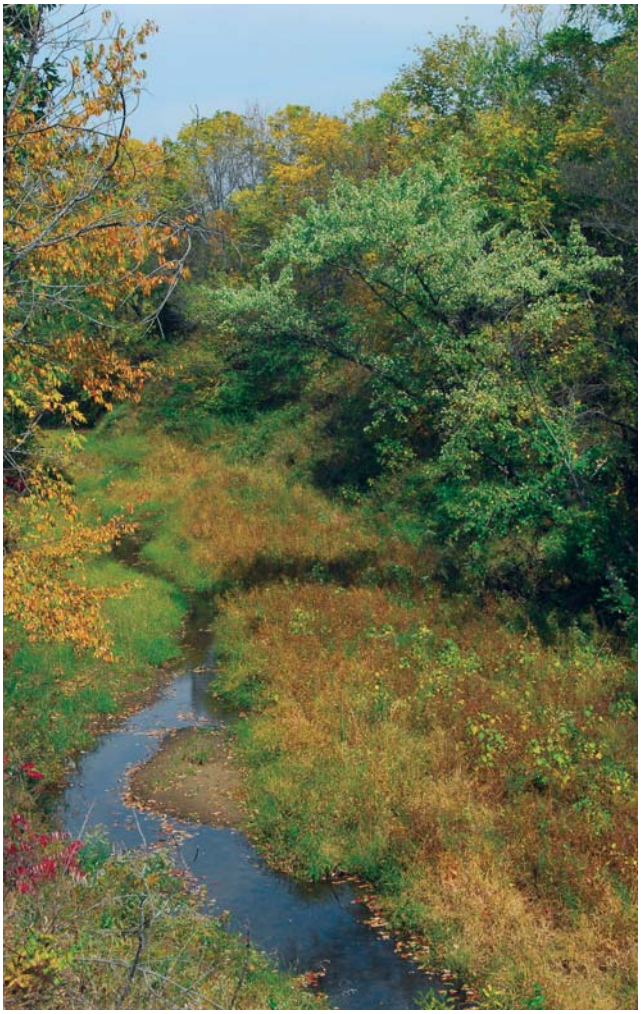
The Fox River needs *your* help

The Fox River is on Iowa's impaired waters list. By working to reduce pollution in the watershed, we can make the Fox River healthy again.

The Fox River once slowly meandered through southeast Iowa and on into Missouri. But when farmers straightened the river in the 1920s to farm the flood plain, the water sped up, eroding streambanks and flooding valuable cropland.

Over time, problems continued to mount. Since 1964, the stream channel has filled in with eight feet of sediment. Streambank erosion and flooding continue to intensify. The river showed up on Iowa's 2004 impaired waters list when it wasn't able to fully support aquatic life, as it's designated to do. High levels of pollutants like ammonia and nitrogen in the river make it hard for fish and other aquatic life to thrive. Excess sediment and phosphorus are also problems.



Today, farmers, landowners and community members have come together to help their river. The Fox River Watershed Project works to reduce pollutants, like ammonia and excess sediment and nutrients. Ammonia and nutrients come from manure runoff from feedlots and pastures, and improper manure application. Livestock with access to streams trample streambanks, causing erosion, and leave manure in the stream. Livestock have full access to the river or its tributaries at 74 sites in the watershed (the area of land that drains to the Fox River). Excess sediment also comes from overgrazed pastures, gullies and highly erodible land.

Conservation practices can help reduce pollution reaching the river. These practices can restrict livestock access to streams, improve pasture management, filter feedlot runoff, improve manure application and handling, and reduce excess sediment. The project has identified three priority areas in the watershed. Work in these areas could reduce sediment reaching the river by 60 percent or more. The project plans to reduce nutrients like phosphorus and nitrogen by reducing runoff and sediment reaching the stream and improving manure application.

The Fox River Watershed Project offers special financial assistance opportunities to install conservation practices. Ted Daugherty, watershed coordinator, can help you determine the best practices for your land. For more information, contact Ted Daugherty at (319) 293-3523 or Teddy.Daugherty@ia.nacdnet.net.

By reducing the amount of pollutants reaching the river, aquatic life in the river will improve. When the river can fully support fish and other aquatic life again, it may be able to come off the state's impaired waters list. But a cleaner and healthier Fox River is up to you. Please turn the page to learn what you can do to help.

Inside: What you can do to help

Solutions for a cleaner Fox River

Grade stabilization structures

Grade stabilization structures are usually dams, embankments or other structures that reduce water flow. The structures are built across a grassed waterway or gully to slow water and can be used as alternative water sources for livestock.

Water and sediment control basins

These basins work similarly to terraces, but these basins work where terraces might not. Water and sediment control basins are embankments, located in areas with concentrated runoff. The basins trap runoff water and sediment before they can reach a stream.

Photo by NRCS

Pasture improvement

These practices reduce pollutants from livestock access to streams. Rotational grazing and fencing livestock out of streams limit cattle access to a stream, allowing the streambanks to heal, and reduces erosion. Rotational grazing increases a pasture's carrying capacity and economic viability, and reduces overgrazing and brush infestation. Buffer areas along the stream filter runoff water and provide wildlife habitat.

Photo by NRCS

Terraces and diversions

Terraces are embankments built around a hillside, usually on the contour. Terraces either slow runoff and guide it to the bottom of the hill, or collect runoff until it can be dewatered by field tile. Diversions are similar to terraces and are often used to move water away from feedlots, where runoff could carry manure into streams.

Warm season grasses

Filters for tile outlets and diversion spillways made from warm season grasses help filter runoff before it reaches the river. These plantings also reduce erosion and increase wildlife habitat.

Photo by NRCS

Feedlot runoff controls

These controls help catch and filter runoff from feedlots and pastures. Diversions guide water into filter strips, while water and sediment control basins trap runoff water before it can reach a stream. Sediment basins separate solid manure from runoff as it flows from a feedlot.

What's been done already:

Your neighbors have already begun using conservation practices to improve their farming operations and the river. With the watershed project, you have access to financial assistance to help you install conservation practices.

Now is a great time to add to what's already been done:

- Treated 6,985 acres with grade stabilization structures, which reduced sediment reaching the river by five tons per acre per year.
- Treated 1,404 acres with water sediment control basins, which reduced sediment reaching the river by 7,020 tons per year.
- Established 1,312 acres of prescribed grazing.
- Reduced sediment delivery from overgrazed and degraded pastures by 2.3 tons per acre annually.

The Missouri portion of the Fox River watershed also has a current watershed project addressing sediment, animal waste and atrazine, a corn herbicide.

The Fox River and the impaired waters list

The Fox River is on the state's impaired waters list because aquatic life in the stream, like fish, does not meet expectations compared to other streams in southern Iowa.

The low number of fish and aquatic insects suggests a problem with water quality or habitat.

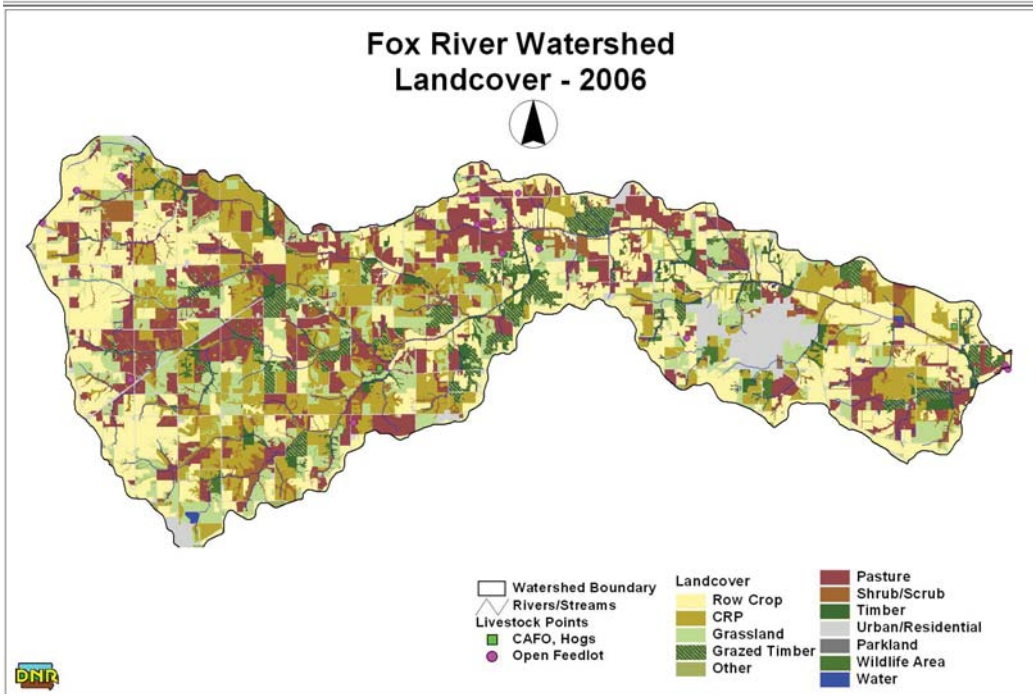
A 2002 assessment of the river collected 803 fish over 847 feet of stream. The diversity of fish was poor – there were no species of fish that eat only aquatic insects, for example. The number of aquatic insects was low. Excessive sediment in the river made for poor aquatic habitat. The river's fish assessment score was just 22 out of 100, which is considered "poor."

A 2005 fish assessment at another Fox River site only scored an 18 because the collected sample, which found few fish, was dominated by pollutant-tolerant fish.

Water quality monitoring in the river in 1998 and 1999 showed poor water quality. A number of samples had high levels of ammonia, which can be toxic to fish and other aquatic life. Livestock waste can have high levels of ammonia.

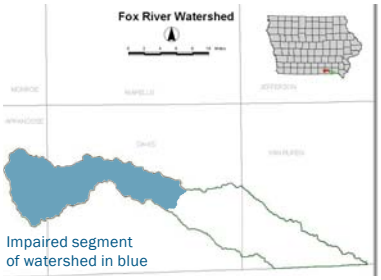
By reducing the amount of pollutants that reach the Fox River, we can improve water quality and create a better habitat for aquatic life.

With better water and habitat, the fish population will grow and become more diverse, and fish assessment scores should rise. When the Fox River is again assessed as fully supporting aquatic life, it can come off the impaired waters list.



The Fox River watershed is the area of land that drains into the river. During a rainfall, water travels over the surface or seeps into the ground. Water traveling over the surface may pick up sediment, chemicals and waste and deposit them in the river.

The Fox River watershed covers 280,494 acres of land in Appanoose, Davis and Van Buren counties in Iowa and Missouri (see map below).



Landowners work to improve farms, Fox River

Paul Wells

Conservation farming is an old family tradition for Paul Wells.

Wells has farmed this land for 45 years, land farmed by his parents before him. His father began farming on the contour back in the 1940s and started adding ponds in the 1950s and '60s. Wells has added numerous practices to the farm, including grassed waterways, tile-outlet terraces, sediment control basins and manure storage structures.

Paul Wells

"I have a strong belief that this is just how you farm," Wells said of conservation practices. "We don't own anything – we're just here on this earth for a short while and you do the best you can to pass it on."

Wells has started farming his row crops organically and will convert his dairy operation to organic soon. The row crops go through a six-year rotation of beans, corn, oats, wheat and alfalfa. Wells said this rotation will help reduce erosion and build up the soil, in addition to the other existing conservation practices.

"Conservation has a lot of benefits. It stops erosion on your own farm, but it also benefits all the people in the watershed," Wells said. "The more water we can retain on the land, the better chance we have of not silting in the river and of reducing flooding."

In addition, a clean water source will encourage people to come to the area for hunting, fishing and other tourism, Wells said.

Wells is also a part of the Fox River Watershed Project's Farmer Advisory Committee, which is a group of farmers that help select prospective sites for conservation practices. Meetings are open to the public – contact Ted Daugherty at (319) 293-3523 for more information.

Ira Hartwick

The fencing is rolling out at Ira Hartwick's farm. Next season, Hartwick will start rotating his cattle into a different 37-acre pasture every six days.

The cattle shouldn't go thirsty – they'll be fenced out of streams, but there's already 22 ponds and a grade stabilization structure for the cows and calves to get a drink.

Those same ponds slow down water and catch sediment before it reaches the Fox River.

Ira Hartwick

The water caught by the ponds has helped water the cattle during drought and also helps keep creeks and the river from flooding, he said.

Hartwick has also planted many buffer strips, which help filter runoff, keep cattle out of the stream and provide a habitat for wildlife, like turkey.

"The government has been awful good about helping put those practices in," Hartwick said. "It makes the place worth a lot more and it benefits everything."

Make it possible with funding assistance

By using farming conservation practices, you can help reduce the amount of sediment, nutrients and bacteria reaching the Fox River.

Implementing those practices is feasible with the help of cost-share, low-interest loan and other programs. With the Fox River Watershed Project, you have a special opportunity to secure funding for conservation practices.

The Fox River watershed coordinator, Ted Daugherty, can help you with choosing and installing the best practices for your land and the river.

For more information on these programs, contact watershed coordinator Ted Daugherty at (319) 293-3523 or at Teddy.Daugherty@ia.nacdnet.net.

For more information: Ted Daugherty, Fox River Watershed coordinator, (319) 293-3523

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Project partners: Iowa DNR; Iowa Department of Agriculture and Land Stewardship - Division of Soil Conservation; Natural Resources Conservation Service; Appanoose, Davis and Van Buren Soil and Water Conservation Districts; Fox River Ecosystem Development Board.

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