Clean Water starts with you

# Des Moines and Raccoon Rivers

**Pollutants:** *Nitrate and bacteria*
**Pollution Sources:** *Rowcrop agriculture, livestock production, wastewater treatment plants*

The Des Moines and Raccoon rivers need your help. As you'll read below, the DNR is putting together plans to identify the rivers' problems and possible solutions.

The DNR needs your help now in developing the plans and later making sure proposed solutions are put into effect. A healthier Des Moines River and Raccoon River depends on you.

## What's wrong with the rivers?

### *Bacteria*

Pollution from human and animal waste, also known as fecal matter, keeps both rivers from meeting water quality standards for recreation, like swimming and canoeing.

Untreated waste from these sources can carry disease-causing microorganisms, called pathogens, into the water. These pathogens can make people sick when they come in contact with the water. Testing for E. coli bacteria levels can indicate if there may be fecal matter and disease-causing pathogens present in the water.

### *Nitrates*

High nitrate levels at certain times of the year also keep the rivers from meeting water quality standards as a public drinking water supply in Panora and for about 300,000 people in the Des Moines area.

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

Currently, Des Moines drinking water is safe, as it is treated by a nitrate removal facility, the largest of its kind

**The Des Moines River at Prospect Park in Des Moines.**

Photo by Clay Smith, DNR

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in the world. The Des Moines Waterworks constructed the facility in 1991. It runs an average of 45 days per year, costing $3,000 to run *per day*.

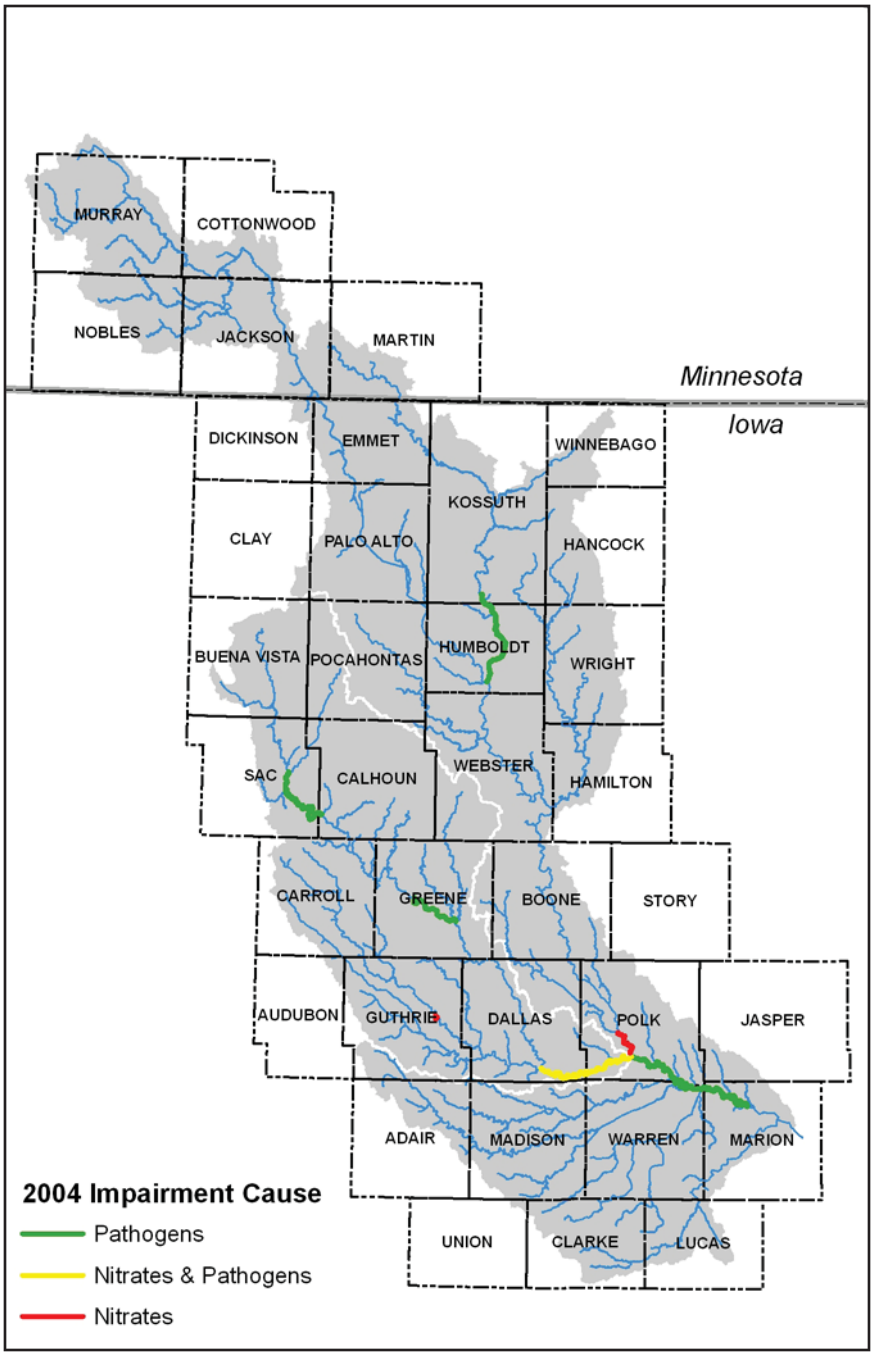
While only certain segments of these rivers are on the impaired waters list (see map below), it's necessary to improve water quality in the entire watershed to maintain clean water in the rivers along the impaired segments.

## What is causing the problem?

Bacteria in the rivers comes from both point and nonpoint sources. Pollution from point sources, like a wastewater treatment or industrial plant, are regulated and easily traced back to a specific "point." Pollution from nonpoint sources, such as runoff from farm fields or the natural landscape, are not as easily traced back to a specific point. While there are point sources in both watersheds, most pollution appears to come from nonpoint sources.

In the Des Moines and Raccoon watersheds, nonpoint sources include areas used to land-apply manure, feedlots and pastures, and improperly connected or failing septic systems. Rainwater and snowmelt can wash waste from livestock (confined and pastured), pets, and wildlife into the river.

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




**Left: The Des Moines River watershed, shaded in gray, drains 7.8 million acres of land in Iowa and Minnesota.**

**This includes the Raccoon River watershed, as the Raccoon River flows into the Des Moines River at Des Moines. A watershed is the area of land that drains to a stream or lake.**

**Impaired segments of the Des Moines River (shown in green and red on the map):**

- **From Center Street dam in Des Moines to the Interstate 80/35 bridge (nitrate)**
- **From the confluence with the Raccoon River to the upper end of Red Rock Reservoir (bacteria)**
- **The East Fork Des Moines River from south of Algona at the Devine Access area to where the river meets the West Fork Des Moines River near Humboldt (bacteria)**

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

## What can be done to improve the rivers?

The Iowa DNR is working on water quality improvement plans (also known as TMDLs, or total maximum daily loads) for both the Des Moines River and Raccoon River.

The ultimate goal is to improve water quality and remove the rivers from the state's impaired waters list. To do that, sources of human and animal waste and nitrates need to be cleaned up in the watershed.

The DNR is partnering with the U.S. Geological Survey to use modeling methods to show where pollution is coming from in the watershed and where those pollutants could be reduced the most.

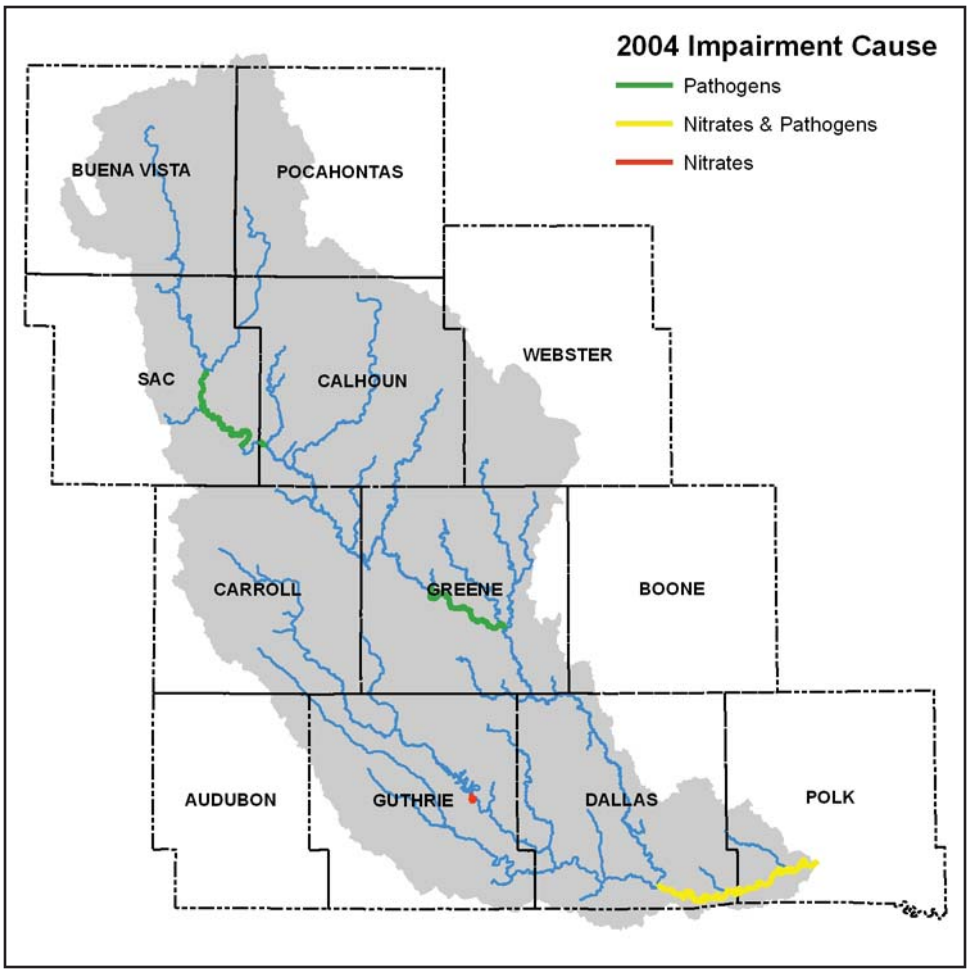
For water quality improvements to happen, local community members and landowners, in cooperation with city, county and state governments need to get involved. Participation by developers, local businesses and cities will also be extremely important in implementing improvement plans.

However, everyone's input and comments are important as we collectively work toward improving the situation in the rivers for future generations.

## What's next?

By helping the DNR create the water quality improvement plans for the Des Moines and Raccoon rivers, you're helping the DNR determine the needs for cleaning up the rivers.

When final plans are ready and it's time to put the plans into action, the DNR can offer technical and financial assistance. But a cleaner, healthier Des Moines River and Raccoon River depends on you.



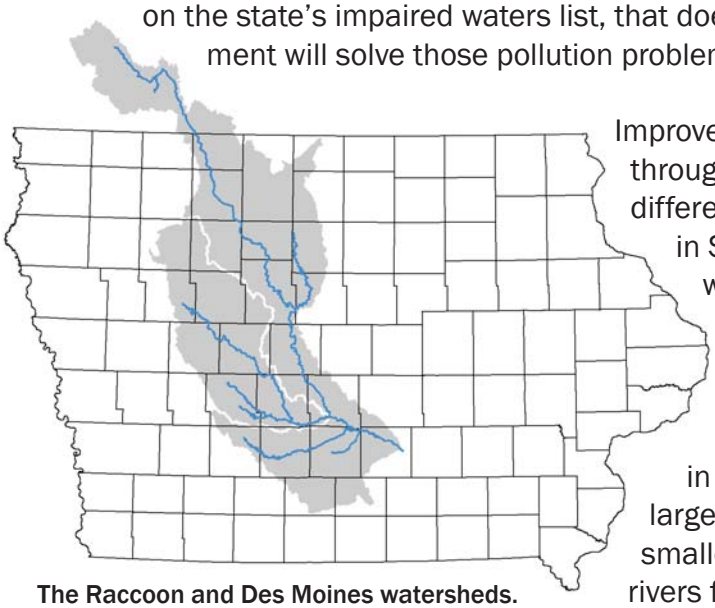

**Left: The Raccoon River watershed, shaded in gray, drains 2.3 million acres of land in western and central Iowa. A watershed is the area of land that drains to a stream or lake.**

**Impaired segments of the Raccoon River (shown in yellow, green and red on the map):**

- **Mouth of the Raccoon River to the confluence of the north and south Raccoon (nitrate and bacteria)**
- **From Indian Creek to Cedar Creek in Sac County (bacteria)**
- **From Buttrick Creek to Short Creek in Greene County (bacteria)**
- **Below the Lake Panorama Dam at the Panora drinking water intake (nitrate)**

## If the problem is in Des Moines, what can I do?

While it's true that only portions of both the Des Moines and Raccoon rivers are on the state's impaired waters list, that doesn't mean that a spot treatment will solve those pollution problems.



The Raccoon and Des Moines watersheds.

Improvements need to be made throughout the watersheds to make a difference. That means what you do in Sac County or Kossuth County will make a difference all the way downstream.

By making changes on the land, we can improve water in the streams that flow into the larger rivers. By improving those smaller streams, we can improve the rivers for all Iowans.

## About water quality improvement plans

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.

Photo by Clay Smith, DNR

The Raccoon River at the Two Rivers Area near Van Meter.

Clean Water starts with you

**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:

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

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