



RANDY HILTNER

Devils Lake Carp Prevention Update

By Craig Bihrlle

What makes carp so threatening is their destructive and competitive nature. They eat both plants and animals, mostly small invertebrates that would otherwise feed young-of-the-year game fish.

In the 1940s, Devils Lake was nearly dry. If it ever had any common carp before that, they would have died out during winters when the northeastern North Dakota lake's water froze to the bottom.

It wasn't until the 1970s that enough water returned so the North Dakota Game and Fish Department could start rebuilding the fishery. Since then, carp have not been detected in the lake, and this lack of carp is a significant factor in Devils Lake's rise to national accolades as a walleye, northern pike, white bass and yellow perch fishery.

Carp are an undesirable fish. They were purposely introduced in many locations around the country, including North Dakota, more than 100 years ago by the U.S. Bureau of Sport Fisheries. Unfortunately, it was a poorly researched experiment that produced an unwanted fish species that thrives today.

What makes carp so threatening is their destructive and competitive nature. They eat both plants and animals, mostly small invertebrates that would otherwise feed young-of-the-year game fish. Their bottom-feeding habits uproot plants and stir up sediments that cloud the water, blocking sunlight needed for beneficial aquatic plants to grow, and making it difficult for game fish to see prey.

Recently, a new carp threat to the Devils Lake fishery was identified. Rising water levels have created a natural phenomenon that periodically allows mixing of water from the Devils Lake basin and the Red River watershed.

Two summers ago, Game and Fish biologists discovered young-of-the-year carp from the Red River watershed less than two miles from a Cavalier County road that acts as a division between the two watersheds. The carp were in a meandering, narrow waterway called Snowflake Creek. The only thing that prevented them from moving farther upstream to the road, and then through a culvert into the Devils Lake watershed, is a thick growth of cattails in the upper end of the creek. The cattails are a significant barrier and continue to inhibit fish movement between the two watersheds.

Game and Fish biologists estimate that if carp got into the Devils Lake basin, and migrated to Devils Lake itself, existing fisheries would start to decline within 10 years. Eventually, biologists predict walleye and northern pike populations could fall by 50 percent from what they are today.

This connection between the two watersheds has existed during most years since 1997, and possibly at times before that. The connection is not always constant, but can develop under conditions such as high spring runoff from snowmelt, or locally heavy rains in late spring or early summer.

Prior to 2006, perhaps it was just good fortune that carp didn't make their way unnoticed from Snowflake Creek into the upper end of a drainage called Edmore Coulee. Edmore Coulee starts on the south side of the road that divides the watersheds, and channels water from the northeastern part of

the Devils Lake basin down into the connected waters of Devils Lake itself.

Last spring and summer, however, the Game and Fish Department set up a device called a rotenone drip station to prevent carp from moving into the upper reaches of Snowflake Creek. A drip station basically adds the chemical compound rotenone to the water. Rotenone kills fish and other aquatic life forms that use gills to breathe, but the water is not toxic to land animals, and dead fish killed by rotenone are not toxic to anything that might eat them.

The rotenone, which the Game and Fish Department has used many times over the past couple of decades to eliminate undesirable fish from small lakes and reservoirs, also dissipates rather quickly. That's why it's necessary that rotenone is continually applied to maintain a chemical barrier for some distance downstream of the drip station.

Game and Fish used the drip station from mid-May through mid-July, at a cost of approximately \$20,000. The setup, in combination with a dry spring and summer, was apparently effective as no young carp were detected upstream of the station, from where they might have worked their way through the thick cattails at the upper end of Snowflake Creek, through the culvert, and into the upper end of Edmore Coulee.

The rotenone drip station was set up as a temporary solution while a collection of government agencies and organizations worked out the details to a permanent earthen berm that would plug the culvert so no water could transfer between the two basins.

Heading into summer 2007, this permanent solution is still pending. The size and number of berms, location, cost, and what share of the final cost each participating organization will bear, is not yet resolved. As such, Game and Fish will again operate the rotenone drip station.

However, the drip station is not a long-term solution, according to Game and Fish fisheries division chief Greg Power. The chemicals are expensive and over time would cost much more than building the berm(s). It's possible that someday chemicals may not be available, Power said, and operating costs are also high because frequent monitoring is necessary to make sure the drip station is working properly. If chemical distribution into the water is interrupted even for a day, it might allow fish movement under the right circumstances. "The best option is to get that berm built, to reduce that risk," says Game and Fish Director Terry Steinwand.

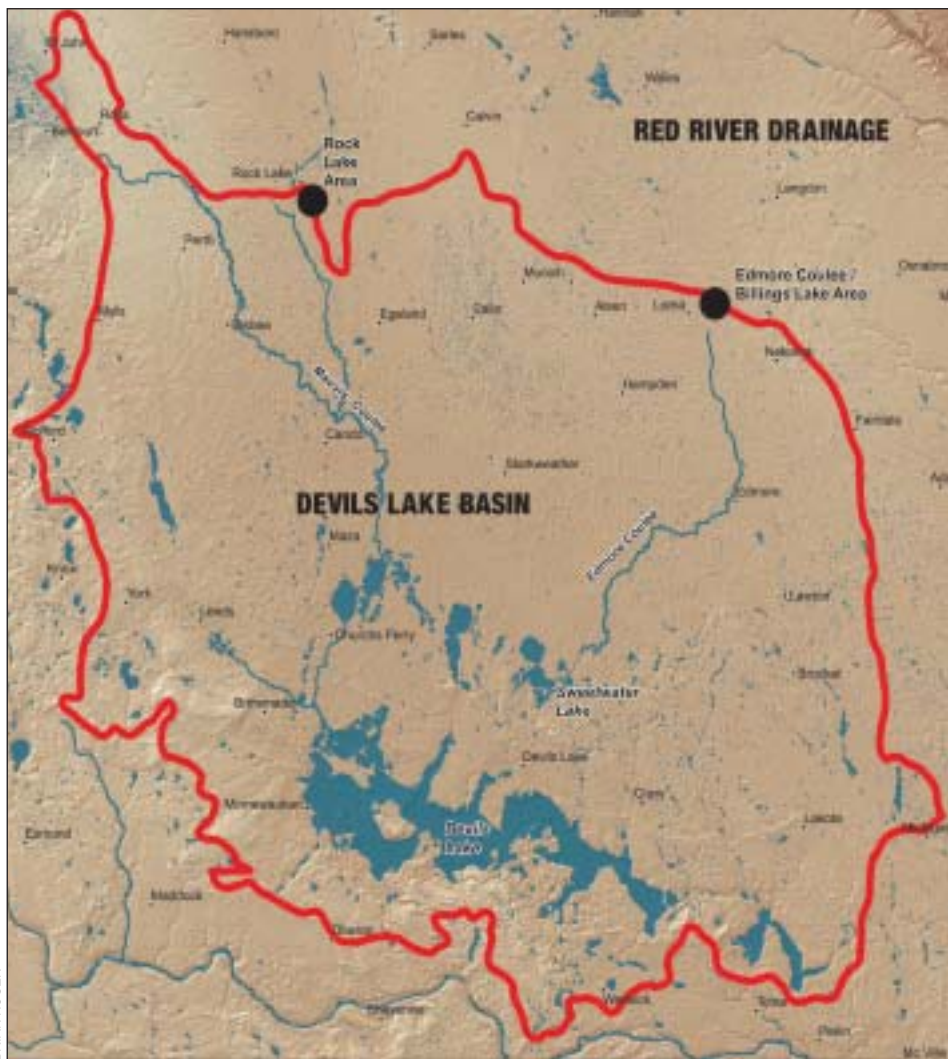
The estimated cost of creating an earthen berm or two is between \$70,000 and \$200,000, Steinwand said.

Construction and engineering costs don't include additional necessary payments to landowners whose land might temporarily flood if water backs up behind the berm instead of running off to the north. In March 2006, the North Dakota State Water Commission presented a report at meeting of the Billings Lake subcommittee of the Devils Lake Basin Joint Water Resource Board. The report indicated only a few additional acres of land would flood during a high precipitation event if the culvert was closed, compared to what already occurs during such events when water can flow freely under the road.

Discussion is still ongoing between landowners, the joint water board, county boards, Game and Fish and the State Water Commission to determine the final amount of land that might flood, and what easement payments might be.

"Ideally, at this time next year, we will have a permanent solution in place," Steinwand said. "That protection is well worth it for the value of the Devils Lake fishery."

CRAIG BIHRLE is the Game and Fish Department's communications supervisor.



BRIAN HOSEK

The Devils Lake basin, outlined in red, is typically a closed basin. However, the areas indicated by black dots are areas of concern for water and fish transfer.