

CROW WING SWCD



'A resource worth saving'

Big Trout Lake, known for its lake trout and sandy beaches, was in danger of degrading. With a precedent-setting agreement, the Whitefish Area Property Owners Association made Crow Wing SWCD's protection project possible.



MANHATTAN BEACH — With a cold-water fishery and natural sand beaches, Big Trout Lake supports Crow Wing County's only population of stocked lake trout and its second-highest taxable land values.

It's among the farthest southwestern Minnesota lakes supporting the species more commonly associated with the Boundary Waters Canoe Area Wilderness. Here, shoreline property sells for about \$4,200 per foot.



Cole Gernentz of Red Wing prepares to fish Big Trout Lake, the only Crow Wing County lake stocked for lake trout. A project led by Crow Wing Soil & Water Conservation District and funded with a Clean Water Funds from the Minnesota Board of Water and Soil Resources aims to preserve water quality and fish habitat.

A crew from Brainerd-based Technical Service Area 8 surveyed the site of a stormwater treatment project in September 2017 off Crow Wing County Road 66 bordering Big Trout Lake outside Manhattan Beach. The project will keep an estimated 40 pounds of phosphorus out of the lake annually.

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Ann Wessel,
BWSR



Crow Wing County Road 66 parallels Big Trout Lake just outside Manhattan Beach. A Crow Wing Soil & Water Conservation project will treat stormwater runoff that enters the lake here. The project is designed to treat a 1-inch rain and projected to keep 40 tons of sediment and 40 pounds of phosphorus out of the lake annually.

“That’s an important resource, and it’s a resource worth saving,” said Jeff Laurel of the Whitefish Area Property Owners Association.

This spring, the Crow Wing Soil & Water Conservation District finished a \$400,000 stormwater treatment project designed to protect Big Trout Lake’s water quality.

The Minnesota Board of Water and Soil Resources ranked the project No. 1 among its Clean Water Fund grant priorities for 2016. The \$310,000 BWSR award helped pay for pipes and three underground sediment-collectors off Crow Wing County Road 66.

Previously, untreated runoff from 121 acres carried algae-feeding phosphorus and other pollutants into the lake through a series of ditches, gutters and a culvert. The project on the edge of Manhattan Beach will keep an estimated 40 tons of sediment — about three



Jeff Laurel, left, of the Whitefish Area Property Owners Association and Ron Meyer of the Pine River Watershed Alliance were among those who helped to propel the Big Trout Lake stormwater treatment project forward. In September 2017, the two met at the project site just outside Manhattan Beach to talk about efforts to preserve the lake’s water quality and lake trout habitat.

dump truck loads — and 40 pounds of phosphorus out of the lake annually.

“I remember a time when that bottom was all sand. No weeds at all,” Laurel said. A retired Twin Cities software and systems company owner, Laurel grew up spending summers on Big

Trout Lake. He moved here full-time in 2012, and serves on the WAPOA board. “Since the early ’90s we’ve noticed that there’s been more weed growth in the lake, and more algae in the lake as you get later into the summer.”

Water clarity has decreased by about 10 feet since 1992.

“
If you see a good sandy beach, that’s what this whole lake was like 100 years ago.”
”
— Ron Meyer, Pine River Watershed Alliance, on the history of Big Trout Lake

Nutrient-loading threatens species such as lake trout, lake whitefish and cisco (AKA tullibee). All three are present in Big Trout Lake. All three need cold water plus sufficient oxygen levels, but lake trout are the least tolerant.

Decomposing algae on the lake bottom depletes the cold-water oxygen supply.

“We’re often on the edge,” said Owen Baird, a Brainerd-based Minnesota Department of Natural Resources fisheries specialist. “The cold water’s there, but the oxygen’s kind of on the low side.”

Lake trout require oxygen levels of about 5 parts per million.

“If it gets under 3 ppm, the water’s cold enough but they can’t breathe. They could go higher up in the water column, but then it’s 60-degree water and they’re kind of hot and unhappy,” Baird said.

Reducing phosphorus in particular will improve oxygen levels.

“Eventually, we’re going to see a resulting decrease in the weed growth and in the algae growth,” Laurel said.

The WAPOA board set a precedent when it agreed to pay 75 percent of the estimated \$1,500 annual maintenance cost to pump out the sediment collectors. (It’s the first time the 1,100-member, 14-lake WAPOA has spent money on a project tied to a road supported by tax dollars.) Manhattan Beach will pay the balance.

Manhattan Beach — a community of about 60 — was reluctant to take on the entire 25-year maintenance commitment itself. So was the county. The county agreed to maintain the infrastructure.

“We got them to the point where they felt that it was worthwhile,” Laurel said of Manhattan Beach officials. “Several groups recognized the importance of trying to reduce the nutrient load coming in through these storm drains.”



Above: Crews in late May installed pipes and underground sediment-collectors off Crow Wing County Road 66 just outside Manhattan Beach.

Left: Sediment will collect in three Downstream Defenders, which will be pumped out one or two times a year.

Photo Credits: Crow Wing SWCD

Manhattan Beach was among them.

“We’re happy from the standpoint that it got funded, correcting a potential problem that’s there,” said Manhattan Beach Mayor Paul Allen.

“Anything that we can do to help keep it clean I think is important. But a city our size to take on the undertaking of the perpetual care is the thing with the pumping of the diverters. That’s where WAPOA and (the city) came into agreement,” Allen said.

After the Crow Wing County

water plan made Big Trout Lake a priority, the SWCD received a \$10,000 Central Regional Sustainable Development Partnership grant to identify the source of runoff and propose a solution.

“It really identifies how difficult these projects are to do,” Ron Meyer, CRSDP board member and Whitefish Lake resident, said of the five-year-long process. “This is one of the examples that we like to use where we get the seed money going, and we feel this is going to have an impact.”

Local Contributions

A \$7,200 Land and Waters Preservation Trust grant funded by the Whitefish Area Property Owners Association and the Pine River Watershed Alliance and \$3,500 from the Robert Becker Memorial Fund covered some of the construction costs. Becker was a longtime Crow Wing Soil & Water Conservation District supervisor who initiated the project six years ago.

The ripple effect has reached well beyond Manhattan Beach.

Now, Crow Wing SWCD Manager Melissa Barrick said, Crosslake and county highway department officials are collaborating to identify where untreated stormwater is flowing into other lakes within the Whitefish Chain.

“It’s just kind of exciting to see how this project spurred on these additional conversations,” Barrick said.



The Minnesota Board of Water and Soil Resources’ mission is to improve and protect Minnesota’s water and soil resources by working in partnership with local organizations and private landowners. Website: www.bwsr.state.mn.us.