

# Edgerton's long-term solution to drinking water protection



**E**DGERTON — A long-term conservation contract within Edgerton's Drinking Water Supply Management Area (DWSMA) is helping to make the city's drinking water safer, building upon other nitrate-reduction efforts, and improving wildlife habitat by keeping the land in permanent cover.

"We want clean water for the city," said Bob Menning, who, with his wife, Stella, enrolled 123 acres in the 30-year conservation contract



recorded in March 2024. "I think it was our obligation in one sense. Not that we were obligated to the city, but it was our obligation to make sure that there is clean water for many years down the road."

A Wellhead Protection Partner Grant (WPPG) from the Minnesota Board of Water and Soil Resources (BWSR) covered 90% of the cost-share contract between the landowners and the city for conservation cover and forage.

**From top:** Land enrolled in a 30-year conservation contract within Edgerton's 792.47-acre Drinking Water Supply Management Area is seen with the city's water tower in the distance. Clean Water Funds provide Wellhead Protection Partner Grants, including \$915,300, 90% of the cost, for the contract ensuring 123 acres remain in permanent cover for 30 years; and a grant covering 90% of the city's \$360,000 cost to buy 37.2 acres. **Photo Credit:** Jason Beckler, BWSR Water from Edgerton's city well is tested once a week. Any above-ground activity in the DWSMA may directly affect the well. **Photo Credits:** Doug Brands, Edgerton



Discussions with local water conservation and rural water groups led BWSR to form the WPPG pilot program in 2019, using \$1 million in Clean Water Funds earmarked for groundwater and wellhead protection. The competitive grants aim to support land acquisition, state easements, and long-term cost-share contracts in wellhead protection areas with vulnerable drinking water supplies.

The Mennings' contract ensures that the land will remain in perennial cover for 30 years. That acreage is currently planted in alfalfa, which, like other deep-rooted perennial plants, takes up nitrogen as it grows. Nitrates that aren't taken up by growing root systems can leach into the groundwater. Shallow aquifers below sandy soils are more susceptible.

Edgerton's DWSMA, where any above-ground activity may directly affect the well, encompasses 792.47 acres. Nitrogen exclusion is key in the nearly 550 acres of highly vulnerable land within the DWSMA because of the porous surface soil and wellhead sourcewater connection.

The Mennings' 123 enrolled acres lie within the highly vulnerable area.

"Keeping the air clean and the water as clean as possible is our responsibility," Stella Menning said. "When God created the world, he created it with clean air and clean water, so we need to do what we can to keep it that way."

Work with state and local partners to purchase property and to secure long-term land-use contracts has



A sign marks Edgerton's Drinking Water Supply Management Area. In 2019, 588 customers connected to Edgerton's municipal water supply. Of those, 480 were residential customers. **Photo Credit:** Jason Beckler, BWSR

improved wellhead protection for the city of Edgerton.

In mid-December, another 25.5-acre, 30-year contract with a different landowner was in the works.

A BWSR Wellhead Protection Partner Grant also made possible [the city's spring 2021 purchase](#) of 37.2 acres of former cropland and a building site, which ensured — through an agreement with BWSR recorded on the property owned by the city — that the nitrate-reducing benefits of perennial vegetation would remain intact.

That land is planted to native grasses. Local farmers cut and bale the hay.

"The Wellhead Protection Partner Grant projects in the Edgerton DWSMA provide long-term commitments to perennial cover," said Luke Stuewe, who supervises the Minnesota Department of Agriculture's fertilizer management unit in Detroit Lakes.



Stuewe



Meyer

"These changes go beyond nitrogen fertilizer BMPs (best management practices) and provide even greater protection for groundwater in this area."

Stuewe added: "For Groundwater Protection Rule implementation in this DWSMA and the protection of Edgerton's drinking water supply, these projects are a critical component. The collaboration of agricultural landowners, the city, and state agency staff to establish these projects is a great example of what can be accomplished when an opportunity like the wellhead partner protection grant is available."

Over the past 10 years, the municipal well for this southwestern Minnesota city of about 1,300 people has consistently produced nitrate levels higher than 10 parts per million (ppm), the U.S. Environmental Protection Agency's standard for drinking water, and the limit considered safe for sensitive groups.

“ I believe with all of my heart that clean water is one of the greatest commodities that we have in the United States today. ”

— Bob Menning, Pipestone County landowner

The Minnesota Department of Health links nitrates to [blue baby syndrome](#).

The state's [Groundwater Protection Rule](#) classifies the city's DWSMA as a Mitigation Level 2 — meaning nitrate levels are 8 ppm or greater, or are projected to exceed 10 ppm in the next 10 years.

The city had been spending about \$5,000 a month to remove nitrates from drinking water.

Raw water is blended with treated water, so higher nitrate levels result in higher operating expenses. The city stopped using the treatment plant in spring 2024 when the main control panel stopped working. Replacing it plus completing other necessary repairs to the aging system would have cost about \$150,000. Instead, the city is now blending its well water with water from Lincoln Pipestone Rural Water (LPRW) to meet or exceed the 7 ppm requirement for treatment to stop.

"What we are finding is we can buy water from LPRW as cheap or cheaper than what we can run our treatment for," said Edgerton Water Supervisor Doug Brands.



*Keeping land within Edgerton's Drinking Water Supply Management Area in perennial cover means those deep-rooted plants will take up nitrogen as they grow. Nitrates that aren't taken up by growing root systems can leach into the groundwater. This property, seen in November, is enrolled in a 30-year conservation contract made possible by a BWSR Wellhead Protection Partner Grant, which is backed by Clean Water Funds.*

**Photo Credit:** Doug Goodrich, BWSR

In November 2024, the city was using a 50-50 blend to achieve nitrate levels of about 4.5 ppm.

The monthly cost for the previous few months had been averaging about \$4,500.

Brands tests water from the city well once a week. Nitrate levels reached their highest — 24 ppm — in 2019, and now average about 10 ppm.

Levels rise and fall slowly, Brands said, and have reflected changes such as land returning to row-crop production after federal Conservation Reserve Program (CRP) contracts expire, and land being planted in perennial Kernza.

When the city's main well was installed in 1976, Brands said the surrounding

**“ It seemed to be the thing we could do to make sure that Edgerton would have clean water. ”**

— Stella Menning, Pipestone County landowner

land use consisted of typical row-crop production with a small-grain rotation, some pastureland, and farm building sites. Well testing showed nitrate levels below but nearing 10 ppm from 2007 to 2009.

Whether from land-use changes that increased nitrogen use or from some other factor accelerating non-point nitrogen sources, testing showed nitrogen levels increased from 12 ppm to more than 20 ppm between 2014 and 2020.

“If you can get it locked up for 30 years, that's a lot easier,” Brands said of

land use that affects nitrate levels. “It gives us long-term protection.”

The Mennings' 123 acres remains closed to public access. Their contract allows for livestock grazing and for solar arrays to be installed, as long as they are in line with required forage harvest management plans.

“It was a volunteer thing. I guess when we found that out, that made all the difference to us,” Bob Menning said. “That really is what we appreciated so much about BWSR. They were just very upfront with it: ‘This is all up to you.

We can't force you into something.’ It gives you a different feeling when you aren't forced into it.”

Among the partners that have provided technical support and grant funds aimed at reducing nitrate levels in Edgerton's drinking water supply are the Pipestone Soil & Water Conservation District, the Minnesota Rural Water Association (MRWA), the Minnesota Department of Agriculture and the Minnesota Department of Health.

“We still have some work to go to consistently be below the safe drinking water levels. However, with the strong partnerships that have been formed I think we are headed in the right direction,” said Aaron Meyer, MRWA source water protection specialist.