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 Real Producers, Real Stories
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Indiana Water Quality Practices For Your Farm And The Future

Learn about all
 the ways Indiana NRCS offers
 technical and financial
 assistance



Producer-Focused Solutions For Every Operation



USDA-NRCS is proud of its service to our landowners. As a non-regulatory agency focused on conservation, we always have the best interest of farmers, ranchers, forestland owners and their most prized assets – their land – at the center of everything we

do. Here's how:

- ▶ We're a free service: Imagine having a soil scientist, wildlife biologist, water specialist and energy consultant on staff with no cost. Turns out you do!
- ▶ We're completely voluntary: Even after you work with our team to develop an improvement plan for your property, it's your choice to implement the recommendations.
- ▶ We provide full-service support: If you decide to move forward with aspects of your conservation plan, we'll help you every step of the way, from paperwork to technical guidance on implementation.

This farmer-focused approach allows us to customize plans and priorities based on the needs of each individual operation. No two farms are the same, and no two producers are the same, either but we have the inside track on how to meet the needs of every producer.

This publication highlights how NRCS has helped landowners manage water resources to advance their operations and missions. We hope you'll join their ranks by taking the first step and contacting your local service center.

Sincerely,

Jerry Raynor
Indiana State Conservationist

Water Management To Reduce Runoff In Critical Watershed

Two-stage ditch and water management system provide ability to control nutrient runoff

Since he started farming in the late 1970s, Michael G. Werling has worked with the USDA Natural Resources Conservation Service (NRCS) to implement almost every conservation practice applicable to his land. He no-tills his fields and plants cover crops between cash crop seasons. He's installed a two-stage ditch and filter strips to help manage nutrient runoff. He has also enrolled some of his land into the USDA Farm Service Agency's Conservation Reserve Program

(CRP), installing grass waterways and planting pollinator habitats throughout his operation.

At first the decision to implement the practices was purely practical. He had some erosion issues on his land and wanted to preserve his soil. But as the years have passed and pollution levels rose in the watershed around him, he developed a sense of duty to protect the environment around his farm.

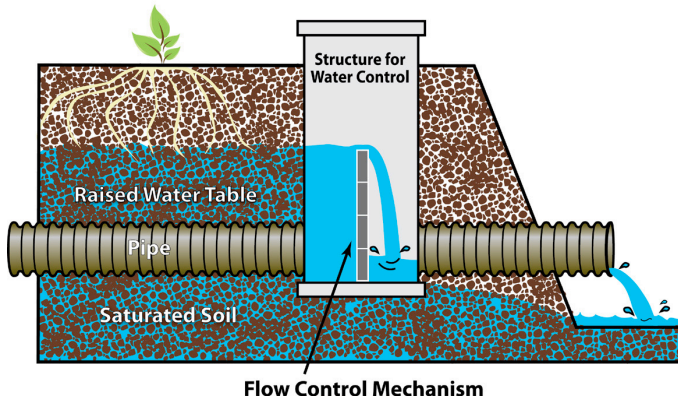
That desire led him to work with his district conservationist and an NRCS engineer to install two drainage water management structures on a 36-acre parcel that is part of his farm. Although the structures have been shown to have the potential to offer some yield benefits, when asked why he pursued installing them, Werling says, "It's the right thing to do. Do I have to say more than that? It's the right thing. So, I do it."

Werling's farm is part of the St. Mary's River watershed near Decatur, Indiana, in Adams County. The river joins with the St. Joe River to



"I probably wouldn't have done it without cost share, because it was a little expensive to lay all those tile connections," Werling said. **"It probably wouldn't have happened without it."**

NRCS Conservation Solutions...
Drainage Water Management



form the Maumee River, which eventually drains into Lake Erie. As water flows from Werling's farm and others in the watershed, it has the potential to carry runoff nutrients and sediment to nearby water bodies. The excess nitrogen and phosphorous can end up in the lake polluting it and causing harmful algae blooms and other disturbances.

So as Werling had done before, he contacted the NRCS to inquire about installing a drainage water management structure on his land. The structure enables him to trap water in his fields instead of allowing it to drain freely through the tiles and into the watershed. As the water sits there in the fields, excess nitrogen is displaced making the eventual outflow of water less harmful to the water system it will join.

"The idea is let's plug that tile and keep the water in the ground and upstream," said Andrew Pursifull, the NRCS area engineer for Indiana's northeast area, who worked with Werling to install the structures. "And at that point the water

denitrifies. It either goes into deep percolation and gets filtered out or a lot of that nitrogen denitrifies right to the atmosphere ... If you reduce the tile flow 50%, then we basically reduce the nitrogen load 50% going into the stream where the tiles outlet."

Because of the water quality benefits of the drainage water management structures, and the

location of his farm, Werling was able to qualify for funding through the Great Lakes Restoration Initiative (GLRI) in order to install the two structures on his land. GLRI is a subset of the Environmental Quality Incentives Program (EQIP) and provides financial and technical assistance to private landowners whose land drains into priority watersheds having a negative impact on the water quality in the Great Lakes. Through the St. Mary's River, Werling's farm drains into the Western Lake Erie Basin, which has been targeted for improvement by GLRI.

"I probably wouldn't have done it without cost share, because it was a little expensive to lay all those tile connections," Werling said. "It probably wouldn't have happened without it."



Visit NRCS to learn more about drainage water management structures and eligibility for GLRI programs

NRCS Financial Assistance Programs

Financial and technical assistance programs are voluntary mechanisms that enable USDA-NRCS to incentivize conservation. Every operation is different, and the best way to understand the programs that are right for you is through a consultation with your local USDA-NRCS Service Center. Historically underserved farmers, socially disadvantaged, beginning, limited-resource producers, military veterans and tribal producers all receive priority consideration and, in many cases, additional financial support through these programs.



The Environmental Quality Incentives Program (EQIP) provides financial and technical assistance to agricultural producers to address natural resource concerns and deliver environmental benefits. EQIP can help producers address concerns related to water quality and quantity.

[LEARN MORE](#)



The Conservation Stewardship Program (CSP) helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns related to water quality and quantity including erosion, nutrient runoff and livestock's access to clean water. Participants earn CSP payments for conservation performance—the higher the performance, the higher the payment.

[LEARN MORE](#)



The Agricultural Conservation Easement Program's Wetland Reserve Easement component (ACEP-WRE) NRCS provides technical and financial assistance directly to private landowners and Indian tribes to restore, protect, and enhance wetlands through the purchase of a wetland reserve easement. Wetland Reserve Easements provide habitat for fish and wildlife, improve water quality, reduce flooding, recharge groundwater, protect biological diversity, provide resilience to climate change and provide opportunities for educational, scientific and limited recreational activities.

[LEARN MORE](#)



The Conservation Technical Assistance (CTA) program provides voluntary conservation technical assistance to landowners, communities, tribes, units of state and local government, and other Federal agencies in planning and implementing conservation systems. It helps people voluntarily conserve, improve and sustain natural resources.

[LEARN MORE](#)





Conservation Plan Provides the Foundation For Multi-Year Enhancements

Fencing, watering facilities, rotational grazing plan and other improvements drive animal and soil health

By **Brandon O'Connor**, Indiana NRCS Public Affairs Specialist

It takes almost no effort. As Jerry Bates swings open the gate in the fence, the cows do the rest of the work without any prodding, leaving behind their watering facility and the field they'd been grazing for the last few days and heading toward a fresh field of grass.

Bates has 30 head of beef cattle, plus about 20 calves born this

year, divided between two farms, but the largest portion of the herd lives on a 209-acre property in Cloverdale, Indiana where he is working this morning. As he swings open the gate that subdivides grazing areas, a mix of heifers, calves and a single bull file through in a bunched line before scattering across the few-acre field to begin grazing.

Bates has owned the plot of land, which is evenly divided between forest and grassland, since 2010, but it has been in his family his grandfather bought it in 1924. Bates' grandfather originally had a pig farm on the land, but he began raising cattle instead in the mid-1900s. The size of the herd has fluctuated over the years, but cattle have had a constant

presence on the farm ever since.

Bates visited the farm frequently while growing up and made the permanent move to Cloverdale in 1997 along with his wife to begin building a family and their own cattle herd.

They started building a house and Bates did work for his uncle in return for six heifers. He also began marketing his uncle's

“ The herd was down to 18 at the time, but in the decade since Bates, his wife and their two sons, Abel and Ray, have worked to grow it to the 30 head of cattle divided between the 209 acres property and an 80-acre plot when Bates and his family live.



calves as they slowly built Bates Family Farm from scratch. He eventually took over operation of his uncle's herd and bought the entire operation in 2010 from his aunt following his uncle's passing in 2008.

The herd was down to 18 at the time, but in the decade since Bates, his wife and their two sons, Abel and Ray, have worked to grow it to the 30 head of cattle divided between the 209 acres property and an 80-acre plot when Bates and his family live. Along with the need to rebuild the herd, Bates was faced with a myriad of challenges in the actual operation of the cattle farm.

Bates' uncle had enrolled 60 of the 209 acres into a 100-year grassland easement which

provided ample grazing area, but the cattle had limited access to water and no fencing to control where they roamed and grazed.

Each day, they would have to make their way from the farthest fields almost back to barn, about a 20-minute walk for Bates, to drink from the creek which was their only water source. This created cesspools in shaded areas where they would congregate, polluted the creek with their waste as they stood there and drank, and prevented grass in high traffic areas to ever rest and regenerate.

That began to change in 2018 thanks to a call from the district conservationist working for USDA's Natural Resources Conservation Service (NRCS) in his county. The grassland



NRCS Landscape Initiatives

The National Water Quality Initiative (NWQI) enables NRCS to provide targeted funding for financial and technical assistance in small watersheds most in need and where farmers can use conservation practices to make a difference. Conservation systems include practices that promote soil health, reduce erosion and lessen nutrient runoff, such as filter strips, cover crops, reduced tillage and manure management.

The Great Lakes Restoration Initiative (GLRI) funding is added to the regular funding NRCS receives each year for its Farm Bill conservation programs in order to accelerate Great Lakes protection and restoration. This assistance helps them plan and implement a variety of conservation practices, such as planting cover crops, adopting no-till, removing invasive plants and restoring wetlands.

The Western Lake Erie Basin Initiative (WLEB) provided technical and financial assistance to farmers to implement conservation practices in a comprehensive effort to improve water quality, soil health and sustain the region's economic viability. Numerous Farm Bill programs as well as other Federal, State, local and nonprofit programs are available to assist basin landowners to adopt these conservation practices.

The Mississippi River Basin Healthy Watershed Initiative (MRBI) uses several Farm Bill programs, including the Environmental Quality Incentives Program (EQIP) and the Agricultural Conservation Easement Program (ACEP), to help landowners sustain America's natural resources through voluntary conservation. The initiative has helped increase the adoption of critical water quality conservation practices, such as cover crops, no-till, residue management, grassed waterways and nutrient management.



To see if you farm qualifies for an NRCS Landscape Initiative

ease his grandfather had enrolled a portion of his property in required periodic check-ins, so when the district conservationist called and asked how the easement was going, Bates took the opportunity to explain his issues.

“So (the district conservationist) called me up and said how’s it going with your grassland reserve,” Bates recalled. “I said pretty good, but you know, it’s just not working out that great because the cattle are eating the grass and are going down the creek and (releasing waste) and it’s all going down to the Lieber (State Recreation Area). If you go swim at Lieber, you see moss going over it because it’s got too much nitrogen from runoff. This goes right there, so I know I’m one of the culprits.”

From that initial phone

conversation, Bates started a multi-year process with NRCS that transformed his property for good. They started by developing a conservation plan that included the installation of fences to keep the cows from entering the creek and to subdivide his pastures, which allows for rotational grazing.

They also designed an alternative system to provide water for the cattle including a watering facility at the barn and three tire tank watering facilities throughout the grazing pastures. With the fences and watering facilities paired together, the cows now have access to fresh clean water without traveling long distances to the creek and Bates can control where they are grazing. By rotating the cows from field to field, the grass now has time to rest and regenerate



without ever being completely decimated by grazing animals. Ideally, Bates said, they will only return to each field every 45 days after the grass has had time to fully regrow.

After working with his district conservationist to design a conservation plan, Bates applied for and received funding through NRCS’ Environmental Quality Incentives Program (EQIP) which provides funding to farmers to address resources concerns related to water quality and soil health. In Bates’ case, EQIP helped cover a large portion of the cost as he installed 3,000 feet of fencing, 7,000 feet of water line and four watering facilities. EQIP also helped cover the cost of installing a heavy use area protection (HUAP) pad outside of his barn where he can bed the cows during the winter without

having to worry about nutrient and pathogen loss from manure into the surface and ground water.

Bates said he has seen an immediate impact not just on his land, but also on the health of the cows in the four years since the fences, water facilities and HUAP were installed. The cows now have better food sources because the grass is regenerating, access to clean water and they aren’t spending entire days wallowing in cesspools they’ve created. Keeping the cows in the field and out of the creek also enables them to better fertilize the fields with their waste, creating a cyclical system where they are helping to regenerate their future food supply.

“It’s been quite a transition,” said Thomas Perkins, the current district conservation for Owen County. “I definitely see places where they were in the creek.

“Keeping the cows in the field and out of the creek also enables them to better fertilize the fields with their waste, creating a cyclical system where they are helping to regenerate their future food supply.”

HOW TO GET STARTED WITH NRCS

Planning: Visit your local field office to discuss your goals, and work with staff on a conservation plan. The recommendations are completely voluntary, and they could unlock your operation’s growth potential while providing the technical expertise and financial support to achieve your growth plan.

Application: Your district conservationist or program manager will help you determine which programs are right for your operation and help you to complete the necessary paperwork.

Eligibility: NRCS has insights on eligibility and will be able to verify you as a producer or the practice change that you are trying to achieve.

Ranking: NRCS ranks applicants according to local resource concerns and eligibility requirements.

Implementation: NRCS will help navigate the contracting process and provide ongoing technical support and tools to help you achieve the grant parameters.



SEE THE NRCS SERVICE CENTER LOCATOR TO TAKE THE FIRST STEP!



When we were working on the pipeline we went down there and it was kind of a mess. Now, it's a night and day difference where we looked at today."

It is a transition Bates said would not have been possible without the technical and financial assistance provided by NRCS through EQIP. Although he did much of the work himself, NRCS experts designed the entire system including plans on how to build the watering facilities, laying the water line and how to rotationally graze the cattle throughout the fields.

"(The technical assistance) was great for the water systems," Bates said. "I knew zero about it and they had really great plans. The tire tanks, I'd never even heard of them. Putting them in, (the NRCS) had detailed drawings on how to plumb them in there and a list of sources on where to get things.

He also recently signed up for a second



EQIP contract to address resource concerns on the 80-acre farm where he and the rest of the herd live. Over the next few years, the new contract will help him install a pumping plant and watering facilities on that property, as well as address resource concerns in a swampy bottom the cows currently use as a drinking water source.

"It's been a great program for incentivizing you to really create a better environment for your cattle, and one that's going to last for a while," Bates said.

Making A Conservation Plan

A Conservation Plan a great first step in evaluating your operation for resource concerns and identifying practices that can boost efficiency and productivity, and it's a gateway to programs. It is a voluntary and dynamic tool that helps manage your lands profitably while protecting your natural resources. Soil erosion, water quality, and waste management are just a few of the resource concerns that could be addressed with a plan. A completed conservation plan will describe each of the conservation practices you select to manage your natural resources. The choice to develop or not develop a conservation plan is yours. It is a voluntary process. You make the decisions. You implement the plan.

NRCS conservation planners provide the technical assistance needed to develop and implement your plan. Creating a plan does not provide public access to your property. You control all rights of entry and use. Information in your conservation plan is confidential and is not released to other agencies, groups or individuals.



Learn the nine-step process on how conservation planning works and get additional resources and farmer success stories.



10 WAYS A CONSERVATION PLAN HELPS YOU

- 1** Saves money as your land becomes more productive
- 2** Protects the natural resource that supports your business
- 3** Increases your property value
- 4** Enhances open space and wildlife habitat
- 5** Conserves soil and water for a sustainable future
- 6** Prevents off-site impacts, and may help you comply with environmental regulations
- 7** Saves you time, money, and labor
- 8** Makes your land more attractive and promotes good neighbor relations
- 9** Promotes health and safety for your family
- 10** Helps you identify your eligibility for some USDA programs

Ask the Expert

Did you know that NRCS advises thousands of producers each year, and specialized staff is on standby to consult on specific areas, including small and urban farms, invasive species, soil health, energy, pollinators, cover crops and more. Have a question about a particular resource concern or practice?

Ask Indiana's experts.



Indiana Producer Success Stories

See what's possible from working farmers and ranchers who have embraced the technical and financial assistance of NRCS programs to improve their lands, livestock, forests and working lands. You can search by natural resource concern, program and location to get ideas that are most relevant for your unique operation. Producers are the key to Indiana's conservation.



AMERICA'S CONSERVATION AG MOVEMENT

America's Conservation Ag Movement convenes farmers, agriculture businesses and the conservation community together around the future of farming by bringing profitable, climate-smart farming and ranching into the mainstream. We give producers a platform to share their journey, meet other farmers and mobilize resources they need to undertake change.

USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

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Organized by Trust In Food™ and Farm Journal Foundation with technical and financial support from USDA's Natural Resources Conservation Service, this public-private partnership empowers collaborators to leverage Farm Journal's nearly 150 years of market trust and farmer-to-farmer networks to accelerate adoption of climate-smart practices, products and technologies.

