Clean Water starts with you

The DNR tests waters throughout Iowa to make sure they are meeting state water quality standards. Those standards are in place to protect drinking water, aquatic life and recreational uses, like swimming. When a stream or lake doesn't meet those standards, the stream or lake is placed on the state's impaired waters list. The DNR then creates a plan which outlines ways Iowans can help improve the water quality in their community's lakes and streams.

DNR needs your input

Every Iowan needs the help of their fellow citizens and watershed groups to improve water quality in their community. If you or your group would like to meet with a DNR staff member to discuss water quality, please contact Chris Van Gorp at (515) 281-4791 or Chris.VanGorp@dnr.state.ia.us

DNR

For more information on water quality improvement plans, please visit www.iowadnr.com/water/watershed/

Cedar River

Pollutant: *Nitrate*

Pollution Sources: *Rowcrop agriculture, livestock production, wastewater treatment plants*

What's wrong with the Cedar River?

High nitrate levels keep the river from meeting its state-designated standard as a public drinking water supply for about 125,000 people in the Cedar Rapids area.

The impaired segment of the Cedar River is between McCloud Run and Bear Creek, located upstream of Cedar Rapids. However, it's necessary to improve water quality in the entire watershed to maintain clean water in the river at Cedar Rapids.

The watershed, or area of land that drains into the river, begins in southern Minnesota and stretches beyond Cedar Rapids to east of Iowa City. About 10 percent of land in Iowa drains into the Cedar River above Cedar Rapids.

Currently, Cedar Rapids drinking water is safe, as it comes from groundwater. However, the quality of this groundwater is affected by water quality in the Cedar River. Nitrate levels in the river have been increasing over time. Every spring since 2001, samples from the river have contained nitrate levels that exceed the state water quality standard to protect drinking water.

The water quality limit for nitrate is designed to protect human health, particularly for infants under six months old.

What is causing the problem?

Runoff and tile drainage from farm fields is the major contributor of nitrate to streams and rivers in the watershed. Other contributors include municipal and industrial wastewater discharges and natural sources.

To reduce the amount of nitrates reaching the river, changes in land management will be needed. It will take time to make these changes and to see the effects.

The Cedar River at George Wyth Memorial State Park in Waterloo.

What can be done to improve the Cedar River?

The ultimate goal is to improve water quality and remove the river from the state's impaired waters list. To do that, nitrate levels need to be reduced.

Using research results and with the help of the public, the DNR has developed a water quality improvement plan.

A water quality improvement plan provides ideas to local communities on how they can improve their area's water quality. These ideas can help reduce the amount of nitrate reaching the Cedar River.

While the DNR has done the background research and can provide some technical and funding assistance, it is ultimately up to the watershed residents and businesses to take action and clean up the river.

The DNR has suggested the following conservation practices for the Cedar River watershed:

A number of smaller watersheds make up the Cedar River watershed. These include the Upper Cedar, Shell Rock, West Fork Cedar, Beaver, Black Hawk and Wolf. Improving these watersheds and the water quality of these watersheds will improve the quality of water in the Cedar River. Modeling results on the Cedar River indicate that the highest loads of nitrate-nitrogen come from the Upper Cedar, West Fork Cedar and Shell Rock River watersheds.

Improved nitrate-nitrogen management on rowcrop areas in the Cedar River watershed will reduce the amount of nitrate that makes its way to the Cedar River. The following are suggested conservation practices for farmers to improve nitrate-nitrogen management:

- Use spring or split nitrogen application to time nitrogen availability with crop growth, saving time, money and nitrogen.

- Use nitrogen application rates based on the Late-Spring Soil Nitrate Test (LSNT) and fall stalk nitrate tests.

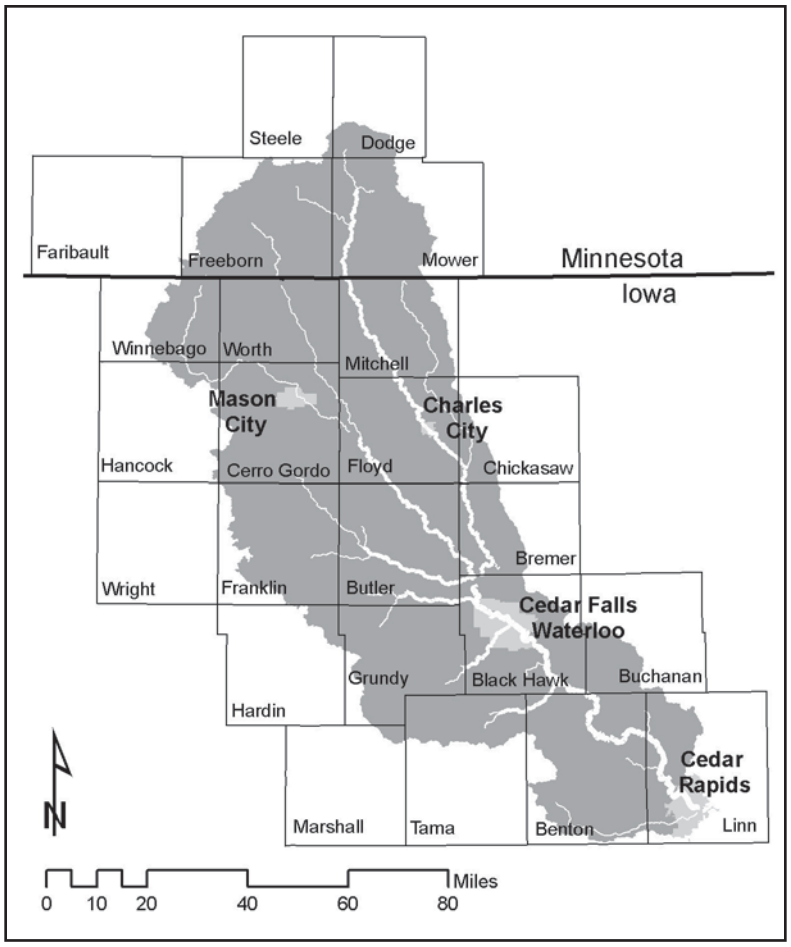
- Ensure that an appropriate nitrogen credit is subtracted from application rates for corn when rotating from a legume crop such as soybeans or alfalfa, and for application of manure.

- Establish fall cover crops to reduce the amount of nitrate subject to leaching.

- Add perennial species to crop rotation to reduce both nitrate and water losses to subsurface drainage systems and groundwater.

Besides improving how nitrogen is used on cropland, converting targeted rowcrop land to wetlands or enrolling it in the Conservation Reserve Program (CRP) could also reduce the amount of nitrate reaching the Cedar River. These and other practices should be installed at specific locations that have the largest impact on water quality. This also includes constructing nitrate removal wetlands at the outfall of large tile drainage systems.

Pollution discharged from a pipe by cities and industries, also known as a "point" source, is only a small part of the problem in the watershed. However, where there are significant discharges, the DNR may consider requiring the monitoring of nitrogen levels.



The map above shows the Cedar River watershed shaded in gray. A watershed is an area of land that drains into a body of water. In this case, all land shaded in gray drains into the Cedar River. The gray area covers about 10 percent of Iowa.