



Bringing northerns back to Green Bay

A 6-week-old 4-inch northern pike fry is a sign of success.

CAROL LARSCHIED

OVERCOMING IMPEDIMENTS TO MIGRATION AND SPAWNING YIELDS SURPRISING RESULTS.

Charles Larscheid

It was early on March 31, 2015 and near freezing as Mike Mushinski, my co-worker and I walked through a flooded stand of invasive phragmites to reach our fyke net. The net was set in a lower stretch of an unnamed stream known locally as Willow Creek, located in the greater Green Bay metropolitan area (only 3 miles from Lambeau Stadium).

Someone had driven an all-terrain vehicle through the stand of 15-foot-tall weeds and knocked down a trail. Walking through the mat of reeds, we broke through the ice with each step.

We were hoping our net had caught adult northern pike or “northerns,” as old-timers like to call them, on their way to their spring spawning wetlands. Northern pike are the second largest predator fish in the bay of Green Bay.

The bay is a fertile estuary of Green Bay’s Fox River and an arm of Lake Michigan. Department of Natural Resources’ fishing creel surveys, netting results and other observations have noted the once robust northern pike population on Green Bay has fallen precipitously.

Successful early ice northern pike fishing on Green Bay has become only a fond memory. Walleyes have been a success story but the depleted northern pike population, along with the recovering but still small population of muskellunge, has led to an unbalanced predator/prey balance on the bay, strongly

tipped toward forage fish such as gizzard shad or white perch.

Green Bay northern pike have evolved generally to leave the bay each spring and attempt to spawn in inland wetlands. They sometimes travel miles up flooded road ditches and small streams to reach a suitable wetland during March and April.

Along the way they often encounter impediments to passage, such as dams or poorly positioned culverts. They are also vulnerable to natural and human predators. If the fish are able to pass through or over the obstacles, they may find that there are no suitable wetlands in which to congregate and spawn at the end of their journey.

In 2007, the Brown County Land and Water Conservation Department received a grant from the National Fish and Wildlife Foundation to restore the bay’s declining northern pike population. Then, we received a four-year grant from the U.S. EPA’s Great Lakes Restoration Initiative (GLRI) and additional

funding from the Green Bay/Fox River Natural Resources Damage Assessment Trustee Council, U.S. Fish and Wildlife Service, Ducks Unlimited and other sources.

To begin our work, we found surprisingly little research on Green Bay’s northern pike. We relied on past work from Dick Rost, retired DNR fish technician, and others to form specifics of our restoration plan.

We set two goals. The first was to find and remove impediments to fish migration in streams and road ditches leading from the bay to potential spawning wetlands on Green Bay’s west shore. The second was to restore wetland destinations that have become degraded and lost the ability to provide suitable spawning habitat.

Since 2007, we have completed 50 wetland restorations or impediment removals on streams and road ditches on Green Bay’s west shore, primarily in the Village of Suamico and Town of Pittsfield. We’ve found that completed wetland restorations benefit many species of amphibians, waterfowl, reptiles and other fish species. They either live in the restored habitat or use it to reproduce.

But northern pike spawning success in some of our early projects had been disappointing. The flat topography of the area leads to flashiness or quick rises and falls in stream and ditch water flow. That can strand adult fish or dry out developing eggs and young fry.

Still, we continued and learned some valuable lessons. Many fish spawning events are chancy at best so we learned to try to mimic a natural wetland that



Mike Mushinski checking nets at Bower Creek.

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maintains a flat gentle flow throughout the spawning and egg development time period. Sometimes that condition requires a water control structure that holds the falling water levels just a little bit longer to save the developing eggs, especially during a low precipitation spring.

With that knowledge and experience we began producing some restorations that have been widely successful.

On one site off of Brown Road in Suamico, we trapped 10,500 northern pike fry in 2013 leaving the wetland and continuing to the ditch to begin their journey to the bay. Many other sites have shown impressive success rates.

In 2015, we decided to expand our efforts. We believe there might be an untapped spawning potential on tributaries of the Green Bay's Fox and East rivers. But many of these waterways are small and turbid. Their watersheds originate in areas of heavy soils and suffer from agricultural and residential nonpoint pollution.

To access Willow Creek, migrating northern pike would have to enter from the bay, travel up the Fox River, then up the muddy East River to Willow Creek. If we found them there, we could add Willow Creek's watershed to a list of those within which we are considering sites for additional potential wetland restorations. If not, we might be able to find what is preventing them from getting here.

I had a 22-year career with Brown County as its Port and Solid Waste Di-

rector and retired in 2011. I have lived in the area for most of my 62 years. I am an amateur naturalist and hunt and fish, so when Mushinski asked, I came out of retirement to take over for him as Project Manager of the Pike Habitat Restoration Project after he was promoted to department head.

I was nervous because we had set our net in Willow Creek on a hunch (my hunch) that adult northern pike might be using these waterways to reach upland wetlands in the watershed. Research and our past observations show that northern pike begin ascending waterways for their spawning run when the water temperature approaches 40 degrees. They begin spawning when the temperatures climb towards 50 degrees.

With reduced visibility, we needed a way to locate adult northern pike moving in the streams. We turned to fyke nets, a series of hooped net funnels leading fish into a pot or holding area in the net.

We reached the creek and looked at the net. Since the net was mostly submerged in the cloudy water, we couldn't see what was in it. Mushinski and I stepped down from the bank and waded waist-deep to the purse-like end of the net. We untied it from the fence post anchoring it in the middle of the creek and lifted the net. We immediately got a face-full of icy water from a net-full of splashing, excited fish!

We looked at each other and started laughing. It was the first time we had set and raised a fyke net, and now we had a

mess of fish on our hands.

Immediately we got to work. We began to count, identify and release the non-target fish. That day we had many, including common shiners, brown bullheads, yellow perch and white suckers. Thankfully, we also had six beautiful adult northern pike. We determined their sex, measured them, floy tagged them, recorded the unique number and released them upstream of the net to continue their journey.

The next day we found 34 northern pike in the net at that site. We also caught 50 northern from nearby Bower Creek. This continued at these and four other sites for about a week until the run began to slacken. During the entire spring 2015 season, we netted six sites from March 31 through April 23. Willow Creek tallied the highest with 104 northern. Next was the Bower Creek site with 92. The total for all sites was 272 northern pike.

We set our fry traps in the same locations following the end of the northern pike spawning migration but unfortunately found no young of the year. We suspect the adults either encountered impediments in the streams that prevented them from accessing wetlands further upstream, or the wetlands were poor and unsuitable for spawning use.

Continued research should allow us to narrow down some of the problems northern are encountering in these watersheds. We will then develop plans to correct some of those problems. The need to provide spawning habitat continues.

"The accomplishments of Brown County Land and Water Conservation Department and other partners such as Oconto County LWCD, Ducks Unlimited, The Nature Conservancy, Oneida Tribe and University of Wisconsin (Green Bay and Madison) over the last several years will continue to benefit northern pike and other wetland-associated species for many decades to come, and ultimately make the area a better place to live and recreate in," says Tammie Paoli, DNR's Green Bay fisheries biologist.

And finally on the Willow Creek site where we first found the northern — we are proposing two wetland spawning complexes for 2016!

Charles (Chuck) Larscheid is the project manager for the Brown County Land and Water Conservation Department's West Shore Northern Pike Habitat Restoration Program.



To view a video on the project, visit:
<https://www.youtube.com/watch?v=SelwQL4cvXM&feature=youtu.be>