In the times of Native Americans and until about a century ago, the rivers and streams of northern Illinois were a biologically diverse ecosystem teeming with life. These streams drew anglers eager to hook the most coveted native fish: the smallmouth bass. However, in the past century, a growing world population that consumes more and more corn, soybeans, and beef has led to the expansion of farming in this area. As the land area used for farming increased, the native vegetation and habitat decreased, giving way to cattle pastures and row crops right up to the banks of these waterways. In the midst of this, the coveted smallmouth bass also began to disappear.

So what does a 16-year-old who still loves to seek out and catch this elusive, pole-bending fish do? For me, the answer was simple: Restore a stream.

Reviving a Legend
The particular waterway in question is formally known as the Leaf River, which snakes through northern Illinois for approximately 50 miles before emptying into the larger Rock River. A mile-and-a-half section of the Leaf River runs through the property that my family has owned for generations. My grandpa told me of how almost 70 years ago, a friend of his was still able to catch an occasional smallmouth in our section of the Leaf River. In all my years fishing, I had never caught anything besides the invasive carp and chubs that plagued the river. Intrigued by his story, I wondered if I would ever get the chance to catch a smallmouth myself.

One day last summer that question was answered when, a few miles downstream of my family's section, I hooked something that pulled much harder than the fish we normally caught. I reeled it in and pulled out a short, pale smallmouth. The next weekend I gathered my friends and we set out in kayaks to see if we could catch more. A whole day of fishing yielded only a few bass, but I was ecstatic. This meant that maybe one day the smallmouth could once again thrive in my section of river.

But I was also realistic. The problems that prohibit the fish from surviving in my section of the river are the same as in the rest of the river, but sometimes worse and more concentrated. Drainage tiles—designed to redirect standing water from corn fields—funnel water into the creek so fast after a rain that it washes away the smallmouth egg beds. The cattle grazing along both sides of the stream decimate the vegetation, which causes stream bank erosion and silting in the channel. The cow excrement also pollutes the river, as does pesticide runoff from the surrounding farm ground. All of these harmful factors would need to be eliminated or controlled in order to re-establish a smallmouth population—and it would cost thousands of dollars.

It Takes a Team
After I convinced my father that it was possible to fix our stream, we looked online into government programs that could potentially reduce the cost. It turns out that the U.S. Army Corps of Engineers runs a program that seeks to balance the unavoidable destruction of one streambank with the restoration of another. In this situation, an entity faced with unavoidable streambank destruction pays another entity to restore a previously destroyed streambank elsewhere.

My father and I contacted the Corps of Engineers, the main agency in charge of this type of restoration. They agreed to meet with us and assembled an Interagency Review Team, consisting of the Illinois Fish and Wildlife Service, the U.S. Environmental Protection Agency (EPA), and the Illinois EPA. We set a date for these agencies to survey the property and make assessments to see if our property would qualify for the compensation program.

This past September, I took a day off school and met the scientists, engineers, and wardens at the site. We spent the day looking at the stream's substrate and banks, identifying native and invasive species, and testing the soil to determine its composition and hydrology. Later that day, after the observations and sampling were completed, we met at my house and discussed the site's eligibility. The verdict was that the site would indeed qualify.

History Carved in Earth
After that, my father and I began to look at all sorts of online aerial maps depicting the property. We paid special attention to early satellite imagery, which, with its black and white features, shows the contour
Cultivating the Future

We are now awaiting final approval of the detailed 200-page prospectus we submitted to the Corps of Engineers. The prospectus includes everything related to our unique restoration, such as soil maps, aquatic life studies, bank restoration plans, and archaeological information. This summer, we hope to begin reestablishing native plant species by planting native warm season grasses and thousands of oak trees on 40 acres of current pasture. We also hope to begin stabilizing streambanks by regrading them to an angle that accommodates the flow of the river without causing erosion. My family and I will do much of the planting ourselves, hire excavation companies to do the more extensive dirt work, and consult with an environmental engineer throughout the process.

It will take a while to see the effects of this work in the ecosystem, but it will definitely help make the stream habitable for northern Illinois’ most prized fish. If we are successful, in a few years, the smallmouth bass will once again swim in the currents of the Leaf River in the numbers they did almost a century ago, and anglers like me will get to feel the rush of a smallmouth fighting at the end of the line.

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