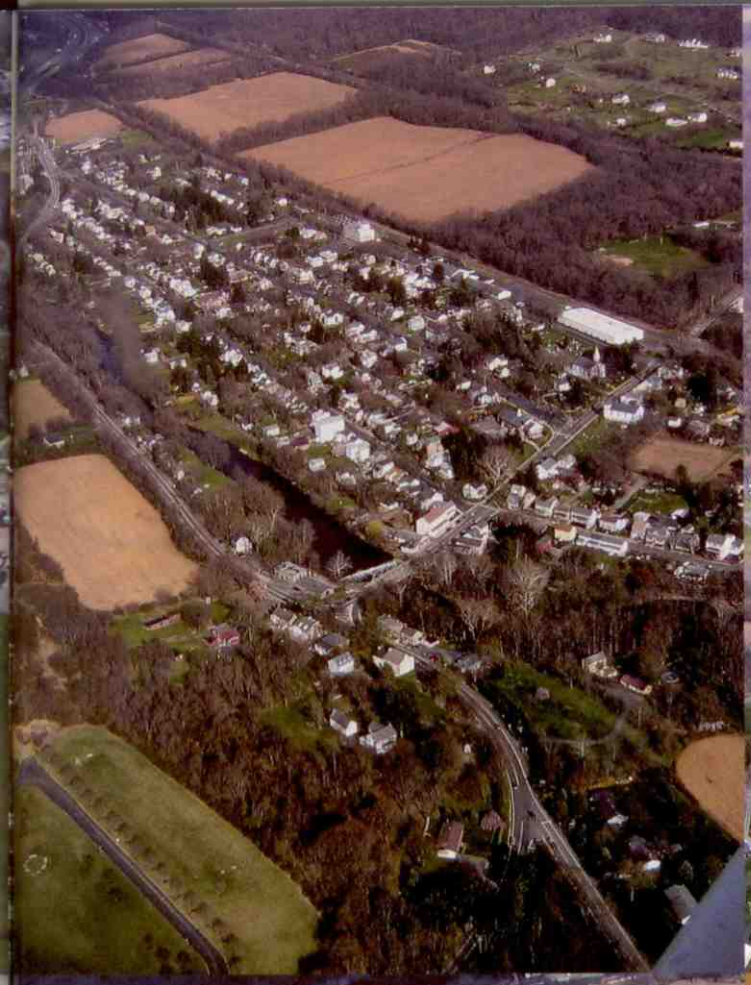
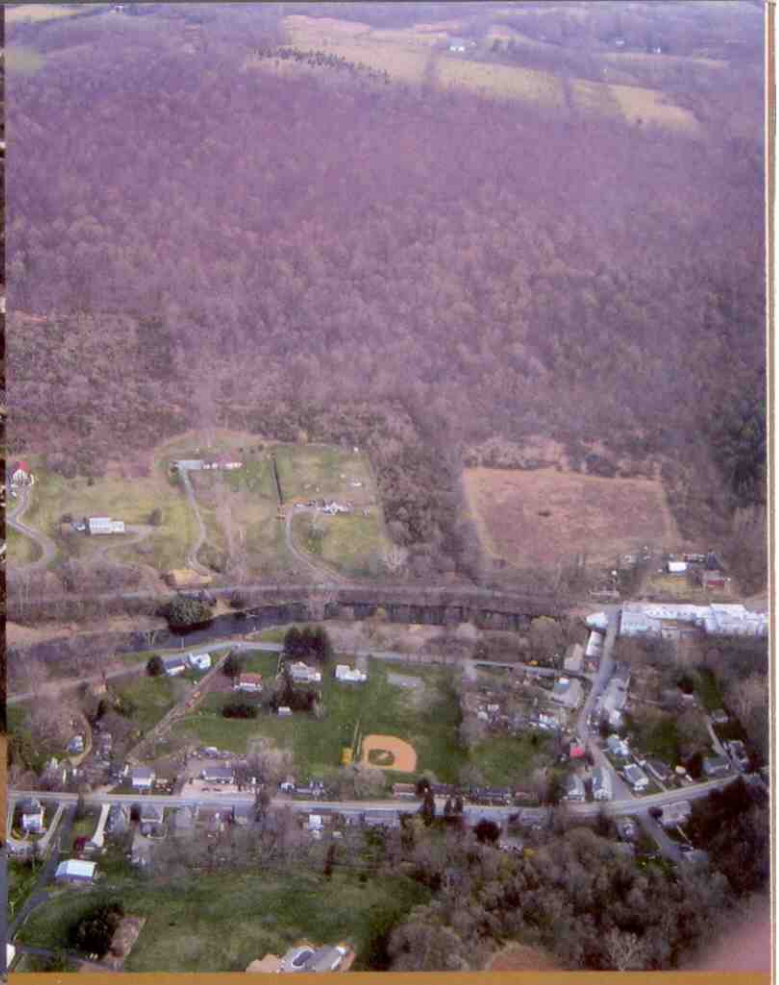
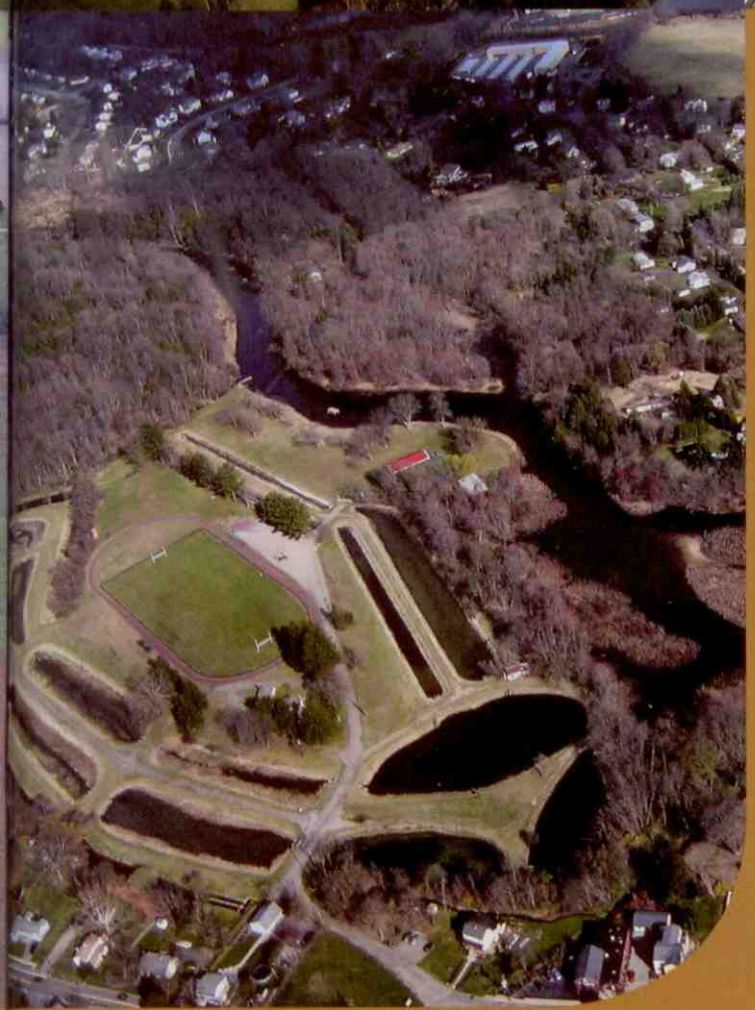


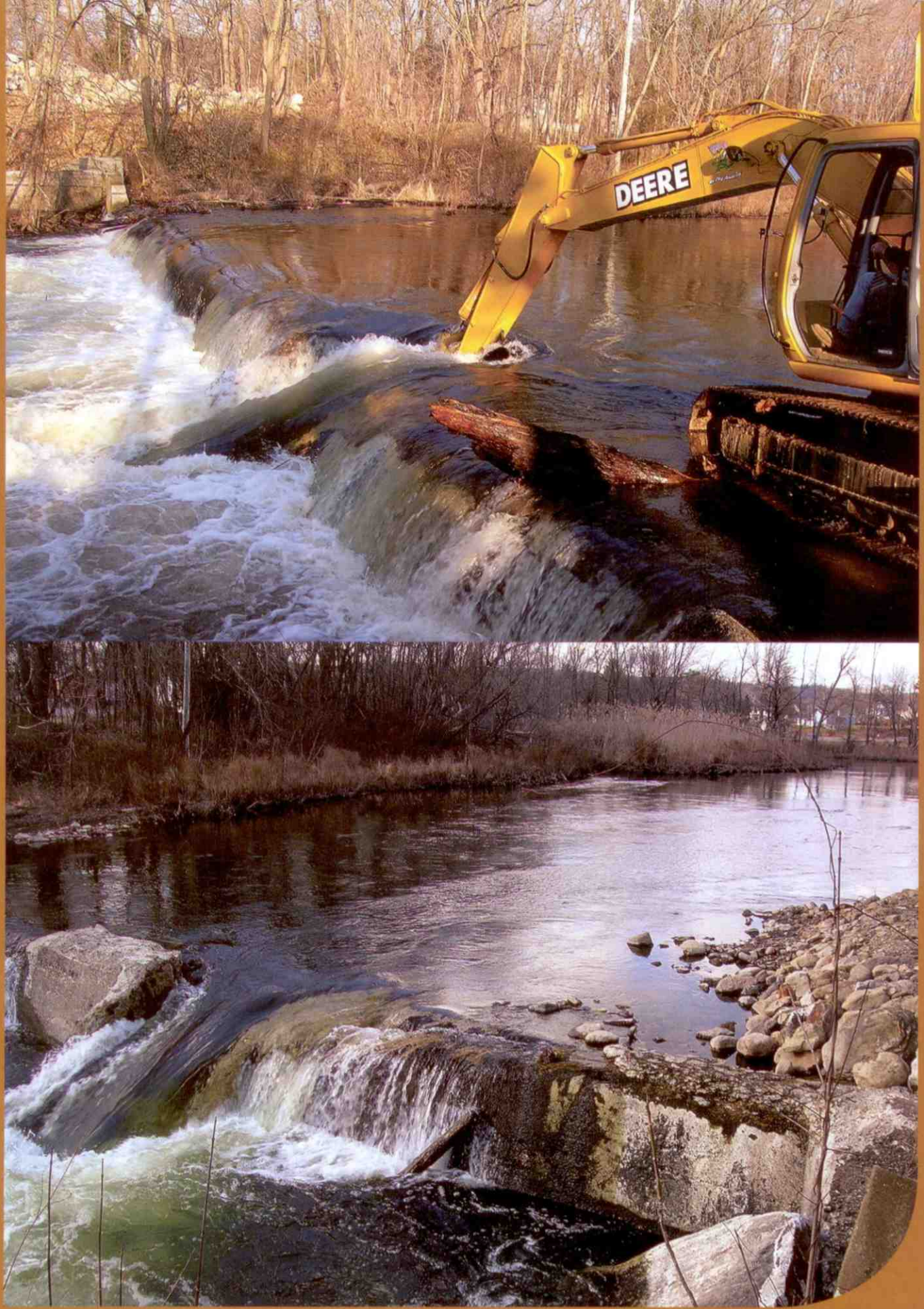




Musconetcong River, New Jersey

Protecting A Watershed, Piece by Piece

BY MORGAN LYLE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This spring, anglers in Hackettstown, N.J., cast for trout in a riffle that had not seen the light of day for two centuries.

The riffle on the Musconetcong River had been hidden at the bottom of a shallow pool since Colonial times, when the river was dammed to provide power for a grist mill. The Gruendyke Dam served its purpose well in the 18th century. But ever since, it has also done what many small-river dams do: collected silt and debris, hosted invasive weeds and caused the water it impounded to warm far beyond levels tolerable to trout. The tepid water slipped over the dam's crest and heated the trout stream below. The state stocked the water downstream of the dam each spring, but by the Fourth of July it was barren of trout.

The Musky is a partially urban, partially rural watershed of potentially extraordinary quality, which is why TU made it one of the organization's 15 Home Rivers restoration sites.

That all ended in March of this year. Members of several Trout Unlimited chapters and the Musconetcong Watershed Association looked on as heavy equipment rolled past the Victorian-style houses and a trackhoe operator cut a notch in the dam, allowing the river to flow freely once again.

The pond drained. The silt began to wash away. The riffle re-emerged. The invasive weeds were left high and dry, soon to be replaced by native trees and shrubs planted by schoolchildren, college students and members of the Watershed Association and paid for out of fines collected by the state government from a downstream polluter. Submerged debris—including dozens of tires and a waterlogged, 5-foot-long stuffed Bugs Bunny—was hauled away.

The dam, along with another less than a mile upstream, was scheduled to be removed altogether by July. Its owners, Roger and Eileen Cornell, were glad to see it go. It had been labeled unsafe by the state and was a serious liability, so they agreed to give up their development rights along the riverbanks in exchange for financial help from the Warren County government in tearing the dam out. Development was the last thing they wanted anyway; customers of their streamside restaurant, The Pump House, love to look at the river and the woods while dining.

"I get to keep the view, and I get rid of something that's been bugging me since 1978," Roger Cornell says.

Meanwhile, trout in the Musky, as locals fondly call the river, can now reach upstream spawning tributaries, including Bower's Brook, a surprisingly pristine stream, complete with wild brook trout, winding through the fragrant front lawn of a local M&M Mars candy factory.

Dam removals such as the one underway at Gruendyke are just one piece of a comprehensive TU strategy for protecting and restoring the Musconetcong River, a partially urban, partially rural watershed of potentially extraordinary quality. The project is one of 15 flagship Home Rivers sites nationwide, which are yielding valuable lessons about what it takes to carry out lasting conservation at the scale of entire watersheds and river systems.

Usually, a trout river's best water is upstream, in the headwaters. But "this

conserve the rural character of the downstream reaches, as the supply of clean water from this region keeps the whole system going. "It's incredible that the Musky's not more developed, actually, given how close it is to New York City," says Maclin. "But that could change soon—is changing, in fact."

Farmers are facing increasing pressure to sell out to developers, who want to pave over the rural landscape with tract housing, strip malls and subdivisions. According to the New Jersey Highlands Council, 17,000 acres of forest and 8,000 acres of farmland were developed between 1995 and 2000 in the seven-county swath that includes the Musconetcong Valley.

TU advocated strongly for three recent government actions—a state act regulating land use, state-mandated buffer zones along the river and key

TU's first order of business in the Musky is to conserve the rural character of the downstream reaches, as the supply of clean water from this region keeps the whole system going.

whole river's upside down," as Agust Gudmundsson, New Jersey's gregarious former State Council chairman, puts it.

The Musky rises in crowded suburbs and concrete, flowing from the 2,500-acre Lake Hopatcong, an impoundment from the mid-1800s, through multiple dams and a five-acre asbestos dump.

It's the sort of environment you might expect in the nation's most densely populated state, but it doesn't bode well for native brook trout populations. Fortunately, the Musky soon leaves all this behind, flowing through picturesque farm country en route to its confluence with the Delaware 43 miles to the southwest. This is the land of Revolutionary War monuments, old town squares, and mom-and-pop diners. The lower half of the river lies over the same limestone aquifer that supplies some of the spring creeks in neighboring Pennsylvania with cool, fertile, alkaline water.

"This is such a remarkably resilient little system that as it flows down, it recharges itself," says Chris Wood, TU's chief operating officer. By the time the river urbanizes again, as it inevitably does, there are still brookies swimming in the water.

Given the mix of threats on the Musky—dams, degradation and impending development in the downstream reaches—TU is employing a multi-prong approach here: Protect open space. Reconnect the mainstem and tributaries through targeted dam removals and culvert replacements. Work with farmers and landowners to restore habitat. Engage children and local citizens through volunteer workdays and community events.

"This is a model Home Rivers project in the sense that it's focused on the full complement of what TU does," says Elizabeth Maclin, TU's vice president for Eastern conservation.

The first order of business is to

tributaries, and federal designation of the Musky as a Wild and Scenic River—that will help pave the way for open space protections on the Musky.

To capitalize on these opportunities, TU members and Brian Cowden, a former volunteer who now serves as TU's full-time project coordinator, collaborate with individual farmers to make their operations more fish-friendly. By way of illustration, on a drive through the valley one rainy afternoon this spring, Cowden pointed out a tiny brook in a farmer's meadow, completely enclosed in trees and shrubs planted by TU volunteers.

That was one tributary contributing clean water to the Musky instead of topsoil and fertilizer. But up the road, Cowden was dismayed to see another meadow brook mowed right to the water's edge. "We need to stop the cattle from trampling these banks and do some riparian planting" he notes.

KNOW ANY OF These Folks?

TU is employing a multi-prong approach here: Protect open space. Reconnect the mainstem and tributaries. Work with farmers and landowners to restore habitat. Engage children and local citizens through volunteer workdays.

In addition to this farm-by-farm restoration approach, Cowden is also developing strategic partnerships with groups such as the Heritage Conservancy, New Jersey Audubon and the New Jersey Department of Environmental Protection's Green Acres program, which provides a stable source of funding for open space, farmland and historic preservation. These groups acquire land, or development rights, to forestall land conversion. They accept long-term stewardship responsibility and help protect access for recreational users, including anglers.

TU, in turn, offers conservation data to identify key sites for protection, fund-raising assistance and an army of volunteers skilled in on-the-ground restoration. For instance, in May Green Acres announced it would buy part of an old paper mill site, linking two sections of the Musconetcong Wildlife Management Area and opening public access to another stretch of the river. TU and the Musconetcong Watershed Association are helping raise money for the project. Thus far they have secured more than $260,000 in grants from the Natural Resources Conservation Service and the American Rivers-National Oceanic and Atmospheric Administration fund. (NRCS is also funding much of the Gruendyke Dam removal alongside Roger and Eileen Cornell's restaurant in Hackettstown.)

The paper mill site also includes the 9-foot Finesville dam, which is slated for removal over the next two years. Once the dam comes out TU volunteers will plant native trees and grasses, and remove non-native plants such as bamboo, which in some cases has grown all the way up to the banks of the river.

Cowden says that such restoration efforts are one of the ways that he's engaging local volunteers, reconnecting residents and rivers. All eight TU chapters, plus one now being chartered, as well as the New Jersey Council, have pledged their support to the Musky. "We're all excited about it," says Rick Axt, chairman of New Jersey's State Council.

Volunteers from five TU chapters turned out in April for an annual river cleanup that drew hundreds of people, including students and members of the local watershed association to haul junk and trash away from the river's banks. And the Central Jersey chapter, which considers the Musky its home water, has invested more than two decades in monitoring stream temperatures with data loggers, documenting the effects of dam removal and ill-conceived development, and conducting countless native tree plantings and cleanup days.

This grassroots work, as well as TU's inroads with local schools through Trout in the Classroom and its collaborations with key state agencies and wildlife groups, has laid a strong foundation for success on the Musky.

"It didn't happen overnight," says Axt, "but our partnerships and our dealings with the different state agencies have developed to the point where we can take this project and really run with it. We've tapped the talent of the whole state."

While driving through the valley recently, Cowden and Gudmundsson made a stop at Stephens State Park in the Musky's headwaters. The two men flipped up their hoods against the drizzle and ran down the steep slope of a railroad bed, past an old pick-up truckload of illegally dumped household junk. In the woods at the foot of the slope wound a tiny brook, and in the brook darted tiny trout—trout identified in DNA tests as genetically pure natives.

"This is what's possible in these rivers," Cowden says emphatically.

Despite the dams, the illegal dumping and the press of civilization, native brookies were still holding their own in this little stream. And there's a good chance they can do the same throughout the Musky, given a little help.