run would be equal (a 200-foot lot with a 200-foot elevation increase over its distance forms a 45-degree angle of the slope). Measurements shall be made at multiple points along the topographic feature, including the steepest grades.

MAP 3.15 Steep Slopes



Soil Conditions. Soil type and the erodibility of soils are not directly considered in this SSA Plan when reviewing proposed sewer extensions or amendments except for evaluating older manmade slopes as previously discussed. However, engineering studies, erosion control plans, stormwater management practices, and other actions are often required to protect surface waters from soil runoff when utility extensions and new development are proposed. It is the responsibility of the local unit of government and other regulating agencies to consider and ensure compliance with applicable rules. Obtaining such permits and approvals are typically secured prior to requesting a 208 Review.

12% up to 20% Slopes. Slopes equal to or greater than 12% up to 20% as measured above are considered steep slopes for which best management practices are required and enforced by the local regulating jurisdiction, but are not an ESA for purposes of this plan. See Policy 2.1.7 in Chapter 4. However, WDNR encourages local units of government to considered these 12% to 20% slopes as an ESA, especially if located in close proximity to a surface water. Should WDNR believe such slopes are not being adequately managed in the future, how these slopes are treated within this SSA Plan may be revisited.

Local jurisdictions within the Sewer Service Area are responsible for ensuring that plans and best practices are implemented to prevent erosion and runoff, including for all areas of 12% slope.

3.6 Additional Environmental Considerations

The following are additional environmental considerations that may potentially limit development or are environmental features that may benefit from protective measures or special consideration:

a. Shorelands & St. Croix National Scenic Riverway
b. Groundwater Recharge & Wellhead Protection Areas
c. Closed Depressions
d. Other Significant Natural Resources

For purposes of this SSA Plan, the above additional environmental considerations are primarily defined, interpreted, considered, and protected by local or State regulating jurisdictions; they are not planned for or directly protected through this SSA Plan. The above environmental considerations are:

- not classified as ESAs under this SSA Plan due to: (i) they are adequately protected by ordinance, so it would be excessively duplicative to also review and consider them during SSA Plan administration or (ii) it is not possible to clearly delineate the extent of a constraint within the entire SSA,
- not excluded from the SSA boundary, but dedicated Natural Areas and public recreational lands are excluded from the developable SSA acreage when they are known and can be delineated,
- potentially considered when evaluating proposed plan amendments, but based on the interpretation and guidance of the regulating jurisdiction(s), and
- not considered when reviewing specific projects and sanitary sewer extensions to determine consistency with the SSA Plan (i.e., 208 Reviews), but project applicants or the local community should confirm that they are being considered during planning and permitting.

It is recognized that St. Croix County and local governments within the SSA Study Area may have additional ESAs, environmental considerations, or areas to be protected (e.g., prime farmlands, natural areas, endangered species, historical/cultural resources). To the extent that the SSA Plan considers comprehensive plans and known development plans, such features may be considered when establishing and amending the SSA boundary.

3.6.1 Shorelands & the Lower St. Croix Riverway

Lands which are: (a) within 1,000 feet of the ordinary high-water mark of navigable lakes, ponds or flowages; or (b) within 300 feet of the ordinary high water mark of navigable rivers or streams, or to the landward side of the floodplain, whichever distance is greater, excluding certain lands adjacent to farm drainage ditches as defined by NR 115.03, Wisconsin Administrative Code.

As required by Wis. Stats. Chapter 30 and NR 115, shoreland regulations are regulated and enforced by the counties and municipalities within the sewer service area:

- Wetlands within shoreland areas are regulated in the cities and villages.
- All shorelands are regulated by county zoning regulations in the unincorporated towns.

Shorelands Background

Shorelands are usually considered prime residential building areas because of their scenic beauty. However, shorelands also provide valuable habitat for both aquatic and terrestrial animals and vegetation, and act as buffers to protect water quality.

Wisconsin requires counties, cities, and villages to protect and prevent the loss and erosion of these valuable resources by adopting and enforcing a shoreland or shoreland-wetland zoning ordinance consistent with the standards found in Chapter NR 115 or NR 117 of State Administrative Code. Shoreland regulations govern lot size, setbacks of structures from waters, landscaping, siting of wastewater systems, and filling.

In 2018, shorelands were excluded as ESAs in the context of this SSA Plan since: (i) there may be existing development in shoreland areas on private septic systems for which a sanitary sewer connection is preferred in the future, (ii) shorelands are already closely regulated, but are treated differently within incorporated versus unincorporated areas under State law, and (iii) there are certain types of land disturbances specifically allowed under State law within shoreland areas that are best enforced by county and municipal staff rather than through this plan. The exclusion of shorelands as an ESA here does not diminish their importance as sensitive areas and the need to closely regulate shorelands for water quality protection.

WDNR will not approve a SSA Plan or other plan action that is inconsistent with local shoreland ordinances. In addition, when evaluating a plan or amendment, WDNR will consider potential adverse effects of shoreline development on water quality (e.g., erosion, filtering, recharge), fish and wildlife habitat, storm/flood water storage capacity, and nearby scientific study areas, refuges, or scarce wetlands.

Lower St. Croix National Scenic Riverway

The St. Croix River in St. Croix County was designated in 1972 as the Lower St. Croix National Scenic Riverway due to its natural beauty. The Riverway has stringent development limitations along its shorelands, especially for steep slopes.

Steep slopes facing the St. Croix River are regulated under Wisconsin DNR Administrative Code NR 118 Standards for the Lower St. Croix National Scenic Riverway. In an effort to maintain the "Wild and Scenic" St. Croix River Corridor, NR 118 prohibits development upon slopes greater

than twelve percent and within forty feet thereof. NR 118 discourages expansion and promotes use of natural materials in buildings located in close proximity to the river. Consistent with NR 1118, Chapter 17 of the St. Croix County Code of Ordinances regulates the Lower St. Croix Riverway Overlay District for unincorporated lands within the Riverway. Chapter 252 of the City of Hudson's Code of Ordinances and Chapter 98 of the Village of North Hudson's Code regulate the Riverway within their respective communities.

Like other shorelands, the Riverway regulations apply in addition to the policies in Chapter 7 of this SSA Plan; the most stringent policies would apply. Due to the long-established procedures and enforcement regarding the Riverway regulations and the Riverway's Federal status this SSA Plan does not treat the Riverway as its own ESA in order to avoid duplication and confusion. Further, the Riverway regulations were established in large part for aesthetic/visual protections and not for water quality, which is the primary purpose of this SSA Plan. Regardless, the exclusion of the Riverway as an ESA here does not diminish its importance as a sensitive area.

3.6.2 Groundwater Recharge & Wellhead Protection Areas

Groundwater recharge areas are places where precipitation infiltrates the ground and replenishes the water table. **Wellhead protection areas** are the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such well or wellfield. **Groundwater protection areas** encompass both of the above and are source water protection areas for public water supplies.

Groundwater recharge maintains the quantity of water in an aquifer. The natural process of recharge can be altered by land use and development. Impervious surfaces that prevent precipitation from soaking into the ground, such as buildings and pavement, affect the rate of recharge and quantity of available groundwater.

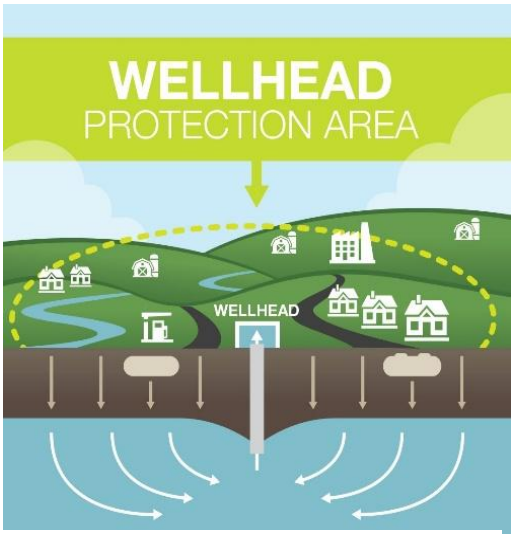
This SSA Plan recognizes that:

- This is the only environmental consideration with a groundwater focus. Overall, SSA planning places a greater emphasis on the protection of surface water quality with less attention given to groundwater.
- Groundwater recharge areas are typically not included as an ESA in most SSA Plans since recharge occurs most anywhere that rain and snow melt enters the soil and reaches the water table.
- Recharge and protection areas for wells are recognized for their importance of protecting drinking water supply. Wellheads and well fields are protected by a mix of State law, local regulations, and local planning (e.g., well setback, wellhead protection planning/zoning).
- The regulation and protection of groundwater recharge and wellhead protection areas are the responsibility of State and local regulatory bodies. Local jurisdictions can have different rules regarding allowable development within wellhead/groundwater protection areas and some areas.

- Groundwater and wellhead protection areas may influence the SSA boundary, since municipal sanitary sewer provides a higher level of groundwater protection than private septic systems within such protection areas. Otherwise, this environmental concern is not considered during the administration (e.g., performing 208 reviews) of this SSA Plan.

Groundwater Recharge Areas Background

The state of groundwater within the Study Area is previously discussed in Chapter 3.2, including related programs and policies.



source: City of Sacred Heart MN

Wellhead protection planning is administered by the WDNR as required by the U.S. Environmental Protection Agency (EPA) and the 1986 amendments to the Federal Safe Drinking Water Act. Wellhead planning and protection is encouraged for all communities but is required when any new municipal well is proposed, as required by State administrative code for all new public water supply wells constructed after May 1, 1992. The City of Hudson created a wellhead protection plan for their municipal wells in addition to wellhead protection ordinances. The Village of North Hudson has adopted wellhead protection regulations that follow those of Hudson's. While these ordinances vary some, they are typically overlay zoning districts that regulate land uses within the 30-day and 5-year zones of contribution (recharge areas) for municipal water supplies as well as require certain separation or setback distances.

Under State rules, Groundwater (Source Water) Protection Areas exist for all public wells, which are shown in **Map 3.16** for the Study Area. These areas represent WDNR's determination of the best available estimate of the 5-year groundwater time-of-travel for areas contributing to the recharge of public wells. The extent of these protection areas vary by well type and size:

Municipal wells	Size will vary based on advanced delineation and study, else a minimum of 1,200-foot radius is used.
Other than Municipal system	1,200-foot fixed radius. A smaller community system serving a limited population, such as a mobile home park or subdivision.
Non-transient, non-community wells	1,200-foot fixed radius. Serves 25+ of the same people for 6+ months per year, such as schools and factories.
Transient non-community wells	200-foot fixed radius. Serves a transient public, such as a campground, gas station, or restaurant.

These public wells must meet certain siting, design, operation/maintenance, and reporting requirements under State code and separation distances from certain sources of contamination are

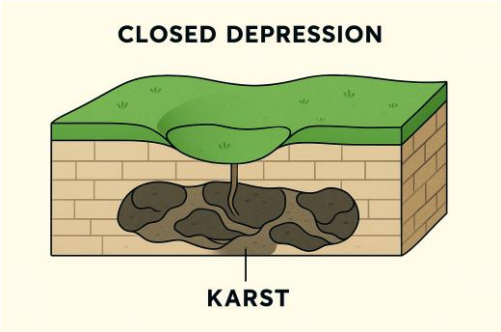
enforced. However, as shown on the map, development exists and can occur within these protection areas. Additional State, county, and municipal rules regulate the installation and abandonment of private wells, including a variety of setbacks and additional rules for high-capacity wells.

Though development may be allowable within groundwater protection and recharge areas, the protection of the groundwater in these areas is of utmost concern to the local communities. In these areas, municipal wastewater connections might be preferred over private, on-site treatment systems for some uses. As such, these groundwater recharge areas are an environmental consideration but are not an environmentally sensitive areas for which sanitary sewer connections should be discouraged.

3.6.3 Closed Depressions

Closed depressions are bowl-shaped landforms surrounded by higher ground in all directions, creating an internally drained area with no natural surface outlet. Sinkholes can form within closed depressions from the collapse, subsidence, or erosion of soluble rock underground.

Closed depressions and sinkholes are relatively common features in St. Croix County. They are formed within karst geology, which is particularly well developed in the eastern half of the County, or through the kettle depressions remaining from glaciation, which are not uncommon in the western and northwestern portions of the County. Karst development occurs from thick, soluble areas of underground limestone which dissolve over time, forming sinkholes. Kettles develop when large blocks of glacier ice are buried with glacial deposits and subsequently melt. Due to melting snow and water draining off the landscape, sinkholes can be a more frequent concern in the spring months.

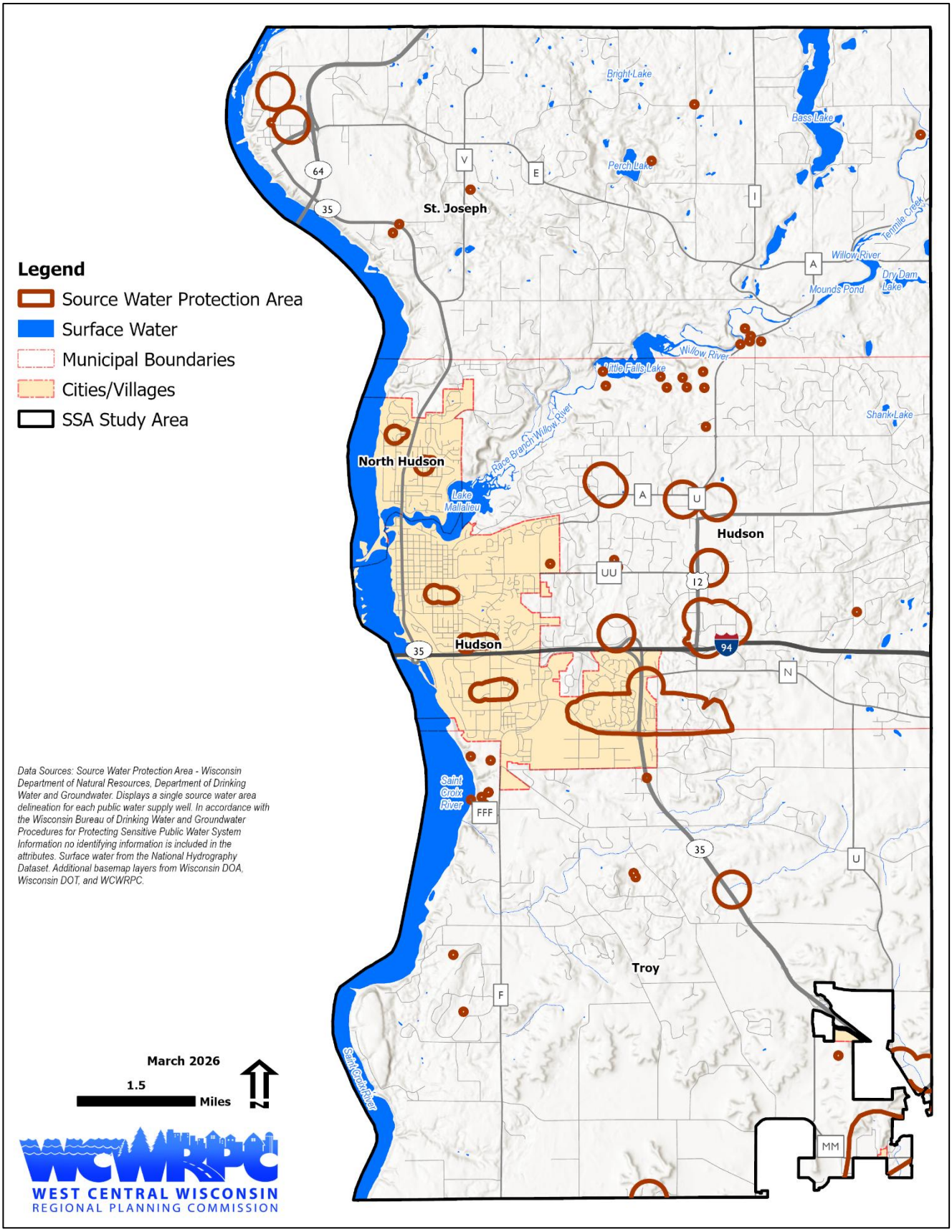


Closed depressions are environmentally sensitive features since the release of pollutants into or near a closed depression can quickly reach groundwater, especially within karst geology. The St. Croix County Comprehensive Plan includes the following related policy:

> *Closed depressions shall not be developed, drained or filled, nor shall closed depressions be used for the dumping or storage of any substance, material or equipment.*

As of Spring 2026, detailed, accurate mapping of closed depressions within the Study Area does not exist, making it very difficult to consider such features for SSA planning and as part of 208-compliance reviews. As such, closed depressions are not considered an environmentally sensitive area under this SSA Plan. However, should better mapping of closed depressions become available in the future, these features may be reconsidered as an ESA. A closed depression may overlap other types of ESAs, such as when a pond or wetland forms within a closed depression; in such instances, that surface water or wetland area would be considered an ESA if it meets the previous definitions.

MAP 3.16 Groundwater Protection Areas



3.6.4 Other Significant Natural Resources

Other significant or unique natural resources or limiting environmental conditions, that if encroached upon could degrade surface or groundwater quality, may be considered during SSA planning or 208-reviews on a case-by-case basis. Such feature may include but are not limited to:

- *Springs, poorly drained areas, and areas of seasonally high groundwater within 1 foot of the surface.*
- *Areas of highly erodible soils located in or within 20 feet of another ESA.*
- *Areas of shallow bedrock within five feet of the surface.*
- *Plants, animals, and natural communities that appear on the Wisconsin endangered and threatened species lists or in the Wisconsin Natural Heritage Inventory. Only one State-designated natural area—Putnam Park Natural Area—exists in the Study Area.*
- *Environmental corridors, if they are formally designated by local units of government in the future. Such corridors are linear, continuous feature on the landscape that is maintained with one or more of the following purposes: (1) provide high quality wildlife habitat and/or the movement of wildlife; (2) offer linked recreational opportunities, (3) provide greenspace and open space; and (4) protect water quality, sensitive lands, and other areas that require protection from disturbances and development.*

Our natural environment and water resources are diverse and complex. Often, accurate data is lacking or not accessible on the above, making it very difficult to consider. Additional information and monitoring are needed in a wide range of areas.

On a case-by-case basis, the SSA Plan Administrator, the Local Water Quality Advisory Committee, and/or Wisconsin Department of Natural Resources may identify other significant or unique natural resources as an environmental consideration. When a sanitary sewer extension (208 review) or plan amendment proposal is received, additional study or delineation may be required to determine if a proposed intensive land disturbance of a natural resource will impact water quality and if additional consideration or protection is warranted.

CHAPTER 4 – GROWTH & DEVELOPMENT TRENDS

4.1 SOCIO-ECONOMIC CHARACTERISTICS & TRENDS

Growth trends in the Hudson area have been driven by its location along the I-94 corridor and proximity to the Minneapolis-St. Paul urban area. In-migration from the Twin Cities has resulted in rapid population and development growth within the City and surrounding municipalities. The City of Hudson is the largest community within the Study Area with an estimated 2025 population of 15,508. It is also the county seat for St. Croix County. Much of this chapter focuses on growth and projections for the City of Hudson and the Village of North Hudson as it is expected all city and village growth will be sewered and a primary driver of the SSA boundary.

4.1.1 Population & Household Trends

Population Distribution & Growth

Map 4.1 shows the population counts for census blocks within the planning area. The map does not take into account densities of population, which are shown later in **Section 4.2.1**.

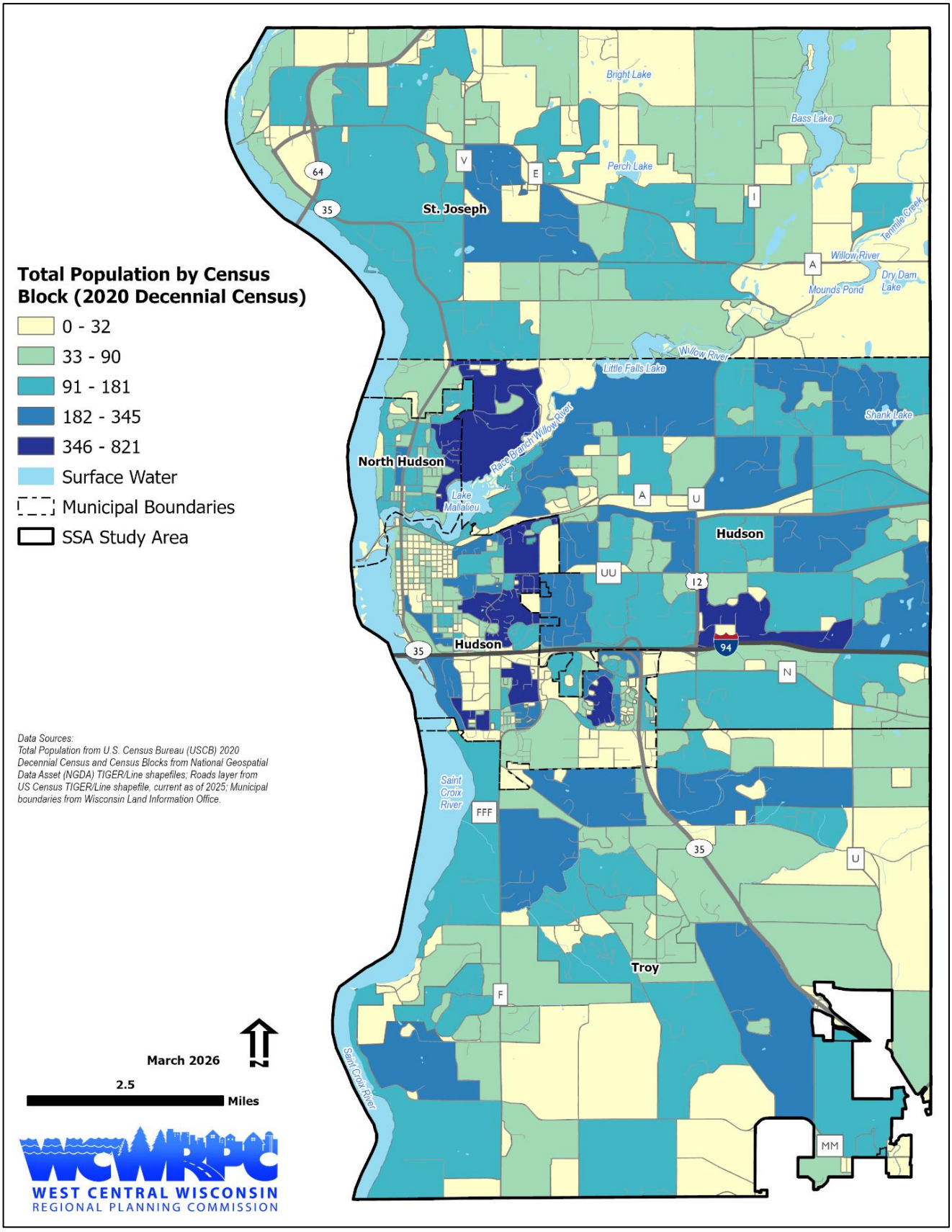
According to the 2000 Census, the population of the Study Area totaled 25,548. That total increased by 44.5% to 36,925 by the 2020 Census, and the Wisconsin Department of Administration (WDOA) estimates the population grew another 3.9% to 38,412 in 2025. **Table 4.1** shows the change in population over the last three censuses.

Table 4.1 Population by Community, 2000-2025

	Census Totals				DOA Estimate	
Place	**2000**	**2010**	**2020**	**2010-2020**	**2025**	**2020-2025**
T Hudson	6,213	8,461	8,671	+ 210	8,887	+ 216
T St. Joseph	3,436	3,842	4,178	+ 336	4,440	+ 262
T Troy	3,661	4,705	5,518	+ 813	5,671	+ 153
V North Hudson	3,463	3,768	3,803	+ 35	3,906	+ 103
C Hudson	8,775	12,719	14,755	+ 2,036	15,508	+ 753
Unincorporated Towns	13,310	17,008	18,367	+ 1,359	18,998	+ 631
Incorporated Communities	12,238	16,487	18,558	+ 2,071	19,414	+ 856
All Study Area Communities	25,548	33,495	36,925	+ 3,430	38,412	+ 1,487

source: U.S. Census Bureau 2000, 2010, 2020 Decennial Census & Wisconsin Department of Administration

Map 4.1 2020 Population by Census Block



Population growth rate

Using a combination of decennial Census results and DOA estimates, the annual growth rate for all Study Area communities has averaged 1.7% since 2000. The City of Hudson has been the fastest growing community, with an average of 2.3%. Average growth rates for the Study Area were higher between 2000-2010 (2.8%) than they have been between 2015-2025 (1.0%).

Housing units

The Wisconsin Department of Administration provides annual estimates of housing unit development, but the smallest unit of government included is counties. As shown in **Table 4.2**, housing development in St. Croix County has outpaced the State average since 2020. Over the last four years, the County has built an average of 148 homes per year. **Map 4.2** shows the housing unit counts for 2020 census blocks in the Study Area.

Table 4.2 WDOA Housing Units Estimates, 2020-2024

Place	4/1/2020 Census	4/1/2021 Estimate	4/1/2022 Estimate	4/1/2023 Estimate	4/1/2024 Estimate	# Change ('20-'24)	% Change ('20-'24)
St. Croix County	18,693	18,811	18,916	19,050	19,434	741	4.0%
Wisconsin	2,727,726	2,749,878	2,776,637	2,801,113	2,824,401	96,675	3.5%

source: Wisconsin Department of Administration & 2020 Census

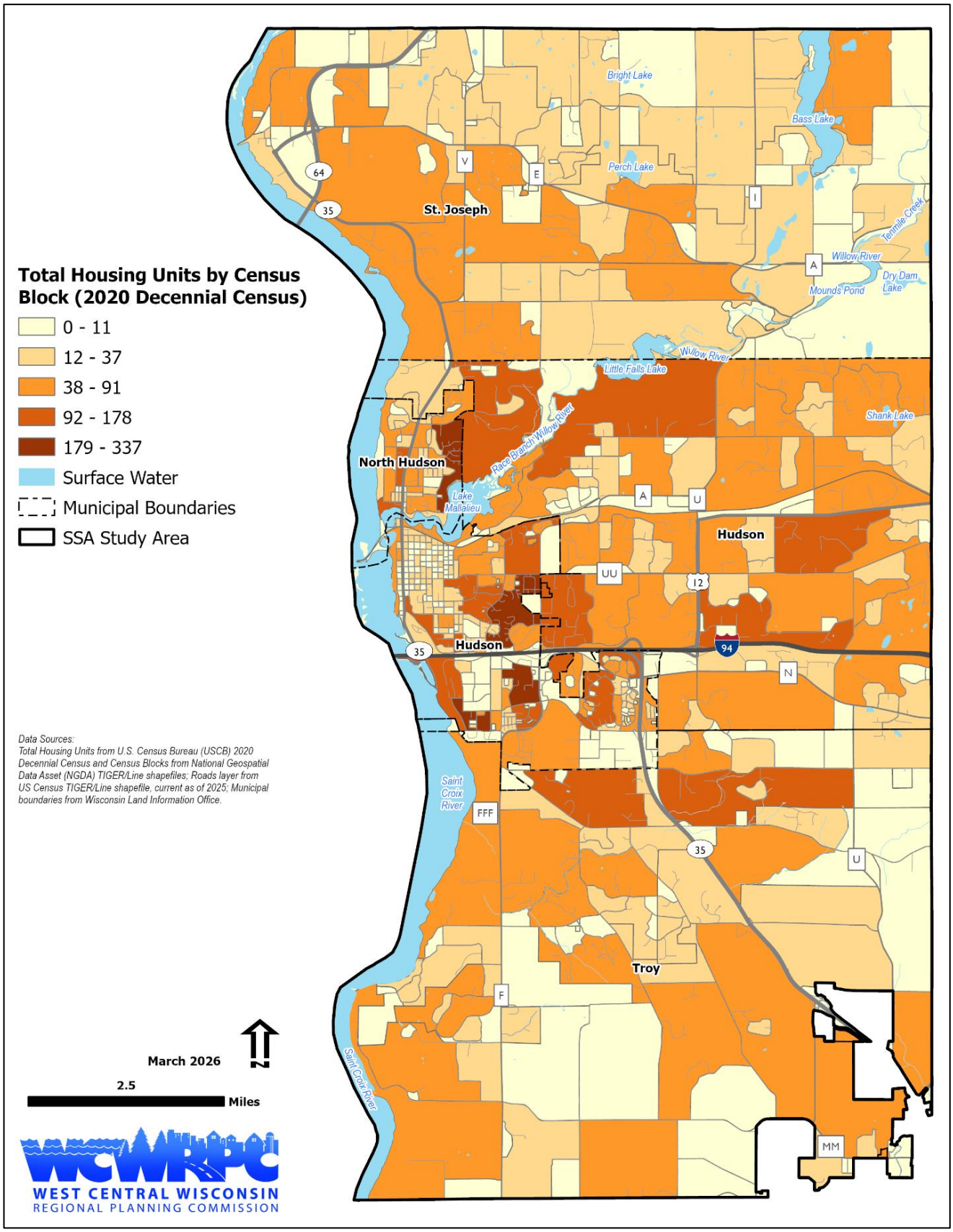
Table 4.3 lists Census data for the number of housing units by community. Between 2014-2024, the Study Area added roughly 185 housing units per year. Since 2020, the Village of North Hudson is estimated to have lost 4.75 units per year, while the City of Hudson has added 81 units per year. Housing growth within the Study Area is not limited to the incorporated communities. The Town of Hudson added 72.25 housing units per year since 2020, and the Town of Troy has been adding another 48.5 units annually.

Table 4.3 Total Housing Units by Community 2010-2024

Place	2010 (c)	2011 (a)	2012 (a)	2013 (a)	2014 (a)	2015 (a)	2016 (a)	2017 (a)	2018 (a)	2019 (a)	2020 (c)	2021 (a)	2022 (a)	2023 (a)	2024 (a)
T Hudson	2,767	2,790	2,720	2,736	2,868	2,945	2,861	2,939	3,020	3,025	2,950	2,865	2,898	3,015	3,239
T St. Joseph	1,511	1,518	1,564	1,595	1,575	1,481	1,496	1,499	1,605	1,526	1,644	1,759	1,884	1,808	1,793
T Troy	1,819	1,688	1,838	1,900	1,923	1,989	2,036	1,976	1,962	1,968	2,094	2,024	2,043	2,122	2,288
V North Hudson	1,552	1,523	1,494	1,467	1,471	1,465	1,569	1,647	1,744	1,780	1,624	1,645	1,657	1,657	1,605
C Hudson	5,642	5,753	5,910	6,066	6,075	6,078	5,913	5,909	5,925	5,985	6,510	6,399	6,602	6,696	6,834
Unincorporated Towns	6,097	5,996	6,122	6,231	6,366	6,415	6,393	6,414	6,587	6,519	6,688	6,648	6,825	6,945	7,320
Incorporated Communities	7,194	7,276	7,404	7,533	7,546	7,543	7,482	7,556	7,669	7,765	8,134	8,044	8,259	8,353	8,439
Study Area	13,291	13,272	13,526	13,764	13,912	13,958	13,875	13,970	14,256	14,284	14,822	14,692	15,084	15,298	15,759

source: U.S. Census Bureau: (c) = Decennial Census, (a) = ACS 5-Year Estimate

Map 4.2 2020 Housing Units by Census Block



Housing unit types and residential development splits

Table 4.4 shows the units by structure type according to the 2024 5-Year ACS estimate. Towns feature predominantly single-family / duplex development (95.2%) over multi-family (2.6%). While most units in the City of Hudson are also single-family / duplex development (74.5%), multi-family units make up just under a quarter of the housing stock (23.4%).

Table 4.4 2024 Residential Structures by Type

	1-Unit, Detached		1-Unit, Attached		2 Units		3+ Units (Multi-Family)		Mobile Home		Total
Place	#	% (of Total Units)	#	%	#	%	#	%	#	%	#
T Hudson	2,871	88.6%	171	5.3%	35	1.1%	128	4.0%	34	1.0%	3,239
T St. Joseph	1,760	98.2%	0	0.0%	0	0.0%	23	1.3%	10	0.6%	1,793
T Troy	2,075	90.7%	57	2.5%	0	0.0%	36	1.6%	120	5.2%	2,288
V North Hudson	1,310	81.6%	136	8.5%	42	2.6%	117	7.3%	0	0.0%	1,605
C Hudson	3,681	53.9%	1,131	16.5%	281	4.1%	1600	23.4%	141	2.1%	6,834
Unincorporated Towns	6,706	91.6%	228	3.1%	35	0.5%	187	2.6%	164	2.2%	7,320
Incorporated Communities	4,991	59.1%	1,267	15.0%	323	3.8%	1,717	20.3%	141	1.7%	8,439
Study Area	11,697	74.2%	1,495	9.5%	358	2.3%	1,904	12.1%	305	1.9%	15,759

source: 2020-2024 ACS, S25024

In recent years, the percentage of new, more affordable multi-family development vs. new single-family homes within the City of Hudson has been increasing. According to the 2024 St. Croix County Housing Survey, the following were the reported percentages of housing units (not structures) built from 2000 through part of 2024:

City of Hudson – 15% single-family, 8% duplex, 77% 5+ units (net change +398 units)
Village of North Hudson – 100% single-family (net change +75 units)

Available land for development is primarily located in pockets of largely single-family neighborhoods surrounding the City of Hudson. After consideration of trends, comprehensive plans, development proposals, and discussion with the Water Quality Advisory Committee, **it was determined that a split of 60% single-family / duplex and 40% multi-family would allow some flexibility in the types of development to be built during the 20-year planning period** within new sewered growth areas along the City's and Village's periphery.

Population per household

Table 4.5 shows that average household size has decreased since 2010 for the Study Area. In 2010, communities within the Study Area had an average household size of 2.63 persons (using a weighted average based on number of households). The average dropped slightly to 2.58 persons per household in 2020. Unincorporated communities have had a higher average of roughly 2.86 persons in 2020, while **incorporated communities had a weighted average of 2.33 persons per household.** Decreasing household size can support demand for additional housing units, even when the total population remains stable or declines.

Table 4.5 Average Housing Size, 2010-2024

Place	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
T Hudson	3.13	2.96	3.08	3.09	2.98	2.97	3.07	3.01	2.93	2.89	2.98	3.03	3.06	2.95	2.77
T St. Joseph	2.58	2.72	2.65	2.61	2.81	2.99	2.92	2.92	2.76	2.77	2.70	2.36	2.26	2.39	2.42
T Troy	2.93	2.96	2.93	2.9	2.84	2.82	2.76	2.73	2.79	2.81	2.82	2.88	2.85	2.76	2.62
V North Hudson	2.56	2.56	2.55	2.6	2.59	2.6	2.43	2.31	2.31	2.24	2.39	2.54	2.66	2.52	2.61
C Hudson	2.33	2.29	2.24	2.2	2.23	2.27	2.33	2.34	2.37	2.37	2.32	2.32	2.26	2.27	2.24
Weighted Averages (by number of households)															
Unincorporated Towns	2.93	2.90	2.93	2.92	2.90	2.93	2.94	2.90	2.85	2.84	2.86	2.80	2.77	2.75	2.64
Incorporated Communities	2.38	2.35	2.30	2.28	2.30	2.34	2.35	2.33	2.36	2.34	2.33	2.36	2.33	2.32	2.31
Study Area	2.63	2.60	2.59	2.56	2.57	2.61	2.62	2.59	2.58	2.57	2.58	2.57	2.53	2.51	2.46

source: U.S. Census, 2020 Decennial Census and ACS 5-Year Estimates

4.1.2 Population & Household Characteristics

Median Age

Table 4.6 shows the median ages of residents in the communities in the Study Area. Over the past decade, the median age has been steadily increasing in all Study Area communities. Higher median ages reflect longer life expectancy and decreasing birth rates, but also influence other social factors such as average household size.

Table 4.6 Median Age – 2010-2020

Place	2010	2020	Change
Town of Hudson	38.1	42.6	+ 4.5
Town of St. Joseph	42.9	45.2	+ 2.3
Town of Troy	41	44	+ 3
Village of North Hudson	38.9	41.8	+ 2.9
City of Hudson	35.4	40.4	+ 5
St. Croix County	36.7	39.9	+ 3.2
State of Wisconsin	38.5	40.1	+ 1.6
Weighted Averages (by population)			
Unincorporated Towns	40.0	43.6	+ 3.6
Incorporated Communities	36.2	40.7	+ 4.5
Study Area	38.1	42.1	+ 4.0

source: U.S. Census, Tables P13 and DP1

Births, Deaths, and Migration

To provide further insight into local demographic trends, **Table 4.7** shows the fertility and death rates for St. Croix County for 2010, 2020, and 2024. Birth and fertility rates in the area continue to decline, while the death rates have increased.

These trends become even more apparent in **Figure 4.1**. The chart shows a slow decline in the number of births in St. Croix County during the 2010s, though this has rebounded in recent years. The County's births are still exceeding the number of deaths, but the margin has been reduced significantly (from 551 in 2014 to 309 in 2024). It is likely that the margin between the number of

births will continue to shrink in the coming years given the increase in median ages across the County and existing fertility and mortality trends.

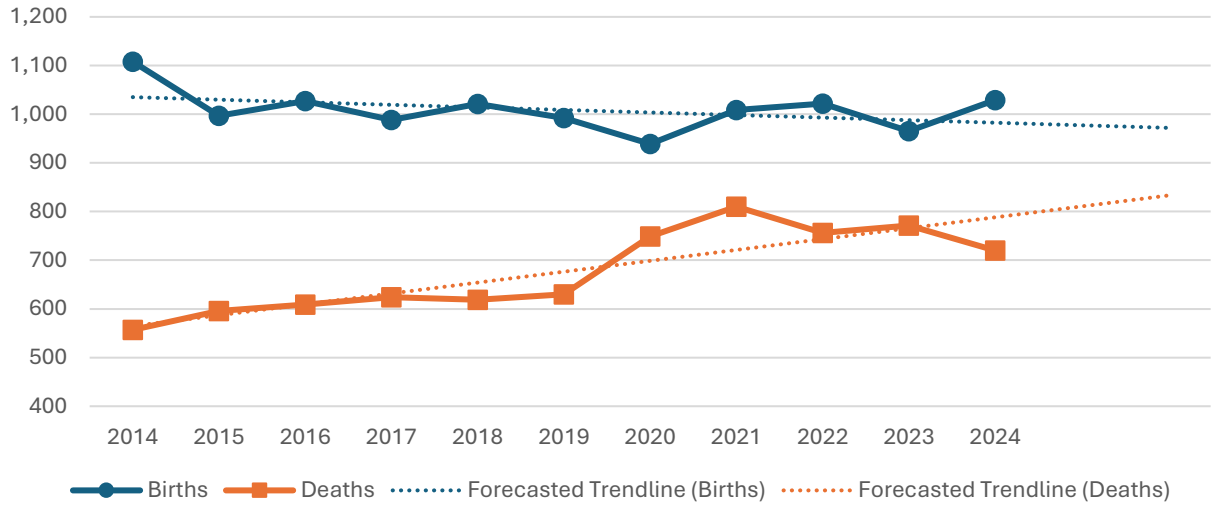
Table 4.7 St. Croix County Fertility and Deaths, 2010-2024

St Croix County	2010	2020	2024	Change ('10-'24)
number of births	1,119	939	1,029	-8.04%
fertility rate (births per 1,000 women ages 15-44)	67.9	54.8	54.8	-19.29%
number of deaths	541	749	720	33.09%
death rate (deaths per 100,000 population)	641	797.9	735	14.66%

source: Wisconsin Department of Health Services

The fertility rate on a national level continues to decline due to a number of factors including concern over a growing population and its demand on natural resources, the general state of the economy, married couples in which both partners work outside of the home, those same married couples having fewer or even no children, a smaller percentage of marriages, and increased divorce rates. St. Croix County appears to be following this trend as well.

Figure 4.1 St. Croix County Births and Deaths 2013-2023



source: Wisconsin Department of Health Services

To estimate in-migration, the following formula is used:

Beginning of decennial population + Births – Deaths = Expect population from Natural Increase

Actual end of decennial population – Expected end of decennial population = Net In-Migration

Table 4.8 shows in-migration constitutes 63.4% of population growth in St. Croix County. In-migration is a significant component of the area's population increase and will likely remain so given its proximity to Minneapolis / St. Paul.

Table 4.8 St. Croix County Net Migration – 2000-2020

	2000 Pop.	Expected 2020 Pop. from Natural Increase	Actual 2020 Pop.	Net Migration
St. Croix County	63,155	74,264	93,536	+19,272

sources: U.S. Census; Wisconsin Department of Health Services

It is important to remember that the Study Area represents roughly 28% of the population in St. Croix County, so countywide birth, death, and migration trends are also influenced by communities outside the Study Area. Such data is not readily available at the municipal level for most communities.

4.1.3 Population & Household Projections

NR 121 requires that the SSA Plan include population forecasts for 20 years in 5-year increments consistent with the forecasts or forecast methodology developed by the Wisconsin Department of Administration. The sewer service area must be delineated based on these 20-year population forecasts.

Table 4.9 provides insight into the population trends for the Study Area as provided by the U.S. Census (2010 & 2020) and the Wisconsin Department of Administration (2025-2050).[4] As a whole, the Study Area increased in total population between 2010 to 2025 by 14.7%, or 0.98% annually. The Department of Administration's projections suggest that the area will experience a slower rate of growth between 2025 and 2050, 0.16% annually, with most of this growth occurring within the City of Hudson.

Table 4.9 Population Growth and Projections

Community	Census		WDOA Estimate	2024 WDOA Population Projections					
	2010	2020	2025	2025	2030	2035	2040	2045	Change ('25-'45)
Town of Hudson	8,461	8,671	8,887	8,584	8,496	8,478	8,460	8,273	-3.62%
Town of St. Joseph	3,842	4,178	4,440	4,258	4,338	4,438	4,537	4,531	6.41%
Town of Troy	4,705	5,518	5,671	5,506	5,494	5,522	5,549	5,460	-0.84%
Village of North Hudson	3,768	3,803	3,906	3,753	3,703	3,685	3,666	3,576	-4.72%
City of Hudson	12,719	14,755	15,508	15,180	15,604	16,082	16,560	16,634	9.58%
Unincorporated Towns	17,008	18,367	18,998	18,348	18,328	18,438	18,546	18,264	-0.46%
Incorporated Communities	16,487	18,558	19,414	18933	19307	19767	20226	20210	6.74%
All Study Area Communities	33,495	36,925	38,412	37,281	37,635	38,205	38,772	38,474	3.20%

source: U.S. Census Bureau, Wisconsin Department of Administration

[4] The Wisconsin Department of Administration (WDOA) prepares the official population estimates and projections for the State of Wisconsin. The latest projections released in December 2024 for the years 2030, 2040, and 2050; the projections for 2035 and 2045 in the table were included by WCWRPC as the 5-year average change between WDOA's projection years.

Every community in the Study Area has a 2025 WDOA population estimate that exceeds their 2025 WDOA projected population. Hudson's 2025 population estimate is already nearing the 2030 projection, while North Hudson's 2025 estimate already exceeds the 2030 estimate by over 5% of its total population.

The WDOA projections also seem to be inconsistent with recent housing construction trends. From 2020-2024 (part), the City experienced a net increase of 79.6 housing units per year. The Village's net increase was 15 units per year during the same time period. The City's high housing growth rate may be partially explained by the extremely tight housing market with very, very low vacancy rate as developers work to meet existing demand. Regardless of whether housing is being built to address existing or projected demand, all City and Village growth will need sanitary sewer.

To account for these concerns, **the 20-year growth rate identified in the 2024 population projections are applied to the 2025 population estimates.** The totals for these modified estimates can be found in **Table 4.10**.

Table 4.10 Modified WCWRPC 2045 Population Estimates

Community	WDOA 2025 Estimate	2024 WDOA Population Projections % Change (2025-2045)	WCWRPC 2045 Estimate
Town of Hudson	8,887	-3.62%	8,565
Town of St. Joseph	4,440	6.41%	4,725
Town of Troy	5,671	-0.84%	5,624
Village of North Hudson	3,906	-4.72%	3,722
City of Hudson	15,508	9.58%	16,993
Unincorporated Towns	18,998	-0.46%	18,913
Incorporated Communities	19,414	6.74%	20,715
All Study Area Communities	38,412	3.20%	39,629

4.1.4 Employment & Commuting Trends

The City of Hudson is a regional commercial hub for west-central Wisconsin. From 2020 to 2025, jobs in the Hudson 54016 zip code increased by 14.2% from 14,985 to 17,108. This change outpaced the national growth rate of 10.7% by 3.5%. Jobs in the Hudson zip code represents about 41% of all jobs in St. Croix County.

The Wisconsin Department of Workforce Development estimates that St. Croix County added 4,902 jobs between 2020 and 2025. Employment numbers in 2025 are well-distributed across four industry clusters: Manufacturing (16.6% of all jobs), Health Care and Social Assistance (13.9%), Retail Trade (12.5%), and Government (11.9%). The Retail Trade and Health Care and Social Assistance industry clusters added the most jobs between 2020 and 2025, while the highest growth rates were in smaller industry clusters including Educational Services (+50%), as well as Arts, Entertainment, and Recreation (+38%). **Table 4.11** provides a breakdown of employment by industry in St. Croix County.

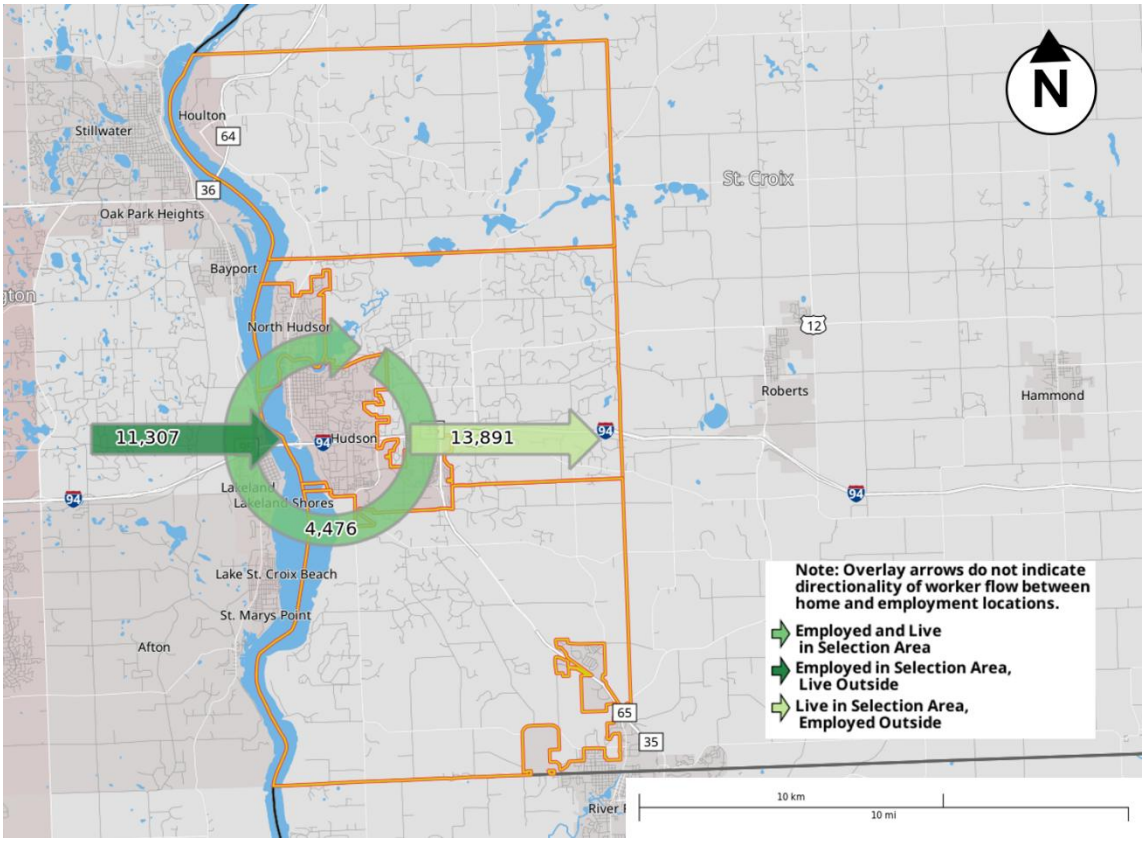
Table 4.11 Industry Employment 2020-2025, St. Croix County

NAICS	Description	2020 Jobs	2025 Jobs	2020 - 2025 Change	2020 - 2025 % Change
11	Agriculture, Forestry, Fishing and Hunting	533	606	72	14%
21	Mining, Quarrying, and Oil and Gas Extraction	<10	11	Insf. Data	Insf. Data
22	Utilities	62	72	10	16%
23	Construction	2,359	2,680	321	14%
31	Manufacturing	6,729	6,992	263	4%
42	Wholesale Trade	1,581	1,878	296	19%
44	Retail Trade	4,446	5,278	833	19%
48	Transportation and Warehousing	1,165	1,357	192	16%
51	Information	224	207	(18)	(8%)
52	Finance and Insurance	1,037	1,117	80	8%
53	Real Estate and Rental and Leasing	266	287	21	8%
54	Professional, Scientific, and Technical Services	1,621	1,665	43	3%
55	Management of Companies and Enterprises	169	166	(3)	(2%)
56	Administrative and Support and Waste Management and Remediation Services	1,188	1,375	186	16%
61	Educational Services	205	307	102	50%
62	Health Care and Social Assistance	5,052	5,879	827	16%
71	Arts, Entertainment, and Recreation	629	869	240	38%
72	Accommodation and Food Services	3,574	4,260	685	19%
81	Other Services (except Public Administration)	1,789	2,145	356	20%
90	Government	4,610	4,995	385	8%
99	Unclassified Industry	0	0	0	0%
TOTAL		37,242	42,144	4,902	13%

source: Lightcast Q1 2026 Data Set, Wisconsin Department of Workforce Development

Figure 4.2 shows the commuter trends within the Study Area. According to 2023 Census data, 71.6% of the Study Area's work force commutes in from other communities. Nearly 13,900 working residents within the Study Area primarily work outside of it, with 75.6% commuting to other counties for employment. Having such high commuter levels into and out of the Study Area emphasizes the interconnectedness between it and the Minneapolis / St. Paul urban area.

Figure 4.2 2023 Inflow / Outflow Job Counts for Study Area



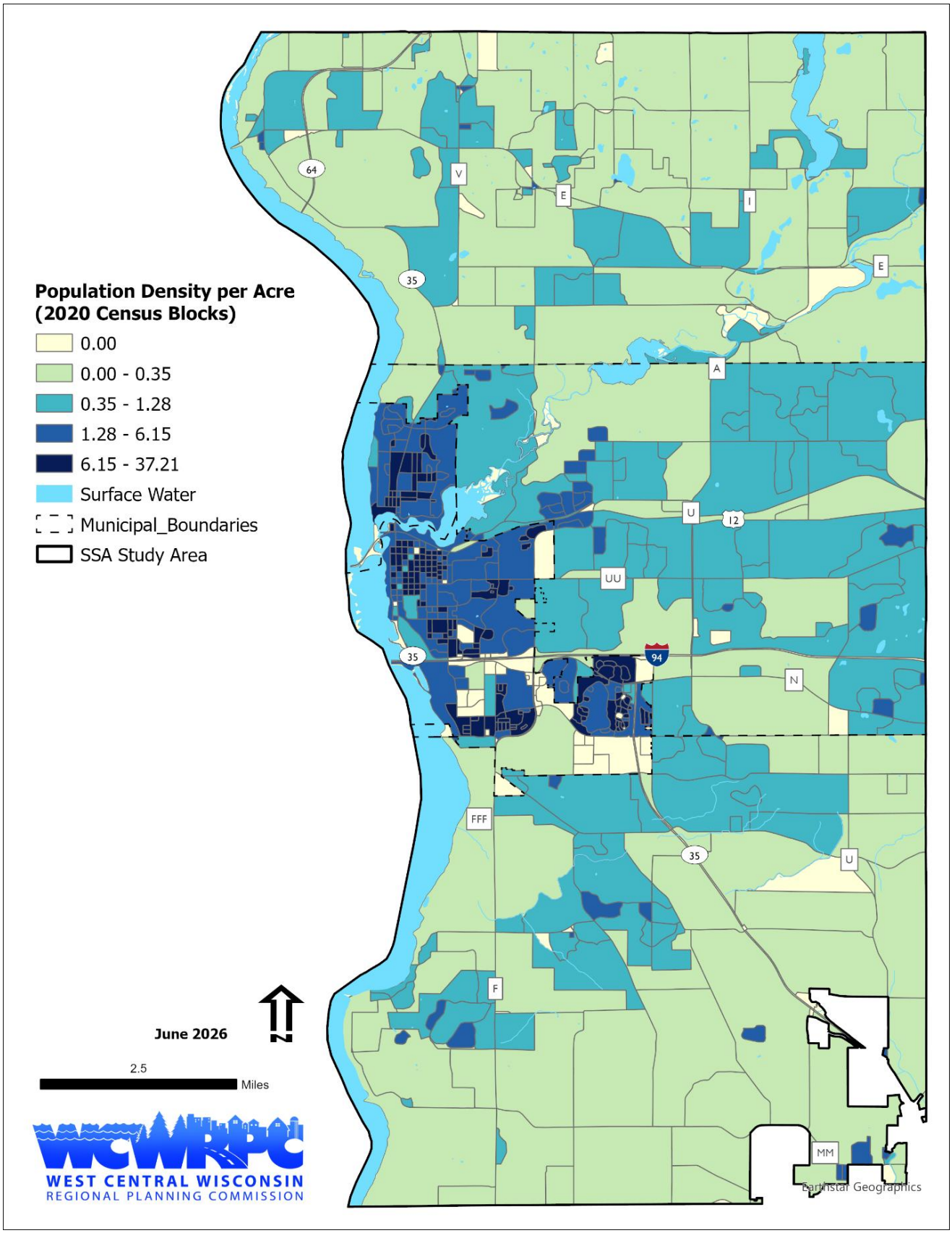
Source: U.S. Census Bureau

4.2 Growth Characteristics

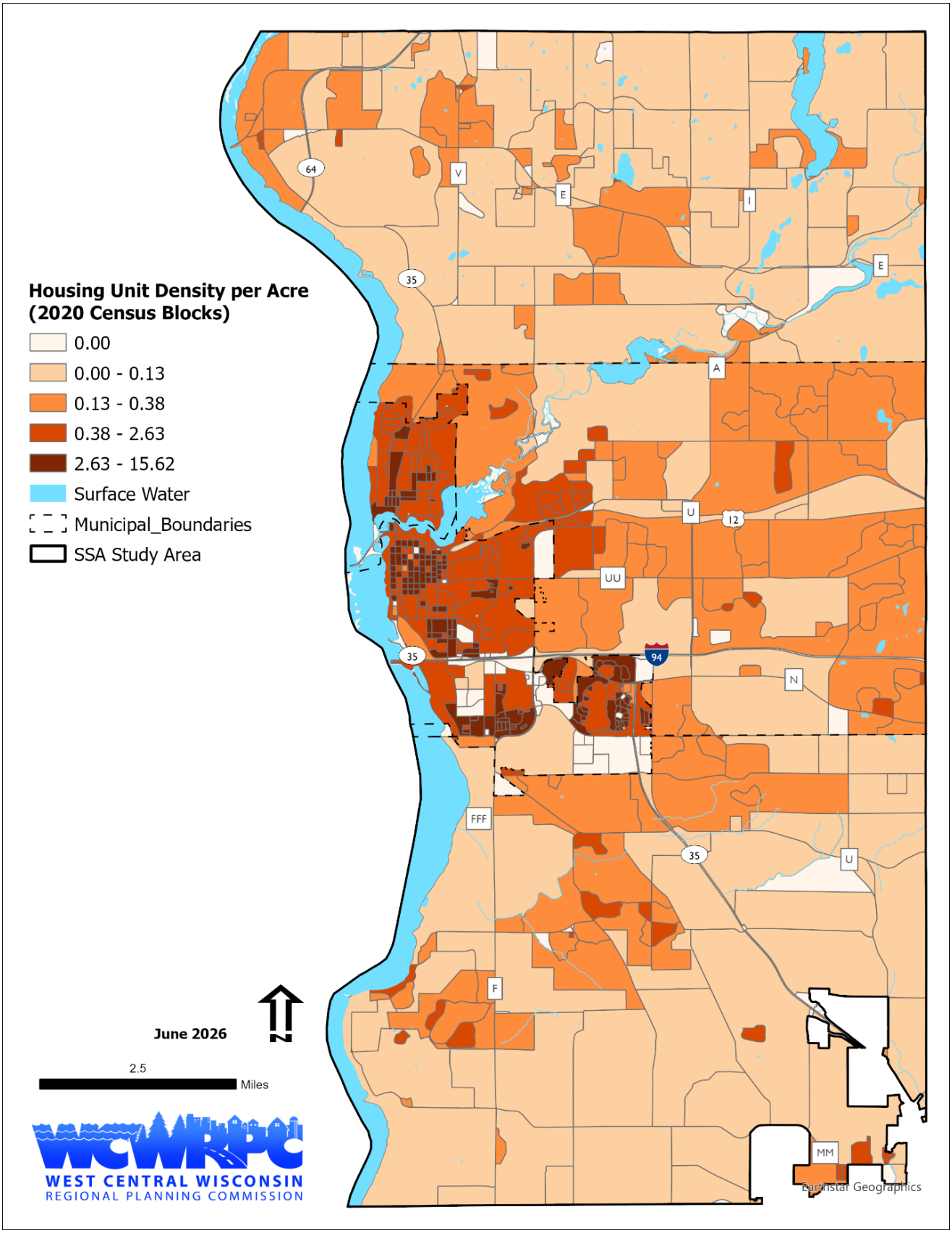
4.2.1 Study Area Population Distribution

Maps 4.3 and 4.4 show population and housing unit densities across the Study Area. Most people and housing units are concentrated within the City of Hudson and the Village of North Hudson. There are higher-density subdivision development in unincorporated areas near the City and Village, limiting the land available in the future for new sewered development.

Map 4.3 Distribution of Population by Census Block



Map 4.4 Distribution of Housing Units by Census Block



4.2.2 Study Area Land Use Trends & Patterns

Development of land is occurring across the Study Area. **Table 4.12** shows the total acreage of land classified as residential, commercial, or industrial increased by 1,108 acres between 2020 and 2025, or 4.40%. Residential development is the primary driver of the increased acreage. It is important to note that commercial and industrial uses can be assigned interchangeably, so this plan consolidates commercial and industrial assessments for projections as non-residential development. The total acreage of non-residential development within the incorporated communities declined by 60 acres.

Table 4.12 Assessment by Land Classification, 2019-2024

	Acres		
	Residential	**Commercial**	**Industrial**
Town of Hudson			
2020	8,143	497	111
2025	8,415	505	111
Town of St. Joseph			
2020	6,693	303	4
2025	6,855	305	3
Town of Troy			
2020	5,680	502	4
2025	6,270	585	4
Village of North Hudson			
2020	631	76	2
2025	630	78	0
City of Hudson			
2020	1,294	1,053	166
2025	1,347	1,014	145
Unincorporated Towns			
2020	20,516	1,302	119
2025	21,540	1,395	118
Incorporated Communities			
2020	1,925	1,129	168
2025	1,977	1,092	145
Study Area			
2020	22,441	2,431	287
2025	23,517	2,487	263

Source: Wisconsin Department of Administration, Final Statement of Assessment

Residential Growth Trends & Densities

Most development in the Village of North Hudson has been infill of undeveloped lots. The most recent subdivision development has been in the Village's northeast. Due to environmental and land use constraints, growth could only occur to the north and northeast. The City of Hudson has also seen development of many infill lots. Newer subdivisions and multi-family developments have been constructed in the City's south and east. Additional sewered development will either require redevelopment or infill within the City or through grow within undeveloped lots at the City's periphery, which are limited by the significant amount of existing unsewered development.

Recent sewered residential development patterns were analyzed for determining infrastructure demands and unit sizes deemed appropriate by the market. **Table 4.13** provides insights into the amount of infrastructure and development densities for selected subdivisions. Infrastructure, primarily streets/right-of-way and stormwater facilities, can constitute 20%-30% of a subdivision's total area. Residential lots averaged 0.10 to 0.32 acres per unit.

Table 4.13 North Hudson & Hudson Density of Sewer Subdivision Developments

		Infrastructure					
Subdivision	**Total Acreage**	**Acres**	**% of Total Acreage**	**Acres**	**Units**	**Density (acres / unit)**	**Development Type**
Village of North Hudson							
The Ridges	59.63	15.77	26.7%	43.86	120	0.32	Single-Family / Duplex
City of Hudson							
Hudson Meadows	29.00	6.92	23.9%	22.08	127	0.17	Single-Family / Duplex
Aspen Apartments	5.52	0.00	0.0%	5.52	72	0.10	Multi-Family
Gray's Landing	4.27	0.00	0.0%	4.27	45	0.15	Multi-Family
Cedar Ridge Apartments	10.12	0.96	9.5%	9.16	72	0.10	Multi-Family
				Does not include roads and outlots			

Comprehensive plans recognize that new residential development may be at a higher density than in the past, though the density will likely be higher within the City of Hudson compared to the Village. According to the City of Hudson's Comprehensive Plan:

> "The City of Hudson's zoning districts have strict density requirements for each residential zone…Relaxing density requirements in targeted zoning districts can help direct new development to appropriate locations that will better serve the City's housing needs. Increase housing density in appropriate areas of the City to increase the housing supply and better match the demand for a variety of housing types. Over the next 20 years, it is anticipated that overall density will increase, with a focus on encouraging planned industrial and commercial growth in the I-94 corridor and new residential development in the southeast area of the City. "

NR121.05(g)2.b. requires the establishment of municipally approved population density standards.

For this SSA Plan, the following are the locally approved average residential population densities for urban, sewered development:

- **0.25 acres per unit for single-family and duplex structures, and;**
- **0.125 acres per unit for 3+ unit structures.**

Commercial / Industrial Growth Trends

Most recent commercial and industrial development has been focused along the I-94 corridor; the Village of North Hudson has experienced very limited commercial development in recent years. It is anticipated this trend will continue, and the City of Hudson is prioritizing infill development between Carmichael Road and State Road 12. Existing industrial parks to the south of I-94 will also likely be expanded to accommodate non-residential development.

Commercial and industrial acreage was reviewed using assessment data and developing a per capita acreage for density. Staff with the Village of North Hudson do not anticipate any future non-residential development, so a density was calculated using only the City of Hudson's acreage and population. **Table 4.14** shows the acreage assessed as Commercial and Industrial for 2014 and 2024. The acreage for both categories has increased over the 10-year period.

Table 4.14 2025 Per Capita Non-Residential Acreage, City of Hudson

City of Hudson				
Year	**Population**	**Assessed Acreage**		**Acres Per Capita**
2025	15,508	Commercial	1,014	0.065
		Industrial	145	0.009

source: 2025 WDOA Population Estimates & 2025 Wisconsin Department of Revenue Statement of Assessment

4.2.3 Redevelopment & Infill Opportunities

To help determine where new sewer service may be needed over the 20 years to support residential growth, redevelopment or "infill" opportunities within currently sewered areas must first be considered and removed from the projected new demand; these are currently sewered areas that can potentially be further developed.

Map 4.5 shows the pockets of remaining infill opportunities within the City of Hudson and Village of North Hudson, categorized by their preferred future land use. These parcels met two factors: they were greater than 5 acres, and they have less than $10,000 of assessed improvement value. ESAs pose some challenges to fully developing lots.

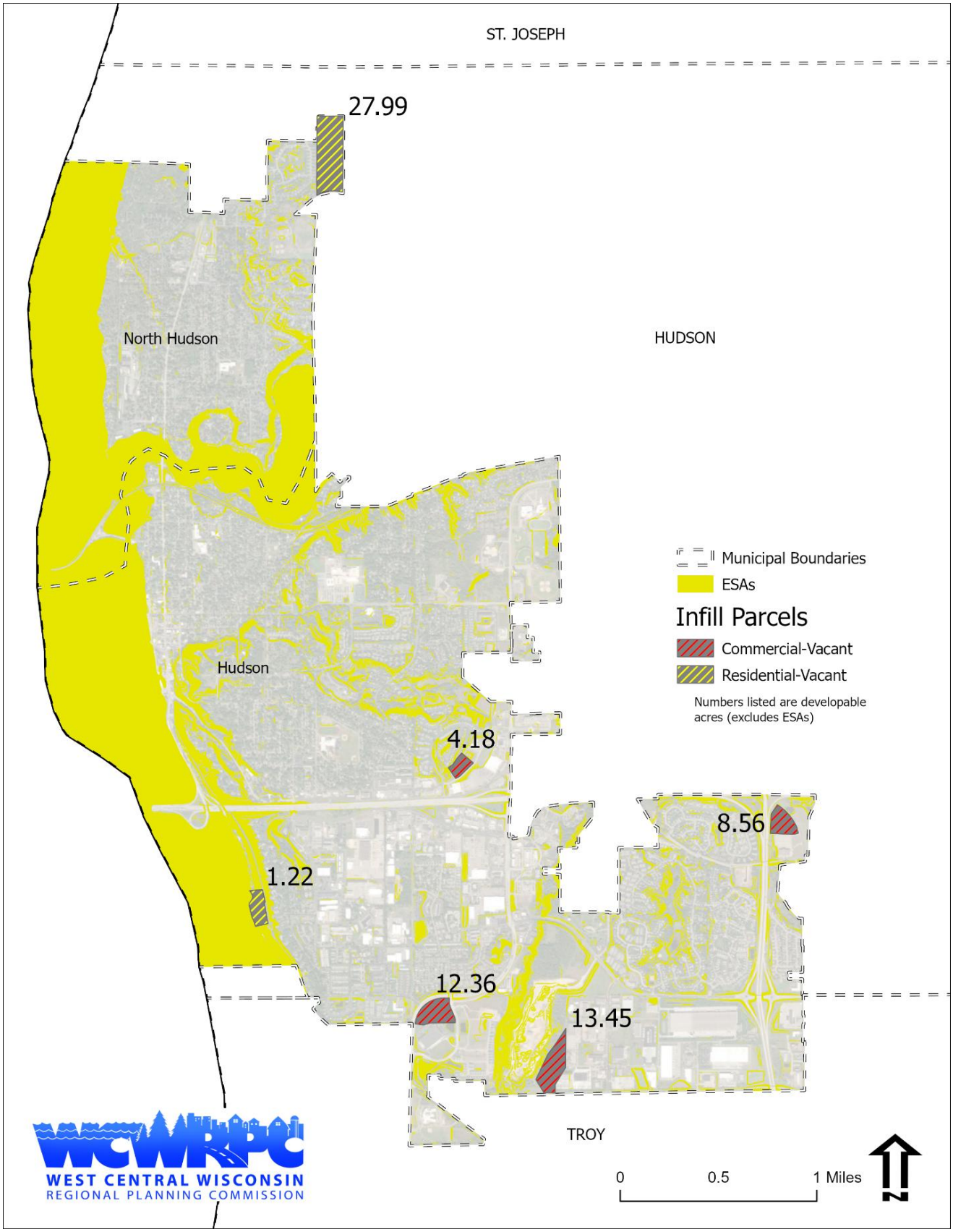
This analysis identified 84.21 acres of potentially developable land within the incorporated limits. After removing identified ESAs, the developable acreage totaled 67.76 acres. It was noted that two of the "Commercial-Vacant" lots, totaling 22.01 acres, are owned by Phillips Medisize and the Mayo Clinic. These lots are likely to develop as expansions for existing facilities. **Table 4.15** shows the breakdown of developable land within the City and Village identified in **Map 4.5**.

Table 4.15 Developable Acreage of Incorporated Community Infill Parcels

Infill Parcel Type	Total Acres	Acres in ESA	Developable
Commercial	43.38	4.82	38.56*
Residential	40.83	11.62	29.21
Total	**84.21**	**16.44**	**67.76***

**if excluding the Phillips Medisize and Mayo Clinic expansion parcels, the totals become 16.55 developable commercial acres and 45.75 total developable acres*

Map 4.5 Infill Properties



4.3 Land Use Plans & Boundary Agreements

4.3.1 Comprehensive / Future Land Use Plans

Table 4.16 summarizes the status of comprehensive and land use planning for the municipalities within the Study Area at the time this plan was completed.

Table 4.16 Comprehensive Plan Summary for Study Area Communities

Place	Comprehensive Plan Years (adopted)	Growth Areas or Projections
Town of Hudson	2020-2040 (December 2023)	• "Based solely on population projections and existing acreage, an additional 6,163 acres of land are projected to be needed for residential use by 2040, 1,554 acres of agriculture use, and 407 acres of commercial use." (p. 30, population projections pre-date 2024 vintage DOA projections) • The Projected Land Demand table on page 30 further indicates an additional 535 acres for agriculture / residential and 109.5 acres for manufacturing is needed by 2040. • "Industrial areas should be located near regional transportation routes." (p. 45)
Town of St. Joseph	2015-2035 (December 2016)	• "According to the Wisconsin state demographic services, the Town of St. Joseph is expected to have an 8.5 percent increase in households between 2015 and 2020. This growth rate is expected to slow down gradually over the next two decades." (p. 3.13, population projections pre-date 2024 vintage DOA projections) • "Based on projected household growth and potential commercial development the following changes in land use are anticipated, estimating future residential and commercial growth. These numbers assume a growth of 414 households from 2015 to 2040. Of these, 339 new households would be absorbed by the existing vacant platted residential lots in the Town, on 997 acres, through 2035. The remaining 75 new households would develop on three acres of land plus one acre of right-of-way apiece, for a total of an additional 300 acres between 2035 and 2040. Commercial growth is difficult to predict, but is estimated at four acres every five years, or 20 acres from 2015 to 2040." (p. 9.9, population projections pre-date 2024 vintage DOA projections)

Town of Troy	2014-2034 (May 2014)	• The Town of Troy is currently updating its comprehensive plan, so the summaries below from its 2014 Plan may no longer be fully relevant. The draft plan update envisions a commercial growth area generally in the Glover Road area. This commercial growth area would take advantage of STH 35 access at the Glover Road intersection and the Town is contemplating that this area could become a sanitary district in the future so that the commercial growth could be sewered. • From the 2014 Plan: o "The Town of Troy can expect approximately 2,970 additional housing units at total build-out (1,130 new housing units over the next 20 years). Based on the current number of people per household (2.86) this would result in an additional 8,494 people. The total population of Troy at maximum build-out would likely be about 13,500. We estimate that 360 homes would come from existing subdivision inventory, 260 from undeveloped ag-res zoned land and 2,350 from TDR programs on exclusive-Ag land." (p. 6-3, population projections pre-date 2024 vintage DOA projections) o "The Town expects that the new Radio Road/S.T.H. 35 interchange and S.T.H. 35 corridor to the north will create pressure for future commercial development in this area. This is the area where commercial development pressure is expected and planned for and is the area that will be identified on the future official zoning map as Land Eligible for Commercial Rezoning (LECR). The Town believes that future commercial development should be located in this area. The Town will identify land contiguous to S.T.H. 35 as an area eligible for future commercial rezoning." (p. 6-4) o "Between 2014 and 2035 the Town will require approximately 3,140 acres of land to accommodate projected residential growth… It is projected that there will be 280 additional acres for future commercial growth… Industrial growth is not anticipated over the next 20 years in the Town of Troy… It is assumed that agricultural land will be converted for future residential and commercial growth. Therefore, the amount of land used for agricultural purposes will be reduced by 4,400 acres." (p. 6-5) • The Town of Troy also implements a Farmland Preservation Program and has protected over 1,500 acres of prime farmland under conservation easements through a market-driven transfer of development rights (TDR) program.

Village of North Hudson	2025-2045 (January 2026)	• "It is anticipated that the largest need for land in the future will be for residential development. The Village may consider converting commercial and industrial zoned land uses to residential or mixed use to meet the demand." (p. 92)
City of Hudson	2020-2040 (December 2021)	• "The City of Hudson is expected to experience significant population growth in the coming decades, which coincides with expected economic growth." (p. 3-8) • "Based on the population projected for 2020 to 2030, a demand of 1,586 housing units or approximately 160 dwelling units per year are needed." (p. 9-6, population projections pre-date 2024 vintage DOA projections) • "Areas of residential development in the future will include the Carmichael Road corridor north of I-94 and an area along the CTH F corridor south of the River Crest Elementary School." (p. 9-7) • "Future expansion of commercial land uses is anticipated through the development of undeveloped or underdeveloped lands, including along the Carmichael Road corridor from I-94 to Vine Street for potential expansion of the commercial base." (p. 9-7) • "…locations for future industrial development include the expansion of the St. Croix Business Park to the south and/or east, and the potential conversion of undeveloped commercial properties to industrial and mixed-use commercial/industrial business parks." (p. 9-7)
St. Croix County	2024-2045 (adopted March 2024, amended March 2025)	• "There is sufficient supply of land in St. Croix County to meet the residential, commercial, and industrial growth needs in all the municipalities if agricultural land is converted to other uses." (p. 54) • All towns within the Study Area have their own zoning and Comprehensive Plans which supersede the County's Comprehensive Plan.

4.3.2 Boundary Agreements and Plans

While there are intergovernmental agreements for various services, stormwater management, etc., throughout the Study Area, no formal intergovernmental boundary agreements have been identified for communities within the Study Area. Starting on January 1, 2026, the City of Hudson assumed control of the Village of North Hudson's water and wastewater infrastructure and facilities.

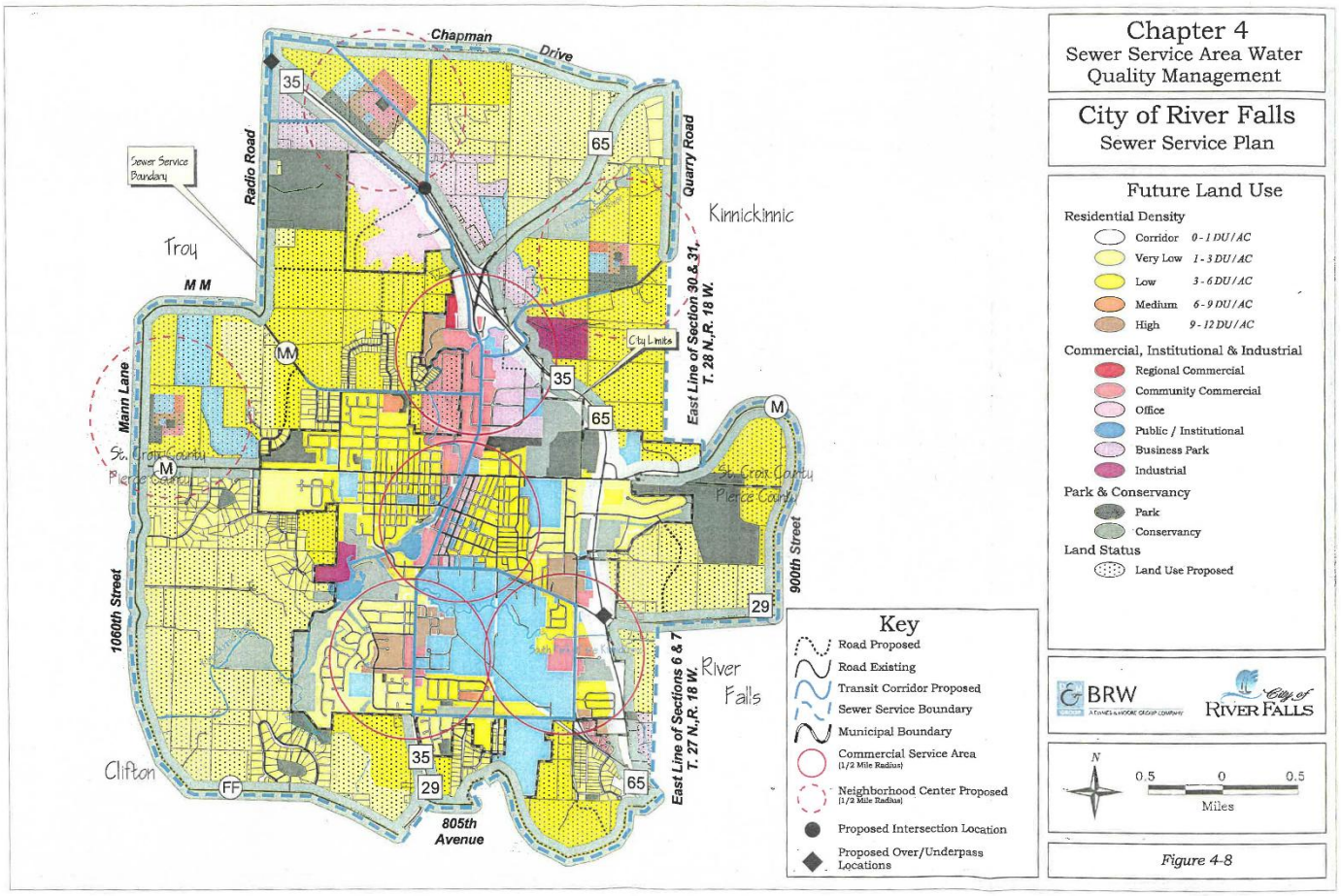
As of July 2026, the Town of Troy and City of Hudson are in the process of developing a cooperative boundary agreement, which will be consistent with the comprehensive plans of both

the Town and City. Representatives from the Town and City met with WCWRPC during the SSA Plan update to ensure that the SSA plan boundary will consider the boundary agreement plans, including the possibility of extending sanitary sewer from the City of Hudson to the Town of Troy's "Glover Road" commercial growth area along the State Highway 35 corridor.

4.3.3 City of River Falls Sewer Service Area

WDNR has indicated that SSA plan boundaries for two different SSA plans must not overlap. To the south, the City of River Falls maintains its own sewer service area plan, which was last fully updated in 2000 and approved by WDNR. The City has prepared a SSA Plan update and is working to address WDNR comments on that update. During the 2026 Hudson SSA Plan update, it was recognized that noted that the relationship between the Town of Troy and City of River Falls had become strained in recent years and joint planning had not been taking place. In late Spring 2026, WCWRPC discussed the potential for future cooperative planning with the River Falls City Planner who indicated that there is a renewed interest by the current City administration to engage with the Town in joint planning; no specific growth areas were discussed. **Map 4.6** shows the 2000 River Falls Urban Sewer Service Area boundary.

Map 4.6 City of River Falls SSA Boundary (from 2000 SSA Plan)



4.4 Forecast of Urban (Sewered) Growth

4.4.1 Methodology for Forecasting Urban Growth

For projecting potential sewered, urban growth in the Study Area, the following assumptions are used:

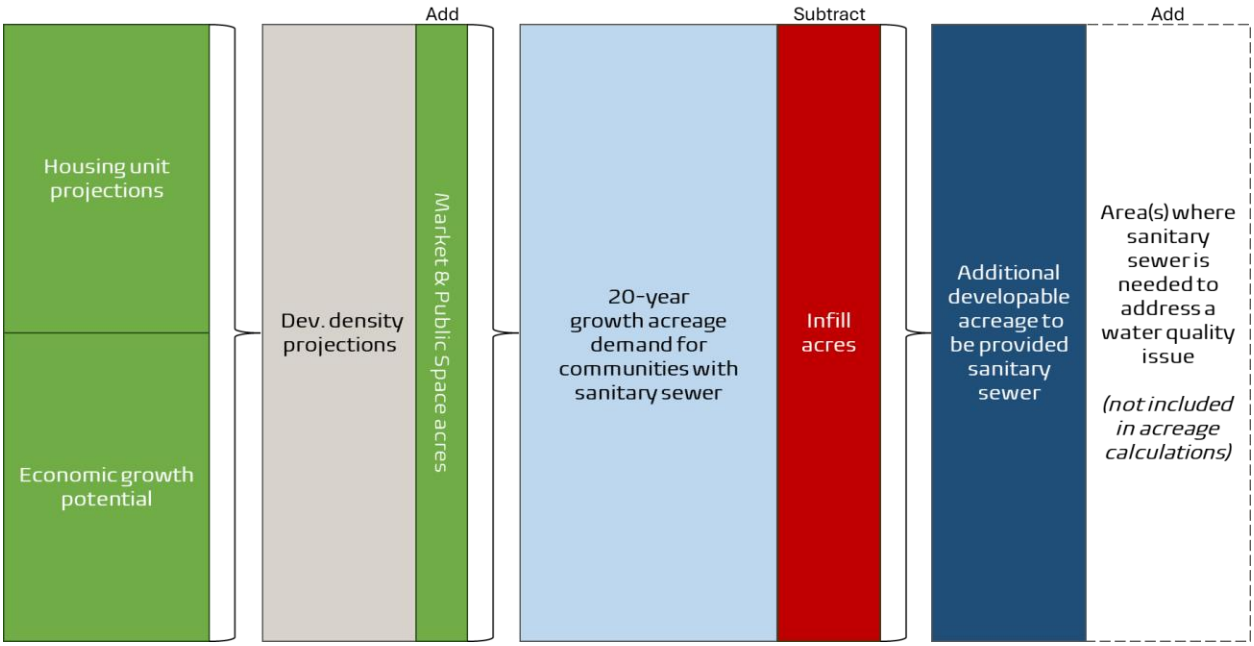
- The recent growth in housing units for the City of Hudson (and North Hudson to a much lesser extent) will drive the needed sewered residential acreage (urban growth), less any residential "infill" opportunities within the City that are already sewered. It is assumed that all new urban growth will be sewered. City officials have indicated that most residential growth has and will continue to occur at the City's periphery, which would add to the sewered growth acreage need.[5]
- Commercial / Industrial growth will require access to utilities and should be sewered. Industrial growth will generally require larger lots and occur near existing industrial uses.
- The previously described proposed commercial growth area in the Town of Troy is included as a sanitary district in this SSA Plan update to accommodate the potential extension of sanitary sewer to this area as envisioned in the Town's comprehensive plan update and the Hudson-Troy cooperative boundary agreement, which are both substantially underway.
- To provide sanitary sewer to the Town of Troy commercial growth area, it would be necessary to extend sanitary sewer from the City of Hudson along STH 35. This would allow for sewered growth along this Highway 35 corridor. This is also being addressed within the Hudson-Troy cooperative boundary agreement. Growth within this corridor and the envisioned Town of Troy commercial growth area are not included in the City of Hudson's commercial/industrial growth projections.
- As part of the plan update process, the Study Area communities were asked to identify any areas that may require sanitary sewer due to issues or concerns with existing sanitation infrastructure or the environment. Existing commercial development north of the I-94 and USH 12 interchange was identified as an area for which the provision of sanitary sewer may be beneficial in the future due to potential impacts to groundwater. The extension of sanitary sewer to this area was also not included as part of or based on the growth projections specific to the City of Hudson.
- No specific plans for other types of sewered growth (e.g., institutional, educational, public / utility) were identified and these other uses are not independently projected. Rather, these types of development are incorporated into residential and commercial / industrial acreage demands through the market and public / infrastructure allowances.
- Most other growth within the unincorporated towns within the Study Area will continue to be at rural densities that will allow for the safe installation and long-term maintenance of individual onsite septic systems. While there may be some opportunities for shared treatment systems or smaller community systems, no such specific plans were identified during the planning process.

[5] While recent housing unit trends for the City are being used to project future urban growth, there is not an assumption that such urban growth will all occur within the City of Menomonie.

- Given the amount of existing development beyond the incorporated boundaries in currently unsewered areas, many developed properties on private systems will be included in the new SSA boundary. In these instances, it is not assumed developed properties added to the boundary will be serviced by future sanitary sewer extensions, though they may be able to tie in if their current systems are no longer sufficient for ensuring water quality. The intent of expanding the SSA boundary is to provide sewer service to undeveloped properties that can then be developed at urban densities in a cost effective manner.

Figure 4.3 shows the generalized approach for determining the acreage demanded outside of the current incorporated boundaries. Using the acreage projections for both residential and commercial / industrial uses as outlined in **Sections 4.4.2 - 4.4.3**, the acreages were multiplied by a market factor and public space / infrastructure factor to create a total allowance percentage. The market factor allows flexibility in choosing where to live and recognizes that not all land is for sale; not all of the proposed SSA will develop. The public space / infrastructure factor provides acreage for needed streets, stormwater systems, neighborhood parks, and other smaller public or institutional uses. Developable infill acreage within the City and Village is subtracted out of the total acres needed to arrive at the additional acreage needed beyond current sewered areas that will require sanitary sewer infrastructure.

Figure 4.3 Sewered Area Acreage Demand Flow Chart



The additional developable acreage demand calculated in **Sections 4.4.2 and 4.4.3** are used in Chapter 6 to develop the SSA boundary, along with consideration of ESAs and constraints identified in **Chapter 5**.

4.4.2 Residential Urban Acreage Projections

As discussed in Section 4.1.3, the population within incorporated communities is estimated to increase by 1,301 people between 2025 and 2045. Using the 2020 decennial census data for household size, the incorporated communities had a weighted average of 2.33 persons per household. For SSA Plan update purposes, an increase of 559 new sewered housing units at urban densities is assumed over the planning period.

For planning purposes, residential projections were calculated using three assumptions:

1. 559 new residential units will be developed over the next 20 years;
2. Development will be split 60% / 40% between single-family/duplex and 3+ unit developments, and; (see Section 4.1.1).
3. Per unit densities for each type are 0.125 acres per unit for 3+ unit developments and 0.25 acres per unit for single-family/duplex development (see Section 4.2.2).

Table 4.17 provides the 5-year projections for urban (sewered) residential development, identifying the total units needed, type of development, and acreage demands. A market factor of 100% and 20% public infrastructure factor were applied, for a total residential allowance of 120%. **With the allowance applied, a total of 246.1 acres are projected to be developed for residential use needing sanitary sewer over the next 20 years.**

Table 4.17 5-Year Residential Demand Projections

		Units by Development Type		Acreage Demand		
Year	**Housing Unit Growth**	**Single-Family / Duplex**	**Multi-Family (3+)**	**Single-Family / Duplex**	**Multi-Family 3+**	**Total**
2030	140	84	56	21.0	7.0	28.0
2035	140	84	56	21.0	7.0	28.0
2040	140	84	56	21.0	7.0	28.0
2045	139	84	55	21.0	6.9	27.9
2025-2045	**559**	**336**	**223**	**84.0**	**27.9**	**111.9**
Acreage with 100% Market + 20% Public Allowance				**184.8**	**61.3**	**246.1**

4.4.3 Commercial / Industrial Urban Acreage Projections

NR121 does not require forecasts for non-residential development. It is anticipated that demand for commercial and industrial uses will increase as the population grows. The per-capita acreage demand for non-residential uses calculated in **Table 4.14** were used throughout the 20-year period to arrive at a total demand for commercial and industrial acreage by 2045. It should be noted that, if population growth exceeds projections, the total acreage demand for commercial and industrial acreage would also likely increase.

Table 4.18 shows the acreage projections at 5-year intervals for commercial and industrial growth based on the City of Hudson growth trends. No significant commercial or industrial growth is projected for the Village of North Hudson at this time. A 20% public infrastructure and 25%

market factor were applied to the acreage demands in Table 4.18 for a total commercial / industrial allowance of 45%. **With the allowance applied, a total of 160.9 acres are projected to be developed for commercial / industrial use for the City over the next 20 years.**

Table 4.18 5-Year Commercial / Industrial Demand Projections

	Population (City of Hudson)	Commercial		Industrial		Total
		Ratio	Acreage	Ratio	Acreage	Acres
2025	15,508	0.065	1,014.0	0.009	145.0	1,159.0
2030	15,941	0.065	1,042.3	0.009	149.0	1,191.4
2035	16,429	0.065	1,074.2	0.009	153.6	1,227.8
2040	16,917	0.065	1,106.1	0.009	158.2	1,264.3
2045	16,993	0.065	1,111.1	0.009	158.9	1,270.0
Change 2025-2045	**1,485**		**97.1**		**13.9**	**111.0**
Acreage with 25% Market + 20% Public Allowance			**140.8**		**20.1**	**160.9**

However, as shown in Section 4.2.3, there are very little sewered acres currently available that would accommodate commercial and industrial growth, especially for a larger business. For example, a 2019 Chippewa Economic Development Corporation study found that there is a trend toward companies requesting larger sites (e.g., 200+ acres). Basing commercial/industrial acreage demand solely on past trends is insufficient. However, during the planning process, no specific commercial/industrial development projects likely requiring sanitary sewer within the next 2-3 years were identified. **These projections in Table 4.18 do not include the Town of Troy's commercial growth area, which is driven by the Town's comprehensive plan update and the Town's goal to direct market-driven commercial development to a limited, appropriate growth area while preserving the Town's rural character and agriculture overall.**

4.4.4 Acreage Allocations for Future Sewered Development

Table 4.19 suggests at least 339.2 acres of additional sewered growth will occur by 2045 within the Study Area at urban densities or intensity. While the table suggests that commercial / industrial growth may be met through the "infill" of vacant land within current City of Hudson corporate limits, available commercial / industrial land within the City has limited opportunities for larger developments.

Table 4.19 20-Year Growth Demand Acreage

	2030	2035	2040	2045	2025-2045	Infill	Growth Demand
Residential Acreage	61.6	61.6	61.6	61.3	246.1	29.2	**216.9**
Comm / Industrial Acreage	46.9	52.9	52.9	8.2	160.9	38.6	**122.3**
Total Acreage	108.5	114.5	114.5	69.6	407.0	67.8	**339.2**

As discussed in Section 4.4.1, **the above projected demand is based on trends within the City of Hudson and Village of North Hudson and does not include**:

- **USH 12/I-94 Intersection**. The potential need to extend sanitary sewer to existing commercial or light industrial development north of the USH 12/I-94 interchange being driven by water quality protection concerns. (approx. 3.9 developable acres)
- **Town of Troy Commercial Growth Area**. The Town of Troy commercial growth area (possible sanitary district) that will direct most commercial traffic to the Glover Road/STH 35 intersection. (approx. 1,324 developable acres)
- **STH 35 Development Corridor**. This development corridor supports two anticipated growth demands: (1) During SSA plan update meetings, the Water Quality Advisory Committee believed that properties along the STH 35 within the Town of Troy will very likely develop at urban densities over the next twenty years, so this SSA Plan proactively anticipates this growth. The corridor area would likely be residential but could include some light commercial uses in the future. Carefully planned, low-density, single-family residential development on private wells and septic may occur in this area until sanitary sewer service is available. Availability of sewer services may also enable higher density zoning options in the Town of Troy. (2) The corridor is necessary to accommodate the extension of sanitary sewer from the City of Hudson to the Town of Troy's commercial growth area to the south. The provision of sanitary sewer along this corridor to the planned commercial growth area provides an opportunity to support urban growth along this path. For this reason, the potential future growth within the corridor is not tied to the growth projections for the City of Hudson or the Town of Troy. (approx. 92 developable acres)

It is reasonable to expect that some or of these areas will require sanitary sewer within the next five years prior to when the SSA Plan is expected to be next updated.

The above insights, along with consideration of ESAs in Chapter 3 and development constraints identified in Chapter 5, help inform the Sewer Service Area boundary developed in Chapter 6.

CHAPTER 5 – WASTEWATER FACILITY ASSESSMENT

This chapter summarizes the existing and future characteristics of the wastewater treatment processes and facilities within the Study Area. NR 121 requires that the SSA Plan identify sewage collection needs and the most cost-effective regional wastewater system approach, which must be consistent with approved facility plans wherever possible.

The wastewater treatment facility managed by the City of Hudson provides the majority of treatment for the City of Hudson and Village of North Hudson; most other development in the Study Area is served by private, on-site systems. The Hudson facility meets all regulatory effluent limits, but a new facility is needed to meet projected future growth demands.

Existing unsewered development, physical features on the landscape (e.g., topography, rivers, highways), and intergovernmental relationships are the primary barriers to the cost-effective expansion of municipal sanitary sewer; such barriers must be considered when determining the SSA boundary.

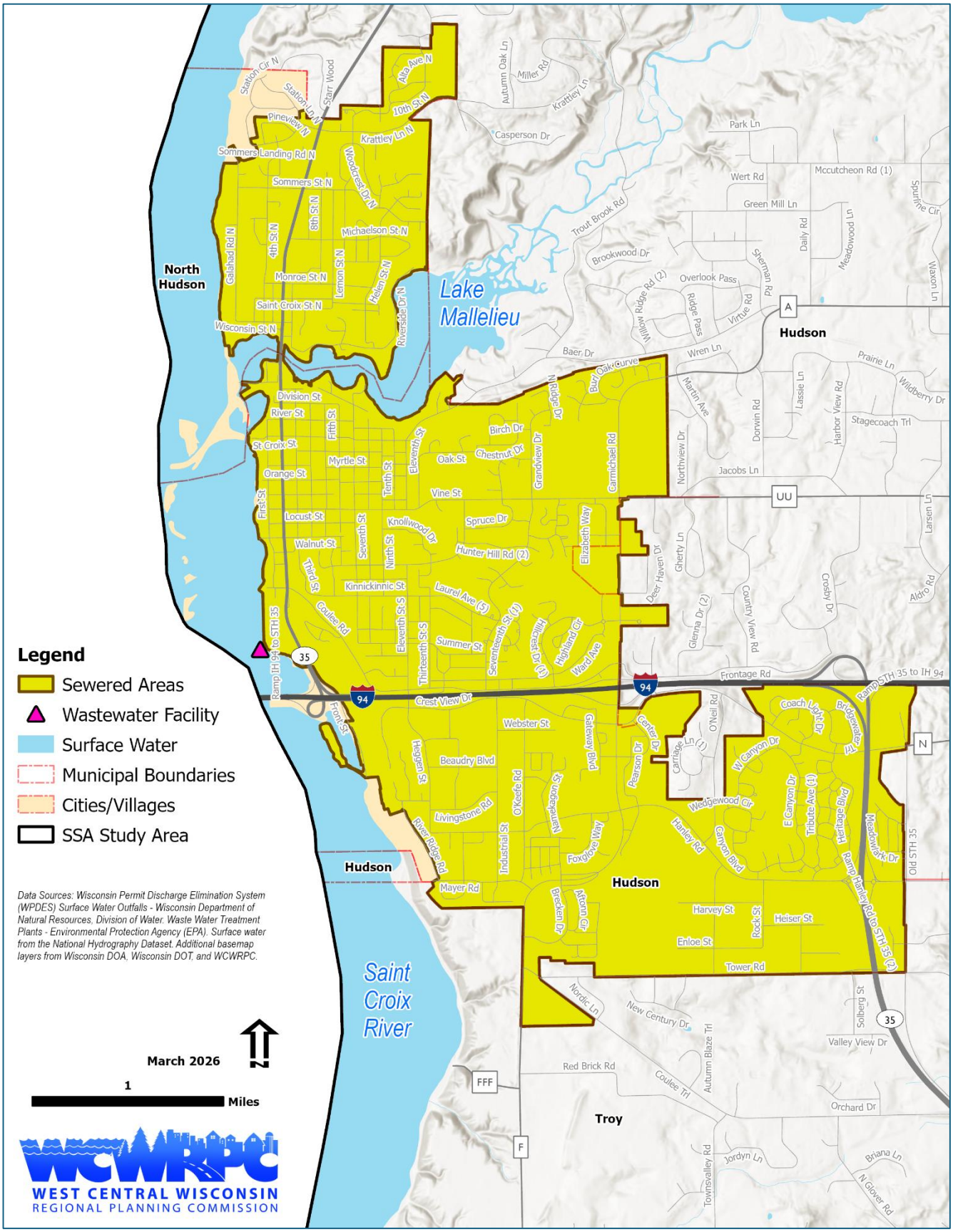
5.1 WASTEWATER FACILITIES & FACILITY PLANS

As shown on **Map 5.1**, there is currently one municipal wastewater treatment facility (WWTF) in the Study Area. The Hudson WWTF is a public facility serving the City of Hudson and Village of North Hudson. All other buildings in the Study Area must have private, on-site sanitary treatment systems that comply with the state plumbing code.

The City of Hudson WWTF is located at 329 Front Street in Hudson. It is situated along the eastern bank of the St. Croix River along the western border of the City. The WWTF uses anaerobic digestion and biological activated sludge as the primary treatment of wastewater. The treated effluent is discharged into the St. Croix River adjacent to the facility, with any remaining, treated sludge or bio-solids being transported to Ellsworth for recycling.

Overall, the St. Croix River and other ESAs in Section 3.5 pose the most significant physical engineering barriers to the provision of sanitary sewer. Existing unsewered development that can also reduce the cost-effectiveness of providing sanitary sewer (e.g., sewer is less efficient for large lots, landowner opposition to being sewered); this was considered at length during the consideration of the SSA boundary within Chapter 6.

MAP 5.1 Wastewater Facilities & Sewered Areas



Current Permit Limits for Hudson WWTF

Table 5.1 displays the monthly permit limits and average levels for the Study Area's single publicly owned treatment facility. **Table 5.2** includes additional data for the Hudson WWTF.

Table 5.1: Hudson WWTF Monthly Permit Limits & Averages

	Permit Effluent Limit	Effluent Monthly Average
Biological Oxygen Demand (BOD mg/L)	40	6 - 10
Total Suspended Solids (TSS mg/L)	30	10 - 15
Phosphorus (mg/L)	1.0	0.273 – 0.537

Table 5.2: Additional Hudson WWTF Data

Original Date Constructed	1959
Most Recent Significant Upgrade	2000
Population Served, 2020 Census	18,558
WPDES Permit Number	WI-0024279-10-01
Permit Expiration Date	06/30/2027
Receiving Water	St. Croix River
Design Flow (mgd)	2.2
Average Flow (mgd)	1.5
BOD Design Loading (lbs/day)	4,200
BOD Average Loading (lbs/day)	2,647 -3,259
Treatment Type	Activated Sludge
Sludge Treatment	Anaerobic Digestion
Sludge Disposal	Trucked to Recycling Facility

The Hudson WWTF currently meets permit effluent limits for the effluent flowing into the St. Croix River with average daily flows below design flows.

Wastewater Flow Projections

Projected wastewater treatment plan flows and loadings for 2045 sewered residential growth were calculated using existing flows, existing BOD loadings, and Wisconsin Department of Administration (DOA) population projections for the City of Hudson and Village of North Hudson.

Table 5.3 displays the estimated sewered population for the City and Village. The estimates were calculated with the 2025 DOA population forecast data. **Table 5.4** displays the projected total residential wastewater flow and BOD loadings for the WWTF. **Therefore, it is expected that the current WWTF in each sewered system within the SSA will be able to handle the additional flow from the projected residential growth through the year 2045**.

Table 5.3: Wastewater Treatment Residential Demand

	2025 WDOA Population Estimate	2045 Population Forecast	Percentage change
Hudson	15,508	16,634	+7.3%
North Hudson	3,906	3,576	-8.4%
Total	19,414	20,210	+4.1%

**2045 population interpolated from WDOA projections*

Table 5.4: Wastewater Flow and BOD Projections based on Residential Demand

	Current Avg Flow or Loading	Projected Increase	2045 Projected	Design or Permit Level
Biological Oxygen Demand (BOD lbs/day)	2,647 – 3,259	+4.1%	2,756 – 3,393	4,200
Flow (mgd)	1.5		1.6	2.2

Where water supply and wastewater flow data/projections are lacking, NR 110.09 suggests that an average daily base flow of 65-80 gallons per capita per day be used for estimating existing and future demand; this allowance includes estimates for commercial, institutional, and residential sources. Utilizing this approach, the Hudson and North Hudson growth areas with a total urban population of 20,210 would require 1,313,650 to 1,616,000 gallons per day (gpd) by 2045. **Utilizing this alternative analysis, the City's current WWTF average flow of 1.5 million gpd may be able to support the forecasted growth attributable to the City and Village in Chapter 4 through the year 2045.**

As with all projections, it is assumed that many of the trends of the past will continue. It does not take into consideration a significant shift in the rate of growth, and the Local Water Quality Advisory Committee strongly believed that the WDOA projections underestimated likely growth within the Study Area. The 1.3-1.6 million gpd demand estimate above also does not include possible future extension of sanitary sewer to support other commercial areas as discussed in Chapters 4 & 6 (e.g., the "truck stop interchange" to the east, a Troy "Sanitary District"). The

development of a heavy water-using industry could also influence future capacity, though no such uses are envisioned at this time.

Using the above methodologies to predict demand in 2045, **it is expected that the current WWTF will likely be able to handle the additional flow from the projected growth for Hudson and North Hudson in the year 2045 based on current WDOA projections, but capacity is insufficient to serve the entire SSA proposed in Chapter 6.**

Status of Hudson WWTF Facility Plan

Wastewater facility plans shall be prepared for each reviewable project involving new or modified sewerage systems owned by municipal or other non-industrial entities pursuant to s. NR 110.08(1), Wis. Adm. Code. The basic purpose of facility planning is to assess the condition of a sewerage system, establish a need for improvement, evaluate options to address system needs and to identify the cost-effective alternative. Facility plans identify wastewater needs and treatment facility improvements for a 20-year planning period. As required by NR 110, facility plans must include design flow calculations consistent with population projections and must consider various potential solutions to address wastewater management needs. In short, these plans demonstrate the need for proposed public wastewater treatment facility projects by: (i) systematically evaluating feasible alternatives and (ii) selecting the most cost-effective means of meeting effluent limits and water quality standards.

There is no current WWTF Facility Plan for Hudson, though the City previously worked with an engineering firm on the design of economical solutions to meeting DNR-mandated limits and addressing capacity needs in 2018. The City's wastewater treatment plant underwent significant recent upgrades to replace aging infrastructure and improve plant operations and maintenance costs. Some of the major updates included, construction of a new pretreatment building with improved screening and grit removal, replacement of chlorine disinfection with UV light, a new biosolids thickening tank, HVAC system upgrades, LED lighting installation, as well as much of the process equipment being replaced.

The City of Hudson is currently planning for a new, second WWTF to support future growth. The existing WWTF is not well-situated to accommodate additional growth beyond its current rated capacity because it is uniquely situated between STH 35 and the bluff, with no space for additional expansion. The new WWTF will be designed to accommodate flows from existing sewersheds that can be rerouted to the proposed location on the south side of the City, as well as future development, which is expected to be concentrated to the south and east of the existing City limits, and will have adequate capacity to serve the proposed growth within the final SSA boundary. The project is currently in the Facility Planning phase, with the City awaiting planning effluent limits from the DNR for a new outfall to the St. Croix River. Facility Planning is expected to be complete in 2027, with design and construction to take place over several years following.

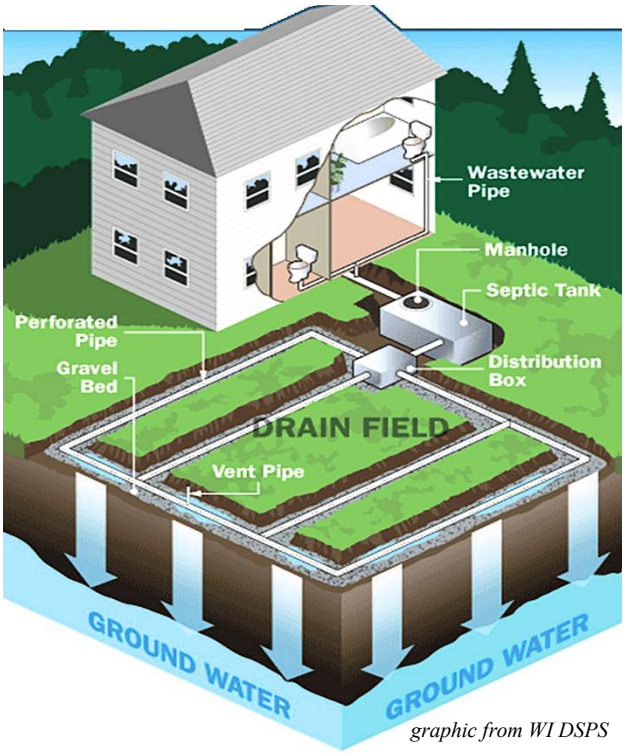
5.2 LANDSPREADING & RESIDUAL WASTE

The Hudson WWTF does not use landspreading to dispose of sludge after it has been treated with anaerobic digestion. After sludge has been treated with anerobic digestion, the Hudson WWTF hauls the sludge to the West Central Wisconsin Biosolids Facility (WCWBF) where it is further treatment and reuse. The WCWBF is a wastewater recycling facility that was enacted under state laws with the purpose of processing and reusing municipal sludge. A total of 11 cities and villages, including the City of Hudson and Village of North Hudson, joined to finance, build and operate the plant, and as a result receive service.

No landspreading of domestic or industrial wastewater or septic tank septage within the Study Area were identified. Land disposal is currently dependent on having willing private partners. With growing concerns about PFAS and other media coverage of the risk of residual chemicals, there is the potential that it will be more difficult to find acreage upon which landspreading is allowed.

5.3 PRIVATE ONSITE WASTEWATER TREATMENT & HOLDING TANKS

Private onsite wastewater systems (POWTS) store, treat, or dispose of wastewater (or perform a combination of these functions) on the site at which the wastewater is generated.



graphic from WI DSPS

POWTS are used in those unsewered areas that are not served by existing sanitary sewer systems. Within the Study Area, this includes all areas outside those currently sewered areas shown in Map 5.1.

Most POWTS types within the Study Area are conventional septic systems with drainfields or mound systems, with some scattered holding tanks.

It is important to require compliance for POWTS maintenance (POWTS) due to the potential for groundwater contamination. Some private wells in the Study Area already have high nitrates and there are growing water quality threats such as pharmaceuticals. During the planning process, the Local Water Quality Advisory Committee noted that it may be beneficial in the future if the commercial development and large truck stop in the I-94 and USH 12 intersection area were connected to sanitary sewer. While construction permitting and regular pumping reporting are required, there is no specific known concentrations of failing POWTS within the Study Area.

As reflected in the population data in Section 4, the Study Area continues to experience growth in many of its unsewered communities. This growth is accompanied by the need to properly treat and dispose of wastewater. POWTS represent an alternative to accommodate development where public sewer does not exist and is not cost-effective.

5.4 REGIONAL WASTEWATER TREATMENT ALTERNATIVES

State of Wisconsin Requirements

NR 121 requires as part of SSA planning that the most cost-effective regional wastewater systems for urban areas shall be identified over a 20-year planning period based upon an analysis of alternative waste treatment system configurations. Wherever possible, applicable recommendations of approved facility plans shall be used to determine the urban area's treatment needs. This analysis shall be consistent with NR 110.09, and shall include a cost-effectiveness analysis of regional versus individual treatment facilities for the outlying areas including subsurface waste disposal systems. Water quality and other environmental impacts shall also be considered.

The Wisconsin Department of Natural Resources maintains a non-proliferation policy for wastewater treatment. The first sentence of NR 110.08(5), Wis. Admin. Code reads, "It is the policy of the department to restrict the construction of new sewage treatment facilities in order to preserve and protect the quality of waters of the state." Any proposals for new or upgraded facilities must be "necessary" and "cost-effective" (NR 110.08(5), 110.08(6), and 110.08(4)). Regionalization alternatives typically provide certain efficiencies in management and operation from one plant versus multiple smaller plants, though these alternatives should be individually assessed on a project-specific basis for environmental pros and cons.

WDNR considers a municipal wastewater treatment system (sanitary sewer) to provide the highest level of environmental protection, planning, management, and monitoring. Such facilities are the preferred treatment system when service can be provided in a cost-effective manner. Elevated nitrate levels in groundwater within the Study Area is a significant concern and individual septic systems can be a source of nitrogen in groundwater.

Analysis of Regional Alternatives & Recommended Approach

During the planning process, a range of alternative wastewater alternatives were considered for the Study Area. As discussed in Chapter 4:

- The City and Village are expected to continue to grow at those urban densities envisioned in Chapter 4.
- No sizable residential growth areas at urban densities or commercial growth areas are forecasted outside the City of Hudson and Village of North Hudson, with the exceptions of:
    - Continued commercial development in the I-94/USH 12 interchange area.

    - Continued commercial growth along and near the State Highway 35 corridor to the south of Hudson is very probable and would benefit from the availability of sanitary sewer. A sanitary district may be considered in the future to support commercial growth within the Town of Troy in the future. The Town and City have been engaged in cooperative boundary planning with consideration of this growth, which contributes significantly to the cost-effectiveness of the possible provision of wastewater service from the City to a sanitary district within the Town.
- Most other residential growth within the Study Area will be at non-urban densities and served by on-site wastewater treatment systems.

In light of the information in Chapters 4 and 5, the wastewater alternatives, and the plans of local units of government, the most cost-effective and environmentally sound regional wastewater approach would include:

- A new WWTF facility for the City of Hudson to supplement (not supplant/replace) the existing treatment facility is cost-effective and is needed. Continue to maintain and improve Hudson wastewater treatment facilities in accordance with regularly updated and State-approved facility plans.
- No other new WWTFs are necessary or anticipated within the next 20-years, with two possible exceptions:
    - Additional analysis is needed to determine the most appropriate wastewater solution to support commercial growth within the Town of Troy as envisioned in the Town's Comprehensive Plan. This SSA Plan update contemplates the formation of a sanitary district that would be served by a small, new wastewater treatment facility for the District or by connecting to an existing WWTF.
    - The need for a site-specific treatment facility for a new industry could arise if effluent would exceed what can be cost-effectively managed by the Hudson WWTF.
- Extend municipal sanitary sewer to urban growth areas when cost-effective.
- Municipal sanitary sewer is generally the preferred wastewater treatment alternative in areas where there are elevated water quality concerns (e.g., wellhead protection areas, high groundwater table, excessively drained soils).
- Commercial and industrial areas are best served by municipal sanitary sewer.
- POWTS and smaller, shared wastewater systems are appropriate for lower-density development if properly maintained.
- Subdivisions and other areas of existing unsewered development at "light densities" are likely not cost-effective for the provision of sanitary sewer unless there are failing POWTS or elevated water quality concerns. However, such areas are not necessarily a barrier to extending sanitary sewer to nearby growth areas.
- Physical features, such as Interstate 94, large floodplains, and steep slopes can be barriers to the cost-effective provision of municipal wastewater service.

- Encourage cooperative planning, cooperative boundary agreements, and service agreements between local governments to achieve the most cost-effective and environmentally sound wastewater approach for the Study Area.
- Local comprehensive plans reflect social concerns and goals of each community that must be considered during wastewater planning. Consideration of local comprehensive plans must be balanced with the other aspects of cost-effectiveness discussed above.

CHAPTER 6 – SEWER SERVICE AREA DELINEATION

6.1 WHAT IS THE SEWER SERVICE AREA BOUNDARY

NR 121.05 requires that the Sewer Service Area (SSA) Plan identify areas for which sanitary sewer may be needed or desirable within the next 20 years to accommodate forecasted growth. The SSA boundary represents a long-term vision for the growth of the urban area identifying what could potentially be sewered.

PLEASE NOTE

Inclusion of lands within the Sewer Service Area (SSA) boundary does NOT determine or guarantee that these lands will be developed, sewered, or annexed by 2045.

The SSA boundary is the geographic extent of the Sewer Service Area (SSA). Sewer Service Areas (SSAs) are typically smaller than the SSA Study Area, which is described in **Chapter 2**. Data is collected for the larger Study Area, which helps to define the more focused SSA.

The SSA includes areas with a ***potential*** for future sewered development or areas for which sanitary sewer may be desirable by 2045, excluding the environmentally sensitive areas defined in **Section 3.5**. for which intensive land disturbances should be avoided. The SSA boundary is guided by the 20-year growth forecasts and criteria in NR 121 and NR 110, including identifying the most cost-effective and environmentally sound regional mix of wastewater treatment solutions for the Study Area. This boundary is driven by projected growth and the cost-effective provision of sanitary sewer, not water quality issues, though an area might be added to the SSA if sanitary sewer is desired in order to protect water quality. Once the SSA boundary is established as part of an approved update to the SSA Plan, sanitary sewer extensions are not allowed outside the SSA boundary without amending the SSA Plan. The SSA Plan and its boundary shall be reviewed every five years, with periodic updates to reflect changes in growth, land use, and wastewater management.

6.2 OVERALL DELINEATION APPROACH

Building upon Chapter 4, five primary factors guided the overall 2045 SSA delineation approach:

1. Projected residential growth for the City of Hudson and the Village of North Hudson, which was largely driven by population projections, anticipated residential mix (i.e, 1-2 unit vs. 3+ unit), and recent development density trends.
2. Potential commercial and industrial growth areas near the City of Hudson.
3. The potential extension of sanitary sewer for a sanitary district in the Town of Troy.
4. Consideration of Environmentally Sensitive Areas and other barriers to the cost-effective extension of municipal sanitary sewer.

6.3 PROJECTED GROWTH AREAS

Given existing development, suitable land for large-scale development is fairly limited around the City of Hudson and Village of North Hudson. Areas with larger undeveloped tracts of land helped define proposed urban growth areas requiring sewer service. Highway corridors were also considered for inclusion, given their tendencies to develop with commercial and industrial uses that will require sewer systems. **As discussed in the regional wastewater approach (Chapter 5.4), this SSA Plan assumes and prefers that non-residential urban growth will be sewered.**

Discussed at length in Chapter 4.4, the Town of Troy desires to guide new commercial development to a commercial growth area in a planned manner, located in the general area of Glover Road and State Highway 35 ("Troy Commercial Growth Area"). As part of cooperative boundary planning, the City of Hudson and Town of Troy discussed how best to accommodate this growth and determined that an extension of the SSA boundary along State Highway 35 to the Troy Commercial Growth Area (a potential sanitary district) provided the most cost-effective and environmentally sound solution for future commercial growth in the area. Commercial development is already occurring along the Highway within the City of Hudson, as well as within pockets of commercial uses along the Highway between the City of Hudson and City of River Falls. Regardless of the Town's Commercial Growth Area plan, the STH 35 corridor south of Hudson is expected to be fully developed over time. The provision of sanitary sewer through this corridor will allow for this growth to occur at urban densities while protecting water quality. In short, extending the SSA boundary along State Highway 35 will accommodate anticipated urban development along the highway, while providing the Town of Troy with its desired sewer access.

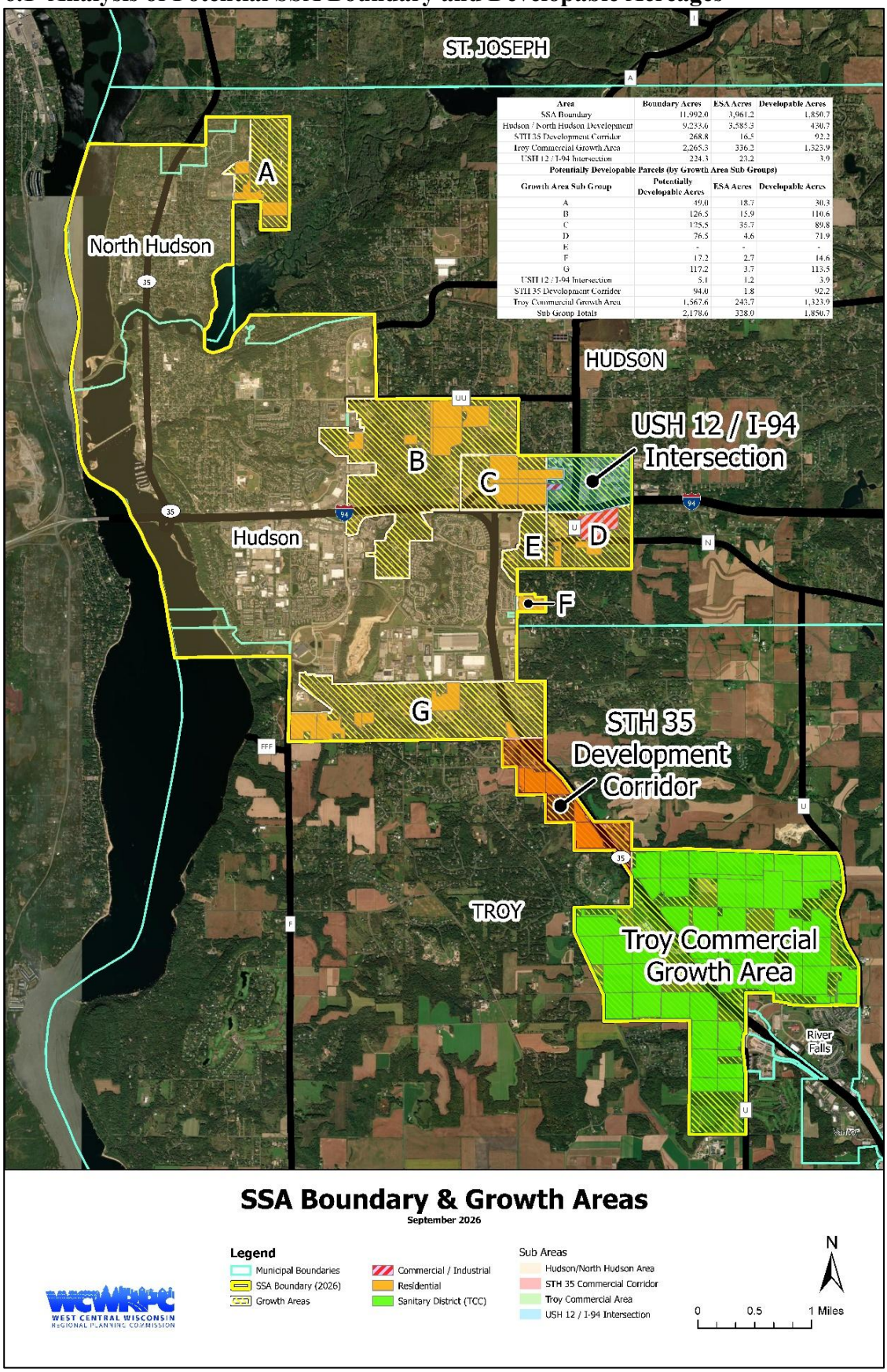
Map 6.1 shows the analysis of those areas with the highest potential of development interest over the next 20 years, the developable acreage within those areas (parcels greater than 5 acres with less than $10,000 of improved value), amount of ESA acreage within those developable parcels, and the type of development that is expected to occur in those areas. In addition to potential developable urban growth areas for Hudson and North Hudson, Map 6.1 and the acreages in **Table 6.1** include the possible sanitary district and the STH 35 commercial corridor that were cooperatively planned between the City of Hudson and Town of Troy.

Table 6.1 Analysis of Urban (Sewered) Demand and Developable Acreages by Use

	Projected Sewered Growth Demand vs. Developable Acres (excluding ESAs)					
	Projected Demand (Hudson & N Hudson)	STH 35 Development Corridor	Town of Troy Commercial Growth Area	Other Areas Outside Currnet Incorporated Limits	Total Potential Growth Acres	Difference* (Projected vs. Potential)
Residential	216.9	-	-	383.0	383.0	+166.1
Commercial / Industrial	122.3	92.2	1,323.9	56.2	1,472.3	+1,350.0
Total	339.2	92.2	1,323.9	439.2	1,855.3	+1,516.1

**The Town of Troy Commercial Growth Area is not intended to provide relief to demand projections for the City of Hudson and Village of North Hudson. When excluding Troy's Commercial Growth Area, the differences become +26.1 acres for Commercial / Industrial acreage and +192.2 acres for total acreage.*

Map 6.1 Analysis of Potential SSA Boundary and Developable Acreages



Area	Boundary Acres	ESA Acres	Developable Acres
SSA Boundary	11,992.0	3,961.2	1,850.7
Hudson / North Hudson Development	9,233.6	3,585.3	430.7
STH 35 Development Corridor	268.8	16.5	92.2
Troy Commercial Growth Area	2,265.3	336.2	1,323.9
USH 12 / I-94 Intersection	224.3	23.2	3.9

Potentially Developable Parcels (by Growth Area Sub Groups)

Growth Area Sub Group	Potentially Developable Acres	ESA Acres	Developable Acres
A	49.0	18.7	30.3
B	126.5	15.9	110.6
C	125.5	35.7	89.8
D	76.5	4.6	71.9
E	-	-	-
F	17.2	2.7	14.6
G	117.2	3.7	113.5
USH 12 / I-94 Intersection	5.1	1.2	3.9
STH 35 Development Corridor	94.0	1.8	92.2
Troy Commercial Growth Area	1,567.6	243.7	1,323.9
Sub Group Totals	2,178.6	328.0	1,850.7

6.4 SEWER SERVICE AREA BOUNDARY 2045

The approved Hudson Urban Sewer Service Area boundary is shown on **Map 6.2.**

Total SSA boundary size: 11,992 acres

Estimated ESA acreage: 3,961 acres

Total 2045 SSA size: 8,031 acres

Consistent with Chapters 4.4 and 6.3, Map 6.2 includes:

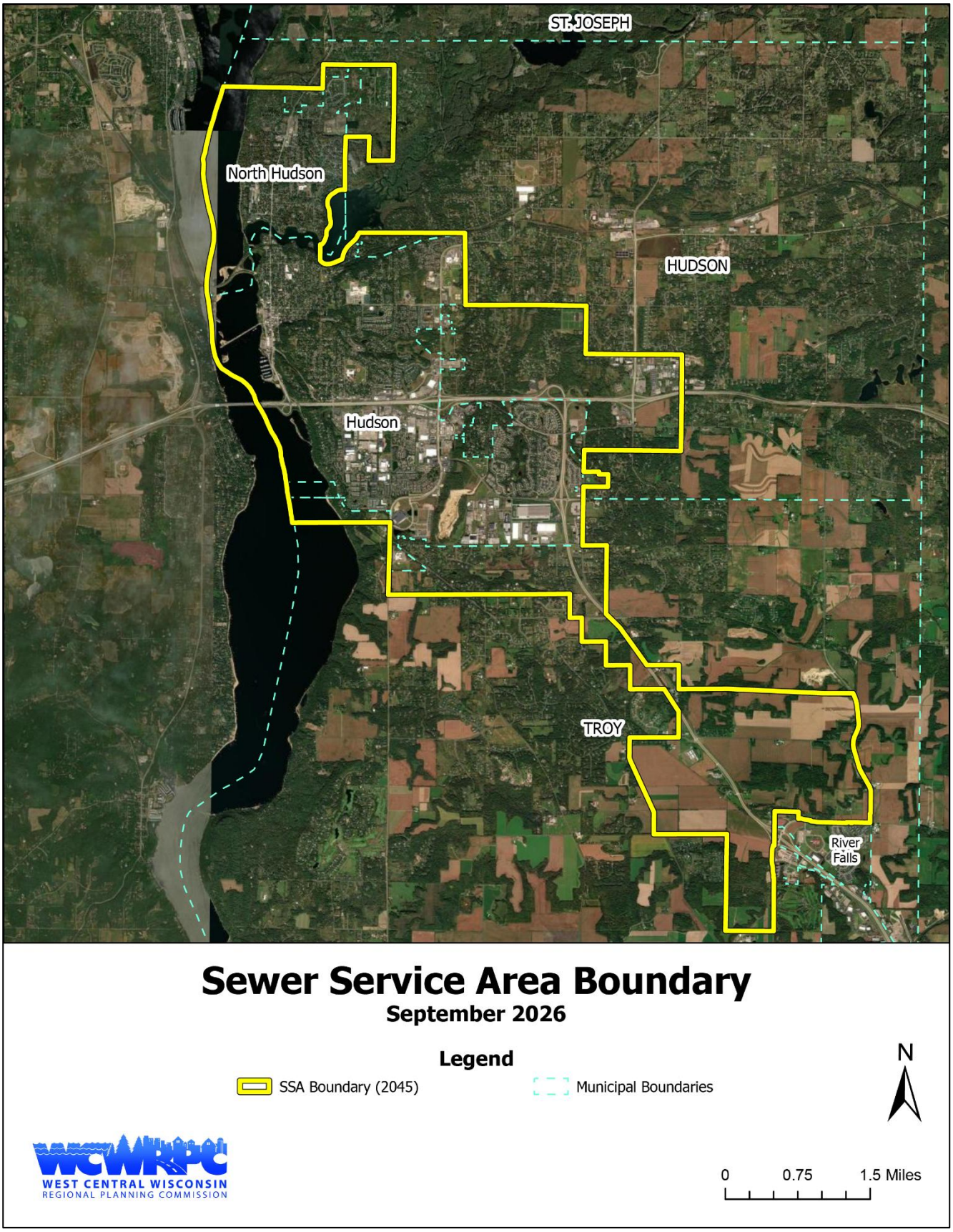
- Projected growth areas in the vicinity of the City of Hudson and Village of North Hudson.
- The previously referenced potential sanitary sewer extension to the largely developed USH 12/I-94 interchange for water-quality protection purposes.
- The Troy Commercial Growth Area, which is most likely to be a sanitary district developed and serviced through agreements between the City of Hudson and Town of Troy.
- The Highway 35 Development Corridor, which connects the Troy Commercial Growth Area with the City of Hudson sewered area.

The chart within Map 6.1 shows the ESAs and developable acres for the SSA and anticipated growth areas. **Approximately 1,855 acres within the 2045 SSA boundary outside the current corporate limits of the City of Hudson and Village of North Hudson are considered developable**; these acres are likely growth areas with no known ESAs and are currently unsewered, but are most anticipated to be sewered within the next 20 years.

As represented on Map 6.2, the 2045 SSA boundary follows section lines, quarter section lines, or quarter-quarter sections of lines as surveyed under the U.S. Public Land Survey System, except the following extents of boundary:

- The state line along the western municipal limits of the Village of North Hudson and City of Hudson (approximately 25,484 linear feet).
- An east/west bifurcation of the northeast quarter of the northwest quarter of section 9, township 28 north, range 19 west. (approximately 2,640 linear feet).
- The center line of State Road 35 (approximately 1,459 linear feet).
- The center line of S Glover Road (approximately 3,246 linear feet).
- The western extent of the right-of-way for Radio Road from Anchor Road, generally, to State Road 35 (approximately 1,884 linear feet).
- The northern extent of the right-of-way for Chapman Drive from Radio Road to County Road UU (approximately 4,056 linear feet). Where there is not established right-of-way, this boundary follows the centerline of Chapman Drive.
- The western extent of the right-of-way for County Road UU and then the centerline of County Road UU (approximately 7,398 linear feet).

Map 6.2 2045 Hudson Urban Sewer Service Area Boundary



- The extent encompassing 21.99 acres consisting of CSM 17-4509, Lot 9 within the SW quarter of the SE quarter of Section 33, T29N, R19W, plus the Old State Highway 35 right-of-way along the western boundary of this 21.99-acre area.
- The center line of State Road 35 (approximately 3,597 linear feet).
- The highwater mark of the southeastern shoreline of Lake Mallalieu (approximately 3,036 linear feet).
- The highwater mark of the northwestern shoreline of Lake Mallalieu (approximately 3,903 linear feet).

6.5 SUMMARY OF BOUNDARY CHANGES SINCE 1998 PLAN

Map 6.3 provides a visual comparison of the 1998 Sewer Service Area boundary and the 2025 boundary. **Table 6.2** identifies the acreage changes between the previous plan's boundary and the updated boundary.

The new boundary is larger than the previous Sewer Service Area by 866 acres. Most of this increase is due to the Highway 35 Commercial Corridor and the Town of Troy Commercial Growth Area (2,534 acres).

While the new boundary extends further to the east and southeast than the previous SSA Plan, it removes areas to the north. Every community experienced a reduction in overall area covered by the SSA, with the exception of the Town of Troy. The City and Village experienced a reduction by removing areas within Lake Mallalieu that were included in the previous plan acreages but are undevelopable.

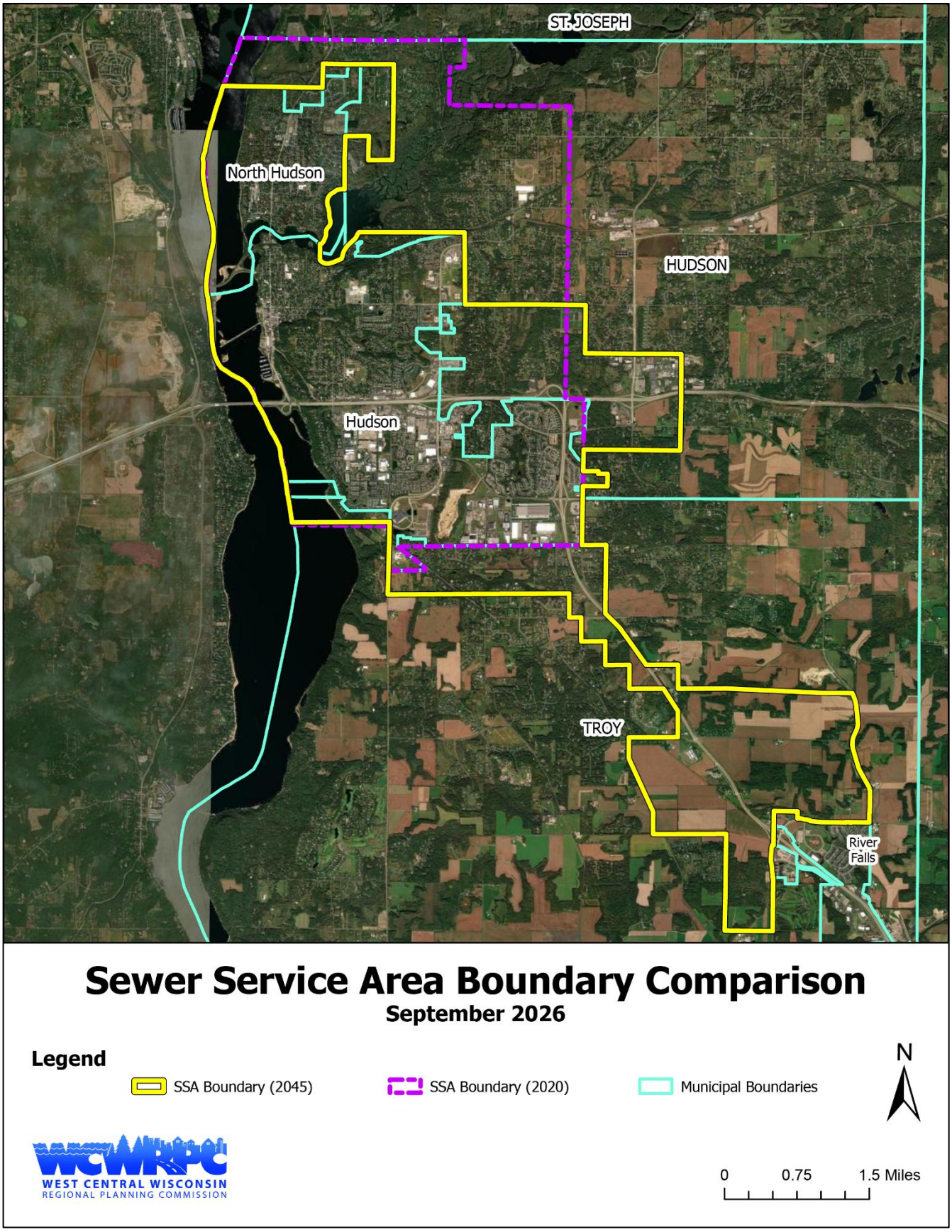
Table 6.2 Acreage Comparison Between SSA Plans (includes ESAs)

Place	Previous Plan SSA Acreage	New Plan SSA Acreage	Difference
Town of Hudson	4,477	2,235	-2,242
Town of St. Joseph	-	-	-
Town of Troy	172	3,362	+3,190
Village of North Hudson	1,557	1,495	-62
City of Hudson	4,920	4,900	-20
Total	11,126	11,992	+866

All acreage calculations are aligned to the current municipal boundaries. These are total acreages (developed, developable, & undevelopable) and include all environmentally sensitive areas (ESAs) within the SSA boundary.

Of the 11,992 acres included in the new SSA boundary, only 430.7 acres are slated for possible future sewered development outside of current City and Village limits, if the US 12 / I-94 intersection and sanitary district into the Town of Troy and STH 35 commercial corridor are excluded.

Map 6.3 Hudson Urban Sewer Service Area Boundary Comparison



CHAPTER 7 –
GOALS, OBJECTIVES, AND POLICIES

Goal is a long-term desired outcome toward which programs or activities are ultimately directed, but might never be attained. It represents a general statement which outlines the most preferable situation which could possibly be achieved if all the objectives and policies were developed to their fullest degree.

Objective is a specific, measurable, intermediate end that is achievable and marks progress toward a goal.

Policies are the way in which programs and activities are conducted to achieve an identified objective and goal. They are courses of action selected to guide and determine present and future decisions. The policies stated in this plan represent an effort to improve the quality of life in and around the Hudson Urban Area through the protection of surface water quality, while recognizing the diversity in character and resources of the area's communities.

Mandatory vs. Advisory Policies are identified for each objective. Those **Mandatory Policies** that direct action using the words "will" or "shall" are mandatory for compliance with the *Hudson Urban Sewer Service Area Plan*.

In contrast, those **Advisory Policies** that direct action using the word "should" are advisory and serve as guides, reflecting a common vision of the communities within the Study Area. Local governments can achieve such advisory policies by implementing the planning and regulatory tools they are authorized to use, such as, comprehensive planning, zoning, subdivision controls, impact fees, and site plan review. There is discretion and flexibility in how local governments implement many of the advisory policies and some of these policies do not include narrow definitions. Compliance with **Advisory Policies** is not required as part of Sewer Service Area 208 Compliance Reviews or Plan Amendments, but should be considered as part of SSA Plan updates.

Goal 1:
Create an orderly and efficient pattern of community growth and development that will provide a safe, high quality living environment.

Objective 1.1 **Guide future growth within the urban sewer service area to occur in an efficient and orderly manner to promote contiguous, compact, and cost-efficient development.**

Mandatory Policies

Policy 1.1.1 **SSA Boundary.** The SSA boundary is driven by projected urban (sewered) growth, the most cost-effective regional mix of wastewater management solutions, and, in certain cases, the need to extend sanitary sewer to an area in order to protect water quality. Sanitary sewer extensions will not be made beyond the 20-year urban sewer service area

(SSA), unless the plan is amended. It is recognized that growth areas may be phased to guide orderly development and the SSA boundary may need to be amended in the future to accommodate growth that was unanticipated in the Wisconsin Department of Administration population forecasts or this plan. The policies of this Chapter only apply to the lands within the SSA and not the larger SSA Study Area, except Policy 1.1.6.

Policy 1.1.2 **Sewer Extensions & Corporate Boundaries.** The City of Hudson and the Village of North Hudson require the land they serve with public sanitary services to be within their corporate jurisdictions or authorized by mutual agreements between the City of Hudson and adjacent municipalities.

Policy 1.1.3 **Annexation-Neutral.** The Sewer Service Area Plan (SSA Plan) and the SSA boundary will not be used to promote nor hinder annexation petitions or urban density development; the SSA boundary does not delineate or guarantee those lands that may be annexed. The SSA Plan is in addition to and does not supersede any other municipal or intergovernmental plans, boundary agreements, development agreements, or similar plans and agreements.

Policy 1.1.4 **Intergovernmental Communications.** Copies of 208-conformance review letters and plan amendment reports shall be provided to all local units of government included within the immediate or ultimate service areas for a proposed sewer extension. When a sanitary sewer extension will transect land or right-of-way owned by a unit of government other than the unit of government providing the municipal sanitary sewer, the 208-conformance review application must include documentation from that unit of government demonstrating their approval of the proposed extension

Policy 1.1.5 **SSA Plan Amendments.** Proposed plan amendments shall be located within or have a common boundary with the current sewer service area. When evaluating swappable and developed/developable acreages for Type I and Type II amendments, the acreages of environmentally sensitive areas (ESAs) should be excluded, but right-of-way and public infrastructure should be included.[6] For Type 1 amendments, areas to be swapped must be within 5% of the total developed/developable acreage, whichever is greater. Unless a unique water quality or environmental concern exists (e.g., failing septic systems, conservation easements, Type I and Type amendment areas should be developed at urban densities, which are equal to or are higher than the average residential development density figures in Chapter 4.1.3, which will be used as a metric for evaluating efficient development[7] Chapter 9.4 includes additional requirements related to plan amendments.

Policy 1.1.6 **Local Water Quality Advisory Committee.** A water quality policy advisory committee made up of representatives of the various local units of government in the Study Area shall be maintained to assist Wisconsin Department of Natural Resources (WDNR) in SSA planning and to act in an advisory role to the department in urban growth and water quality

[6] When updating the 2026 SSA Plan boundary, ESAs were excluded when projecting developable acreage.

[7] The minimum average residential development densities in Chapter 4.1.3 are based on lot size and do not include an allowance for public right-of-way, stormwater management, etc., which is often 10%-25% of the total development area. Larger dedicated public lands (e.g., parks, airports, regional stormwater ponds), areas protected by conservation easement, and ESAs should not be included when determining density.

matters concerning the implementation of the SSA Plan.[8] All municipalities within the planning/study area, including St. Croix County, shall be invited to participate as voting members of the Advisory Committee. The City of Hudson is invited to have three representatives, the Village of North Hudson having two representatives, and the Towns and County having one representative each. The Local Planning Agency shall chair the Advisory Committee and be a non-voting member.

Policy 1.1.7 **Plan Administrator.** With WDNR approval, a local Plan Administrator for the SSA shall be designated to act as a local advisor to WDNR on matters pertaining to the SSA Plan, to guide compliance with the mandatory policies of this Chapter, and to provide overall administrative support for implementation of the SSA Plan.[9]

Policy 1.1.8 **Local Planning Agency.** WDNR shall designate a local planning agency under contract to coordinate with the Local Water Quality Advisory Committee and WDNR in the review and update of the SSA Plan. The Local Planning Agency may or may not be the Plan Administrator, but may be required to provide support to the Plan Administrator during some SSA Plan amendments.[10]

Policy 1.1.9 **SSA Plan Reviews & Updates.** The SSA Plan shall be reviewed by the Local the Plan Administrator, in coordination with the Local Water Quality Advisory Committee, at least once every five years and updated to address any significant policy or boundary changes.

Subject to WDNR funding and support, a full review and possible update/amendment to the SSA boundary shall occur at least once every 10 years, preferably following the release of updated Wisconsin Department of Administration (WDOA) population forecasts. Such a review is strongly recommended following the next release of WDOA population forecasts based on the 2030 decennial census. Unsewered development within the sewer service area may necessitate a SSA boundary update or amendment in order to reallocate forecasted growth. Limited changes to the SSA boundary may be addressed through a Type I or II SSA Plan amendment rather than a more comprehensive update.

Advisory Policies

Policy 1.1.10 Local government comprehensive plans should be updated every ten years to reflect changing economic and physical conditions. Cooperative boundary and land use planning between local units of government is strongly encouraged.

Policy 1.1.11 Urban development should be encouraged to "infill" vacant developable lands within city boundaries, then be staged outward according to local plans.

Policy 1.1.12 Sewer extensions that reflect the contiguous and compact pattern of development should receive priority over extensions that will contribute to urban sprawl. However, it may be

[8] As of January 2026, the Hudson Area Water Quality Advisory Committee meets on a “as needed” basis to address SSA Plan updates or amendments. It is expected that the Committee will continue to include the same mix of representatives involved in the 2025-2026 update of this SSA Plan with the Local Planning Agency (WCWRPC) serving as a non-voting Advisory Committee Chair.

[9] As of January 2026, St. Croix County Community Development Department has been serving as the local Plan Administrator. This role may be transferred to the City of Hudson in the future.

[10] As of January 2026, West Central Wisconsin Regional Planning Commission (WCWRPC) has been serving as the WDNR-designated Local Planning Agency.

cost-effective to provide sanitary sewer to an area not adjacent to an existing sewered area if the costs are paid for by the landowner or developer.

Policy 1.1.13 The supply of land dedicated to urban development should approximate current and future needs as determined from population, employment/business, and land use projections, and be based on locally determined density standards.

Policy 1.1.14 Future commercial and industrial development should be guided to similar, compatible areas planned for such uses and be readily accessible to major transportation systems.

Policy 1.1.15 Future residential development should occur adjacent to existing development to contain costs of public service provisions, and reflect compact and orderly development.

Policy 1.1.16 Proposed SSA Plan amendments and updates should avoid creating large gaps within the service area. Satellite sewer service areas extended to serve an existing development that has failing onsite sewage systems or otherwise protect water quality may be an exception to this criteria.

Policy 1.1.17 The presence of Environmentally Sensitive Areas (ESAs) does not prohibit an area's inclusion within the SSA boundary. ESAs are excluded from the developable acreage within the SSA, but may be located within the SSA boundary. It is preferred that large, contiguous ESAs that are adjoining or overlapping the proposed SSA boundary be excluded from the SSA boundary.

Objective 1.2 Guide future rural development to occur in an efficient, orderly, and compatible manner to maintain a rural character.

Advisory Policies

Policy 1.2.1 Rural development should take place adjacent to existing development or in areas that are less productive for agricultural use due to terrain, soils, or available area.

Policy 1.2.2 Future residential development should be directed to existing platted subdivisions or areas with densities that will maintain the overall rural character of the community.

Policy 1.2.3 Commercial development should be clustered around existing commercial and existing or projected major transportation infrastructure and naturally isolated from existing or planned rural residential development.

Policy 1.2.4 Industrial development should occur in established or planned sewered industrial parks and existing or approved major transportation infrastructure and naturally isolated from existing or planned rural residential development.

Policy 1.2.5 Development into areas identified as prime agricultural land should be managed according to County and/or municipal farmland preservation plans.

Goal 2:
Provide and maintain a full range of community facilities and services that are efficient, economical, and environmentally sound.

Objective 2.1 Provide municipal sanitary sewer systems that will effectively and economically serve urban development.

Mandatory Policies

Policy 2.1.1 **SSA Plan Consistency.** When a subdivision plat, condominium plat, certified survey map, or sewered development is proposed, the local regulating authority shall review the proposal for consistency with this Sewer Service Area Plan, if it can be reasonably expected that the proposed development would be sewered in the future. In such a case, regardless of the timing of the sewer extension, the policies in this Chapter regarding plan amendments shall apply and, if required, a plan amendment shall be obtained prior to any intensive land disturbance. The granting of a 208-review letter or plan amendment is not guaranteed, even if an ESA had previously been disturbed or encroached upon. Once development occurs, the local regulating jurisdiction has a responsibility for SSA Plan consistency, including ensuring that intensive land disturbances do not occur within environmentally sensitive areas.

Policy 2.1.2 **Initiating Review/Amendment Requests.** A request for a 208-conformance review letter can be initiated by a landowner, authorized developer, land surveyor, etc., or the municipality in which the sewer extension would be located. A request for a plan amendment can only be initiated by WDNR, the Local Water Quality Advisory Committee, or a municipality within the sewer service area.

Policy 2.1.3 **Scope of 208-Conformance Reviews.** 208-conformance reviews are conducted to confirm that: (1) the area to be served by a sewer extension or hook-up is located within the SSA boundary and (2) ESAs will be protected from disturbance subject to the policies and exceptions of this chapter.

208-conformance review shall consider not only the corridor of the proposed sanitary sewer extension or private hook-up (lands to be disturbed during its construction) for conformance with this SSA Plan, but also include the review of maps, development maps, engineering studies, etc., for the immediate and any future, ultimate areas that will be served by the sanitary sewer extension or hook-up.

If the ultimate service area is located outside the SSA, the 208-conformance review will be limited to lands within the SSA until such time that a SSA boundary amendment is approved.

208 Reviews & Sewer Extensions

A ***208-Conformance Review Letter*** refers to the water quality management review letter issued by the Plan Administrator (or a local municipality for a private hookup) regarding the consistency of a proposed **sanitary sewer extension or hook-up/PIMS** with this Sewer Service Area Plan. This conformance review is also referred to as a ***208 Review***.

A **sewer extension** is the installation or expansion of the public sewage system, including private interceptor sewers, but excluding plumbing in connection with buildings served, service laterals from buildings to a street main, and the maintenance or replacement of inadequate systems in areas previously served. Applicable **sewer hook-ups/PIMS** are discussed in Policy 2.1.15.

Policy 2.1.4 **208-Conformance Review Timing.** The 208-conformance review shall be the final, required permit review and approval for a proposed project in most cases. Submittal of a 208 Review application to the Plan Administrator will typically occur after the local municipality has approved the certified survey map, subdivision plat, and/or development agreement. Grading of the project site shall not commence until after the 208-conformance review is completed. When an ESA exists within the project area, any required grading plans, engineering reports, or other such studies shall also first be approved by the regulating entity and local municipality, and referenced in the 208 Review application.

On a case-by-case basis, the Plan Administrator may waive this policy when land development plans have not yet been finalized or when a permit/compliance certification is not issued until after certain actions have been completed (e.g., FEMA Letter of Map Revision, WDNR Notice of Intent for construction site stormwater permit). In such cases, the 208-conformance letter shall be conditional, including conditions ensuring the protection of any ESAs within the service area, obtaining all other required permit approvals, and compliance with any other SSA Plan policies.

Policy 2.1.5 **Timing of Engineering Studies and CSMs/Plats.** A project plan that is consistent with the SSA Plan resulting from an acceptable engineering study that is submitted to and approved by the local regulating entity before a subdivision plat or certified survey map is recorded shall allow the land divider to represent appropriate changes on the subdivision plat or certified survey map.

A project plan that is consistent with the SSA Plan resulting from an acceptable engineering study that is submitted to and approved by the local regulating entity after a subdivision plat or certified survey map is recorded shall require the land divider to represent appropriate changes on a separately recorded document, such as an Affidavit, that includes a legal description and graphic of the subject area. Until this is accomplished, a deed restriction or similar note on the plat or CSM shall designate ESAs as unbuildable and protected from intensive land disturbances.

Policy 2.1.6 **Conditional Approvals.** At the discretion of the Plan Administrator or WDNR, 208 review letters and plan amendments may include conditions that are consistent with the goals, objectives, and policies of this Chapter.

Policy 2.1.7 **Other Rules Still Apply.** The issuance of a 208-conformance Review Letter or approval of a plan amendment does not constitute approval or compliance with any other local, state, or federal permits or regulations that may be required for sewer construction or associated land development activities.

Policy 2.1.8 **Liftstations.** The installation, replacement, or upgrade of a liftstation, with no new, planned extension, for municipal sanitary sewer does not require a 208-conformance review. However, the disturbance of an ESA during the liftstation's construction shall be avoided and would be subject to the policies in Goal 3.

Policy 2.1.9 **Hook-ups & PIMS.** The municipality providing sewer services will serve as the designated water quality management agency for the review of proposed private sewer hookups, laterals, sanitary private interceptor main sewers (PIMS), or building sewer for new construction including determining applicability under State code, reviewing the proposal for conformance with this Sewer Service Area Plan, and issuing a 208-review letter if required as discussed in Section 9.2. This review authority does not extend to the

review and approval of plan amendments. This policy and the related procedures in Section 9.2 are under review by the State of Wisconsin, and may need to be modified in the future.

Policy 2.1.10 **Private Onsite Wastewater Treatment Systems (POWTS).** POWTS and developers of unsewered subdivisions shall follow all regulations for well, septic, and stormwater management.

Policy 2.1.11 **Holding Tanks**. Holding tanks are a solution or repair of last resort and, when required, are most frequently installed in isolated rural areas without sewer service in order to replace failed private onsite sewage disposal systems that cannot be repaired in any other fashion. On a case-by-case basis, the local regulating jurisdiction may determine that holding tanks or shared cluster systems are preferred over other private onsite wastewater treatment solutions due to site conditions, such as sandy soils; connection to a sanitary sewer system is preferred when cost-effective. Chapter 8 includes additional policies and responsibilities related to the permitting of holding tanks and designation of holding tank service areas.

Policy 2.1.12 **Replacement of Existing Sanitary Sewer Lines.** Unless otherwise required by WDNR, a 208-conformance review is not required for the replacement of existing, previously permitted public sanitary sewer lines if the new collection system will utilize the same route (e.g., same right-of-way or easement area) and the system will not serve a new growth area. For a proposed re-routing of a replacement collection system, the new route shall be reviewed to ensure that utilities are routed or located to minimize or avoid impacts on environmentally sensitive areas (ESAs), but a 208-conformance review is not generally required. Any areas served by the proposed replacement are subject to the other SSA Plan policies of this plan.

Policy 2.1.13 **New High-Capacity Wells**. WDNR shall consult with the local unit of government prior to permitting new high-capacity wells.

Advisory Policies

Policy 2.1.14 When evaluating wastewater alternatives, cost-effectiveness may consider financial, environmental, and other factors and should be evaluated over the long term (i.e., 20-year planning period). A municipal wastewater treatment system (sanitary sewer system) provides the highest level of environmental protection, planning, management, and monitoring, and is the preferred regional wastewater solution when service can be provided in a cost-effective manner. Where municipal wastewater treatment is not cost-effective and challenges exist for on-site private systems, shared cluster systems may be an alternative if proper siting and maintenance can be guaranteed.

Policy 2.1.15 Sanitary sewer extensions should be concurrent with the timing or provision of other public facilities and services and consistent with wastewater treatment facility plans.

Policy 2.1.16 Sewer extensions should occur contiguous to existing systems, according to local staging plans, where facilities can accommodate them.

Policy 2.1.17 The benefits of extending sanitary sewer to an existing development with failing systems to protect water quality may outweigh financial cost-effectiveness. Sanitary sewer systems should be provided for existing development whenever they are the most cost-effective alternative for addressing failing on-site disposal systems.

Policy 2.1.18 Sanitary sewer system construction and sizing should be staged to encourage lower capital investment and flexibility.

Policy 2.1.19 Existing capacity in sanitary sewer systems should be used before making substantial expansions or extensions.

Policy 2.1.20 Landowners with private wells should be aware of the importance of regular testing, and threats to their water supply, including risks related to private septic system maintenance. Regulations related to the maintenance/compliance of private septic systems, shared cluster septic systems, and well setbacks will be enforced. Developers of unsewered subdivisions should demonstrate through site plans that wells and septic systems can be properly placed. Rural development should be discouraged where soils are unsuitable for conventional on-site septic systems.

Policy 2.1.21 The number of waste treatment plants should generally be minimized to avoid duplication of facilities, institute economies of scale, and lessen environmental degradation.

Policy 2.1.22 The City of Hudson is encouraged to explore the potential provision of sanitary sewer to support future commercial and light industrial growth within the sewer service area, and share related plans and studies with other units of government.

Goal #3: Environmentally Sensitive Areas

Protect water quality through the consideration of environmental constraints and the protection of environmentally sensitive areas from encroachment by intensive land disturbances within the sewer service area.

Note: Given the emphasis of SSA planning on the protection of environmentally sensitive areas (ESAs) and water quality, Goal #3 is more robust than the previous two goals and provides detailed guidance for plan administration. All policies in Goal #3 are mandatory, though a portion of some policies may be discretionary when designated as advisory.

Objective 3.1 Areas environmentally unsuitable for development shall be delineated, tracked, and protected from intensive land disturbances.

Mandatory Policies – General Water Quality & ESA Protection

Policy 3.1.1 **Protection of Environmentally Sensitive Areas (ESAs).** The ESAs in Chapter 3.5 shall be protected and not encroached upon by any **intensive land disturbance** within the Sewer Service Area (SSA) regardless of the status or type of wastewater treatment, subject to the policies and exceptions of this Chapter.

The plan allows, without a plan amendment, sewer extensions or hookups on lots that are partially within an ESA if the building construction or any other intensive land disturbance does not occur on that portion of the lot affected by any one of the ESAs. Municipalities and St. Croix County must further ensure that sufficient setbacks and erosion control measures are taken, as determined by local zoning or land development controls.

Policy 3.1.2 **Intensive Land Disturbances.** For this plan, intensive land disturbances shall include but are not limited to construction, expansion, or replacement of the following uses:

- structures and accessory structures, including buildings, homes, outbuildings, sheds, garages, storage buildings, decks, and any objects with a foundation, excluding permitted retaining walls;
- impervious surfaces such as parking lots, concrete or asphalt surfaced storage areas, paved patios, private walkways, and swimming pools;
- private golf courses, campgrounds, man-made ponds, etc., if associated with any of the above; and,
- grading, filling, and dewatering related to the above. Fill must not reduce flood storage of a 100-year floodplain.

Policy 3.1.3 **ESA Encroachments shall be Avoided.** An ESA encroachment by an intensive land disturbance and a Type IV (ESA) Sewer Service Area Amendment shall only be approved in unusual circumstances **where no reasonable alternative exists** and/or when the encroachment is necessary to mitigate or remedy an existing environmental problem. A self-created hardship or desire to maximize developable area are not sufficient justifications for the approval of a Type IV amendment.

Policy 3.1.4 **Determining Reasonable & Avoidable for Encroachments.** The Plan Commission (or other authorized body or staff person empowered with making such a determination) of the municipality in which a proposed ESA encroachment is located will make the determination whether the encroachment has **no reasonable alternatives, was avoidable, or was necessary to mitigate or remedy an existing environmental problem**. This determination shall be clearly stated in an official record (e.g., meeting minutes); approval of a plan or plat that shows the encroachment is insufficient documentation alone. The SSA Plan Administrator will alert WDNR to this determination as part of a 208 review.

Policy 3.1.5 **Unapproved ESA Encroachment.** Any unapproved alteration of any ESAs within the SSA to remove the status of these areas as an environmentally sensitive area, and hence make them available for sewered or unsewered development, is prohibited. No ESA may be modified, removed, graded, filled, or otherwise altered to avoid these requirements and policies.

If an ESA encroachment by an intensive land disturbance occurs that did not receive required approval(s) in accordance with the policies and procedures of this plan the following shall apply:

i. The encroachment area shall remain an ESA and be unbuildable until properly approved and/or a Type IV amendment is granted.

ii. On a case-by-case basis, the landowner may be subject to remediation or restoration costs or other penalties at the discretion of WDNR.

Policy 3.1.6 **Wetlands & Wetland-Indicator Soils.** The filling or removal of a wetland, in whole or part, shall require a Type IV SSA Plan Amendment (or minor amendment under Policy 3.1.28), even if WDNR had otherwise previously approved or issued an exemption determination for the wetland encroachment.

If wetland-indicator soils are shown on the WDNR Surface Water Data Viewer, a site-specific survey and/or certified wetland delineation performed by a third party, qualified

delineator may be required on a case-by-case basis if an intensive land disturbance may encroach upon the wetland-indicator soils. Such a delineation may be required by the local regulating jurisdiction as part of their permitting processes or by the Plan Administrator with WDNR consultation prior to issuing a 208-conformance review determination. If wetlands are identified and confirmed, the area shall become a Wetland ESA.

Policy 3.1.7 **Floodplains and Shorelands.** When the flood fringe is delineated and mapped as part of the *Special Flood Hazard Area*, construction and grading for utilities and stormwater improvements are allowable within the flood fringe if erosion and stormwater management plans have been approved; additional development may be allowed in the flood fringe if carefully planned and elevated sufficiently above the Base Flood Elevation with dryland access. Local regulating entities shall continue to protect shorelands as sensitive areas important to water quality to the extent allowable by State law, but shorelands are not included as an ESA nor are separately regulated under this Sewer Service Area Plan. Land disturbances in regulated shoreland areas are allowed to the extent permitted by State and local ordinances and approved by the regulating entity. However, some ESAs (e.g., steep slopes, floodplain/floodways, wetlands) may overlap with shoreland areas and such areas are covered under this Plan.

Policy 3.1.8 **St. Croix Riverway.** While not an environmentally sensitive area as defined under this plan, the provisions of the St. Croix Riverway Master Plan will continue to be implemented, including enforcement of St. Croix Riverway zoning regulations. Local units of government will continue to cooperate with the Lower St. Croix River Management Commission and others in comprehensive riverway planning and management efforts.

Policy 3.1.9 **Closed Depressions.** Closed depressions are considered an environmentally sensitive area (ESA) under this plan, though they have not been inventoried and mapped in detail. Closed depressions shall not be developed, drained or filled, nor shall closed depressions be used for the dumping or storage of any substance, material or equipment. During site plan and subdivision plat review, the local regulating jurisdiction shall consider whether closed depressions exist. Applications for a 208-conformance review or a SSA amendment shall identify and map the extent of any known closed depressions. Until more accurate closed depression maps and acreages exist, the acreages of closed depression ESAs are not included when determining the SSA boundary.

Policy 3.1.10 **Groundwater and Wellhead Protection Areas.** Wellheads for public drinking water will continue to be enforced in a manner consistent with State law. It is expected that St. Croix County will continue to champion groundwater testing and protection programs that engage communities to protect groundwater and address the related challenges identified in Chapter 3.2.

Policy 3.1.11 **Additional Environmental Considerations.** The additional environmental considerations in Chapter 3.6 are primarily defined, interpreted, considered, and protected by local or State regulating jurisdictions; they are not planned for or directly protected through this SSA Plan. These additional constraints are typically not considered ESAs under this SSA Plan and are not excluded from the developable SSA acreage, though may overlap with an ESA. When evaluating a SSA Plan amendment, the regulating jurisdiction(s) will interpret and evaluate any additional environmental considerations. Sanitary sewer extensions and development into physical or cultural resource areas not included as an ESA in this plan shall conform to applicable local, state, and federal rules and regulations.

The applicant shall be asked to identify any such unique features as part of a 208-conformance review or plan amendment request. WDNR and the Plan Administrator may consider unique environmental characteristics or features (e.g., springs, closed depressions) on a case-by-case basis.

Policy 3.1.12 **Stormwater Management.** Local units of government shall continue to ensure the enforcement of construction site erosion controls and stormwater management ordinances, ensure that stormwater facilities are adequately sized, and maintain related permits. Additional flood and stormwater management planning, programming, and related regulations, as well as low-impact development approaches that reduce impervious surfaces and limit run-off are encouraged, especially for areas near surface waters and wetlands.

Policy 3.1.13 **Intermittent (Non-Continuous) Streams.** Encroachment upon and grading of an intermittent (non-continuous) stream shown on the WDNR Surface Water Data Viewer is allowable on a case-by-case basis if: (1) the applicant provides sufficient field verification and documentation to determine that an actual intermittent stream does not exist as described in Section 3.5.2 and (2) erosion control/stormwater management plans have been approved for the project area.

Policy 3.1.14 **Relationship to Local Plans & Policies.** The ESA definitions in this Chapter are common and shared for their entire SSA Study Area for purposes of this SSA Plan. St. Croix County and communities may have ESA definitions and policies that differ from this SSA Plan, including additional or more stringent standards.

The ESA definitions herein are only required for implementation and administration of this SSA Plan within the sewer service area. Decisions regarding the update, amendment, compliance, or administration of the SSA Plan shall be consistent with the definitions and policies in the SSA Plan. In cases of such differences, the most restrictive definitions and policies would, in effect, apply but would be administered separately. Since local units of government do have a responsibility and compliance role during implementation of the SSA Plan, consistency with ESA definitions is encouraged, but is not required.

St. Croix County and local municipalities shall continue to consider, implement, and enforce the local shoreland, floodplain, erosion control, uniform dwelling code, stormwater, and steep slope regulations described in Chapter 3 and the policies of this Sewer Service Area (SSA) Plan as well as consider and abide by other applicable local, state, and federal rules pertaining to water quality and wetland protection. Local comprehensive plans and land use ordinances shall guide development away from environmentally sensitive areas within the SSA. Sufficient setbacks and erosion control measures shall be taken, as determined by local zoning or land development control, and may be more stringent than the policies in this Sewer Service Area plan at the discretion of the local regulating jurisdiction.

Policy 3.1.15 **Failure to implement SSA Plan regulations and policies** may impact sewer extension approvals within those municipalities where WDNR or WDSPS determine that improvements in enforcement are needed. As determined by the Wisconsin Department of Safety and Professional Services (WDSPS) or Wisconsin Department of Natural Resources (WDNR), if local construction site erosion controls and/or stormwater regulations are not adequately implemented as described in this plan, all sewer extensions into steep slope ESAs, regardless of class or location, will not be approved in the respective

municipality until such time that the department determines that adequate enforcement is achieved. Similarly, WDSPS or WDNR may require changes in the review, approval, amendment, and tracking processes under this plan should it be determined that the policies and procedures in this SSA Plan are not being adequately implemented or adhered to.

Mandatory Policies - Steep Slope ESAs

Policy 3.1.16 **Steep Slopes near Surface Waters.** Any proposed projects or SSA Plan amendments for development on any 12+% slopes that would result in direct runoff into a stream shall be prohibited. Mitigation measures to protect water quality shall be required when necessary.

Policy 3.1.17 **Identifying Steep Slope ESAs.** Slope shall be defined, measured, delineated, and classified as described in Chapter 3.5.5, subject to the exclusions in Policy 3.1.26. The local regulating jurisdiction may be more restrictive in its definition and protection of steep slopes.

Policy 3.1.18 **Steep Slope Exclusions.** The following are not considered Steep Slope ESAs under this SSA Plan, if an **engineering study** with a grading/stabilization plan and documented best management practices have been submitted to the regulating county or municipality to mitigate erosion AND the impacted area of steep slope is not located in another ESA.:

a. Engineered, man-made steep slopes, including walk-out basements, if a grading/stabilization plan has been approved by the pertinent regulating jurisdiction(s).

b. Older, man-made slopes that were purposefully engineered or graded according to standards at the time and have since stabilized. Such artificial slopes will be evaluated by the Plan Administrator on a case-by-case basis with WDNR consultation and may be treated as a Steep Slope ESA depending on site characteristics, soil erodibility, and proximity to surface waters or other ESAs.

c. Temporary man-made piles of soil (i.e., spoils piles, dirt stock piles) that were created in the last five years.

Summary of Steep Slope ESA Definitions

- Natural or un-engineered 20+% slope and min. of 2,000 square ft. is a steep slope ESA.
- Class A – The steep slope and/or its 20 ft. top & bottom buffer overlaps a surface water, 100-year floodplain, or wetland ESA
- Class B – Other Steep Slope ESA's that are not Class A slopes.

See Chapter 3.5 for full definitions.

Policy 3.1.19 **Steep Slope Protections.** Regardless of location, proximity to other ESAs, or whether a sewer extension or hook-up is required, the local regulating entity (county and/or municipality) shall require the following for proposed intensive land disturbances within areas of steep slope:

i. Best management practices shall be required for erosion and stormwater control for all steep slopes of 12% or greater.

ii. Intensive land disturbances, including the excepted activities in Policy 3.1.26, shall avoid encroachment upon any steep slope ESAs to the extent reasonably possible.

iii. If **no reasonable alternative exists** and an encroachment upon a steep slope ESA is unavoidable:

- a Type IV SSA Plan Amendment may be required as discussed within other policies of this chapter.
- an engineering study with a grading/stabilization plan prepared by a Wisconsin-licensed engineer shall be required, filed with, and approved by the local regulating entity to demonstrate the suitability of the proposed intensive land disturbance while ensuring that erosion will be prevented and surface water and groundwater quality will not be negatively impacted.

Engineering Studies and Stabilization Plans

For this SSA Plan, an engineering study with grading/stabilization plan includes site planning documents, grading plans, stabilization plans, geotechnical reports or other such technical reports prepared by a Wisconsin-licensed engineer that sufficiently demonstrates that the land, with potential best practices, is suitable for the proposed intensive land disturbance without negatively impacting water quality.

Such engineering studies should include, at a minimum, the following (or comparable) information as required by the regulating entity:

(i) Summary of subject site and proposed changes.

(ii) Soil types.

(iii) Existing conditions and slopes, including existing erosion and slope stability.

(iv) Proposed land development.

(v) Proposed erosion control best management practices, including any retaining walls.

(vi) Identification of a single responsible party, before, during and after changes to slope.

(vii) Verification and statement that changes to slope does not reduce the existing water quality, the existing erosion, or the stability of the slope.

(viii) An engineer's stamp and signature on the report verifying the accuracy of the document.

Depending on project and site circumstances, a local regulating entity may require additional information or studies, including reports provided by a licensed, geotechnical engineer. At its discretion, the Plan Administrator may require that a copy of any approved engineering studies or stabilizations plans be provided with a 208-conformance review request.

Policy 3.1.20 **Class B Steep Slope Amendment Exception.** As an ESA, an encroachment upon a Class B steep slope by an intensive land disturbance will only be approved in unusual circumstances **where no reasonable alternative exists** and/or when the encroachment is necessary to mitigate or remedy an existing environmental problem. A 208 Review Conformance Letter or other approval may be issued without a Type IV SSA Amendment for an intensive land disturbance within Class B steep slopes if an engineering study or its equivalent has been approved by the local regulating jurisdiction and such encroachments are reported to SSA Plan Administrator for tracking purposes. Depending on the nature of the encroachment, site, and potential for negative water quality impacts, the municipality and/or Plan Administrator shall consult with WDNR to determine whether a Type IV SSA Amendment is necessary.

Policy 3.1.21 **Cost-Effectiveness of an ESA Amendment.** Plan Amendments to allow sewered development on steep slope ESAs shall be the most cost-effective development alternative and shall be consistent with the existing development pattern and locally approved construction erosion control ordinances.

Mandatory - ESA Review & Plan Administration

Policy 3.1.22 **Mapping of ESAs.** The ESAs mapped in this SSA Plan are an approximate representation of known conditions at the time of map preparation. Not all ESAs may be mapped or mapped accurately. Such physical features may change over time from natural or human causes and new ESAs may be formed. Therefore, it is extremely important that, prior to any land-disturbing activity, the presence and location of ESAs be verified to the extent reasonably possible. Such verified information shall supersede and replace any previously mapped information set forth in this plan.

At the request of WDNR, the SSA Plan Administrator, a county, or municipality, the ESA boundaries and acreages as mapped in this plan may be corrected by the Plan Administrator to reflect more accurate information. The Plan Administrator may request technical support or approval of WDNR, municipalities, and others when considering such requests. Such corrections, including the addition of previously unmapped ESAs, will be tracked by the Plan Administrator, but shall not require a Type IV Sewer Service Area Plan Amendment unless determined that an amendment is needed by the Administrator, the local Water Quality Management Advisory Committee, or WDNR. Such a correction does not constitute a change of any deed restriction or any conditions of a CSM, subdivision plat, or land use permit without the consent and approval of the local regulating jurisdiction.

Policy 3.1.23 **Delineation of ESAs.** As part of applications for 208-conformance reviews and SSA Plan amendments, the applicant shall identify if any ESAs or other environmental considerations defined within Chapters 3.5 & 3.6 are known to exist within the area to be served by the project, will be impacted by the project, and if any related permits or approvals have been approved or will be required.

Prior to a 208 Review or consideration of a plan amendment, an applicant may be required to perform water quality-related studies and surveys to accurately delineate an ESA at their expense. This may include the performance of site-specific surveys and certified wetland delineation.

When an intensive land disturbance occurs, the ESA definitions and SSA Plan policies that are in effect at the time of the disturbance shall apply. A change in the ESA definitions within this plan does not change any area designated as unbuildable on a previously approved plat or CSM.

Policy 3.1.24 **Considering ESAs during SSA Plan Administration.** The applicant shall provide the Plan Administrator with sufficient information and approved plans or water quality-related studies to allow for a determination of whether any ESAs will be encroached upon by an intensive land disturbance.

When requesting a 208 Review, the following are strongly recommended and may be required by the Plan Administrator and/or WDNR:

a. Advisory: The 208-conformance review request shall not be made until any site plans, erosion control plans, engineering studies, special hydraulic analyses, etc. have been approved by the regulating authorities that ensure that ESAs will be protected.

b. Advisory: ESAs within a property, certified survey map, or subdivision to be served by sanitary sewer should be identified as an outlot and designated as being protected from intensive land disturbances. It is the responsibility of the landowners and municipality to ensure such outlots are not encroached upon.

It is recognized that detailed site plans are not always available when a sanitary sewer extension is proposed. In such instances, the Plan Administrator may issue a 208-conformance letter with conditions that any ESAs be protected or may request additional information, water quality-related studies, or actions in consultation with WDNR. The local municipality in which the project is located has the primary responsibility of ensuring that any conditions in the 208-conformance letter are enforced.

Policy 3.1.25 **ESA Encroachment when a 208 Review is Required.** If encroachment of an ESA by an intensive land disturbance is expected and a 208-review letter is required from the Plan Administrator (or the municipality for sewer hook-ups/PIMS) prior to the provision of sewer service, a Type IV (ESA) Sewer Service Area Plan Amendment will first be required prior to the completion of the 208 Review, with the previously noted exception for Class B steep slopes.

A 208-review letter may be issued with conditions or restrictions if there is insufficient information available to verify a possible ESA encroachment OR if an ESA or other water quality-related environmental concerns exists within or near the project area. In such cases, including for phased development projects, the conditions shall include that any existing ESAs shall be unbuildable and protected from intensive land disturbances unless a Type IV SSA Amendment is approved. Local regulating jurisdictions are strongly encouraged to include a similar condition as part of their plat, survey map, and site plan review for projects when a sewer extension is required.

Policy 3.1.26 **Encroachment when <u>no</u> 208 Review is Required.** The local regulating county or municipality is responsible for reviewing, discouraging, minimizing, and mitigating any steep slope or other ESA encroachment and related impacts, regardless of the slope's or ESA's proximity to any other ESAs or if the intensive land disturbance is part of sewered or unsewered development. The county or municipality may request a Type IV SSA Amendment if needed and **reasonable**, and must report any ESA encroachments within the sewer service area to the Plan Administrator for tracking purposes. Based on the characteristics of the ESA or nature of the proposed disturbance, the local regulating jurisdiction or WDNR have the discretion to require a Type IV SSA Amendment at any time prior to permitting the disturbance.

Policy 3.1.27 **Responsibilities of Local Units of Government**. As an undesignated urban sewer service area, the administration of this SSA Plan requires cooperation and consistent compliance by all local units of government. Many of the policies in this chapter refer to the responsibilities of the communities and regulating jurisdictions within the SSA. In addition to these responsibilities:

a. St. Croix County and communities shall inform the Plan Administrator of any changes regarding ESA location, encroachment, and size/acreage changes for tracking purposes, including updated ESA mapping data.

b. Local regulating entities and the Plan Administrator have a responsibility to report to WDNR any intensive land disturbances within an ESA that occur in a manner inconsistent with the policies and procedures of this Sewer Service Area Plan.

SSA Type IV (ESA Encroachment) Amendment Policies & Exceptions

Policy 3.1.28 **Type IV Amendments Required, with Exceptions.** An encroachment of any ESA defined in Chapter 3.5. by an intensive land disturbance shall require a Type IV (ESA) Sewer Service Area Amendment prior to the permitting of the disturbance, subject to the other policies and exceptions of this chapter. WDNR has the discretion to require a Type IV SSA Plan Amendment at any time for a proposed or unpermitted encroachment of an ESA.

Policy 3.1.29 **Exceptions to Type IV (ESA) SSA Amendments.** The following exceptions are provided to balance the protection of ESAs with legitimate local and regional development. When such conflicts occur, the problem should be resolved with utmost care taken to protect water quality. For the following exceptions, Policies 2.1.3 & 2.1.4 apply; **no reasonable alternative shall exist** and the encroachment is unavoidable as documented by the local Plan Commission or other authorized body/staff empowered to make such a determination.

Only crossings for utilities and public streets shall be permitted to encroach upon surface water, floodplain/floodway, and wetland ESAs without a Type IV SSA Amendment, except passive public recreational facilities (e.g., picnic areas, trails) and sports fields without seating or structures may be allowed in floodplain/floodway ESAs if the community can demonstrate that flood storage will not be reduced.[11]

For steep slope ESAs, an encroachment by the following uses and activities do not require a Type IV SSA Amendment:

- utilities that are routed or located to minimize or avoid impacts on an ESA or extend across an ESA to serve sewered development not located within the ESA or an ESA setback;
- passive public recreational facilities such as trails and picnic areas, excluding buildings, parking areas, and other significant hardscape;
- stormwater management improvements, when demonstrated that such facilities cannot fit or function elsewhere as part of the development;
- public streets, driveways, and private access roads, when demonstrated that such facilities cannot fit or function elsewhere are part of the development;
- walk-out basements and engineered, artificial steep slopes, including the re-engineering and re-grading of stabilized artificial slopes and previously approved grading plans, if an engineering report is submitted and approved by the local regulating entity;
- open decks and/or stairways on post and pier foundations, as well as paved patios extending up to 15 feet from the foundation of the principal structure, may encroach upon slopes 20% or greater or their buffer areas with approval of the local regulating authority and subject to any additional local regulations, though buffers or setbacks for such disturbances should be encouraged (advisory) if possible;
- forestry practices and grubbing, to the extent allowed by local regulating jurisdiction(s);

[11] Private streets and driveways are not an exception and cannot encroach upon surface waters, floodplains/floodways, and wetlands, unless an agreement is in place that the roadway will be dedicated as a public road with the intent to turn over maintenance to the municipality. On a case-by-case basis, the Plan Administrator, in consultation with WDNR, may require a hydraulic analysis to demonstrate that flood storage will not be reduced.

- grading, filling, and landscaping required for erosion control, stormwater management, or other health, safety, or natural resource protection purposes; and,
- existing development on private septic systems, if deemed environmentally beneficial or will remedy an existing environmental problem (e.g., failing on-site systems).

A Type IV (ESA) Sewer Service Area Amendment shall not be required for all previously specified ESA encroachment exceptions in Policy 3.1.26 if all other required water quality-related permits and approvals are received and mitigation plans have been approved by regulating entities for any potential adverse water quality-related impacts. In such instances, engineering studies, stabilization plans, hydraulic studies, and any other needed water quality-related approvals shall be obtained by the regulating jurisdiction(s) prior to requesting a related 208-conformance review. An exception to this requirement is a preliminary approval may be sufficient if a permit/compliance certification is not issued until after certain actions have been completed (e.g., FEMA Letter of Map Revision).

Any such disturbance of an ESA, regardless if encroached upon by an exempted activity or not, shall be noted in the 208-review letter and in the subject sewer/site plans and specifications so that an environmental review of the proposed action can be conducted, if necessary, during WDNR review of the proposed project. If a 208-review letter is not required, the SSA Plan policies still apply and the encroachment shall be reported to the SSA Plan Administrator.

Policy 3.1.30 **Directional Borings.** WDNR-approved directional or horizontal borings for utilizes and infrastructure under a surface water, floodplain/floodway, or wetland ESA is not considered an ESA encroachment if the installation of the boring commences and terminates outside of an ESA. Documentation showing the locations of a proposed boring and nearby ESAs must be submitted as part of a 208-conformance review request.

Policy 3.1.31 **Minor Type IV Amendments.** A request for a Type IV (ESA) Sewer Service Area Amendment for which less than one (1) acre of ESA is affected shall be considered a minor amendment. It is expected that the application and Plan Administrator staff report for a minor amendment will be brief. The application must still include sufficient documentation showing the location of the ESAs, the nature of the encroachment, a determination that the encroachment was unavoidable and not alternative exists, mitigation measures, and the status of related permits/approvals. The amendment may be approved by the SSA Plan Administrator following Plan Administrator consultation with and concurrence by WDNR Water Quality staff. The Plan Administrator and WDNR staff have the discretion to require the full amendment review and approval process as described in Chapter 6.4. depending on characteristics such as the site, the ESA, and potential water quality impacts. All permits and approvals related to the Type IV Amendment must be in place prior to submittal and approval of a 208-conformance review letter per Policies 2.1.4 and 2.1.5.

CHAPTER 8 -
HOLDING TANK SERVICE AREAS

In some cases, municipalities are faced with high-cost alternatives to improving their wastewater treatment and disposal situations. With the number of affordable alternatives diminishing, holding tanks may be the only alternative. As of October 1, 1987, a revised Chapter NR113 of the Wisconsin Administrative Code took effect to consistently handle this alternative. At the same time NR 113 was being changed, NR 205 was being revised to clarify Publicly Owned Treatment Works (POTW) obligations to accept septage[12]. The provisions of this chapter can only relate to programs and policy as they are currently enforced. Three terms should be defined here to aid in understanding the requirements of NR 113:

1. "**Publicly owned treatment works (POTW) planning area**" means the area delineated in a map form in which the planning for a specific POTW is being or has been prepared to cover. In other words, this is the area for which a POTW is responsible for considering in planning a cost-effective regional wastewater treatment alternative. The SSA Study Area described in Chapter 2 should be used to determine the POTW planning area, unless the POTW has adopted its own POTW planning area map.

2. "**Publicly owned treatment works (POTW) sewer service area**" means the area presently served and anticipated to be served by a sewerage collection system as approved under ch. NR121 (i.e., the SSA boundary established by this SSA Plan) or as a facility planning effort done under ch. NR110, if no NR121 designation has been made.

3. "**Publicly owned treatment works (POTW) holding tank service area**" means the area outside the POTW's sewer service area, but inside or equal to the POTW's planning area where a contract has been developed for holding tank wastewater to be treated at the POTW.

The following general requirements are applicable to the Hudson Urban Sewer Service Area are:

1. Holding tanks are a solution or repair of last resort and, when required, are most frequently installed in isolated rural areas without sewer service in order to replace failed private onsite sewage disposal systems that cannot be repaired in any other fashion.

2. Large commercial, industrial, recreational, or residential development holding tank private onsite wastewater treatment systems (POWTS) that singly or when added together or increased by successive additions generate 3,000 gallons of septage per day or greater shall contract with a wastewater treatment facility for treatment of the septage.

3. **A holding tank service area must be delineated for any holding tank outside the sewer service area, but within the SSA Study Area, if generating 3,000 gallons or more of septage a day**. The service area for a POTW may include both an urban sewer service area

[12] The current NR 113 was created effective January 1, 1997, with subsequent corrections. The current NR 205 of the Wisconsin Administrative Code was created effective October 1, 1984.

and a holding tank area. The POTW should have the capacity to accept wastewater from both areas. The difference between the sewer and holding tank service areas is the holding tank service area including areas not intended to be sewered during the design life of the POTW. Also, holding tanks may be located in either service area and a Holding Tank Service Area Amendment is required.

4. Within a POTW planning area, any new holding tanks for new development, outside of the sewer service area and inside the POTW planning area that receive more than 3,000 gallons of wastewater per day require that the owner of the holding tank system and the POTW reach an agreement and seek a water quality management plan amendment by the SSA Plan Administrator with approval by WDNR. The amendment is needed to put the area tributary to the holding tank within a holding tank service area of the POTW. The new holding tank cannot be approved until the amendment has been completed or until WDNR has received adequate assurance that it will be completed. This type of amendment does not require an acreage swap. The SSA Plan Administrator will evaluate the amendment request and may recommend the holding tank owner consider other POTWs because of cost effectiveness or environmental concerns.

5. Holding tanks to replace existing failed onsite systems, which will receive more than 3,000 gallons of wastewater per day, should also be included in the designated POTW holding tank service area. However, if the owner of the holding tank can satisfactorily demonstrate that he is unable to become part of such a service area, the holding tank may be approved provided the owner has a multi-year contract with a POTW, of sufficient capacity, to provide treatment for all wastewater tributary to the holding tank. Further, the owner must provide satisfactory assurance that all such wastewater will only be disposed of at a POTW.

6. Small holding tank (generating under 3,000 gallons per day) and septic tank wastewater must be taken to a POTW if:
   a. The septic tank is located in the POTW's sewer service area.
   b. The holding tank is located in the POTW's sewer service or holding tank service areas[13].
   c. The holding tank is located inside the POTW's planning area, but outside the POTW's sewer service and holding tank service area(s), if the POTW will accept the wastewater and the cost to the disposer/hauler is less than or equal to the amounts calculated pursuant to NR113.07(1)(f).

   The above requirements (in 4., including 4a., 4b., and 4c.) do not apply if the wastewater from small holding tanks and septic tank systems will be land spread in accordance with a WDNR or WPDES permit.

7. POTW's are required to accept, treat, and dispose of septage under certain circumstances as directed by 281.49 State Statutes and NR 205.

[13] The POTW acceptance requirement, for holding tank wastewater within the sewer service and holding tank service area and septic tank wastewater within the sewer service area is in NR205.07(2)(i).

No holding tank service area has been delineated in this SSA Plan, because there were no identified contracts to dispose of large holding tank wastewater into the Hudson wastewater treatment plant. **In addition, to the knowledge of the city and village public works staff, there were no holding tanks in the SSA Study Area, and outside the sewer service area, required to contract with the POTW.**

The following table from the WDNR website summarizes State regulatory oversight for all holding tanks regardless of location:

SUMMARY OF HOLDING TANK PLAN REVIEW REQUIREMENTS

Wastewater type	Holding tank design	Requirements
Domestic	Generates less than 3,000 gallons per day	DSPS (or applicable designated agent) Plan Approval [exit DNR] (No DNR involvement)
Domestic	Generates 3,000 or more gallons per day	DSPS (or applicable designated agent) Plan Approval [exit DNR], but DSPS must obtain verification from the DNR that there is an agreement of commitment that tank contents will be disposed of at a publicly owned wastewater treatment plant.
Non-Domestic	Any size	DNR Plan Approved Submit DNR Form 3400-185 [PDF]
Mixture of Domestic and Non-Domestic	Any size	Submit DNR Form 3400-185 [PDF] to DNR for "concurrence" review/determination and obtain DSPS Plan Approval

Holding Tank Service Area Amendments

A holding tank service area amendment is required when a holding tank service area is added within the Hudson Urban Sewer Service Area. This is a Type III SSA Plan Amendment under this plan. The Type III SSA Plan Amendment procedures are outlined in Chapter 9.3 of this plan.

An amendment request for a holding tank service area for new development cannot be approved if an intensive land disturbance encroaches on an environmentally sensitive area as defined in Chapter 3; those applicable policies and exceptions noted in Chapter 7 shall also apply.

CHAPTER 9 – PLAN IMPLEMENTATION

The *Hudson Urban Sewer Service Area Plan* is the primary tool to be used in the review of proposals for sewer extensions and hookups (208 Reviews) and plan amendments. Such reviews and amendments are often triggered by a development proposal. **The procedures in Chapter 9 provide guidance to the Plan Administrator and promote conformance with the mandated policies in Chapter 7, though limited administrative flexibility and discretion shall also be permitted when reasonable and with WDNR consent.**

Developers and local officials must be aware of the policies and environmentally sensitive area criteria detailed within this plan when proposing or considering new development within the Sewer Service Area. Any approvals or conformance letters issued under this SSA Plan do not constitute approval of any other local, state, or federal permit that may be required for sewered construction or associated land development activities.

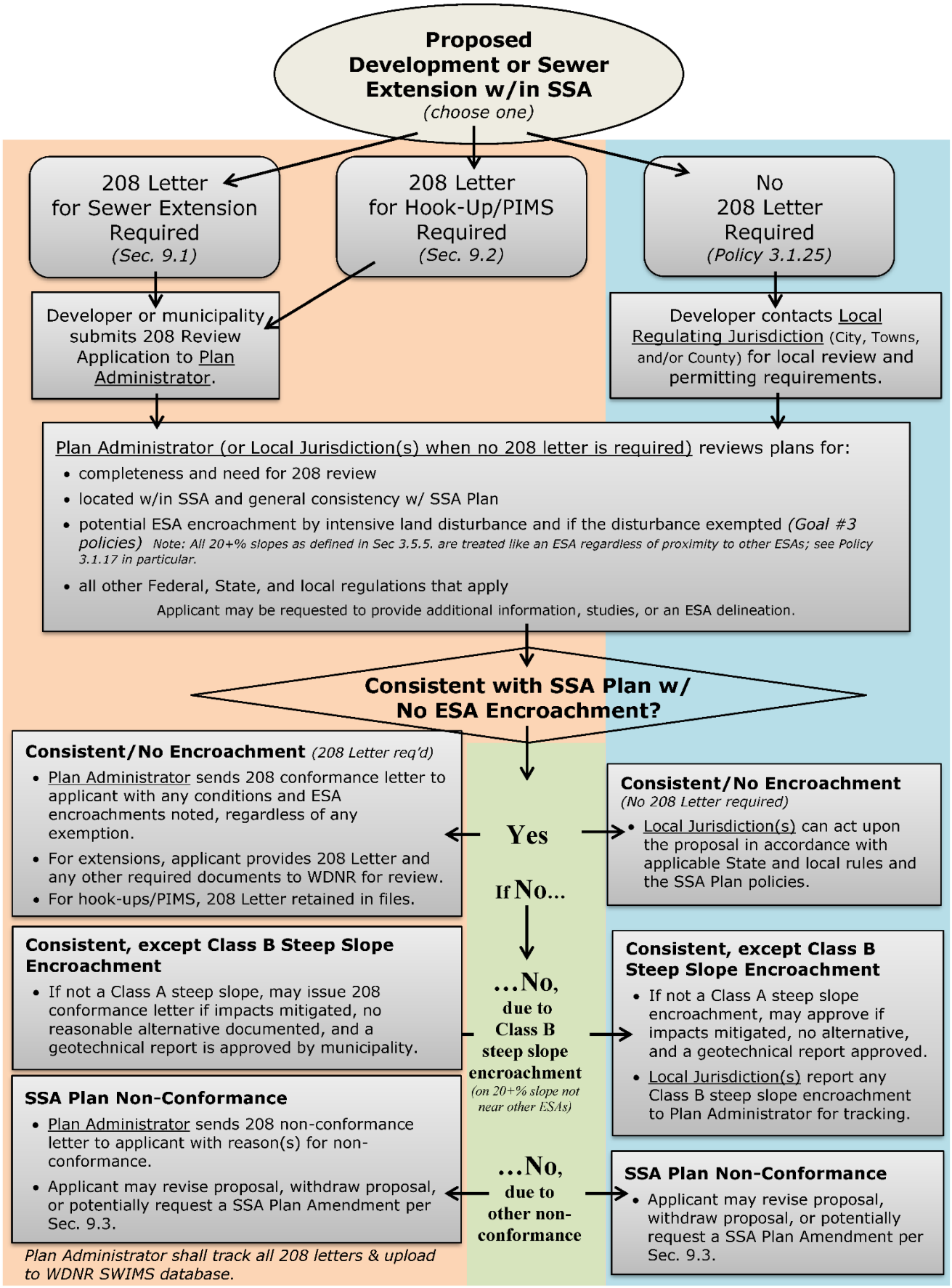
The Local Water Quality Advisory Committee and communities in the Study Area recognize the importance of residential, commercial, industrial, and other development in the urban area. Likewise, the importance of preserving water quality and the environment is also recognized. The implementation of this plan will be accomplished through site-specific review to ensure sensible decisions are made to protect our natural resources, but, also, to not unduly prevent development from occurring.

9.1 PROCEDURES FOR 208 REVIEW FOR SEWER EXTENSIONS

The designated Plan Administrator will review proposed sanitary sewer extensions for conformance with the Hudson Sewer Service Area Plan (SSA Plan) when a Section 208-conformance review letter is required. The local review procedures for sewer extensions are outlined below and are also illustrated by the first column in the process chart on the following page. NR 110 should be reviewed by the applicant for detailed WDNR plan approval requirements.

1. Timing of 208 Conformance Reviews. The 208-conformance review shall be the final, required permit review and approval for a proposed project in most cases. See Policies 2.1.4 and 2.1.5.

   However, potential applicants are recommended to consider a pre-application meeting with the Plan Administrator early in the site planning process and prior to developing subdivision plats, construction plans, etc., especially if environmentally sensitive areas (ESAs) exist within the area to be served by a sanitary sewer extension.


Proposed Development or Sewer Extension w/in SSA
(choose one)
208 Letter for Sewer Extension Required
(Sec. 9.1)
208 Letter for Hook-Up/PIMS Required
(Sec. 9.2)
No 208 Letter Required
(Policy 3.1.25)
Developer or municipality submits 208 Review Application to Plan Administrator.
Developer contacts Local Regulating Jurisdiction (City, Towns, and/or County) for local review and permitting requirements.
Plan Administrator (or Local Jurisdiction(s) when no 208 letter is required) reviews plans for:
• completeness and need for 208 review
• located w/in SSA and general consistency w/ SSA Plan
• potential ESA encroachment by intensive land disturbance and if the disturbance exempted (Goal #3 policies) Note: All 20+% slopes as defined in Sec 3.5.5. are treated like an ESA regardless of proximity to other ESAs; see Policy 3.1.17 in particular.
• all other Federal, State, and local regulations that apply
Applicant may be requested to provide additional information, studies, or an ESA delineation.
Consistent with SSA Plan w/ No ESA Encroachment?
Consistent/No Encroachment (208 Letter req'd)
• Plan Administrator sends 208 conformance letter to applicant with any conditions and ESA encroachments noted, regardless of any exemption.
• For extensions, applicant provides 208 Letter and any other required documents to WDNR for review.
• For hook-ups/PIMS, 208 Letter retained in files.
Yes
Consistent/No Encroachment
(No 208 Letter required)
• Local Jurisdiction(s) can act upon the proposal in accordance with applicable State and local rules and the SSA Plan policies.
If No...
Consistent, except Class B Steep Slope Encroachment
• If not a Class A steep slope, may issue 208 conformance letter if impacts mitigated, no reasonable alternative documented, and a geotechnical report is approved by municipality.
...No, due to Class B steep slope encroachment
(on 20+% slope not near other ESAs)
Consistent, except Class B Steep Slope Encroachment
• If not a Class A steep slope encroachment, may approve if impacts mitigated, no alternative, and a geotechnical report approved.
• Local Jurisdiction(s) report any Class B steep slope encroachment to Plan Administrator for tracking.
SSA Plan Non-Conformance
• Plan Administrator sends 208 non-conformance letter to applicant with reason(s) for non-conformance.
• Applicant may revise proposal, withdraw proposal, or potentially request a SSA Plan Amendment per Sec. 9.3.
...No, due to other non-conformance
SSA Plan Non-Conformance
• Applicant may revise proposal, withdraw proposal, or potentially request a SSA Plan Amendment per Sec. 9.3.
Plan Administrator shall track all 208 letters & upload to WDNR SWIMS database.

2. Application to Plan Administrator. 208 Review applications for sewer extensions are typically submitted to the Plan Administrator by the landowner or landowner's representative (e.g., land engineering firm), but may be submitted by a municipality. Applications must include:

    - A cover letter[14] requesting the Section 208-conformance review with contact information, project name, address/location information, and acreage to be served by the sewer extension or hook-up as well as the general characteristics and length of the sanitary sewer extension. The letter should also describe any potential or proposed disturbance of an environmentally sensitive area (ESA), if known.
    - A project location map showing the sanitary sewer extension and, in most cases, a map showing the geographic extent of the project area served by the sewer extension.
        - Unless waived by the Plan Administrator, the application must identify the extent and acreage for an **immediate service area** that is the focus on the 208-conformance review. If additional areas may also be served by the sanitary sewer extension or hook-up in the future, the application must also include the extent and acreage for the **ultimate service area. The immediate service area for which the 208-conformance letter is issued shall consist of one or more full parcels.**
        - In cases where public infrastructure improvements are being planned with no proposed development plans for an immediate service area, the Plan Administrator may issue a 208-conformance letter without considering the immediate or ultimate service area. As a condition of approval, a 208-conformance review shall be required at a later date for the service area once plans become available.
    - 1 set of construction/engineering plans showing utility connections and locations, as well as plans/maps showing the planned footprint of any buildings, streets, parking areas, or other intensive land disturbance for the **immediate service area**. Preliminary or final certified survey maps and subdivision plats should be provided if available. Typically, detailed plans, including anticipated land divisions, are not available for the **ultimate service area** and (one or more) separate 208 conformance reviews may be needed in the future for the ultimate service area. If potential ESAs exist and plans showing building footprints and other potential land disturbances are not available at the time of the 208-conformance review, the Plan Administrator may:
        - Require additional information so that the conformance review can be completed, and/or
        - Issue a 208-conformance letter with conditions that no intensive land disturbance may encroach upon an ESA without an SSA Plan amendment. See Policies 2.1.6 and 3.1.21.

[14] The cover letter may be replaced by an application form with additional required information at the discretion of the Plan Administrator. An application fee may also be required.

- Additional maps and/or plans delineating and estimating acreages for any known environmentally sensitive areas (i.e., surface waters, 100-year floodplain/floodway, wetlands, and steep slopes of 20+%) within the immediate and ultimate project areas. See Policies 3.1.19 – 3.1.21.
- The status of other required permits and approvals, especially those related to stormwater management, erosion control, wetlands, or surface water protection. Best management practices are required for any encroachment upon a steep slope of 12+% and should be noted in the cover letter or included in the engineering plans.[15]
- If any ESA encroachment is unavoidable and no reasonable alternative exists, even if exempted under policies, documentation should be included as required by Policies 3.1.3 and 3.1.4.
- The Plan Administration may require an application fee for 208-conformance reviews at their discretion.

Submittal of a 208 Review application to the Plan Administrator will typically occur after the local municipality has approved the certified survey map, subdivision plat, and/or development agreement. When steep slopes exist within the project area, any required grading plans, engineering reports, or other such studies must also first be approved by the local municipality and submitted with or referenced in the 208 Review applications.

For proposed project areas containing ESA that may potentially be encroached upon, it is advisable that the applicant contact the Plan Administrator relatively early in the development process, prior to submitting a 208-review application, for an initial consultation regarding SSA Plan conformance. Applications may be delivered to the Plan Administrator by email, but the Plan Administrator not responsible for delays should e-mail correspondence is not delivered, accidently screened as spam, etc.; applicants are encouraged to verify receipt of application by the Plan Administrator.

3. Plan Administrator Review. The Plan Administrator, in consultation with WDNR staff if needed, determines the completeness of a 208 Review application. The Plan Administrator will review all applications for:
    - completeness and need for the 208-conformance review;
    - confirmation that the project is located within the sewer service area boundary;
    - potential encroachment of an environmentally sensitive area by an intensive land disturbance; and,
    - consistency and conformance with the required policies of this Sewer Service Area Plan.

[15] Inadequate enforcement of the Uniform Dwelling Code or local erosion controls may result in Wisconsin Department of Natural Resources denial of sewer extension requests into areas of 12% to 20% slopes within the municipality.

Consistent with the policies within Chapter 7, **the Plan Administrator's 208-conformance review role is limited to the previous points**. Under this SSA Plan, the following are the responsibilities of the regulating jurisdiction(s) and not the Plan Administrator:

- any required site visits and inspections;
- contacting other permitting agencies (unless the applicant);
- reviewing proposals to determine if a sewer extension or proposed new development is feasible, can be sewered, and is cost-effective, when located within the SSA boundary;
- providing technical or engineering review or guidance on where sewer can or cannot be located (if known ESAs are avoided), the design of stormwater management and erosion controls, hydraulic studies, wetland determinations, or other engineering/technical analysis;
- consideration of the availability and capacity of infrastructure and other services, including consistency with capital improvement plans, facility plans, official mapping, etc.;
- reviewing and approving certified survey maps, subdivision plats, land use permits or development plans for consistency with zoning, comprehensive plans, long-term growth plans, intergovernmental agreements, etc.;
- determining whether a proposed ESA encroachment is reasonable and unavoidable;
- identifying and reporting potential ESA encroachments when no 208-conformance review is required (see Section 9.3);
- ensuring that development occurs in a manner that is consistent with construction plans, land divisions, and, once issued, 208-conformance letters and conditions; and,
- facilitating compliance with local or state rules or policies outside of those policies and procedures explicitly required in Chapters 7, 8, and 9 of this SSA Plan.

The Plan Administrator may request or require additional information as part of the conformance review, especially when a potential encroachment of an environmentally sensitive area (ESA) exists or the extent of an ESA is uncertain. If there is any doubt as to whether an intensive land disturbance associated with the sewer extension project may encroach upon an ESA, the Plan Administrator may consult with and request site specific information from the local municipality, WDNR, and/or developer. For example, the Plan Administrator may contact WDNR regarding a possible encroachment upon wetland-indicator soils to determine whether a wetland delineation should be required by the applicant prior to issuing a 208-conformance letter.

This information, along with the policies from this plan, will be used to make an advisory recommendation to WDNR on the application. Under circumstances were the Plan Administrator is unable to make a determination of SSA Plan conformance, the Plan

Administrator may request a special review and/or determination by the Local Water Quality Advisory Committee or WDNR.

4. Plan Administrator Issues 208 Letter. The 208-review letter is an advisory recommendation to WDNR regarding a proposed sanitary sewer extension's conformance with the SSA Plan. the Plan Administrator will issue a sewer service area conformance or non-conformance letter (208-review letter) to the applicant **within 15 days of receipt of a complete application** necessary to perform the review, unless the Plan Administrator is otherwise unable to make a conformance determination (e.g., requires additional information, requires review/input from the Local Water Quality Advisory Committee or WDNR).

    - The Plan Administrator may issue a 208-conformance letter with conditions as discussed in Policy 2.1.6. the Plan Administrator may issue a 208-conformance letter for an encroachment upon a Class B steep slope **if no reasonable alternative exists** and an engineering report and sufficient documentation mitigating any erosion or surface water quality impacts has been approved by the municipality. See Policies 3.1.3 and 3.1.4. **A 208-conformance letter must also note any encroachment upon an environmentally sensitive area regardless of the project's location or type of encroachment.**
    - A 208 non-conformance letter may be issued by the Plan Administrator if insufficient information was provided for the review, a plan amendment is required, or the application otherwise does not conform with the SSA Plan. Typically, the Plan Administrator will reach out to the applicant or applicant's representative prior to issuing a non-conformance letter to ensure to discuss a potential non-conformance.
    - The Plan Administrator may deliver the 208-review letter by email, but the applicant may request the letter by mail if preferred.
    - It is the responsibility of the applicant to provide the sewer service area conformance letter and other materials required by NR110 to WDNR for final review and approval of the sewer extension.

4. If a 208 Non-Conformance Letter is Received by the Applicant. If a proposal is inconsistent with the SSA Plan, a 208 non-conformance letter for the proposed sewer extension is issued by the Plan Administrator to the applicant. The applicant has the following primary options:

    - The applicant may contact the Plan Administrator to determine if there an incorrect interpretation or misunderstanding had taken place.
    - The applicant may revise or withdraw their application. If an application is amended or request altered, the applicant must notify the Administrator that it wishes to have the proposed extension re-evaluated. For significant changes or elapsed time, the applicant may be required to resubmit their application in whole.
    - The applicant may request a SSA Plan amendment.

- Since the 208 letter is advisory, the applicant may correspond with WDNR as part of the WDNR's review to make their case why they believe the project should be approved without changes.
- The applicant may appeal a WDNR decision under this SSA Plan as described in Chapter 9.4.

5. Tracking & Reporting. As of April 2026, WDNR requires that 208-conformance letters and other official SSA Plan-related actions be uploaded to their Surface Water Integrated Monitoring System (SWIMS) database. Additional local tracking and records management are recommended. Tracking and reporting requirements may change over time.

9.2 PROCEDURES FOR SEWER HOOKUP REVIEW

The Wisconsin Department of Safety and Professional Services (WisDSPS) is the State regulating entity for sewer hook-ups and not WDNR.

Most sewer connections, laterals, and hook-ups, do not require a Section 208 hook-up review. However, Section 208 hook-up reviews are required for private interceptor main sewers (PIMS) that discharge to a municipal wastewater treatment facility. Section SPS 381.01(193), Wis. Adm. Code, defines a PIMS as "a sewer serving two or more buildings and not part of the municipal sewer system". The Section 208 hook-up review checks that the PIMS conforms with the SSA Plan or has been "designed in accordance with the appropriate water quality management plan" per s. SPS 382.30 (12)(b), Wis. Adm. Code.

The process for 208-conformance review applications for sewer hook-up is the middle column in the previous process chart and similar or identical to the procedures for sewer extensions reviews in Chapter 9.1, unless otherwise noted below.

1. Application to Plan Administrator. The application requirements and timing of a sewer hook-up review are generally the same as the requirements in 9.1. The Plan Administrator may require an application fee at their discretion. Prior to submittal of an application, a developer shall first consult with the local regulating jurisdiction providing sanitary sewer.

2. Plan Administrator Review. The Plan Administrator reviews the application for conformance with the SSA Plan, including potential ESA encroachment by intensive land disturbances. All other Federal, State, and local regulations also apply, and the local regulating jurisdiction may have additional standards and requirements that are more strict than those within the SSA Plan to the extent allowed for by law.

3. Plan Administrator Issues 208 Letter. If the requested sewer hookup is in conformance with the SSA Plan, a 208-conformance letter will be sent to the applicant. The sewer service area conformance letter and other materials required by WisDSPS must then be retained by the applicant and the Plan Administrator.

If an ESA encroachment by an intensive land disturbance is proposed, a 208-conformance letter cannot be issued unless a Type IV SSA Plan amendment is first approved in accordance with the policies of this SSA Plan. A 208-conformance letter issued by a municipality must note any ESA encroachment regardless of the project's location or type of encroachment.

4. If a 208 Non-Conformance Letter is Received by the Applicant. If a proposal is inconsistent with the SSA Plan, a 208 non-conformance letter for the proposed sewer hook-up is issued by the Plan Administrator to the applicant. The applicant has options similar to those identified in Chapter 9.1 (e.g., amending their application, requesting a plan amendment), in addition to appealing the decision under any local municipal rules.

5. Tracking & Reporting. As of April 2026, WDNR requires that all 208-conformance letters and other official SSA Plan-related actions be uploaded to their Surface Water Integrated Monitoring System (SWIMS) database. Additional local tracking and records management are recommended. Tracking and reporting requirements may change over time.

9.3 SSA PLAN CONFORMANCE IF NO 208-CONFORMANCE REVIEW

St. Croix County and the municipalities, as local regulating jurisdictions, have the responsibility to review development within the sewer service area for SSA Plan conformance when no 208 Review for a sewer extension or hook-up is required. This process is reflected in the right column of the previous process chart.

When the local regulating jurisdiction receives any proposal/application for any proposed intensive land disturbance or sanitary sewer connections within the sewer service area, the local jurisdiction will review the proposal for:

- confirmation that the project is located within the sewer service area boundary if sewer services are to be provided;
- potential encroachment of an environmentally sensitive area by an intensive land disturbance; and,
- any other concerns regarding consistency and conformance with the required policies of this Sewer Service Area Plan, including the need for a 208 Review letter or SSA Plan amendment.

In some cases, there may be multiple local regulating jurisdictions reviewing and permitting a single project area. In such cases, all regulating jurisdictions should review the proposed development for SSA Plan conformance, though coordination between these jurisdictions is encouraged.

Within the sewer service area, all 20+% slopes as defined in Chapter 3.5.5 of the SSA Plan shall be treated like an ESA regardless of proximity to other ESAs. The regulating jurisdiction may permit an encroachment by an intensive land disturbance within a Class B steep slope if no reasonable alternative exists and an engineering report and sufficient documentation mitigating any erosion or surface water quality impacts has been approved by the municipality. **An**

encroachment by an intensive land disturbance upon a Class A steep slope within the sewer service area cannot occur unless a Type IV SSA Plan amendment is first approved.

A development proposal that does not conform with the SSA Plan should be denied due to non-conformance. In such a case, the applicant has options similar to those identified in Chapters 9.1 and 9.3 (e.g., amending their application, requesting a plan amendment), in addition to appealing the decision under any local municipal rules or appealing to WDNR as referenced in Chapter 9.5.

Any and all encroachments upon an ESA or loss of ESA acreage, regardless of size, type, exception, or proximity to other ESAs, must be reported by the municipality to the Plan Administrator for tracking purposes. Should the local regulating jurisdiction have any questions regarding this section, they should contact the Plan Administrator and/or Local Planning Agency.

9.4 SEWER SERVICE AREA AMENDMENTS

With the possibility of changes in development patterns or unique site-specific conditions, a mechanism for reviewing and revising the sewer service area (SSA) is essential. The amendment process allows communities to alter the SSA by using additional technical data, considering new community needs and trends, and addressing water-quality concerns in a cost-effective manner.

This initial part of Chapter 9.4 describes the overall SSA amendment process in general. This is followed by four subsections (i.e., 9.4.1, 9.4.2, 9.4.3, & 9.4.4) with additional procedures and criteria for each of the SSA Plan Amendment types. All amendment records and updated boundary maps will be maintained by the SSA Plan Administrator.

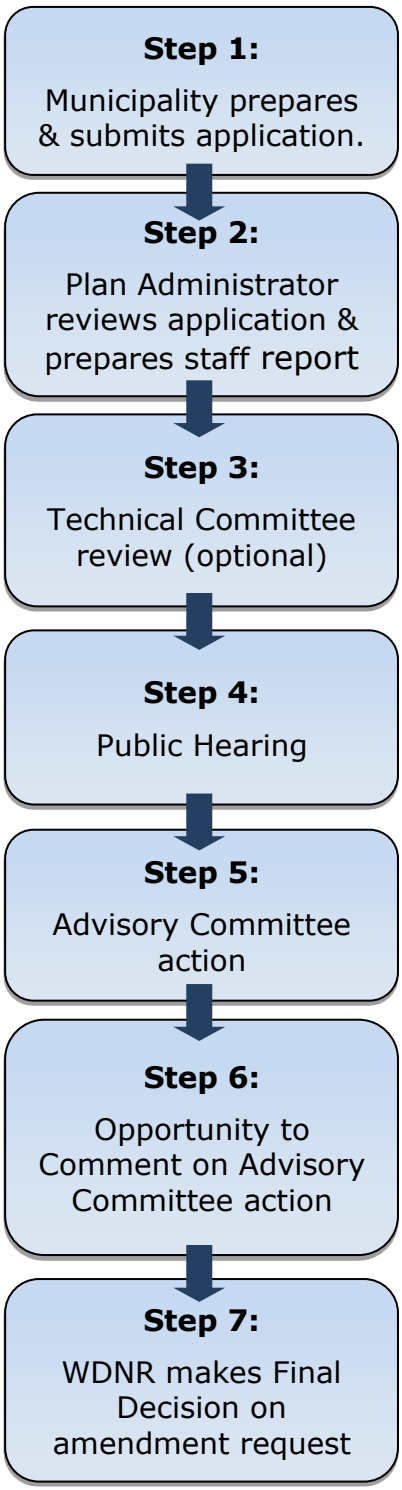
Types of Amendments

Four types of amendments may be made to the Sewer Service Area:

- **Type I** amendments requests for boundary changes without the total acreage of the service area changing. (Land Swap Amendments)
- **Type II** amendments requests to alter the boundary and the acreage of the service area. (Land Addition/Subtraction Amendments)
- **Type III** amendments requests to add holding tank service areas to the plan. (Holding Tank Amendments)
- **Type IV** amendments requests for development of an environmentally sensitive area (ESA Amendments).

General Amendment Process

As reflected in the flowchart, all amendment requests follow the same general process, except Type IV minor amendments of less than one acres, which may skip Steps 3-7; see Policy 3.1.28.



Step 1: Application. In most cases, an amendment application will be prepared and submitted by the municipality in which the project is located or the municipality who owns the sanitary sewer lines being connected to. A developer requiring an amendment should work with their local municipality and the municipality will request the amendment. Though rare, amendments can also be initiated by WDNR, the Local Water Quality Advisory Committee, or SSA Plan Administrator. An application should only be submitted after authorization and action by the appropriate municipal decision-making body (e.g., Board/Council, Plan Commission).

Step 2: Staff Report. The Plan Administrator, in consultation with WDNR staff if needed, determines the completeness of an SSA Plan amendment application, including if additional information is needed. Given that a plan amendment is proposing a change to the SSA Plan, the Plan Administrator will often seek the assistance of the Local Planning Agency during the review of a proposed amendment, especially if a boundary change is being considered. As needed, the SSA Plan Administrator will contact the applicant for clarification or more information, at the applicant's expense. The Plan Administrator will also contact WDNR to discuss the proposed amendment and may require an in-person or virtual meeting with the applicant, WDNR staff, or other stakeholders prior to completing its staff report.

Once an application is deemed complete, the Plan Administrator will review the application and, **within 30 days**, prepare a staff report considering the criteria later in this section along with any recommendations or suggested conditions and provide the staff report to the Water Quality Advisory Committee. For amendments involving multiple municipalities, the Plan Administrator may extend the timeline to **45 days** to allow for a discussion meeting and obtain input from the municipalities potentially impacted by the amendment.

As reflected in Policy 3.1.28, for Type IV minor amendments, the Plan Administrator may include an advisory approval cover letter with the staff report and send the approval letter and staff report to WDNR for a final decision (Step 8), thus skipping Steps 3-7. For particularly unique amendment requests involving circumstances that are not clearly or reasonably addressed in SSA Plan policies in Chapter 4, the SSA Plan Administrator may request an administrative review from WDNR, which has the discretion to skip Steps 3-6.

Step 3: Technical Committee Review (Optional). The Local Water Quality Advisory Committee may designate a Technical Advisory Committee to review amendment applications and SSA Plan Administrator staff reports, then make an advisory recommendation to the Advisory Committee. In such cases, the applicant is encouraged to be present at such meetings in order to answer questions. Technical Committee reviews should be properly noticed, public meetings, but do not offer an opportunity for public comment. The SSA Plan Administrator may collect additional information or revise its staff report as a result of the Technical Advisory Committee review.

Step 4: Public Hearing. Regardless of Step 3, **within 60 days** of the completion of the staff report in Step 2, the Local Water Quality Advisory Committee will conduct a public hearing during which the Plan Administrator staff will present its report, the applicant will have an opportunity to present their request and answer questions, and an opportunity for public comment is provided.

The public hearing will be properly noticed in accordance with Plan Administrator policies and State Open Meetings Rules requirements, including an invitation for written public comments on the amendment. The public hearing notice will be a Class 1 notice published in the local official newspaper **at least 14 days** prior to the hearing. The notice shall also be posted and distributed **at least 14** days prior to the meeting date to the following:

- Notice posted at the Plan Administrator's webpage
- Notice posted in three, public physical locations
- E-mailed to the County, City, Village, and Town Clerks in the sewer service area
- E-mailed to any individuals who have requested to be included on the Local Water Quality Advisory Committee or the Plan Administrator email lists
- E-mailed to the Plan Administrator local media list for the study area

For Type I, II, and III amendments, the applicant municipality must provide to the Plan Administrator with their application the names and mailing addresses of all landowners within the areas to be added to deleted. **At least 14 days** prior to the public meeting, the Plan Administrator will distribute the public meeting notice by U.S. Mail to these landowners.

The notice shall invite written comment on the proposed plan amendment, which will be provided to the Advisory Committee and WDNR. Written comments must be sent to the Plan Administrator by U.S. Mail and received by the Plan Administrator prior to the public hearing during which public comment is invited.

Step 5: Advisory Committee Action. After consideration of the reports, and any public comments in Step 4, the Local Water Quality Advisory Committee shall evaluate the proposed amendment's consistency with specified amendment criteria later in this section and act upon amendment request during a public meeting **within 60 days** of being provided the staff report in Step 2. The Local Water Quality Advisory Committee's action is advisory to WDNR.

The Local Water Quality Advisory Committee may approve, approve with conditions, or deny the application. The applicant may request that the Local Water Quality Advisory Committee table the action if additional information is needed or to modify their request. Step 5 may occur during the same meeting of, but following, Step 4. **Within 15 days** following the Local Water Quality Advisory Committee decision, the Plan Administrator will provide all materials, public comments, and the Local Water Quality Advisory Committee's meeting minutes (or resolution) to WDNR for a final decision on the amendment request.

Consideration of SSA Plan Amendments shall focus on consistency with the required policies in Chapter 7 and the criteria specific to each amendment type within Sections 9.4.1, 9.4.2, 9.4.3, & 9.4.4.

As a water quality management plan, 208-conformance and amendment reviews do not consider other aspects of planning, such as road safety, non-sewer utility capacity, farmland preservation, historical or cultural resources, etc.

Step 6: Comments on Advisory Committee Action. Any person, organization, or governmental body in favor of, objecting to, or providing information on the decision of the Local Water Quality Advisory Committee may submit written comments to WDNR **within 30 days** after the Local Water Quality Advisory Committee's advisory decision in Step 5. This includes appeals as described in Chapter 9.6.

Step 7: WDNR Decision. The Plan Administrator will submit all amendment documentation to WDNR (see Amendment Submissions later in this section). WDNR will make the final and official determination on all plan amendments based on consideration of public comments, written comments, official action taken by the Local Water Quality Advisory Committee, policies and procedures of the Sewer Service Area Plan, and NR 121/NR 110 of the Wisconsin Administrative Code. WDNR will inform the applicant and the Plan Administrator of its decision on amendment requests **within 60 days** of the Local Water Quality Advisory Committee's decision.

It is important to remember that SSA Plan approvals are formal amendments to the State's Areawide Water Quality Management Plan. Any plan amendments, once approved by the Local Water Quality Advisory Committee are forwarded to the WDNR for administrative decision to update the State's AWQM Plan. These decisions must consider the requirements outlined in State Administrative Code. WDNR regularly transmits updates to USEPA for certification as an amendment to the State's WQM Plan.

Post-WDNR Approval: Following WDNR approval of an amendment, the Plan Administrator will modify the sewer service area map and track any changes. Once a SSA Plan amendment is approved, the Plan Administrator can commence with the review of any 208-conformance review applications related to the project, if needed.

NOTE TO POTENTIAL APPLICANTS: SSA Plan amendments will typically require 3-5 months, in addition to other State and local permit and approval timelines. WDNR approval of a SSA Plan amendment is in addition to, and does not take the place of or ensure approval of, any other required State or local permits, planning reviews, land use regulations, etc. Following an amendment approval, a 208-conformance review is still required by the Plan Administrator prior to a sanitary sewer extension and the approval of a plan amendment does not guarantee 208-review conformance. A WDNR SSA Plan amendment decision may also include conditions and requirements requiring action by the local unit of government or developer prior to the issuance of a 208-conformance letter.

Amendment Applications

An application for an amendment to the Sewer Service Plan must include:

- A cover letter or completed application form, requesting and describing the amendment with contact information, project name, project locations, etc. The cover letter or application form should briefly identify, include, or be accompanied by:
    - type(s) of amendment(s) being requested;
    - a map showing the geographic extent and acreages of the immediate and ultimate service area that will be served by a sanitary sewer extension or hook-up related to the amendment, if any;
    - existing and proposed land use, development density and planned/known intensive land disturbances, including related maps;
    - a justification of why the amendment is needed and reasonable (see Policies 3.1.3 & 3.1.4);
    - existing and proposed services for the area (e.g., water, sewer, roads), including the cost-effectiveness of the wastewater treatment solution (address Policy 2.1.8), a description of the proposed wastewater treatment solution for the service areas, including the length of any planned sanitary sewer extensions; and an assurance that adequate wastewater treatment capacity is available for the proposed development.
    - the consistency of the project with the municipality's comprehensive plan;
    - any known physical, regulatory, or intergovernmental barriers or issues related to the proposed amendment; and,
    - what approvals for the project have been granted by the municipality or other regulating jurisdictions.
- All maps should be of sufficient detail to accurately identify boundaries.
- For Type I, II, and III amendments, acreages, maps, and legal descriptions for the areas to be added or deleted, along with names and mailing addresses of all landowners within the areas to be added or deleted.
- For Type I and II boundary amendment requests, the application should:
    - Include maps, acreages, and a legal description of all areas to be added or deleted from the SSA boundary. For Type I amendments, this information must be

provided for both the **sending areas** (areas being deleted from the SSA) and **receiving areas** (areas being added to the SSA).

- Include documentation that all property owners in any areas proposed to be deleted (swapped) from the sewer service area were notified of the application request, including contact information for each landowner. This must be completed **at least 14 days** prior to the public hearing.
- Include, if available, subdivision plats, construction sets, site plans, and ESA surveys/delineation.[16] ESAs must be generally mapped in extent, including acreages, so that an estimated, developable acreage for all involved lands is included with the application; ESAs are unbuildable unless a Type IV ESA amendment is approved.

- For Type IV ESA amendments, the application should:
  - Include 1 set of construction/engineering plans showing utility connections and locations, including the planned footprint of any buildings or other intensive land disturbance.
  - Include maps and acreages of any known ESAs within the immediate and ultimate service areas as well as any potential or proposed disturbance of an ESA or any water quality impacts, including detailed maps and acreages showing the extent and nature of the ESA encroachment(s) for which the amendment is being requested.
  - Documentation that the amendment is reasonable and the encroachment could not be avoided (see Policies 3.1.3 & 3.1.4);
  - Include how any potential impacts to existing ESAs are mitigated, including stormwater management plans and any best management practices being required for any encroachment upon a steep slope of 12+%;
- The Plan Administrator may require an application fee for plan amendments at their discretion.

It is recognized that the level of detail required for an application may vary based on the size, type, and character of the amendment. An amendment application and staff report for a Type IV minor amendment is expected to be brief. A single application may be submitted for more than one type of amendment. The Plan Administrator or WDNR may request that the applicant provide additional studies or data needed to fully consider the potential impacts of the proposed amendment. See the sub-sections below for additional application guidance.

Plan Administrator's Amendment Submissions to WDNR

The Plan Administrator will submit, at a minimum, the following to WDNR for action on a proposed SSA Plan Amendment:

[16] Detailed maps and plans, such as construction sets and subdivision plats, are not typically required as part of a Type I, II, or IIII SSA Plan Amendment, but may assist with the amendment review. Instead, such documents are typically required as part of a 208-conformance review.

1. Cover letter or memo from the Plan Administrator noting the following:
   - Existing SSA Plan name/date and the amendment name/location/acreage
   - Type of action/amendment requested
   - Basis of the SSA amendment request
   - Timeline of key dates (e.g., application to Plan Administration, public hearing, local decision dates, consultations/submittal to WDNR).
2. Amendment application
3. Staff Report with analysis of proposed action and recommendation(s)
4. List and documentation of Local Water Quality Advisory Committee and other public involvement, including related meetings conducted by local municipalities
5. Public notice for public hearing and Local Water Quality Advisory Committee meetings
6. Minutes and/or resolution by the Local Water Quality Advisory Committee
7. Other relevant information as required by the SSA Plan

Only a cover letter/memo, amendment application, and staff report are required for minor amendments and it is expected, in most instances, that these documents will be much briefer than a "full amendment" (See Policy 3.1.28).

Tracking & Reporting

As of April 2026, WDNR requires that amendment submission, reports, decisions, and other official SSA Plan-related actions be uploaded to their Surface Water Integrated Monitoring System (SWIMS) database; once uploaded, a link(s) to the uploaded document(s) should be emailed to WDNR water quality staff. Additional local tracking and records management are recommended. Tracking and reporting requirements may change over time

9.4.1 Type I Amendments ("Swap"). The Sewer Service Area Boundary is Altered Without the Total Acreage Changing

With this amendment, acreage can only be added to the service area if a corresponding number of acres is subtracted. This "swap" requirement will keep the locally approved minimum average population or household density figures in Chapter 4.1 unchanged. A Type I Amendment application should include accurate maps and be very clear in defining which areas are being swapped. Any ESAs should be mapped and excluded from the acreages being swapped. Requests of this type should be submitted to the Administrator by the municipality in which the project is located or the municipality who will own the sanitary sewer lines that will serve the area being added to the SSA boundary.

The Plan Administrator staff report and the review of the proposed amendment by the Water Quality Advisory Committee and WDNR shall be based on these criteria:

1. Cost-effectiveness of the proposed wastewater treatment solution (See Policy 2.1.8).
2. There will be no significant adverse water quality impact associated with providing sewer service to the area.

3. The proposed amendment is consistent with the required policies of this plan.
4. Existing or planned sewerage systems have sufficient capacity to treat projected flows.
5. The areas to be swapped are within 5% of the total developed/developable acreage, whichever is greater. (See Policy 1.1.5).

9.4.2 Type II Amendments ("Addition/Subtraction"). The Sewer Service Area Boundary is Modified and the Total Acreage is Altered

With this amendment, acreage cannot be added to the sewer service area (SSA) unless one or more of the following circumstances exist: (1) additional area is needed to accommodate unanticipated population growth; (2) a change in local population densities from the locally approved minimum average population or household density Chapter 4.1 have been approved by the local municipality; (3) failing on-site wastewater systems, and/or (4) the imminent development of a commercial/industrial area, with no residential growth, is proposed to be developed within three years. A Type II Amendment application must include population numbers, land use acreages, and other information to demonstrate that these three factors have been met. With WDNR concurrence, Type II Amendments may be considered on a community-by-community basis, including the forecasts and growth areas for each community specified in Chapters 4 and 6, rather than considering the acreage and circumstances for the SSA as a whole.[17]

Requests of this type should be submitted to the Plan Administrator by the municipality in which the project is located or the municipality who will own the sanitary sewer lines that will serve the area being added to the SSA boundary.

The Plan Administrator staff report and the review of the proposed amendment by the Water Quality Advisory Committee and WDNR shall be based on these criteria:

1. The extent to which the proposed amendment meets the four previous characteristics.
2. If the added area includes residential uses, identifying if a significant difference in the projected population and the actual population of the municipality exists.
3. Cost-effectiveness of the proposed wastewater treatment solution (See Policy 2.1.8).
3. There will be no significant adverse water quality impact associated with providing sewer service to the area.
4. The proposed amendment is consistent with the required policies of this plan.
5. Existing or planned sewerage systems have sufficient capacity to treat projected flows.

[17] The 2026 Plan changes for Type II amendments were added due to local concerns with the accuracy of the latest Wisconsin Department of Administration population forecasts upon which the SSA growth acreages were determined.

9.4.3 Type III Amendment. The Addition of a Holding Tank Service Area to the Plan

A holding tank service area is required if there is a holding tank within the SSA Plan Study Area and outside the Sewer Service Area boundary that generates 3,000 gallons or more of septage per day. Further explanation of holding tank service areas is contained in Chapter 8 of this plan. A request for this type of amendment must be made by the municipality owning the wastewater treatment facility that will service the tank.

Requests for a Type III amendment should be submitted to the SSA Plan Administrator and must include all previously described materials and documentation required for all SSA Plan amendments as well as the following:

1. A map of the proposed holding tank service area as well the identification of any existing holding tanks intersecting or within 1,000 feet of the holding tank service area.
2. The exact acreage of the proposed area.
3. Proof there is a contract with the POTW to handle the septage from the tank.
4. Narrative explaining that the proposed amendment is consistent with the policies and goals of this plan.

The SSA Plan Administrator will review the proposed amendment based on the information above and compliance with the policies and goals of this SSA Plan, including current requirements noted in Chapter 8.

A request for a Type III amendment for new development utilizing a new holding tank that encroaches on an environmentally sensitive area will be denied subject to the policies and exceptions of this plan; an amendment will be allowable if it is determined that the actual construction of all buildings and the holding tank are not on those portions of the holding tank service area within an environmentally sensitive area, and there are sufficient setbacks and erosion control measures taken, as defined by local zoning and land development regulations.

Upon review by the SSA Plan Administrator, the amendment must be reviewed by the Urban Area's Water Quality Advisory Committee, which will recommend approval or disapproval of the amendment request to WDNR. Following the Advisory Committee's action, the amendment request shall be submitted to WDNR for final approval.

9.4.4 Type IV Amendment. The Development of an Area Designated as an Environmentally Sensitive Area

All requests for Type IV amendments will be reviewed on a case-by-case, site-specific manner. A Type IV Amendment is requested by the municipality wishing to extend sewer service to an area delineated as an environmental sensitive area (ESA). Essentially, a Type IV amendment removes the ESA acreage from the SSA Plan. The plan recognizes the possible conflict between development and preservation of ESAs, and this amendment is an attempt to allow both to co-exist.

Requests of this type should be submitted to the Plan Administrator by the city, village, or town in which the immediate service area is located. Information (e.g., maps, studies, surveys, technical data) needed to fully analyze and make an informed recommendation on the proposed amendment should accompany the request; failure to provide such needed information may result in delays during the approval process.

During the preparation of the staff report, the Plan Administrator and WDNR staff will cooperatively review and analyze the proposed amendment. **The Plan Administrator staff report and the review of the proposed amendment by the Water Quality Advisory Committee and WDNR shall be based on these criteria:**

1. The project is located within the sewer service area
2. There will be no significant adverse water quality impact associated with the proposed intensive land disturbance.
3. The proposed amendment is consistent with the required policies of this plan.
4. The applicant has provided adequate documentation that no reasonable alternative exists to avoid the amendment. See Policies 3.1.3 and 3.1.4.
5. Documentation that all appropriate local, State, and Federal water quality-related permits and engineering studies (such as erosion control, stormwater management, wetland preservation, floodplain, etc.) have been or will be granted for the proposed development.

It is the responsibility of the municipality to review and ensure proper implementation of any best management practices, stormwater controls, and erosion control plan as required by State and local regulations. Such approvals by the municipality are needed for the issuance of a Type IV Amendment by WDNR. Once approval of the amendment is made by WDNR, the ESA map of the Sewer Service Plan will be updated to remove the environmentally sensitive area, thus indicating that the area is now considered developable within the SSA Plan.

An approved Type IV amendment allows development of an ESA with minimal environmental impacts. To that end, the Plan Administrator or Local Water Quality Advisory Committee may recommend and WDNR may approve the amendment with specific conditions that must be met to ensure protection of the potentially affected water resources.

Once approved, the property owner shall record an affidavit or other legal document with the County Register of Deeds Office that documents the Type IV amendment with a graphic or map (e.g., a restrictive covenant, outlots, and/or notes on a certificate survey map and/or plat) that documents the extent of the approved ESA encroachment and the required protection of any other ESAs within the project area from encroachment by intensive land disturbance.

9.5 SEWER SERVICE AREA PLAN UPDATES

Sewer Service Area (SSA) Plan updates are facilitated by the WDNR-designated Local Planning Agency, typically with financial support from WDNR and/or sewered municipalities within the study area. A plan update may be limited to certain chapters or aspects of the SSA Plan and may (or may not) include a revision to the study (planning) area. A limited change to the SSA boundary is addressed through a Type I or II amendment and not a plan update.

NR 121 calls for sewer service area plan status review and a possible plan update every five years. At a minimum, it is recommended that the growth projections and SSA boundary be revisited following the release of updated Wisconsin Department of Administration population projections based on the latest Federal decennial census data. Frequent SSA plan amendments or the execution of intergovernmental boundary agreements that conflict with SSA boundary are other signals that a plan update is probably in order. Plan updates, including significant plan policy or procedural changes, should only commence with WDNR approval and involvement. See Policy 1.1.9.

Similar to the steps for considering plan amendments, a plan update requires:

- Discussion and advisory review by Local Water Quality Advisory Committee.
- A public hearing on the draft plan update conducted by the Local Planning Agency with a Class I public hearing notice published **at least 14 days** prior to the hearing. The notice shall identify where the updated plan is available online for download. The notice shall invite written comment on the draft plan, which will be provided to the Advisory Committee and WDNR. Written comments shall be sent by U.S. Mail and received by the Plan Administrator prior to the public hearing during which public comment is invited. All municipalities within the Study Area shall receive a copy of the notice.
- Advisory action by the Local Water Quality Advisory Committee
- WDNR approval of the updated SSA Plan, potentially with revisions.

Plan updates involving boundary changes do not require individual notification of or mailings to landowners.

9.6 APPEALS OF SEWER SERVICE AREA PLAN DECISIONS

Administrative Appeals. An action or administrative decision made by the Plan Administrator or a municipality in the administration of this plan may be appealed to the Local Water Quality Advisory Committee by a party directly impacted by the decision. The Local Water Quality Advisory Committee shall consider all available facts provided by the administrative entity and appealing party, then make a recommendation to WDNR **within 60 days** of the receipt of the appeal, unless the appealing party waives this timeframe. WDNR shall grant, conditionally grant, deny, or take other appropriate action on the appeal.

Appeals of 208 Reviews. Since 208-review letters are advisory, appeals of a recommended condition or a non-conformance identified in a 208-review letter should be made to the WDNR office (for sewer extensions) or WisDSPS office (for sewer hook-ups) responsible for reviewing

and permitting the sewer extension or hook-up. Copies of such appeals should be provided to the Plan Administrator for local tracking purposes. WDNR or WisDSPS shall grant, conditionally grant, deny, or take other appropriate action on the appeal.

Appeals of Amendments and Other Plan Actions. Since the actions of the Plan Administrator and the Local Water Quality Advisory Committee regarding a plan amendment are advisory, any such appeal of a plan amendment decision by the Plan Administrator or the Local Water Quality Advisory Committee should be directed to WDNR **within 15 days** of the decision. Appeals of any other actions under this plan should also be directed to the WDNR. WDNR does not accept revisions or personal appeals submitted by developers, individuals, or other organizations. The appeal should include sufficient information on the facts involved and any requested remedy.

Appeals of a WDNR Decision

Wisconsin statutes and administrative rules establish time periods within which requests to review WDNR decisions must be filed. For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., a party has **30 days** after the decision is mailed, or otherwise served by the WDNR to file a petition with the appropriate circuit court and serve the petition on the WDNR. Such a petition for judicial review must name the Wisconsin Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Wis. Stats., a party has **30 days** after the decision is mailed, or otherwise served by the WDNR, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

Copies of such appeals should be provided to the Plan Administrator for local tracking purposes.

APPENDIX A – PUBLIC HEARING NOTICE

Star-Observer

AFFIDAVIT OF PUBLICATION

In the matter of
Hudson SSA Public Hearing

Chris Straight

State of New Jersey, County of Camden, ss:

I, Anjana Bhadoriya, of lawful age, being duly sworn upon oath depose and say that I am an agent of Column Software, PBC, duly appointed and authorized agent of the Publisher of the weekly newspaper known as the Star-Observer, printed and published at the City of Hudson, in St. Croix County, State of Wisconsin, and that the notice, a printed copy of which is hereto annexed, is taken from said paper, in which it was published on:

PUBLICATION DATES:
October 1, 2026

Anjana Bhadoriya

(Signed)_____

VERIFICATION

State of New Jersey
County of Camden

SHARONN E THOMAS-POPE
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires January 23, 2027

Subscribed in my presence and sworn to before me on this:
10/02/2026

_____
Notary Public
Notarized remotely online using communication technology via Proof.

See Proof on Next Page

NOTICE OF PUBLIC HEARING
on the
Update of the Hudson Urban Sewer Service Area Plan for 2045

Notice is hereby given that West Central Wisconsin Regional Planning Commission and the Hudson Urban Area Water Quality Advisory Committee will hold a public hearing to take testimony concerning the proposed update of the Hudson Urban Sewer Service Area Plan for 2045. The public hearing will be conducted on October 21, 2026, immediately following a brief presentation starting at 6:00 p.m. at the Hudson City Hall, 505 3rd Street, Hudson, Wisconsin.

In accordance with the Federal Water Pollution Control Act Amendments of 1972 (PL92-500) as well as NR110 and NR 121 of the Wisconsin Administrative Code, the Sewer Service Area Plan anticipates the Hudson urban area's future needs for wastewater treatment to help protect the urban area from adverse water quality impacts through a cost-effective and environmentally sound 20-year sewerage system growth plan. The public can access the final draft of the plan at the WCWRPC website at https://www.wcwrpc.org/hudson-ssa-update

For those unable to attend the public hearing, written comments should be sent to West Central Wisconsin Regional Planning Commission c/o Chris Straight, 800 Wisconsin Street, Bldg D2, Mail Box 9, Eau Claire, WI 54703 or emailed to chris@wcwrpc.org. All correspondence will become part of the public record. Written comments must be received by WCWRPC no later than 12:00 PM on October 16, 2026. The Water Quality Advisory Committee will consider any written comments regarding the draft plan update following the public hearing and prior to making an advisory recommendation to the Wisconsin Department of Natural Resources on the plan.

Further information or questions, contact Chris Straight, WCWRPC, at 715-836-2918 or chris@wcwrpc.org.

Dated: September 22, 2026
Published: October 1, 2026
(October 1, 2026)
WNAXLP

APPENDIX B – LOCAL WATER QUALITY ADVISORY COMMITTEE ACTION ON DRAFT PLAN

Hudson Urban Area Water Quality Advisory Committee

(serving as the Local Water Quality Advisory Committee to the WI Department of Natural Resources under NR 121)

Plan Update Meeting #7 & Public Hearing

October 21, 2026 @ 6:00 PM

Location:

Hudson City Hall Council Chambers
505 3rd Street, Hudson, Wisconsin

Meeting Minutes

1. Introductions & Review of the Agenda

Committee Chair Chris Straight called the meeting to order at 6:04 PM and conducted a roll call of the Steering Committee:

Present	Municipality/Organization	Name	Title/Position
X	Town of Hudson	Dan Fosterling	Supervisor
	Town of St. Joseph	Theresa Johnson	Chair
X	Town of Troy	Doug Rowen	Chair
	Village of N. Hudson	Gina Alberti	Village Administrator & Clerk
	Village of N. Hudson	Matt Howell	Public Works Director
X	City of Hudson	Rich O'Connor	Mayor
X	City of Hudson	Mike Kennedy, alternate	City Council President
X	City of Hudson	Brentt Michalek, alternate	City Administrator
X	St. Croix County	Nicole Peterson	Planner
X	West Central Wisconsin Regional Planning Commission (Committee Chair)	Chris Straight	Senior Planner

Mr. Straight briefly reviewed the agenda.

2. WCWRPC review of SSA Planning Purpose & Proposed SSA Plan Boundary

Mr. Straight provided a PowerPoint presentation that reviewed the purpose of Sewer Service Area (SSA) planning and the primary components of the draft plan update, including: environmentally sensitive areas, key growth assumptions, proposed SSA Plan boundary, general plan policy and administration approach, and appeals process. As noted during the presentation, the inclusion of lands within the SSA boundary does not guarantee that these lands will be developed, sewered, or annexed by 2045. Mr. Straight noted two recommended policy changes that were not included in the initial draft plan:

(1) Footnote 8 at the bottom of page 105 was corrected to identify the Local Planning Agency as the non-voting Advisory Committee Chair.

(2) The third paragraph of Policy 3.1.23 was revised so that ESA definitions and SSA Plan policies are in effect at the time of an intensive land disturbance instead of at the time of a subdivision plat or CSM approval or change.

3. Public Hearing on Draft SSA Plan

Mr. Straight noted that a public hearing draft of the Hudson Urban Sewer Service Area Plan, dated 9/22/26, was made available for public comment at WCWRPC website. The online draft Plan was modified and replaced on 10/14/26 to include the previously noted change to Policy 3.1.23. A public hearing notice was published on 10/1/26 in the Hudson Star Observer. The public hearing notice also invited written comments on the draft plan. The notice will be included as an appendix in the SSA Plan.

Mr. Straight opened the public hearing. No members of the public were present. Mr. Straight closed the public hearing.

4. Review of Written Comments on Draft SSA Plan

Mr. Straight reported that no written comments were received on the draft SSA Plan.

5. Committee Discussion on Public Comments and Draft SSA Plan

No public comments were received for discussion.

Mr Fosterling asked about the applicability of the SSA and the environmentally sensitive area (ESA) policies within unincorporated towns. Mr. Straight explained that WDNR desires that the ESA policies apply for any location within the SSA boundary regardless of municipality or if provided sanitary sewer. Mr. Straight explained, under the updated SSA Plan policies, that intensive land disturbances should not encroach upon ESAs anywhere within the SSA boundary subject to the exceptions under the plan; in cases where a sanitary sewer extension and 208-conformance review are not required, it is up to the individual local regulating jurisdictions to consider SSA Plan conformance.

6. Committee Advisory Action to Wisconsin Department of Natural Resources on the Draft SSA Plan

MOTION by Mayor O'Connor to approve the Hudson Urban Sewer Service Area Plan for 2045 with previously noted changes, and recommend to Wisconsin Department of Natural Resources its final approval. Second by Mr. Kennedy.

The motion was approved 5-0-1, with Ms. Peterson abstaining.[18]

7. Next Steps

Mr. Straight will prepare the meeting minutes and attach them as a plan appendix. WCWRPC will send the plan to WDNR for their approval and will copy Committee members on this correspondence. Mr. Straight briefly discussed plan implementation moving forward and offered assistance to St. Croix County and municipalities as needed. The Committee briefly discussed that the County may turn over Plan Administration duties to the City in the future.

Mr. Straight thanked everyone for their efforts and patience. Mr. Straight noted that this group, as the Local Water Quality Advisory Committee, would be asked to meet again should the SSA Plan need to be modified or amended in the future. Mayor O'Connor thanked Mr. Straight for his efforts guiding the update of the SSA Plan.

8. Adjourn

After inviting any additional questions or comments, Mr. Straight adjourned the meeting at 6:36 PM.

Submitted by:
Chris Straight, Advisory Committee Chair
West Central Wisconsin Regional Planning Commission

[18] Note: The WCWRPC representative to the Committee chairs the meetings but does not vote.