

# Water Resources

Adopted by the Metropolitan Council in May 2015, the 2040 Water Resources Policy Plan is the metropolitan system plan for metropolitan wastewater services with which local comprehensive plans must conform.

The 2040 Water Resources Policy Plan includes policies and strategies to achieve the following goal: To protect, conserve, and utilize the region's groundwater and surface water in ways that protect public health, support economic growth and development, maintain habitat and ecosystem health, and provide for recreational opportunities, which are essential to our region's quality of life.

## Wastewater

### Hennepin County's role

Hennepin County provides a septic permitting, inspection, and enforcement program to protect ground and surface waters, provide consistent regulation across city boundaries, and prevent waterborne illness. [Hennepin County Ordinance 19](#) adopts Minnesota Rules Chapter 7080, which governs individual sewage treatment systems (less

than 10,000 gallons/day) and describes the authority of the types of septic systems the county regulates. The ordinance was last amended in 2014 to reflect the changes in Minnesota Rules Chapters 7080-7084.

The county's subsurface sewage treatment system (SSTS) program is administered by the Public Health department, Environmental Health division.

In accordance with MN Rules 7080.2450 Subp. 2. Frequency of assessment, 'The owner of an ISTS or the owner's agent shall regularly, but in no case less frequently than every three years: A. assess whether sewage tanks leak below the designed operating depth and whether sewage tank tops, riser joints, and riser connections leak through visual evidence of major defects; and B. measure or remove the accumulations of scum, grease, and other floating materials at the top of each septic tank and compartment, along with the sludge, which consists of the solids denser than water.'

This subpart clearly states it's the owner's responsibility to maintain their system. Hennepin County provides reminder letters of this owner requirement and education of the importance of maintenance. If the owner fails to maintain their septic system, it will, eventually, fail to perform. At which time, Hennepin County will issue a letter of non-compliance – imminent public health threat – requiring 10 days for the immediate threat to be abated (pumping the tanks) and 10 months to replace/repair the system.

Hennepin County does receive 'certificates of compliance' from licensed septic professionals (inspectors) for cities in Hennepin County that are

not by Hennepin County. This information is still maintained by Hennepin County and reported in the maps we provided.

Hennepin County has no land use authority and thus partners with cities to incorporate Hennepin County's septic system permitting process into their planning and zoning approval processes. Septic systems regulated by cities and Hennepin County are depicted on Figure 4-1.

The county has the following responsibilities in administering its SSTS program:

- Review all applications for SSTS.
- Issue all required permits.
- Conduct construction inspections and perform all necessary tests to determine conformance with the ordinance.
- Investigate complaints regarding SSTS.
- Perform compliance inspections and issue certificates of compliance or notices of noncompliance where appropriate.
- Issue stop work orders and notices of violation.
- Take complaints to the municipal or county attorney for violations of this ordinance.
- Maintain all records for SSTS.
- Maintain and update data including the location of all known septic system sites in the Hennepin County jurisdiction. All known documentation related to each septic system will be available through [the county's natural resources interactive map](#) as attached PDF documents that include designs, inspections, documented issues/problems, etc.

Submit annual reports to the Minnesota Pollution Control Agency (MPCA) to demonstrate enforcement of the ordinance.



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## Crystal Lake near Robbinsdale

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### Ordinance 19

Summary of Ordinance 19 adopting Minnesota Rules, Chapter 7080:

- There is no requirement for inspection of the septic system for property transfer in Hennepin County's ordinance. State law requires that information regarding the septic system must be properly disclosed to the buyer. A well-informed buyer will want a thorough inspection, and many lending agencies require a compliance inspection on the existing system before providing a mortgage.
- Hennepin County inspects new septic systems and repairs existing septic systems that are the subject of a complaint investigation. Hennepin County does not perform compliance inspections for existing septic systems. There are many inspectors licensed by the MPCA. A list of licensed inspectors is available on the MPCA website.
- The following building permits are subject to septic permit approval or compliance inspection: all building permits for new commercial or new residential structures, any permits for bedroom(s) additions, any additions/remodeling of commercial facilities where water usage will be increased, any permits within designated shoreland areas, and any permits within designated wellhead protection areas.

- Existing systems built before January 23, 1996, are considered in compliance if two feet of soil separation is provided and it is not classified as an imminent health threat\* (excludes shoreland areas; food, beverage, lodging facilities; wellhead protection areas; and new construction).
- Certificates of compliance for existing systems remain valid for three years unless identified as an imminent health threat.\*
- Certificates of compliance for new systems remain valid for five years unless identified as an imminent health threat.\*
- Systems receiving a notice of noncompliance, that are not an imminent health threat\* have a three-year upgrade requirement.
- There is a general setback of 50 feet to a wetland.
- Warrantied systems (MN Statutes Chapter 115.55) are prohibited.

\* *Imminent health threat means that sewage is surfacing on the ground, backing up into the home, or discharging to surface or groundwater.*

## Surface Water

Hennepin County's water resources, which include lakes, streams, groundwater, and wetlands, are an important component to our quality of life and the overall health of our environment. Hennepin County has 200 lakes, 640 miles of streams, and more than 45,000 acres of wetlands.

Protecting our water resources is not only important to human health, it is also vital to preserving wildlife habitat and providing economic and recreational value. Many water pollutants come from human activities on the land. During the last few decades, state and federal regulations have limited point source discharges of waste water and sewage pipes into our waterways. Today the majority of our water pollution comes from nonpoint sources, which includes runoff from yards, roads, farms, and farm tiles.



### Prairie near Hennepin County Public Works Facility in Medina

As more county land is developed, there is an increase in impervious surfaces (see Figure 4-3) and a reduction in vegetated surfaces that capture runoff and filter water. When it rains or snows, much of the stormwater that falls on these hard surfaces runs off instead of soaking into the soil. As it travels, stormwater picks up pollutants like sediments, fertilizers, grass clippings, pet droppings, oil, and pesticides and delivers them directly into storm sewers. Eventually, some of this water ends up in lakes, streams, or rivers without filtration or treatment (see map Figure 4-4 to visualize water flow throughout Hennepin County).

All water in Hennepin County flows to the Crow River, Mississippi River, or Minnesota River and contributes to the water quantity and quality. By properly managing yards, roads, and farms, all residents play an important role in preventing pollution of water resources.

### Emerging issues

Hennepin County's water resources are a critical and valuable asset to all residents. To sustain and improve them for years to come, it is necessary to understand the future issues that may arise and threaten lakes, rivers, wetlands, and underground infrastructure.

The impacts of climate change will put more stress on natural resources. Temperature and moisture patterns will change faster than plant

and animal communities can adapt, resulting in changes to ecosystems, habitat loss, and spread of invasive species. Climate change can stress plants and animals, making them more vulnerable to disease and less competitive with invasive species. Additionally, an increased frequency of both flooding and droughts will put additional pressure on our stormwater management infrastructure and groundwater resources.

Land use is projected to shift in the county through 2030 with more land being developed and less land being open space or agricultural.

Development is accompanied by additional stormwater infrastructure that often speeds water off the landscape, through systems of pipes, and to nearby water bodies much more quickly than water would move naturally through lakes, rivers, and streams. The increased rate at which water reaches streams and rivers contributes to bank and stream channel erosion, a significant water quality concern for Hennepin County and downstream communities.

Identifying strategies for both mitigating and communicating about this emerging water quality concern — one that is not a pollutant but a human-made alteration in hydrology — is one of the most challenging issues facing water resource managers today

## Involvement from others

Many entities are involved with water resources, including the county's 45 municipalities, 11 watershed management entities, and two park districts. Additionally, state-level governance regulates water quality throughout Hennepin County. The Minnesota Board of Water and Soil Resources (BWSR) is responsible for working with partners to improve and protect local water quality. The Minnesota Pollution Control Agency (MPCA) helps protect water resources by monitoring water quality, setting standards, and controlling what may go into water.

At the federal level, the Clean Water Act requires each state to adopt water quality standards to protect waters from pollution. Many partners and stakeholders create a complex structure for the management and regulation of water throughout Hennepin County.

## Hennepin County's role

In 2016, Hennepin County adopted a Natural Resource Strategic Plan. This plan is intended to guide the county and its partners in responding to natural resource issues and developing internal and external policies, programs, and partnerships that improve, protect, and preserve natural resources.

Internally, Hennepin County promotes the implementation of low-impact development and green infrastructure for newly developed and redeveloped properties, agricultural best practices, wetland restorations, and innovative stormwater management practices where applicable. The county will also continue to research and implement state-of-the-art methods of applying chloride to reduce water pollution while maintaining safe roads. These practices will help the county adapt to changing future conditions, reduce impacts from stormwater runoff and work toward the remediation of impaired waters.



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## Minnehaha Falls in Minneapolis

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Additionally, as the only county in the state with the duties and authorities of a soil and water conservation district, Hennepin County takes the lead in delivering critical assistance in soil and water conservation to land managers. As the conservation district, the county is a member of the Technical Evaluation Panel for administering the Wetland Conservation Act, oversees stewardship of 40 conservation easements, distributes conservation cost-share funds to private landowners, and provides assistance to landowners seeking to comply with the state's buffer law.



Hennepin County provides technical assistance to watershed organizations and serves on technical advisory committees for the Minnesota Pollution Control Agency's Watershed Restoration and Protection Strategies (WRAPS) and for total maximum daily load (TMDL) studies for impaired waters.

Hennepin County also manages volunteer wetland and stream monitoring programs dedicated to obtaining quality data and promoting wetland and stream stewardship. The county provides financial and technical assistance to landowners and local governments to implement best management practices that preserve and restore critical habitats, reduce erosion, and protect and improve water quality.



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Citizen scientist volunteers with the Hennepin County Wetland Health Evaluation Program gather data to assess the health of the county's wetlands.

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Perhaps most critically, Hennepin County partners with watershed districts and joint-powers watershed management organizations to add value to their activities by convening groups around issues that span watershed boundaries and to lead by example through careful and considerate stewardship of natural resources in all county activities.

In Hennepin County, watersheds are managed by either a watershed management organization or a watershed district. Both are separate units of

government governed by a board of commissioners. Watershed district board members are appointed by the Hennepin County Board, while watershed management organization board members are appointed by city councils.

The watershed management organizations in Hennepin County are:

- Bassett Creek Watershed Management Commission
- Elm Creek Watershed Management Commission
- Lower Minnesota River Watershed District
- Minnehaha Creek Watershed District
- Mississippi Watershed Management Organization
- Nine Mile Creek Watershed District
- Pioneer-Sarah Creek Watershed Management Commission
- Richfield-Bloomington Watershed Management Organization
- Riley Purgatory Bluff Creek Watershed District
- Shingle Creek Watershed Management Commission
- West Mississippi River Watershed Management Commission

# Impaired Waters

Water quality in lakes is affected by the amount of pollutants entering the lake, lake size, and depth. Similarly, river and stream water quality is affected by the amount of pollutants and the rate and volume of flow through the channel. The amount of pollutants depends on the size of the watershed, the types of land use occurring in the watershed, and annual precipitation. Common pollutants are plant nutrients and fertilizer, which contain phosphorus and nitrogen; sediment; road salt; oil; and heavy metals. Other pollutants of special concern are persistent bioaccumulative toxics (PBTs), which are highly toxic, long-lasting substances that can build up in the food chain to levels that are harmful to humans and wildlife. These toxics are released through the production of energy; motor vehicle use and other air emissions; or when products like electronics, pesticides, and other consumer and industrial products are disposed of improperly.

The primary tool for addressing impaired waters is a pollution reduction plan called a total maximum daily load (TMDL). A TMDL is the maximum amount of a pollutant that a water body can receive without violating water quality standards. The TMDL process identifies all sources of the pollutant and determines how much each source must reduce its contribution in order to meet the quality standard. Using this information, a pollution reduction plan is developed. Once the U.S. Environmental Protection Agency (EPA) approves a completed TMDL plan, the city or watershed management organization implements the plan (see table 4-1 for a list of completed TMDL plans in Hennepin County). The MPCA has oversight of this process.

Every two years, the Minnesota Pollution Control Agency creates a list of impaired waters (see Figure 4-5) that do not meet water quality standards. According to the federal Clean Water Act, water quality standards consist of the following categories:

- **Beneficial uses:** Identify how people, aquatic communities, and wildlife use our waters

- **Numeric standards:** Amounts of specific pollutants allowed in a body of water while maintaining beneficial uses
- **Narrative standards:** Statements of unacceptable conditions in and on the water
- **Antidegradation protections:** Extra protection for high-quality or unique waters and existing uses

In 2018, two lakes in Hennepin County are currently slated to be removed from the Impaired Waters List — Bryant Lake and Mitchell Lake. Both were on the list for nutrient impairments, but restoration activities have improved water quality to the point that they are consistently meeting water quality standards for their size and depth. In addition, Lake Rebecca (listed for nutrient impairments) is also being considered for delisting in 2018, but the data was not compiled in time for the initial review.

Since 2010, nine other lakes and streams have been delisted in Hennepin County, which is an important indicator that conservation work based on TMDLs is having a measurable positive impact on water quality.

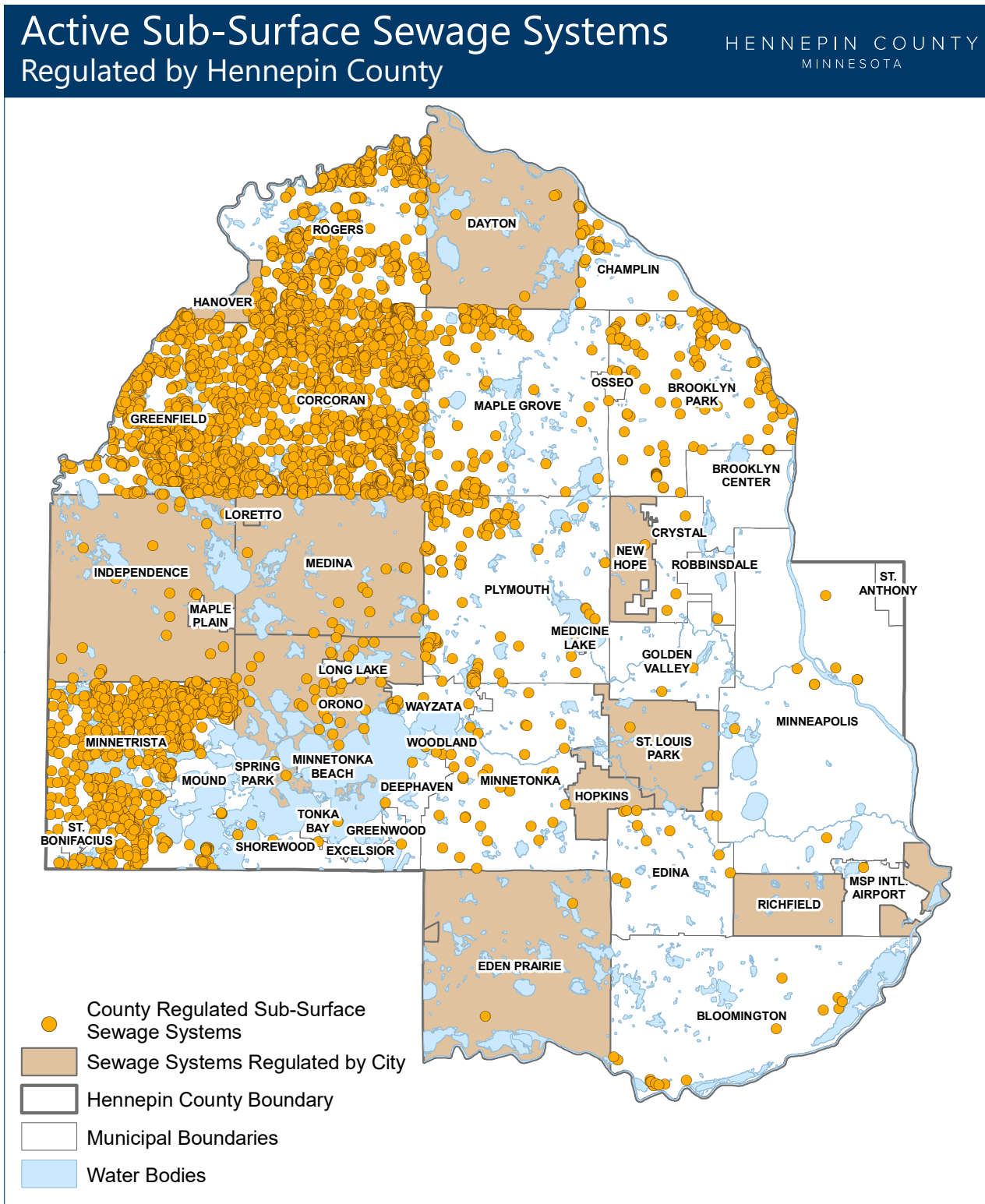
## TMDLs in Hennepin County

Hennepin County staff serve on technical advisory committees that develop total maximum daily load (TMDL) plans for impaired waters. Currently, there are 21 approved TMDLs in Hennepin County (16 entirely within the county, one statewide, one metrowide, and five in basins that are shared with other counties).

**Table 4-1: Total Maximum Daily Load (TMDL) plans in Hennepin County**

<b>Waterbody/Stream</b>	<b>Reason</b>	<b>Approved</b>	<b>Location in county</b>	<b>Watershed Management Organization</b>
Cedar Island, Pike, and Eagle lakes	Excess Nutrients	2010	Maple Grove, Plymouth	Shingle Creek Watershed Management Commission
Crystal Lake	Excess Nutrients	2009	Robbinsdale, Minneapolis	Shingle Creek Watershed Management Commission
Elm Creek Watershed	DO, Biota, Mercury, Excess Nutrients	2017	Maple Grove, Medina, Rogers, Champlin, Dayton, Corcoran, Greenfield, Plymouth	Elm Creek Watershed Management Commission
Lake Hiawatha	Excess Nutrients, Bacteria	2014	Minneapolis	Minnehaha Creek Watershed District
Lake Independence	Excess Nutrients	2007	Independence, Medina, Loretto	Pioneer-Sarah Creek Watershed Management Commission
Lake Sarah	Excess Nutrients	2011	Independence, Greenfield	Pioneer-Sarah Creek Watershed Management Commission
Lower Crow River	DO, Turbidity, Bacteria	2010	Rogers, Rockford, Greenfield, Carver/Wright Counties	Crow River Organization of Water
Magda Lake	Excess Nutrients	2010	Brooklyn Park	Shingle Creek Watershed Management Commission
Meadow Lake	Excess Nutrients	2010	New Hope	Shingle Creek Watershed Management Commission
Medicine Lake	Excess Nutrients	2011	Plymouth	Bassett Creek Watershed Management Organization
Minnehaha Creek Watershed	Excess Nutrients, Bacteria	2011	Lake Minnetonka Area, Carver County, Minnetonka, Hopkins, St. Louis Park, Minneapolis	Minnehaha Creek Watershed District
Nine Mile Creek	Turbidity, Biota, Chloride	2010	Bloomington	Nine Mile Creek Watershed District
Pioneer-Sarah Creek Watershed	Excess Nutrients, Bacteria, DO	2017	Greenfield, Loretto, Medina, Independence, Maple Plain, Minnetrista	Pioneer-Sarah Creek Watershed Management Commission
Shingle Creek	Chloride	2007	Brooklyn Park, Brooklyn Center, Minneapolis	Shingle Creek Watershed Management Commission
Shingle and Bass Creeks	DO/Biota	2012	Brooklyn Park, Brooklyn Center, Plymouth, Crystal, Robbinsdale, Minneapolis, Maple Grove, Osseo, New Hope	Shingle Creek Watershed Management Commission
Statewide Mercury	Mercury	2009	Entire county	ALL WMOs
Twin Cities Metro	Chloride	2016	Entire county	ALL WMOs
Twin Lakes Chain & Ryan Lake	Excess Nutrients	2007	Brooklyn Center, Crystal, Minneapolis, Robbinsdale	Shingle Creek Watershed Management Commission
Upper Minnehaha Creek and lakes	Excess Nutrients, Bacteria	2014	Lake Minnetonka Area, Part of Carver County	Minnehaha Creek Watershed District
Upper Mississippi River	Bacteria	2014	Entire county	West Mississippi River Watershed Management Commission
Wirth Lake	Excess Nutrients	2010	Minneapolis, Golden Valley	Bassett Creek Water Management Organization

Figure 4-1: Septic systems regulated by cities and Hennepin County



**Disclaimer:** This map (i) is furnished "AS IS" with no representation as to completeness or accuracy; (ii) is furnished with no warranty of any kind; and (iii) is not suitable for legal, engineering or surveying purposes. Hennepin County shall not be liable for any damage, injury or loss resulting from this map.

Publication date: 2/22/2018

Data sources: Hennepin County, Metropolitan Council, Minnesota DNR





## Figure 4-2: MPCA Confirmation of Ordinance Amendment Completion Letter



### Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300  
800-657-3864 | 651-282-5332 TTY | [www.pca.state.mn.us](http://www.pca.state.mn.us) | Equal Opportunity Employer

May 28, 2014

Hennepin County  
Human Services/Public Health Dept  
Duane Hudson  
1011 First Ave So, Ste. 215  
Hopkins, MN 55343

RE: Confirmation of Ordinance Amendment Completion

Dear Mr. Hudson:

This letter acknowledges the completion of the Subsurface Sewage Treatment System (SSTS) ordinance amendment requirement by Hennepin County. The Minnesota Pollution Control Agency (MPCA) appreciates the work that Hennepin County put into meeting this requirement, and your county's continued administration of an effective SSTS program. A copy of this signed letter will be loaded into BWSR's eLINK system as a record of this work having been completed.

In the future, MPCA staff will continue be on hand if you have questions or concerns and to provide assistance when needed in administration of your SSTS program. Please do not hesitate to contact any MPCA staff in this regard.

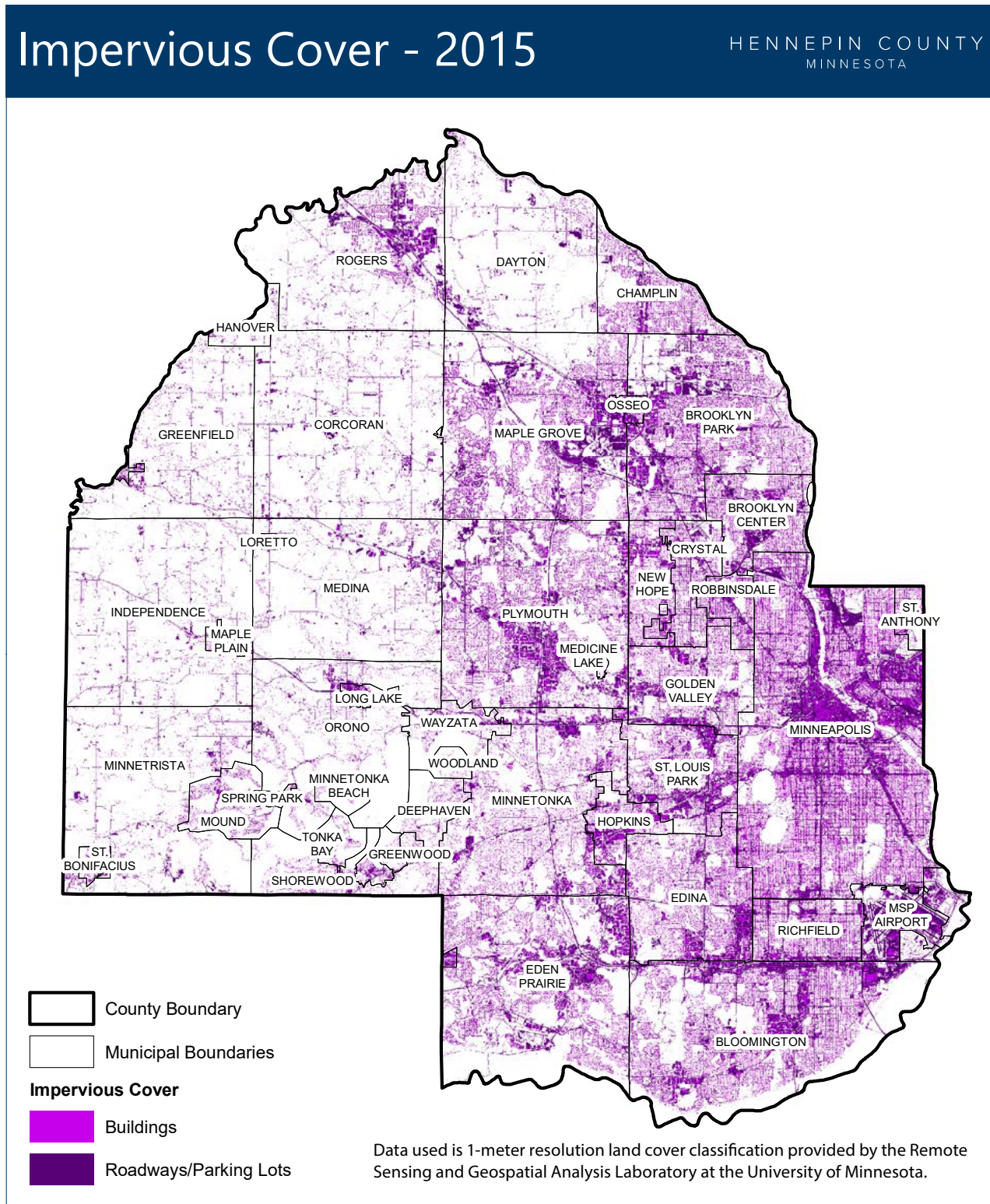
Sincerely,

A handwritten signature in blue ink, appearing to read "Gretchen Sabel", is written over a faint, larger version of the signature.

Gretchen Sabel  
SSTS Coordinator  
SSTS Section  
Municipal Division

GS:wgp

Figure 4-3: Impervious surfaces throughout Hennepin County in 2015

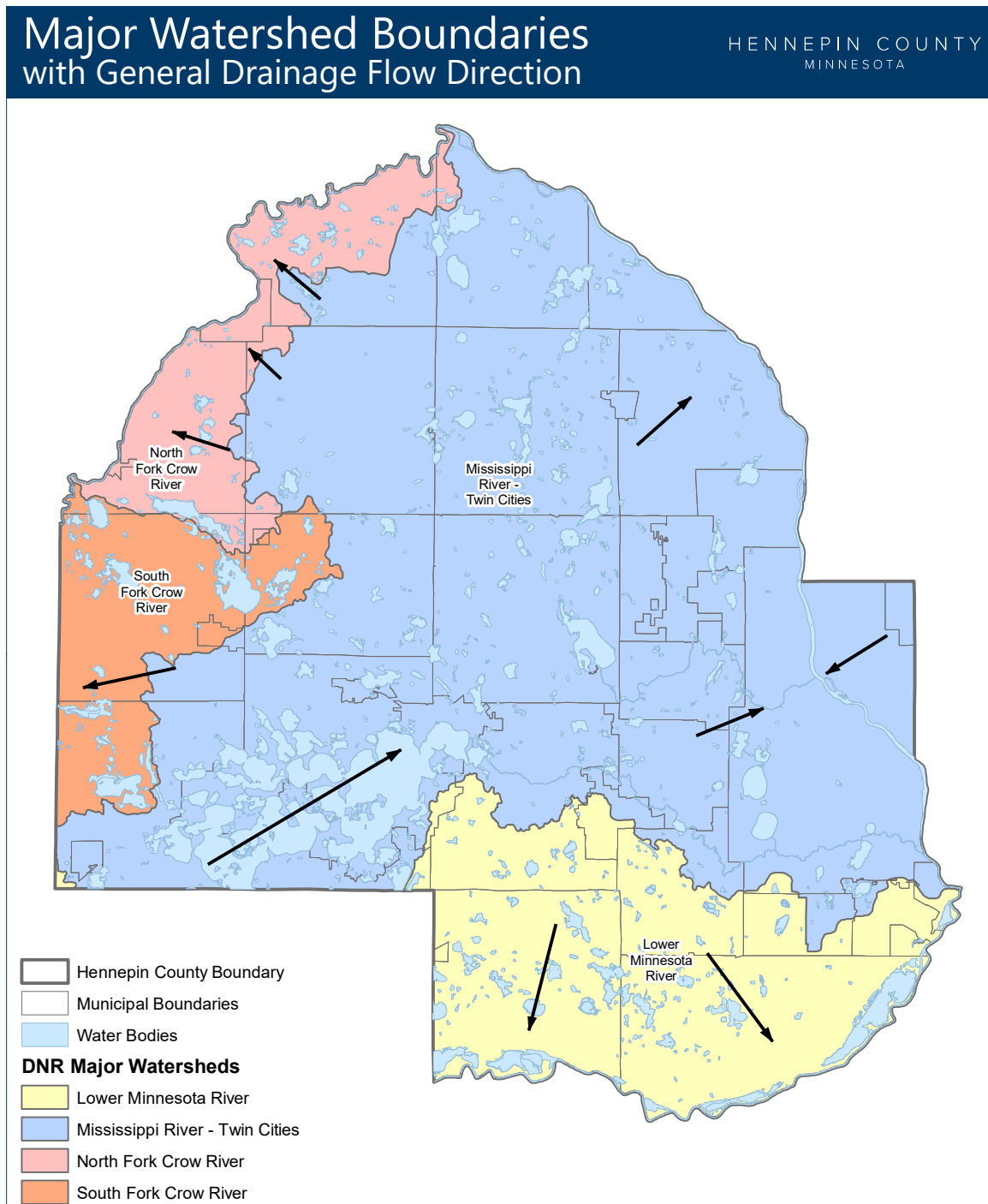


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Publication date: 12/19/2018  
Data sources: Hennepin County, Minnesota DNR



**Figure 4-4: Watersheds for the Crow, Mississippi, and Minnesota Rivers, and direction of water flow in Hennepin County**



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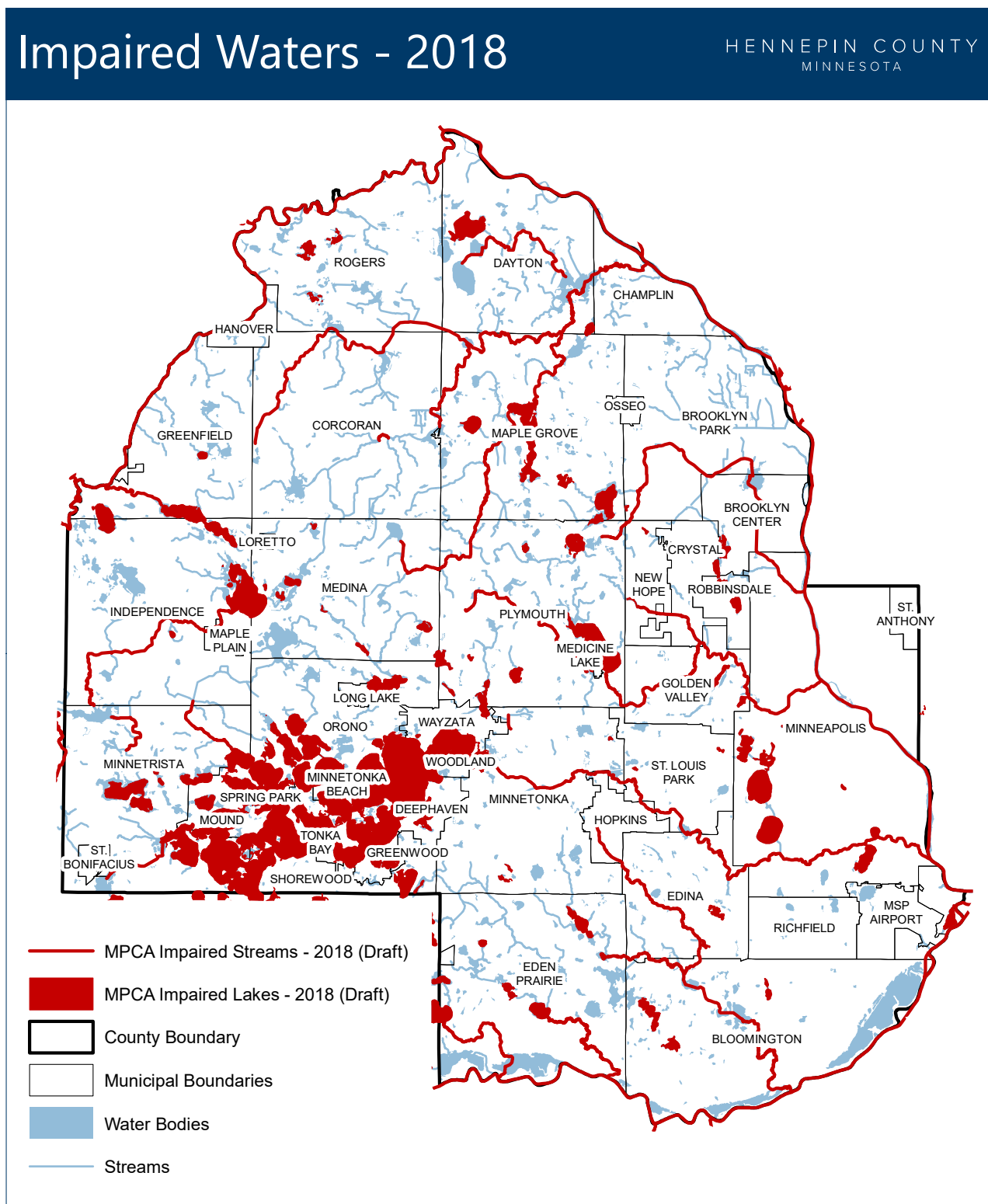
Publication date: 2/6/2018

Data sources: Hennepin County, Metropolitan Council, Minnesota DNR





Figure 4-5: 2018 proposed impaired waters (Data from Minnesota Pollution Control Agency)



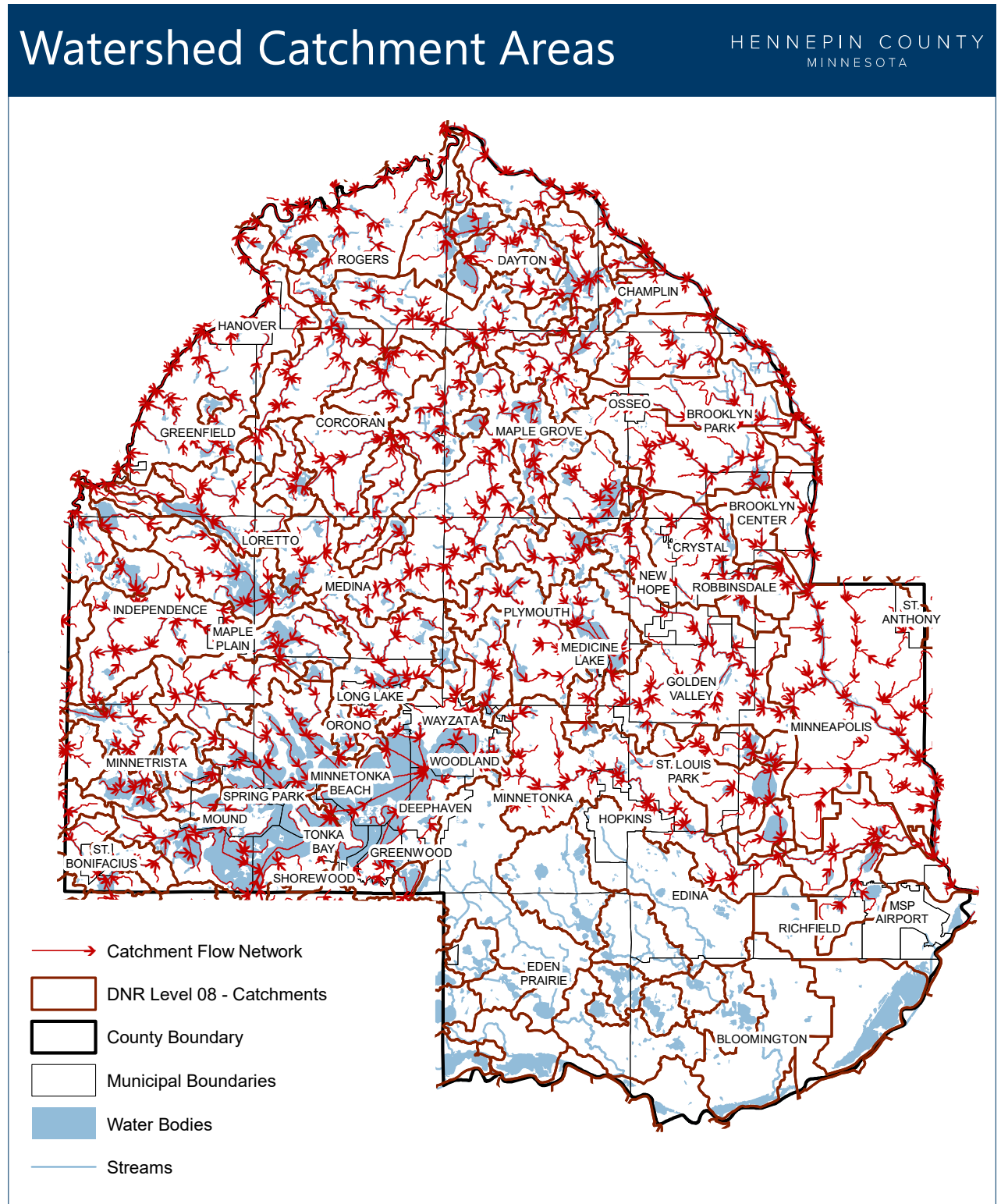
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Publication date: 2/16/2018  
Data sources: Hennepin County, Minnesota DNR





Figure 4-6



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Publication date: 11/21/2017

Data sources: Hennepin County, Minnesota DNR



**Table 4-7: SSTS in Hennepin County — Estimate January 2019**

<b>City</b>	<b>Total</b>	<b>City</b>	<b>Total</b>
Bloomington	18	St. Bonifacius	1
Brooklyn Park	137	Tonka Bay	1
Champlin	32	Wayzata	25
Corcoran	1,710	Woodland	1
Crystal	4	<b>Total</b>	<b>4,832</b>
Dayton	4		
Deephaven	3		
Eden Prairie	3		
Edina	11		
Golden Valley	2		
Greenfield	900		
Hamel	5		
Hanover	8		
Hassan Township	3		
Independence	11		
Long Lake	11		
Loretto	1		
Maple Grove	137		
Maple Plain	12		
Medicine Lake	1		
Medina	10		
Minneapolis	8		
Minnnetonka	35		
Minnetrisa	813		
Mound	6		
New Hope	1		
Orono	14		
Plymouth	129		
Robbinsdale	1		
Rockford	3		
Rogers	763		
Shorewood	7		
Spring Park	1		