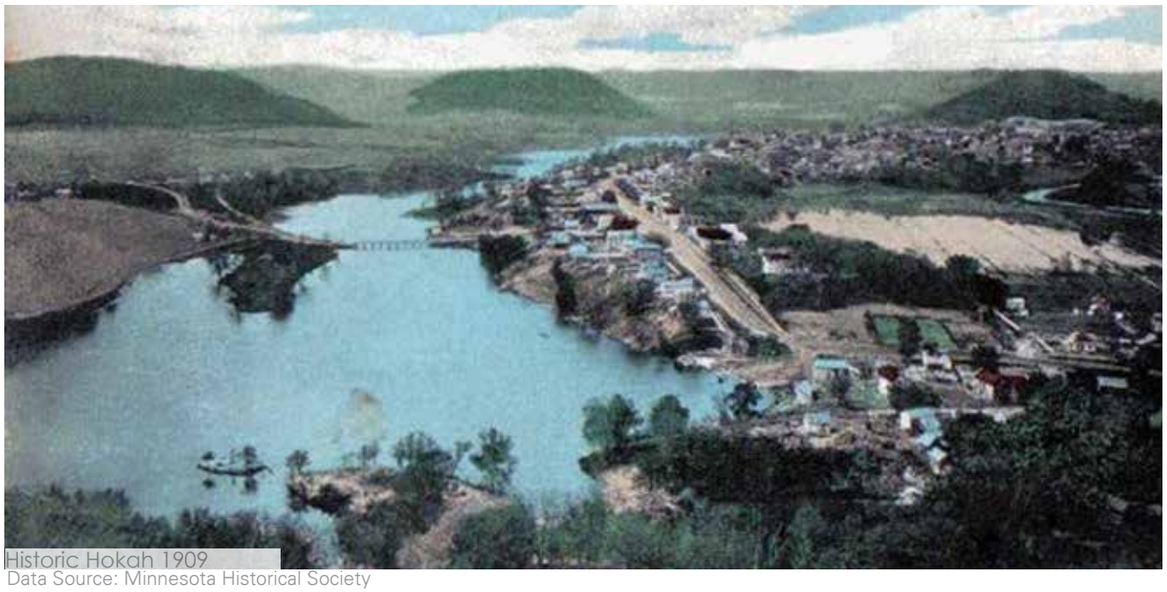
HOKAH PARK AND CANOE ACCESS SITE

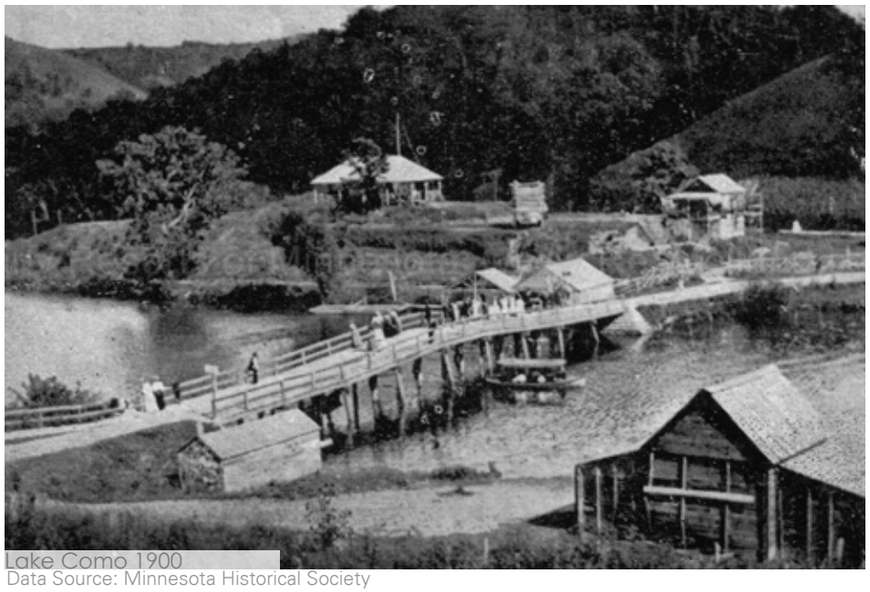
The site is located at the confluence of Root River and Thompson Creek at the intersection of North Mill Street (State Highway 16) and County Road 7 in an environment of bluffs, slopes, small tributaries, and floodplains typical of the Lower Root River Watershed. In this reach the river is warmer and slower. At Hokah the river flows through a valley that is almost 2 miles wide. The bottomland is no longer densely timbered with black walnut, maple, oak, and other hardwoods; the forest has been cut and sawed at local lumber mills.

Hokah was started as an Indian village and is named for an Indian chief, Chief Wecheschatope Hokah (City of Hokah, 2014) . Waterpower played an important role in its early white settlement history. Thompson Creek and the Root River both supplied waterpower. Besides an early saw mill (1852) and flour mill (1853), a dam across the Root River (1866) supplied power for 3 flour mills.

This park is significant to the town of Hokah as it plays an important role in the town's history and is part of a greenway system that links historic Lake Como and Como Falls to the Root River.



Historic Hokah 1909
Data Source: Minnesota Historical Society



Lake Como 1900
Data Source: Minnesota Historical Society

Historic Root River Bridge In Hokah 1910
Data Source: Minnesota Historical Society

Historic Train Depot
Data Source: Minnesota Historical Society

Rail Crash Near Hokah 1910
Data Source: Minnesota Historical Society

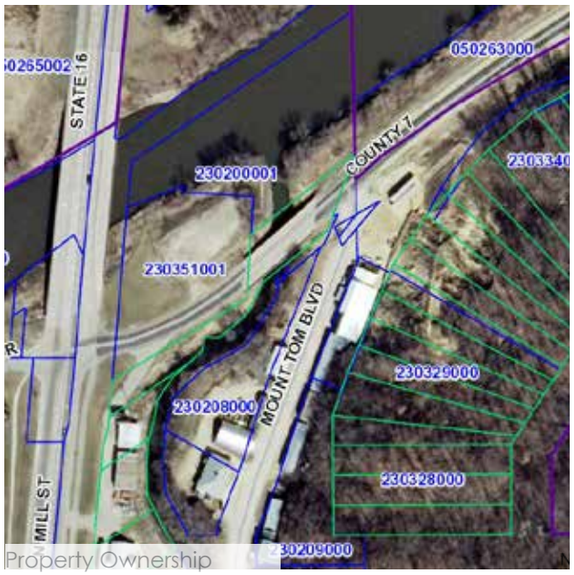
Original Lake Como 1852-1909
Data Source: Minnesota Historical Society

HOKAH PARK AND CANOE ACCESS SITE EXISTING CONDITIONS

Currently this site is an underutilized recreational space at the junction of Thompson Creek and the Root River. The site is owned by the Minnesota Department of Transportation and Houston County. Thompson Creek is typical of the many small watershed tributaries that flow from much higher elevations to join the main river stem.

Steep slopes characterize both the site's river and creek banks. Although most of the site is covered by grass; reed canary grass, box elder trees, and understory plants are near the river and the stream edges. An informal dirt area for parking cars is confined by a guard rail. The site is accessed off of County Road 7. No vegetation shields the site from the sights and sounds of the traffic on County Road 7 and County Road 21.

Site elements include an historic interpretive panel funded by the Legacy Fund that interprets the community of North Hokah, a trash receptacle, and a canoe access ramp located north of Thompson Creek.



HOKAH PARK AND CANOE ACCESS SITE EXISTING CONDITIONS

HOKAH PARK AND CANOE ACCESS DESIGN

Opportunities:

- Restore the steep banks of the river and the stream,
- Increase park visibility,
- Create pedestrian access at County Road 7 and Highway 16,
- Relocate the parking lot away from the river,
- Screen the parking lot from the road,
- Create a pedestrian path system in the site that connects the river, Como Falls, and the Hokah pool, the former Lake Como,
- Erect a series of interpretive panels throughout the park, and
- Create a larger open space for recreation.

Hokah Park and Canoe Access

Como Falls

Hokah Pool

HOKAH PARK AND CANOE ACCESS DESIGN

- Stabilize riverbank with live-stake plantings
- Isanti Dogwood plantings capture site stormwater runoff
- Swamp White Oak trees define park edge
- River edge picnic tables
- Recreational open space
- Remove Reed Canary Grass and stabilize riverbank with live-stake plantings
- Pedestrian path connection to Como Falls
- Native plantings edge park
- Live-stake plantings stabilize riverbank
- Relocated Legacy Kiosk
- River access path connects to existing canoe access path
- Reorganized parking
- Welcome sign

HOKAH PARK AND CANOE ACCESS
HISTORIC INTERPRETATION & ENHANCEMENT

N

HOKAH PARK AND CANOE ACCESS DESIGN STRATEGIES

The Reorganized Park Includes:

- Relocating and reconfiguring the parking lot,
- Increasing visibility with native plantings,
- Providing picnic tables, and
- Strengthening pedestrian pathway system.

Hokah Park and Canoe Access Design:
The design's water quality demonstration/ education sites include:

- Isanti dogwood plantings capture site stormwater runoff,
- Water quality and park history interpretive panels, and
- Park edge native plantings, and bank stabilization with live-stake plantings.

Historic interpretive sites include:

- Celebrating the connection to Como Falls, Hokah pool, and the former Lake Como, and
- Relocation of existing history panel.

Interpretive Panels:
The interpretive panels address the park's historical, ecological, and cultural character, and educate the public about water quality practices. The panels include:

1. Healthy Waters Make for Healthy Fish
2. Healthy Waters Make for a Healthy Community
3. Getting to Know Your Waters
4. What Can I Do to Help?
5. Hokah Park and Lake Como History

WATER QUALITY STRATEGIES

Interpretive Panels & Public Education:
Water quality awareness is critical to watershed stewardship. Many residents within the Root River Watershed have minimal knowledge of local and regional concerns and are unaware that they impact water quality. Interpretive panels are designed to educate and inspire positive public engagement and action around watershed issues including:

- Watershed landformations,
- Watershed land cover,
- Watershed hydrology,
- Watershed landscape history,
- River and stream health,
- Aquatic wildlife and habitat,
- Terrestrial and bird wildlife and habitat,
- Watershed pollutant sources,
- Solutions to water pollution,
- Who needs clean water,
- Recreational water activities
- Implemented best management practices in site design,
- Local water issues, and
- Local history.

YOUR ROOT RIVER

GETTING TO KNOW YOUR WATERS

THE MISSISSIPPI WATERSHED

Everyone lives in a watershed, which is an area of land that drains to the same place, be it a lake, river or wetland. The Root River watershed is part of a much larger area that drains to the Mississippi River. The Mississippi drains all or parts of 31 states and two Canadian provinces. This mighty river flows 2,350 miles from Lake Itasca in northern Minnesota to the Gulf of Mexico. As a headwaters state, we affect the river's water quality all the way to the Gulf.

THE ROOT RIVER WATERSHED

The Root River starts as a drainage ditch in Mower County, then winds 81 miles from intensely farmed areas through more wooded, rolling terrain, and finally empties into the Mississippi River south of La Crosse, Wisconsin. Near Mystery Cave, the river literally disappears underground and resurfaces just west of Forestville State Park near Preston. Disappearing rivers are a feature of karst geology, meaning that water eats away at rock under the soil. It's like the Swiss cheese of rock with caves and underground tunnels. It makes groundwater highly vulnerable to pollution.

FOLLOWING THE ROOT RIVER

More than 1 million acres drain to the Root River. Small towns such as Stewartville, Preston, and Hokah dot the landscape. This area provides some of the most outstanding recreational opportunities in the state such as blue ribbon trout streams, two state parks and popular bike and water trails. Yet its potential is limited, and its future is threatened, by pollution that impairs waters for drinking, swimming, and fishing.

THE ROOT RIVER WATERSHED´S **3** REGIONS

The Root River watershed has 3 distinct land forms: 1) Upper Plains Agriculture in the west is flat with deep soils and a high percentage of cropland. 2) Driftless* Karst in the center is a rolling landscape with thinner soils and a mix of cropland, forest and grassland. 3) Driftless* Blufflands in the east also has thinner soils with a steep rugged terrain and more forests.

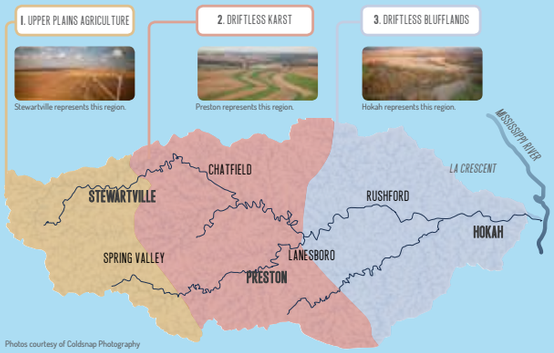
*Driftless means the last glacier – and its drift of rock and soil - bypassed this area, leaving a thin layer of soil covering the limestone underneath.

PRESETTLEMENT VEGETATION

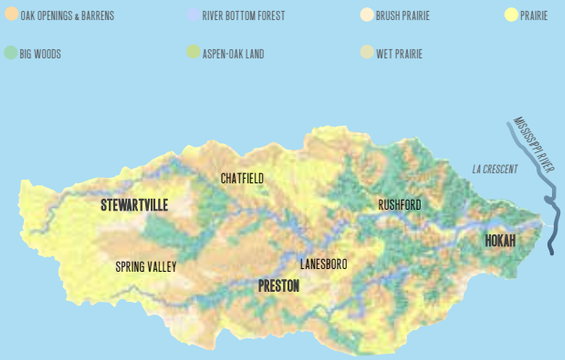
The vegetation that previously existed in the Root River watershed was drastically different than today's vegetation. Much of the watershed was covered in prairie and oak barrens. As people began to settle on the land, they used the rich soils of the prairie for agriculture.

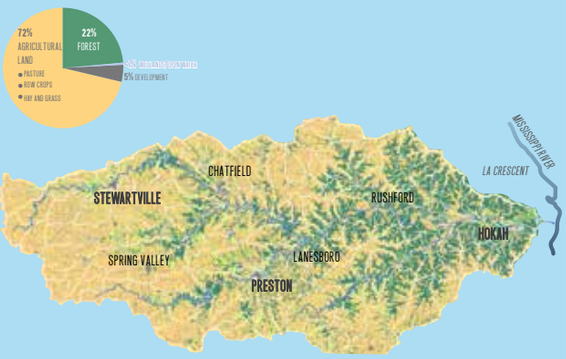
TODAY´S VEGETATION

Today, much of the watershed is covered in agriculture with little forest or prairie to intercept and infiltrate water. This new land cover has altered what flows into our water and how efficiently our groundwater is recharged. Changes in drainage, along with climate change creating more severe storm events, has led to increases in flooding and pollution.



Photos courtesy of Coldsnap Photography





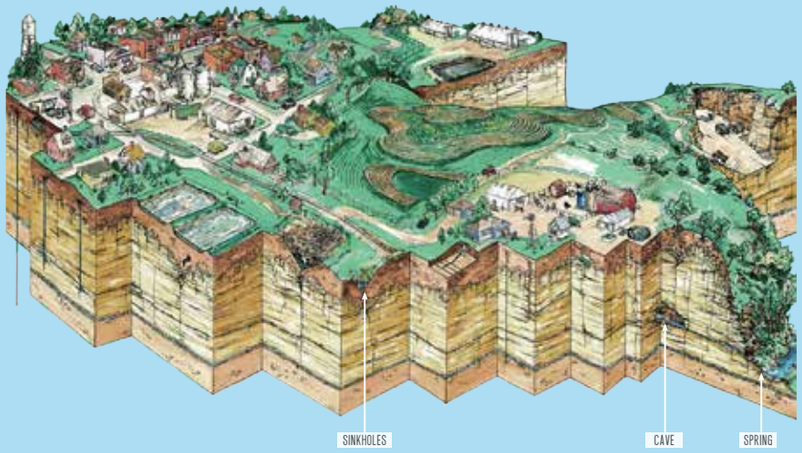
YOUR ROOT RIVER

HEALTHY WATERS MAKE FOR HEALTHY FISH

KARST LAND FORMATION

Karst geology created the cold-water streams that support trout populations. Water washes over the rock creating sinkholes, springs, caves, disappearing streams, and underground tunnels. Springs in karst areas vary greatly in size, from flows of a few gallons per minute to thousands of gallons per minute. The flows generally vary with local precipitation conditions and are highest during the spring and early summer and lowest in late summer and fall. This geology is vulnerable to pollution because contaminants on the land can easily reach groundwater, which then mixes with rivers and streams.

Image courtesy of Southeast Minnesota Water Resources Board as part of a grant funded by the Minnesota Environment and Natural Resources Trust Fund.



KEY KARST FEATURES OF THE ROOT RIVER WATERSHED

SINKHOLES

Photo courtesy of MDA

SPRINGS

Photo courtesy of MPCA

STREAM SINKS

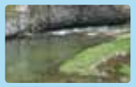
Photo courtesy of MPCA

TROUT STREAMS IN THE ROOT RIVER WATERSHED

One of the most unique features of the Root River is its abundance of trout streams. There are three main factors influencing most trout populations: fishing pressure, habitat suitability, and the ability to mature and spawn (MNDNR). Trout streams are quite sensitive to changes in water quality and water temperature, both are heavily impacted by how humans use the land.

FEATURES OF HEALTHY TROUT STREAMS

The trout streams of Southeast Minnesota are typically spring-fed and have large aquatic insect populations for trout to consume (MNDNR). They also have specific habitat needs. These are some examples of those requirements:



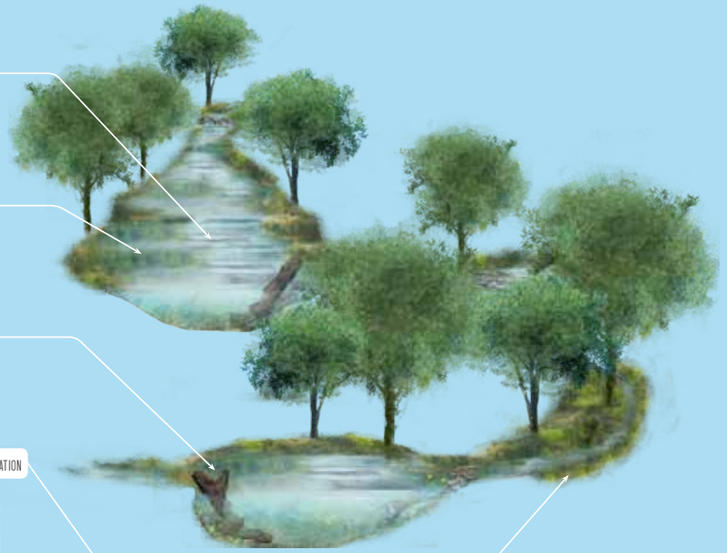
POOLS AND RIFFLES

BANK COVER FOR SHADE

LARGE WOODY DEBRIS

HEALTHY STREAMSIDE VEGETATION

CLEAR, COOL SPRING FED WATER



YOUR ROOT RIVER

HEALTHY WATERS MAKE A HEALTHY COMMUNITY

STREAM HEALTH

STREAM HEALTH DEPENDS UPON MANY INTERRELATED FACTORS:

STREAM CONNECTIONS — EXAMPLES: DAMS, CULVERTS AND TILE DRAINAGE

Fragmenting streams with dams and culverts disrupts the connectivity of a stream. Uninterrupted flow along the entire length of the stream is essential for the proper flow and exchange of water, energy, sediments, nutrients, and organisms.

STREAM CHANNEL CONDITION — EXAMPLES: EROSION

Land-use changes, from agriculture and urbanization to timber harvest alter stream flows and stream shape.

HYDROLOGY — EXAMPLES: STREAMFLOW AND RUNOFF

The hydrology of a river is influenced by the shape of the channel and volume of flow of a stream.

STREAM BIOLOGY — EXAMPLES: FISH AND BUGS

Terrestrial plants, aquatic plants, and aquatic animals in the stream are important to healthy streams. Plants stabilize the soil, intercept runoff, filter our nutrients, sediment, and other pollutants while providing habitat for the creatures we love to fish and observe.

WATER CHEMISTRY — EXAMPLES: OXYGEN, NUTRIENTS AND TEMPERATURE

Water chemistry plays an important role in the health, abundance, and diversity of the aquatic life that can live in a stream.

CONDITIONS THAT CAN STRESS STREAMS INCLUDE THE FOLLOWING:

TOO MUCH SEDIMENT

Soil and other matter in water can make it hard for fish and other aquatic life to breathe, feed, and reproduce. Sediment can also cover spawing areas and fill in parts of streams.

LOW OXYGEN & INCREASED TEMPERATURE

Aquatic life needs oxygen dissolved in the water to breathe and survive. Stream temperature affects metabolism and the ability to get oxygen, especially for species such as trout.

LACK OF HABITAT

Habitat affects all aspects of survival for fish and other aquatic life. Habitat encompasses places to live, food to eat, places to reproduce, and means of protection.

TOO MANY NUTRIENTS

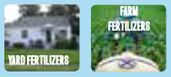
Excess nutrients, such as phosphorus and nitrates, can be toxic to aquatic life and cause algae blooms. High nitrates can also be a concern for drinking water.

WHAT MAKES MY RIVER DIRTY?

SEDIMENT

BACTERIA

NUTRIENTS



OTHER POLLUTANTS

WHO NEEDS CLEAN WATER?

Our drinking water comes from underground aquifers which have many interconnections with our streams and rivers because of the karst geology in the watershed. There can be negative health impacts when the water we drink is contaminated. The health of species living in and around the water can be used to measure the health of our water resources. Examples of species living in the watershed:

MACRO-INVERTEBRATES

REPTILES & AMPHIBIANS

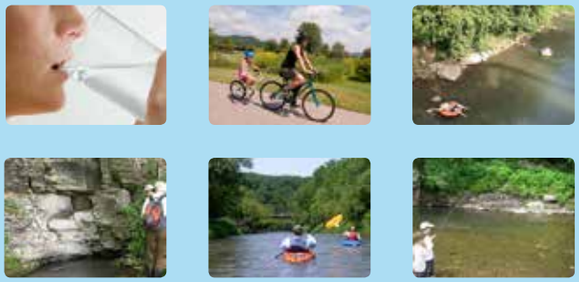
FISH

BIRDS

MAMMALS

PEOPLE

Clean rivers allow us to be in contact with the water to swim, wade, etc. without worry about getting sick. In a clean river we can catch more fish and eat more of what we catch. When river waters are clean they can support more wildlife to observe while hiking, biking, or kayaking.



Photos courtesy of MN DNR AND MPCA.

YOUR ROOT RIVER

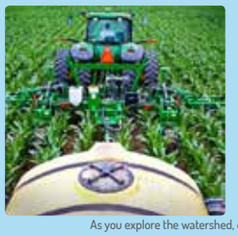
WHAT CAN I DO TO HELP?

The top 3 pollutants in the Root River Watershed are nutrients, sediment, and bacteria. Rain and snowmelt can carry these pollutants to streams where they can cause problems, such as algae growth, that make the water unhealthy for aquatic life and recreation.

AGRICULTURAL SOURCES & SOLUTIONS

NUTRIENTS | **WHAT TO DO**

Example: Crop ferlitizer



Crop rotation is one practice that can reduce runoff and leaching of nutrients from fertilizer.

As you explore the watershed, do you see other ways farmers are conserving soil and water?

SEDIMENT, SOIL, & OTHER PARTICLES | **WHAT TO DO**

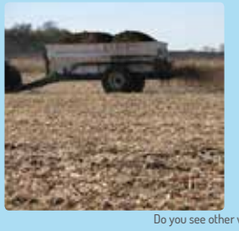
Example: Field erosion

No-till and strip-till offer many benefits, including keeping soil on the land and out of waters.

Can you spot different tillage methods in the watershed?

BACTERIA | **WHAT TO DO**

Example: Manure runoff from fields



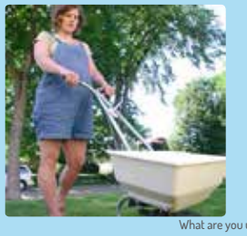
Applying manure by injection is one way to reduce runoff and increase the crop's uptake of nutrients.

Do you see other ways farmers are helping water quality?

URBAN & RESIDENTIAL SOURCES & SOLUTIONS

NUTRIENTS | **WHAT TO DO**

Example: Lawn ferlitizer



Using no-phosphorus fertilizer on lawns and gardens is one way to keep algae-growing nutrients out of streams.

What are you using on your lawn and garden?

SEDIMENT, SOIL, & OTHER PARTICLES | **WHAT TO DO**

Example: Stormwater runoff

Rain barrels and rain gardens are two ways to hold back stormwater and let pollutants settle out.

Do you know where your stormwater goes when it drains from your street or yard?

BACTERIA | **WHAT TO DO**

Example: Leaky septic pipes

Upgrading or replacing septic systems can ensure effective treatment that protects wells and streams from harmful bacteria

When was the last time your septic system was pumped?