



Sauk River Chain of Lakes water-quality solutions start with livestock producers



The \$392,500 Clean Water Fund grant BWSR awarded to the Stearns County SWCD in 2017 was designed to address Sauk River and Sauk River Chain of Lakes nutrient impairments via feedlot fixes.

PAYNESVILLE — Eleven Stearns County livestock producers within the Sauk River watershed have installed manure storage solutions and adopted management plans that curb runoff and benefit water quality in the nutrient-impaired Sauk River Chain of Lakes.

What started with a \$392,500 Clean Water Fund grant from the Minnesota Board of Water and Soil Resources targeting five feedlots most susceptible to runoff grew to a \$1.9 million endeavor that leveraged nearly \$1.5 million in Environmental Quality Incentives Program (EQIP) assistance from the USDA's Natural Resources Conservation Service.

“Producers are trying to do the right thing out here environmentally, to protect water quality.”

— Mike Hemmann, NRCS civil engineering technician

Across those 11 farms, Stearns County Soil & Water Conservation District and NRCS staff worked with producers to install eight stacking slabs and seven manure storage basins, and to implement nutrient management plans affecting 1,664 acres.

“You’re reducing nutrients, runoff from fields,” said Stearns County SWCD

Top: Rolling topography and the region’s high water table made the Stearns County feedlots targeted for Clean Water Fund and NRCS-supported improvements more susceptible to runoff. The Stearns County SWCD-led effort within the Sauk River watershed benefits the Sauk River, **bottom, center,** and the Sauk River Chain of Lakes.

Photo Credits: Ann Wessel, BWSR

Shirley and Kevin Klaphake, **left**, raise chickens, hogs and cattle on 320 acres in Spring Hill Township. In September 2020, they paused outside a poultry barn a short distance from the covered stacking slab that gave them 12 months of manure storage space. David J. Meyer, **right**, seen in September 2020 in a soybean field near a recently built stacking slab, added poultry to the family’s 1,000-acre crop and cattle farm in 2015.



Left, from left: Shirley and Kevin Klaphake told Mike Hemmann, a Stearns County-based NRCS civil engineering technician, and Stearns County SWCD Project Management Supervisor Nathan Hylla how a newly constructed, roofed stacking slab built to store 12 months of poultry litter fit into their operation. **Right:** Meyer, seen here shortly after a 40-by-100-foot covered stacking slab was constructed near the poultry barn on his Lake Henry Township farm, said having 12 months' storage made it possible to incorporate that nitrogen source in the fall.

Project Management Supervisor Nathan Hylla, who has since left the SWCD to start his own business.



Hylla

“Producers get long-term storage for their manure — whether it be poultry, beef or dairy — and then they utilize those nutrients when they can use them, and then incorporate them so they’re not running off into our streams, lakes and rivers.”

The region’s high water table and rolling topography made the targeted feedlots more susceptible to runoff.

Clean Water Funds supported the [technical assistance](#) SWCD engineers made available to farmers. At four of the 11 sites, the state grant provided cost-share for construction. Seven sites tapped only EQIP assistance to offset construction costs.

“These Clean Water funded projects just add a lot of flexibility,” said Stearns County SWCD Conservation Planning Team Manager

“ I always had to watch when it was going to rain, if there was a snowstorm coming. Now I can come out of the barn and into this building and place the manure in here without having to handle it three times. ”

— David J. Meyer, crop and livestock producer

Mark Lefebvre, referring to a list of potential projects that await funding, and to competition for EQIP assistance. “Even if they would be funded in EQIP, with the increased cost of some of these projects, some of these farmers aren’t going to go through with it unless they get supplemental funding.”

In September 2020, Hylla and Mike Hemmann, a Stearns County-based NRCS civil engineering technician who has since moved to NRCS’ Glencoe office, visited two farms where stacking slab construction had just finished. At both sites — the Kevin and Shirley Klaphake farm, and the David J. and JoAnn Meyer farm — the slabs were built to store poultry manure.

“I wanted to be environmental-safe. Instead of putting our manure on



VIDEO: “Stearns County Feedlot Fixes,” featuring a visit to the Klaphake farm in September 2020

the ground all the time and stacking it for a whole year, I wanted to have a stacking slab so water doesn’t leach into the ground,” said Kevin Klaphake. “We probably wouldn’t have been able to do this project without the assistance.”

With his wife, Shirley, and father, Eldred, Klaphake raises chickens, hogs and cattle on 320 acres in Spring Hill Township. Adding poultry in 1990 and then hogs 10 years later allowed Klaphake to sell the 35-cow dairy herd but stay on the

family farm. The Klaphakes typically raise six batches of 42,000 chickens a year.

The 56-by-96-foot covered stacking slab near the poultry barns holds 12 months’ storage. Previously, poultry manure was stored on the ground until fall when it could be spread on the fields. Nearly three years after construction finished, Klaphake reflected on another benefit:

“When you clean the barn out, you don’t have to worry about mud,” Klaphake said in July 2023. “It’s worked out very good. In the fall, too, when you haul it away, you’re always on dry cement. You’re not outside if it rains or something, trying to load in the mud.”

A couple of miles down the road in Lake Henry Township, David J. and JoAnn Meyer added poultry to their 1,000-acre crop and cattle farm in 2015.

“We were looking to diversify a little bit to help pay our medical insurance. That was what we could do to have a steady monthly income,” David J. Meyer said.

The Meyers had worked with Hemmann on a previous project. They, too, had been storing litter from six batches of 42,000 chickens a year on the ground.

“I always had to watch when it was going to rain, if there was a snowstorm coming,” Meyer said in September 2020. “Now I can come out of the barn and into this building and place the manure in here without having to handle it three times.”

Having 12 months’ storage makes it possible to incorporate that nitrogen source in the fall. Dry manure is also easier to load and spread in the field.

“I think the value of the manure is worth a lot more to me now, being it’s more consistent and it’s more dry and it’s more of an even spread in the field,” Meyer said in July 2023. Previously, manure sometimes had to be spread when it was wet, resulting in too much in some spots and not enough in others. Now, Meyer said, “How you set your spreader — that’s what you get when you apply.”

One drawback: This winter, Meyer said snow drifted into the roofed 40-by-100-foot stacking slab, an issue he fixed with a stack of bales. Like Klaphake, Meyer also appreciated the convenience.

“It seemed like this past winter every time our birds



Details

SAUK RIVER CHAIN OF LAKES: The 14-lake chain south of Cold Spring and Richmond, including Horseshoe Lake, **above**, draws anglers, boaters and other recreation-seekers. A [Minnesota Pollution Control Agency report](#) in 2021 noted a 68% reduction in phosphorus at the Richmond inlet to the chain of lakes. The report credited

25 years of local, state and federal partners’ nutrient and sediment reduction programs.

REDUCTION ESTIMATES: Annual reduction estimates tied to the four Clean Water Fund-backed projects include 242 pounds of nitrogen and 82 pounds of phosphorus. Reduction estimates are not calculated for EQIP-supported projects.

went out (to be processed) it was either a snowstorm or a rainstorm or bitterly cold, so it was nice to have that building. We were able to get the barn cleaned out right away,” Meyer said.

The Meyers’ three daughters — ages 21, 19 and 16 — and their 11-year-old son also help on the farm.

“I’m hoping doing this building will help with the

next generation coming up,” Meyer said.

While they may decide to farm one day, Meyer said he encouraged his children to explore other options. One daughter is studying to become an English teacher; one is studying to become a nurse.

The Klaphakes, too, were looking ahead when they installed the stacking slab and tried new practices.

“Farmers are trying to do the best they can to keep the waters clean — your rivers and creeks. We want to prepare for the future, so things are there for the youngest generation to take over,” Klaphake said.

“We’re working on our tillage, what can we do to help keep our soil intact instead of the wind or rain washing it away,” Klaphake said of his work with Lefebvre. “We’ve been slowly working with him to change how we’re farming. Years ago, my grandpa and dad plowed everything.”

One of the changes Klaphake made to become certified through the Minnesota Agricultural Water Quality Certification Program: On 120 acres, he switched from moldboard plowing to chisel plowing, which leaves some residue on the field. So far, Klaphake said he’s liked the smoother fields but has concerns about weed suppression.

On his own, Klaphake started working with cover crops. For the fourth consecutive season, after this summer’s oat harvest he planned to hire an air-flow applicator to seed a radish-turnip cover crop on about 35 acres where he’ll plant corn next spring.

“Producers are trying to do the right thing out here environmentally, to protect water quality,” Hemmann said.



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