

# GREEN FARMS

Small farms represent a large part of the agricultural sector in Virginia's Shenandoah Valley. Riverkeeper Jeff Kelble is working to ensure they are also part of solving the valley's water quality problems.



BY BRUCE INGRAM

**D**uring the spring of 2005, three friends and I floated down one of our favorite sections of the South Fork of the Shenandoah River — an excursion that in the past had produced excellent numbers of smallmouth bass (and good size ones, too). On this spring day, however, our total catch was one five-inch smallmouth. Just as disheartening, we saw or spooked few smallmouths of any size. Where were the fish?

A few days later, I read newspaper reports of horrendous fish kills on the South Fork. Although the cause of such a large fish kill can be difficult to pinpoint, many fishermen thought

that environmental factors combined with excess nutrients in the river might be the culprit.

Fish kills continued to plague the South Fork and Shenandoah River for several years. Fishing and outdoor-related tourism suffered mightily as a result. As someone who has fished the Shenandoah watershed for some 30 years and written a fishing and paddling guide about the river, I was extremely alarmed by the river's deterioration.

Into this disaster stepped Jeff Kelble, a fishing guide from Boyce, Virginia, and avid conservationist. After the fish kills ruined his guide business, Kelble closed up shop to become the Shenandoah Riverkeeper.



# CLEAN RIVERS

## Protecting a River

The Shenandoah Riverkeeper uses a combination of community action and enforcement to protect water quality. Kelble patrols the water, educates the community, and advocates for a healthier Shenandoah River. “Keepers” are privately funded, non-governmental advocates for a specific body of water — a river, a bay, a lake. As Shenandoah Riverkeeper, Kelble is teamed with the Potomac Riverkeeper as part of Potomac Riverkeeper, Inc.

One of the main pollution problems in the Shenandoah watershed and many other areas of the country is nutrient pollution — excess nutrients that drain into the water. This is called “non-point-source” pollution because the pollution does not come from a single source, such as a factory pipe sending chemicals into a creek. All of us contribute to this kind of water pollution. From uncollected pet waste and over-used lawn fertilizer to oil leaking from cars, what we leave on the ground can wash into waterways and damage water quality.

Agricultural operations represent a major source of nutrient pollution. In the Shenandoah Valley, these are often local residents with small, family farms. Kelble created the “Green Farms, Clean Rivers” program to open a dialogue with farmers about simple ways they can improve

farm practices and water quality. The program begins with building a relationship with farmers. Kelble offers assistance, including project funding through the Shenandoah River Conservation Fund (launched by the Shenandoah Riverkeeper in 2010), links to cost share programs, and other support for farmers who want to implement best management practices. If discussions break down or improvements stall, state regulations and even lawsuits are tools Kelble can use to solve a pollution problem.

To learn more about the “Green Farms, Clean Rivers” program, I spent two days touring the Shenandoah watershed with Kelble and Herschel Finch, conservation chairman for the Potomac River Smallmouth Club (of which Kelble is also a member) and a member of the Izaak Walton League’s Warren County (Virginia) Chapter. Finch often volunteers his time to projects for the Shenandoah Riverkeeper, so I couldn’t have two better guides for this tour.

## Two Days in Shenandoah

As we drove to our first farm, Kelble told me that it took him five years to figure out what his role as Riverkeeper should be with respect to farms. “I decided my job was to identify the non-actors and the slow actors. I don’t like the term





**Fencing cows inside the stream corridor and piling manure on the banks (left) damages water quality. Covering a silage bunk (right) is an easy way to protect water quality.**



‘bad actors,’” Kelble says. “My goal is to find non-actors who are causing severe problems. I want to find the farms that make other farmers frustrated or embarrassed.”

As Riverkeeper, Kelble has spent many days traveling and flying over the thousands of stream miles that constitute the Shenandoah watershed. He says that he has not become an expert on farming but has become knowledgeable on how farming affects a watershed, from cattle wallowing in streams to fertilizer runoff and leaching issues.

“The Shenandoah Valley is historically beef and dairy country,” explains Kelble. “Because of that, it was natural to draw property lines so that every farm has access to a stream of some sort. Cattle were expected to drink from the streams. It’s bad enough that cattle wallow in the streams all summer, but when the cattle are overwintered along a stream, they really wear down the banks and push a lot of dirt into the streams. On some farms, it’s not uncommon to see 50 or more cattle in a stream.”

Research shows that cows are healthier and have better weight gain — and farmers have lower veterinary bills — when cows are removed from streams and given cleaner water. Yet many farmers still resist fencing, Kelble says, which can easily be paid for through government cost-share programs.

Kelble adds that there is a lot for the farm community to be proud of. He estimates that the number of cattle excluded from streams in the Shenandoah watershed has probably

doubled in the past six years, from approximately 6 percent to about 12 percent now.

### **Scene on a Stream**

We arrive at a small cattle farm on Passage Creek. Several cows are standing in the creek, several more stand on a badly eroded bank, and others feed from a trough located right on the stream. The fencing actually contains the cattle within the stream corridor. As I take pictures, Kelble points out a pool where the manure-related muck is a foot or more deep.

“This farmer is just a small operator with a dozen or so cattle,” Kelble says. “In the overall scheme of things on this watershed, this is a small issue, but it is indicative of a choice — a bad choice — that someone made to fence the cattle this way. I am betting his thinking was that he could give food and water to his animals at the same time at this location.”

I ask Kelble if he is going to knock on the farmer’s door and inform him of these issues. “No,” he replies. “People feel that their privacy is being invaded when I do that. Alan [Lehman, the agricultural project manager for Shenandoah Riverkeeper] and I give the landowner the benefit of the doubt and assume he hasn’t thought about the repercussions of his practices. We will write the farmer to raise our concerns and point out the impact he’s having on the stream. We will then inform him of why he needs to adjust his practices, how we can help with that, and that government cost-share programs exist. If the farmer refuses to take any action, we will likely report him to DEQ [the

Virginia Department of Environmental Quality] and let that agency handle things.”

We next drive to Woodstock and stop at a spring-fed stream that flows through the community. The water is cold and clear, sports a very healthy minnow base, and could support trout, Kelble speculates. A hundred yards downstream is a dairy farm. A silage bunk, fortunately covered and filled with chopped corn, resides on the creek bank. I say “fortunately” because if it was not covered, the corn would leech into the stream — in effect, sucking oxygen out of the water. I also note that the banks are eroded from cattle. So I am amazed when Kelble says, “This farm is so much better environmentally than what it was six months or so ago.”

“There used to be two full-time, year-round feeding operations on the creek’s banks, with the manure piling up,” he explains. “We estimated that annually, thousands of gallons of manure flowed into the water. The banks had become so worn down and the stream channel so wide that the water was only a few inches deep. High levels of bacteria existed and the buffer zone had been destroyed.”

“But we filed a complaint with DEQ and VDACS [the Virginia Department of Agriculture and Consumer Services], and the farmer was compelled by the agencies to move feeding operations away from the stream, cover

**“Cows are healthier and have better weight gain — and farmers have lower veterinary bills — when cows are removed from streams and given cleaner water.”**

his silage bunk, and install some fencing so that the cattle had restricted access to the creek. Things still aren’t perfect here, but I will take it. And the landowner is to be commended for his hard work.”

Kelble points out where watercress has once again begun to flourish in the creek, where the river channel has returned to normal, and where some streamside vegetation has made a tentative attempt to grow along a bank.

### **A New Hook**

The next morning, I go fishing for smallmouth on the South Fork of the Shenandoah with Kelble and Finch. I only have time to fish for about five hours before my next farm visit, so we undertake a float only a few miles long. Among the three of us, we catch 13 smallmouths between 12 and 18 inches long, and Kelble loses one that would have topped 20 inches — an outing that would have been unthinkable five years ago when the fish kills were occurring.

**Shenandoah River Keeper Jeff Kelble finds vegetation growing along a recovering river channel.**







Finch pulls in one of several smallmouths (left) on a restored section of the river that is also home to a blue heron rookery (right).



But the thing that impresses me the most about Kelble is not his considerable angling prowess but that he never stops being a Riverkeeper. Several times, he stops rowing his raft to look for signs of spawning smallmouths and sunfish. He points out a blue heron rookery and asks me, as a bird watching enthusiast, to take an informal survey of what the avian populations are like.

And when we near the end of our junket, he spots an area where someone has bulldozed strips of land near the South Fork. Kelble frets about what the landowner is trying to accomplish and whether to further investigate what is occurring.

He also emphasizes that many farmers do right by wildlife. Two such individuals are Jeanne Hoffman and Bobby Whitescarver of Augusta County, Virginia. Whitescarver formerly worked for the Natural Resources Conservation Service as a district conservationist. “For decades, farm improvements literally rained off this guy like a July thunderstorm,” Kelble says. “This man excluded more cattle and put more conservation on the ground maybe than any other human on the East Coast. With federal and state cost share, he probably put more buffers and fencing in Augusta County than any one man in this country. He knows what the Riverkeeper program is trying to accomplish and supports our goals.”

### Fish-Friendly Farmers

The next day, my wife Elaine and I traveled to the Hoffman/Whitescarver farm, which

lies on the Middle River, a major tributary of the Shenandoah’s South Fork. After we arrive, Whitescarver explains how he set up a rotational grazing system in which cattle graze in one pasture (with its own watering area) for a period of time before rotating to another pasture. This rotational system keeps any one pasture from being overgrazed, which prevents invasive species from gaining a foothold and gives existing native grasses time to regenerate and maintain their role holding and filtering runoff.

As impressive as this setup is, Elaine and I really admire what Hoffman and Whitescarver have done with a spring creek that flows into the Middle River. The spring and rivulet have been fenced off from cattle, with a wildlife buffer zone that includes red maples, willow oaks, and button bushes planted within. As soon as we step into the buffer, a common snipe flushes — a game bird rarely seen in the Virginia mountains anymore.

“You’re looking at a headwater spring of the Shenandoah right here,” beams Whitescarver. “We’ve planted Indian grass over there and some 300 shrubs, which eventually will attract quail, I hope. The buffer zone is about 40 feet wide. Over there are some 9-foot-tall native sunflowers, which have taken over. Because of activities like this, I’ve seen birds like loggerhead shrikes, bobolinks, and grass sparrows, which are very rare now in this area.”

We arrive at one of the livestock watering troughs, which is a gravity fed system. In addition to the environmental benefits, the result is a

“A common snipe — a game bird rarely seen in the Virginia Mountains anymore — flushed from a wildlife buffer.”

win-win for the cattle, the landowner, and fishermen. The cattle receive fresh, clean water without pathogens from upstream pollution; the farmer has fewer vet bills for sick bovines; and anglers can enjoy better action on the Shenandoah.

We go next to the Middle River, which flows through the farm and is just six miles from its source. Whitescarver tells us that the *e.coli* rate in the river dropped by half after he fenced out the cattle and implemented the tree and bush plantings. The water is pleasingly cold in this highland valley; nevertheless, no trout fin the stream.

“Besides the river having too much sediment in it from the farms upstream, the water is still too polluted to support trout,” Whitescarver laments. “I’ve explained to the farmers upstream that they can receive 115 percent cost share through CREP [USDA’s Conservation Reserve Enhancement Program] and other programs to construct exclusion fencing and plant various flora in their riparian zones. Yet they have refused to do so for social — not technical or financial — reasons. It’s a slow process to change

that kind of mindset. We have 1.5 miles of the Shenandoah watershed fenced from livestock, and we raise cattle on just milk, grass, and water. Our cattle qualify as antibiotic and hormone free, and buyers are waiting to buy all the beef we can produce. Now that’s productive, profitable farming for my wife Jeanne and me. And we’re doing right for the environment.”

### Searching for Stewardship

Kelble says that his work with farmers has brought him a new perspective. “Let me run this little bit of philosophy by you, because until I came to this revelation, literally, what farmers were saying made no sense to me. But now it does, and I try to view everything through the context of these two perspectives.”

“Most farmers are good stewards of the land,” Kelble says. “Generally they believe their role as good stewards is fulfilled by working their land, caring for it, and keeping it in farming production, keeping the land in agricultural use and passing it down in the family, meaning not selling it to a developer and cashing out.”

“I also believe that many farmers think that being a good steward of the land means they are automatically good stewards of the rivers and creeks flowing through their land. But I’ve learned that this is not necessarily the case at all. And farmers are frustrated and feel misunderstood. Now fishermen, who consider themselves good stewards of the water, don’t view farmers as good stewards of the water at all. They see farmers let their cattle destroy stream banks; they see manure application to the river banks; they see high phosphorous soils build up. They see winter application of manure on frozen ground and runoff; they see feedlot runoff; they see no buffers between crop fields and the river. That’s what fishermen see, and they are frustrated. The person who can help bridge

**At the Hoffman/Whitescarver farm, watering troughs give cattle fresh, clean water — and keep cattle out of streams.**





Jeff Kelble received an Honor Roll award from the Izaak Walton League in 2010 for his conservation work throughout the Shenandoah River watershed. For more information about the Shenandoah Riverkeeper program, visit [www.shenandoahriverkeeper.org](http://www.shenandoahriverkeeper.org).

“**Angling for smallmouth bass and other game fish has rebounded the past few years on the South Fork and in the Shenandoah watershed as a whole.**”



**Jeff Kelble and Herschel Finch fishing the South Fork of the Shenandoah.**

that disconnect is the person who finally gets the farm community to understand why water people have been complaining all these years.”

Kelble adds that occasionally he’s shown farmers how to apply to federal agencies for cost-share money to help pay for needed stream-side improvements. However, most progress has been made through the delicate process of raising issues with farmers directly and by filing complaints with the Virginia Department of Agriculture and Consumer Services and the Virginia Department of Environmental Quality.

“Word of mouth about our work, our complaints, and EPA presence has created a fruitful environment for this work as the social pressure among farmers has increased,” says Kelble.

Nevertheless, some landowners refused to cooperate, and the Shenandoah Riverkeeper has had to take more stringent measures.

“I filed two complaints against one family’s farm,” Kelble says. “One location had a 12-foot-tall pile of manure falling into Gooney Creek. The other had several feedlots, feed bunks, and round bail feeders literally on top of the banks of the stream, with manure accumulating and spilling into the stream. DEQ gave an order to remove the manure and feed stations. The landowners did so grudgingly, under the threat of penalties.”

This arduous process has been worth the effort. Phil Charles operates the Lackawanna Bed & Breakfast, an inn that rests near the confluence of the North and South Forks of the Shenandoah River in Front Royal, Virginia. “The end of the fish kills has not only been good for the river but also for the Shenandoah Valley’s economy,” Charles says. “The water quality improvement has been a real plus for the small communities up and down the river. We get a lot of business from folks in the greater Washington, DC, area. They want to come experience our area’s beauty, not go to a place that has fish kills.”

### **Streams Looking Up**

Alan Lehman says there is cause to be optimistic. “This fall, we logged our one-thousandth farm as part of our ‘Green Farms, Clean Rivers’

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program. This means we've assessed more than 1,000 farms for any problems that cause river pollution. Following our monitoring visits and/or direct contact or action, 48 of these farms have since fixed or have plans to fix the identified problems." Additionally, 12 major sewage plant upgrades have been completed in the river valley and farmers are putting more effort into conservation, says Kelble.

So it's not surprising that angling for small-mouth bass and other game fish has rebounded the past few years on the South Fork and in the Shenandoah watershed as a whole, says Herschel Finch. "The work Jeff Kelble does for us here in the Shenandoah River watershed continues to bear fruit in improved river conditions. I have seen fishing go from barely productive to once again approaching 50-fish days on the South Fork and main stem of the Shenandoah."

"This January, we caught 14- to 16-inch fish, a couple of 18-plus inchers, and even one 20 ½-inch bruiser," recalls Finch. "All those fish appeared healthy and had no exterior lesions, which covered many fish during the kills. That difference is directly attributable to the results Jeff's work has produced. And now with the addition of Alan Lehman helping Jeff as agricultural projects manager, I can only assume that things will continue in a positive direction. The bottom line for me is the Shenandoah River is my drinking water. I would prefer to have it as clean and unpolluted as possible when it reaches the uptakes for the Front Royal Water Treatment Facility."

Perhaps the most poignant statement that Jeff Kelble made to me is that Ikes nationwide — as well as other sportsmen groups — need to become more involved in conservation issues on the local level, especially on those involving water.

"I grew up hunting and fishing and am an advocate for private property rights," says Kelble, who is also a member of the League's Winchester Chapter. "But landowners shouldn't be doing things on their properties that negatively affect or diminish the use and enjoyment of other landowners on their properties downstream or, for that matter, the public on public waters. That's a bedrock principle of our American society." And part of the guiding principles of the Izaak Walton League.

We all have a role to play in cleaning up the creeks, streams, and rivers in our communities. Small changes can make a big difference. And those changes can start in our own backyards.

**Bobby Whitescarver and Jeanne Hoffman find that conservation is as good for business as it is for the environment.**



— Bruce Ingram is a life member of the Izaak Walton League and has written four books on river fishing, including the Shenandoah/Rappahannock Rivers Guide and Fly and Spin Fishing for River Smallmouths, which covers riparian zone issues in several chapters. For more information and to read his weekly blog, visit [www.bruceingramoutdoors.com](http://www.bruceingramoutdoors.com).