Elk Creek Watershed Project

"The Gospel is in the Water"

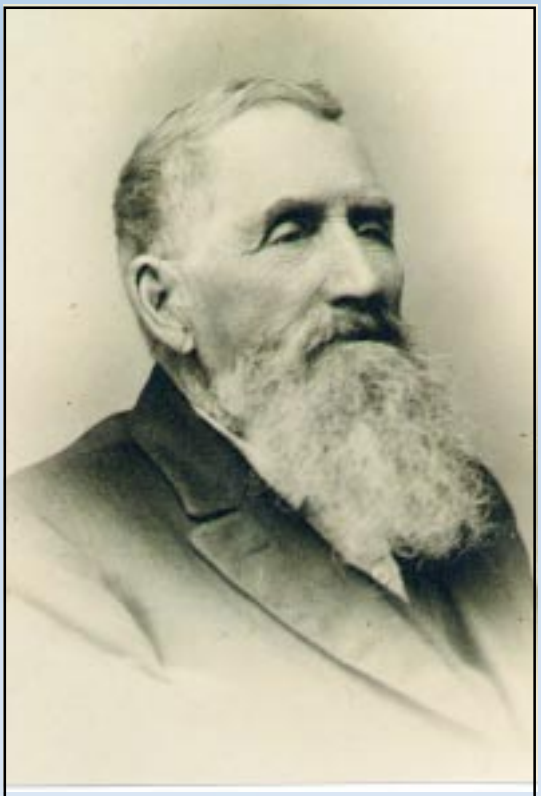
Early settler finds 'the Gospel in the water' of Elk Creek

Job Odell's first visit to northern Delaware County left a lasting impression. The writings from his diary more than 150 years ago bear witness to his admiration for the virgin Iowa landscape he found north of Manchester.

"From Dubuque, we traveled about 14 miles through a rough, mountainous country," Odell wrote of his first visit to Delaware County during an expedition throughout eastern Iowa in 1849.

"We then passed through about 12 miles of a good soil, three or four miles of which was good timber such as we never met with in any country. … A short distance before we came to the settlement (Colesburg) we came in heavy timber. This colony is a settlement of Pennsylvanians in the north part of Delaware County and some of the most splendid situations I ever saw," Odell wrote.

Odell returned to his home in Michigan, but didn't forget what he had seen in Elk Township Delaware County, Iowa. Two years later, after his father had passed away, he his wife and their three children loaded and ox-drawn wagon and joined the westward migration of pioneers, a journey taking him to a place that had been so clearly etched in his memory from his previous expedition.



An excerpt from a poem written in 1856 by early Elk Creek settler Job Odell

"Here's the Gospel in the Water"

All ye sons of Adam's race
Come and share this watery grace
Water gives the soul promotion
Water is the healing lotion
Water purifies the nation
Water is regeneration
Every mother's son and daughter
Here's the Gospel in the water

The destination of Odell's quest was a bubbling spring he remembered from his first trip. There, he purchased 160 acres and constructed a mill on the site in 1855. There, Iowa commodities were faithfully ground into meal until 1925 when flood washed away the dam.

Remnants of Odell's early enterprise can still be spotted today in the limestone ruins of the old mill near Fountain spring; in the old flint rock that crossed the ocean from France, steamboated up the Mississippi and was transported by ox cart from Dubuque. It now rests against the side of Alvin Tibbott's barn who owns the land where Odell built his mill.

But the undeniable link early pioneers had with Iowa's water and soil are much more vivid in the words rather than the ruins left behind by Odell. With his mill in operation, Odell, a deeply religious man, composed a poem in 1856 entitled "Here's the Gospel in the Water" describing his enchantment and reverence for the resource he stumbled upon as an explorer and settled upon as a businessman and father.

Elk Creek Watershed Project will work with landowners

A lot has changed in the last 150 years, but some of the lessons and reverence for the resources found by Job Odell are remembered. As he walks the land first settled by Odell, Alvin Tibbott will point to parts of the farm, recalling its rich history.

"Right over there," says Tibbott pointing to a spring, "is where they kept the cream."

Many of the same streams so vital to the life for Iowa's early pioneers need our help today.

Sediment, nutrient enrichment and pesticide contamination are affecting water quality in Elk Creek and its tributaries. We have learned that the beautiful and fertile land within the watershed is also very fragile as is the water that it drains. Nearly 60 percent of the land in the watershed is considered highly erodible. Pasture areas have heavy use and soil losses in the range of three to six tons per acre a year are common. Streambank erosion is also present and are, in some cases, major contributors of sediment in the streams because of the steepness of the terrain and fast runoff.

Alvin and Sarah Tibbott at the site of the mill built by Job Odell (above). Alvin Tibbott salvaged the original grist wheel imported

The good news is that we have the knowledge and expertise to address many of these problems. The Elk Creek Area Watershed Project started in 1998 as a concentrated effort to improve water quality. The primary goal of this project is to provide landowners with the resources needed to implement best management practices that will improve water quality in a way that maintains — and in some cases, even improves — profitability for farm operations in the watershed.

"I have seen the interest in conservation by farmers change in the last 50 years," said Arnold Lueken, a Delaware County Soil and Water District commissioner who has farmed near Colesburg himself for the last five decades.

"Farmers realize there are more regulations coming and the new producers are more interested in conservation methods if it can be cost justified. For some of them, it's a whole new concept to think of their operations in terms of being part of a watershed, but it's something we need to do.

"We only have one earth to live in and we need to start protecting our resources if we are going to be able to feed everyone," Lueken said.

Best Management Practices on la

The tools we use to improve the quality of water in our streams and lakes are often refered to as best management practices or BMPs. BMPs are management practices (such as nutrient management) or structural practices (such as terraces) designed to reduce the quantities of pollutants - such as sediment, nitrogen, phosphorus, and animal wastes - that are washed by rain and snow melt from land into nearby receiving waters, such as lakes, creeks, streams, rivers and ground water.

Below are some of the BMPs that will be implemented by the Elk Creek Area Watershed Project.

Fountain
mill

Apply upland treatment to reduce sediment delivery to the stream. Upland treatment includes practices such as contouring, contour strip cropping, terraces, conservation tillage (no-till pictured at left), grassed waterways, grade stabilization structures (pictured above) and water and sediment control basins.

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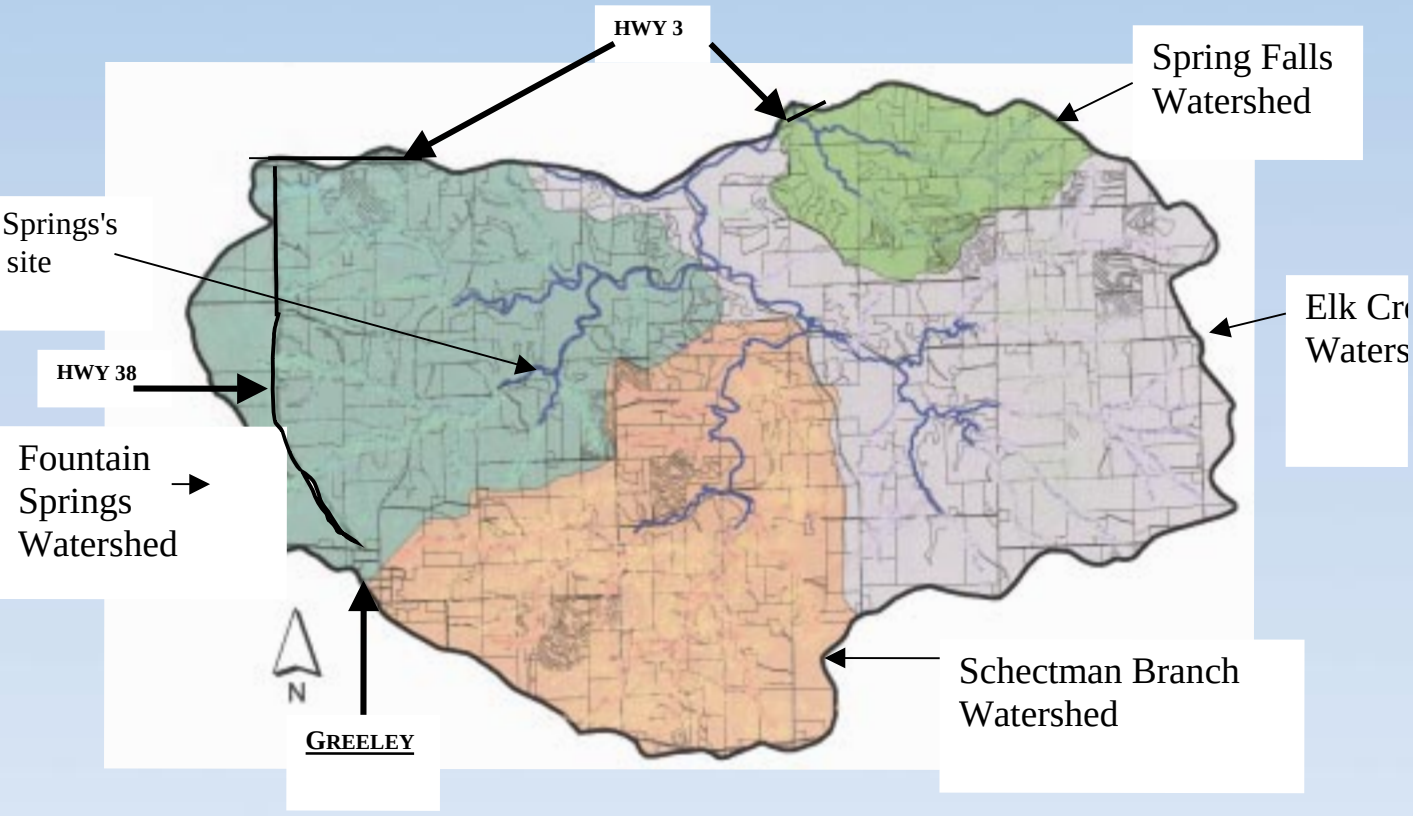
Rotational grazing techniques like those used by George Bockenstedt (left) reduce sediment delivery and improve water quality in nearby Elk Creek. Bio-engineering practices and rip-rap will be used to stabilize streambank erosion problems (right).

...and for better water in the streams



Creek Area Watershed Project
g on four separate
sheds (above right).

Implement a Nutrient and Pest Management Program with emphasis on economic benefits using the consulting services of area ag businesses and crop consultants (above). Information and education will be done through news releases, tours (right), group meetings, news letters, news media programs and demonstrations.

Sustainabile Agriculture: Linking Farming to Fishing

The Elk Creek Watershed is an important place to people like Bill Adams and Gary Kruse, but for vastly different reasons.

For Adams and other producers, the watershed is the place where he has to make a living. For Kruse and other trout anglers, the Elk Creek area is a quiet refuge in which to periodically retreat from the hassles of the work world.

Conservation practices like no-till by Gretchen and Bill Adams (above) not only protects the natural resources of their land, but also provides tremendous water quality benefits to people like Gary Kruse (right).

When Adams rattles off farming techniques he uses in his operation, it sounds like a page ripped directly from a manual on best management practices: no-till farming, terraces, pasture farrowing of pigs, stripcropping, grass waterways and nutrient pest management.

People like Kruse are quick to realize the benefits they reap as fly fishermen from conscientious producers like Adams.

"When farmers are doing the right kinds of things, you can see it in the stream. The water quality and the habitat is improved. You see more insects and flies in the water and that's what you need to sustain wild trout.

"When you are on the stream, you can really notice how much things like having buffer strips can improve water clarity, " said Kruse of Dubuque who is past president of the Hawkeye Fly Fishing Association..

But improving water quality isn't really the motivation behind Adams' farming practices.

"I guess the fishermen may appreciate it," says Adams of how the various practices improve water quality in streams below his farm, "but I'm much more interested in protecting the natural resources of my farm. This is my investment and I'm running a business. I've definitely realized savings in production costs from what I'm doing and I want to protect what I've got because I have to make a living off this land," Adams said.

And Kruse is quick to point out that the recreation provided by high quality streams has an economic benefit to the surround area as well.

"People come here to fish from all over – places like Chicago and Wisconsin. There are many people looking for good places to trout fish and they spend some money when they come," Kruse said.

Streams Still Represent Additional Fishing Potential

In July of 1996, Fountain Springs surrendered the state record brook trout, tipping the scales at 7 pounds and stretching the measuring tape over 19 inches.

And still, DNR fisheries biologists use words like "potential" in describing the 7.1 miles of fishable streams within the Elk Creek watershed.

Portions of Elk Creek and its major tributaries, Fountain Springs, Schechtman Branch and Spring Falls are coldwater streams supporting wild trout populations. Natural reproduction of brown trout has been documented in Fountain Springs and Spring Falls, but such events occur only sporadically and neither is capable of maintaining a viable population of its own.

"Improvements in water quality could change that," said Bryan Hayes, a fisheries management biologist for the DNR.

As is the case in many of Iowa's trout streams, excess sediment entering the stream does the most damage to water quality, according to Hayes.

"Sediment imbeds gravel and cobble substrates reducing invertebrate populations and smothers natural reproduction in a stream. Increased fertility caused by agricultural runoff and animal waste entering the stream result in overproduction of algae that can deplete oxygen supplies and negatively impact fish populations, " said Hayes.

Hayes said best management practices applied to the land in the Elk Creek watershed aimed at reducing sediment and nutrient delivery will result in improvement to the water quality that people can see.

Agencies and Organizations Involved:

Lead Agency:

❁ Delaware Soil and Water Conservation District ❁
with the cooperation of the
Iowa Department of Agriculture and Land Stewardship,
Division of Soil Conservation

Funding sources:

- **US Environmental Protection Agency/Section 319 funds**
- **Iowa Department of Natural Resources/ Section 319 funds**
- **Iowa Department of Agriculture and Land Stewardship/Water Protection Funds**

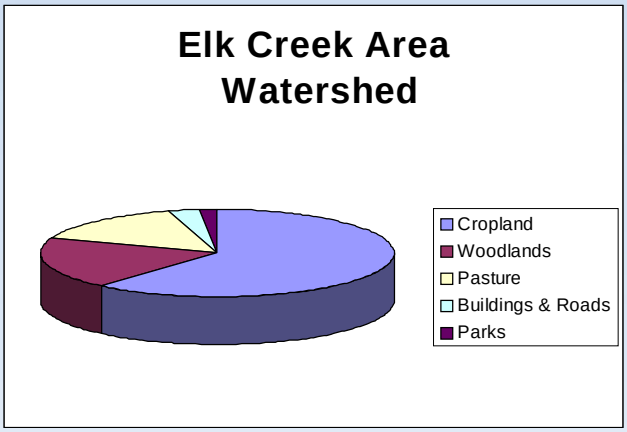
Partners:

- **Landowners/operators**
- **USDA—Natural Resources Conservation Service**
- **Iowa State University Extension Service**
- **Iowa Department of Natural Resources- Fisheries and Wildlife Division**
- **USDA Farm Service Agency**
- **Hawkeye Fly Fishing Association**

Project Will Benefit Four Trout Streams

The 17,660-acre Elk Creek Water shed is actually comprised of four smaller sub-watersheds with coldwater streams — Fountain Springs, Schechtman Branch, Spring Falls and the upper part of Elk Creek. Fountain Springs is one of just 25 streams in Iowa that has been designated as a "high priority" coldwater stream that supports natural reproduction of brown trout.

The water quality assessment completed by DNR found that the streams in the project area are only partially supporting their designated use. Siltation is the major cause of impairment with a rating of "high" in this category. Nutrients are listed as having a medium impact while pesticide pollution is rated as slight. Agriculture is listed as high for the source of pollution with sediment adversely affecting the number of trout that can be sustained in the streams as well as natural reproduction.



Most of the best management practices promoted through the project will help landowners in the watershed as much as the water quality of the streams, according to Mike Freiburger, the coordinator for the project.

"Many producers are willing to make changes in their operations that will result in improved water quality as long as they can financially justify the practices. This project is an excellent opportunity for everyone in the watershed to learn how both the water and the land can be improved in a cost-effective manner," Freiburger said.

Elk Creek Watershed Project Coordinator Mike Frieberger and Delaware County Soil and Water District Commissioner Arnold Lueken look over a stretch of Elk Creek (above).

What Has Already Been Accomplished So Far

- Streambank stabilization - 1,100 feet
- Nutrient &pest management - 2,000 acres
- Pasture management - 760 acres
- Grade stabilization structures - 4
- Grassed waterways - 8 acres
- Notill acres-500 acres
- Terraces - 2,000 feet
- Livestock exclusion -131acres
- Tree planting - 4 acres
- Timber stand improvements - 43 acres

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