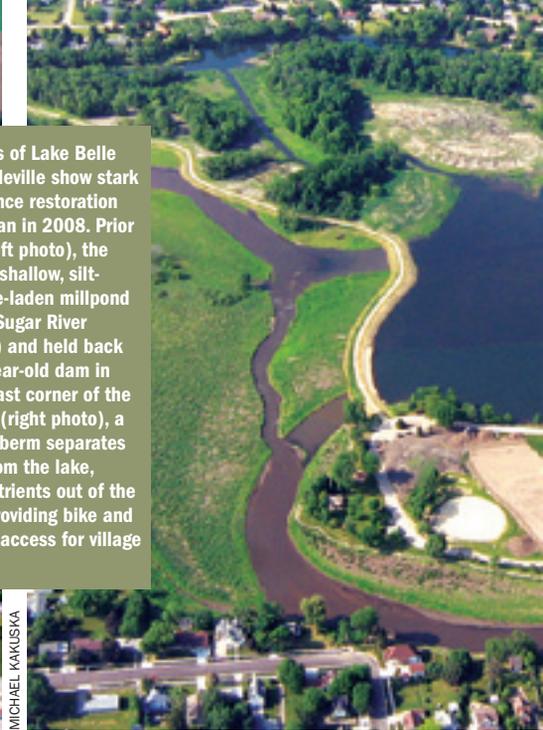




Aerial views of Lake Belle View in Belleville show stark changes since restoration efforts began in 2008. Prior to 2008 (left photo), the lake was a shallow, silt-filled, algae-laden millpond fed by the Sugar River (upper left) and held back by a 150-year-old dam in the southeast corner of the lake. Today (right photo), a man-made berm separates the river from the lake, keeping nutrients out of the lake and providing bike and pedestrian access for village residents.



MICHAEL KAKUSKA

Herding carp

A RESTORATION PROJECT TRANSFORMS AN AGING LAKE INTO A COMMUNITY HUB AND REINS IN CARP.

Kathryn A. Kahler

“Here’s hoping that herding carp is a lot like herding cattle. Then again, it could be more like herding cats.”

That was Richard Wedepohl’s observation and the hope of onlookers gathered with him on the shore of Lake Belle View in the village of Belleville on a cold, windy morning last November. A crew of commercial fishermen was circling the newly restored lake with boats, beating the surface with plungers to herd carp in the direction of seine nets waiting at the shore. After covering the backwaters and channels, they converged toward the shore, strung another stretch of net in a circle and slowly cinched it together, trapping carp, catfish and crappie.

The group of onlookers had varied credentials — environmental consultants, project managers, village personnel and taxpaying residents — but one common goal: to keep their lake from regressing to what it was five years before. They had seen the lake transform from a silt-filled, algae-laden millpond into a thriving lake and hub of recreational activity. They did not want the carp they thought had been eradicated to regain a foothold.

An old, shallow lake

The Lake Belle View restoration project was launched in 2008 after many public meetings and working sessions. Wedepohl and his business partner, Dave Marshall, both DNR retirees, worked with Montgomery Associates consulting engineers and village residents to develop a plan to restore the 150-year-old lake. Residents made it clear that they wanted a viable lake with beautiful views, better water quality and an improved fishery, while maintaining the dam that impounded the Sugar River at the lake.

Given the lake’s history, these goals seemed to Wedepohl and Marshall to work against each other. The lake was created as a millpond and over the years had become increasingly shallow from silt deposited by the Sugar River flowing through it. The Sugar River is a phosphorus-laden river whose watershed north of Belleville includes southwest Madison, Verona and hundreds of acres of agricultural fields. Maintaining the dam would ensure that river water



The lake is a hub of recreational and nature-based activities for village residents. A fenced enclosure on the lake side of the berm protects nesting turtles from predators.

would continue to feed the lake with unwanted nutrients.

A lake improvement project in La Valle, 60 miles to the northwest, provided a solution they thought worth trying — separate the lake from the river with a man-made berm to keep nutrients and silt out of the lake. Their restoration plan also called for drawing down the lake to



MICHAEL KAKUSKA

crease the 100-year flood elevations on the Sugar River, they proposed to remove 9 inches from the dam sill to allow more river water to flow over the dam.

Steps toward improvement

As with any major project, there were skeptics. Some local residents thought that separating the river from the lake would dry up the lake. Planners assured them that the lake is spring-fed and that groundwater was sufficient to refill the lake.

“In fact, groundwater enters the lake at a rate of 2 cubic feet per second, which is pretty fast,” Wedepohl explains.

Project partners built a half-mile long berm made of road-grade construc-



JEAN KRINGLE

help eradicate carp, modifying the mill-race structure to act as the outlet control for the lake, and improving fishing by dredging the lake to a depth of 8 to 10 feet.

Dredge material was placed around the existing islands to enhance and create terrestrial habitat areas. Because the separation berm was predicted to in-



JOSEPH WARREN

The common carp disturbs sediments, increases lake turbidity and retards the growth of submerged plants.

tion materials. It is 20 feet wide with a 10-foot-wide gravel bike and pedestrian path running the entire length, it is 4 to 5 ½ feet above normal lake and river water level, and it was designed to hold up to seasonal flooding. Flooding in excess of 25-year levels will overtop the berm through reinforced overflow sections to allow lake and river levels to equalize.

Over two years, the lake was drawn down and dredging was completed on both sides of the berm to deepen the lake and enhance the wetland forest, upland buffer and restored wetlands. Twenty-nine species of fish that prefer backwater habitat were transferred from the Sugar River into the lake. These fish were supplemented with a hatchery stocking that included 200 bluegills, 200 black crappies, 75 largemouth bass, 40 wall-eyes, 40 northern pike and 50 pounds of golden shiners. Steps were taken to



RICHARD WEDEPOHL

Commercial fishermen remove invasive carp from Lake Belle View to keep them from regaining a foothold in the lake.

control invasive vegetation, specifically buckthorn, honeysuckle, cattail and reed canary grass. Ongoing projects include an enclosure that keeps predators away from nesting turtles, biological control of purple loosestrife, floodplain forest planting and lake level and water quality monitoring.

A new, thriving resource

“What we have today is a resource that didn’t exist five years ago,” says Michael Parkin of the Community Development Authority for the village of Belleville, and one of the onlookers to last year’s “carp-herding” session. “Every day you can come to this park in the heart of Belleville and see people walking their dogs on the path. Kids use it to ride their bikes to school. It connects the south side of town to the north side. It used to be that Highway 69 was the only route from north to south.”

Plans are in the works to connect the pedestrian/bike path to the Badger State Trail that runs through Belleville to the east.

Another onlooker with a big stake in the project was Village President Howard Ward. A lifelong resident, he recalls what the lake used to be like in the 1960s.

“I can remember when I was in high school, we used to get a lot of bass and crappies out of this lake all the time. This was a really good fishing lake for years. I’m not blaming it all on the carp, it just filled in over the years. It never was a deep lake.”

Ward and other residents have kept a close eye on the restoration activities since day one, and the day of the carp



A lake drawdown in the spring of 2014 was more successful in eradicating carp.

JOSEPH WARREN



The seine encircling the carp is being readied for pulling into shore for final removal.

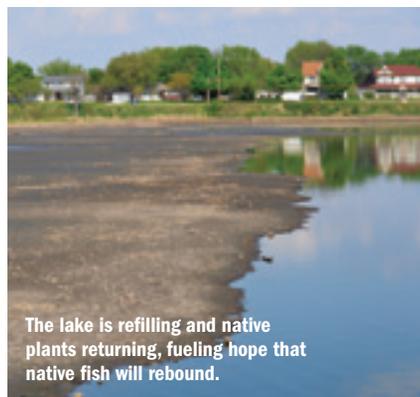
RICHARD WEDEPOHL

eradication was no different. Pickup trucks and cars cruised the park road all morning. Pedestrians with dogs in tow stopped to watch.

Residents have perhaps the biggest stake. They paid almost \$1 million toward the project in a special 10-year tax levy. Project construction costs totaled \$2.3 million with funding coming from the village lake fund, the DNR's Stewardship and Lake Protection funds, Dane County and several private donations.

"What started as a lake restoration project has turned into more of a community restoration," observes Wedepohl. "It's just so much more comprehensive than we envisioned at first. People are here fishing all the time. There's a canoe and kayak loop that connects the north channel folks to the lake because that was really important to them. An Eagle Scout started a project that created a nature trail with benches for resting that loops through the wetland area on the north end of the property."

It's that sense of community that was



The lake is refilling and native plants returning, fuelling hope that native fish will rebound.

JOSEPH WARREN

cause for concern when fish shocking surveys in the spring of 2013 found carp in the lake.

"We really thought that keeping the lake drawn down for six months and over winter would wipe out the carp population," recalls Marshall, a water quality expert specializing in riverine ecology in his days with the Department of Natural Resources. "When we found some big carp last spring, we realized there were still breeding stock that sur-

vived. We've since heard from fish biologists at Horicon that carp can overwinter in mud."

Not wanting the carp to get a foothold, the village contracted with commercial fishermen to remove them.

More like herding cats

As the fishermen started the final leg of their process, anticipation from the onlookers was keen. The men in their wind-shielding neoprene suits began pulling in the net strung along the shore. Fish caught in the nets were either thrown back into the lake (crappies, walleyes, bluegills and one huge catfish) or dropped in the bottom of the boat (carp).

At the end of the day, a couple hundred pounds of foot-long carp lay in the bottom of the boat. They were estimated to be 1 or 2 years old, so somehow the big breeding stock they knew were there had been missed. According to Wedepohl's analogy, the carp had proven to be more like cats than cattle when it came to herding.

Undeterred, project partners drew down the lake in the spring of 2014 in a second effort to remove the carp. This time, with the earlier experience under their belts, they were much more successful, capturing a high percentage of the carp. Marshall also reports good news in that even after a very long hard winter, preferred fish species were plentiful in the lake. Just 30 minutes of shore-line shocking collected 105 bluegills, 163 green sunfish, six orange spotted sunfish, 12 hybrid sunfish, three yellow bullheads, one black bullhead, one bluntnose minnow and one largemouth bass.

"We'll now refill the lake, replant water lilies and other native plants and re-survey the fish community to see if additional controls will be needed. Carp are quite the worthy opponent," says Wedepohl. In the meantime, nature and humans alike took advantage of the situation.

"Shorebirds were everywhere on the freshly exposed mud flats," recalls Wedepohl. "The entire Belleville seventh-grade class came out for a field day and kicked around on the exposed lakebed, looked at aquatic insects and explored the plant community of the floodplain forest and prairie areas around the lake." ❧

Kathryn A. Kahler is an editorial writer with Wisconsin Natural Resources magazine.