



NEWS RELEASE

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SUBJECT: Exotic fish virus suspected of killing carp

MADISON , Wis. – An exotic fish virus, spring viremia of carp, is suspected of killing more than 10 tons of carp last spring and the previous fall in Cedar Lake in St. Croix and Polk counties in northwestern Wisconsin.

If confirmed by the final of three tests being conducted by a European laboratory, the diagnosis would represent the first time the virus has been documented in the wild in the United States. Spring viremia of carp (SVC) was previously diagnosed this spring in a North Carolina fish farm that raises an ornamental carp variety called koi.

The virus, which is widespread in Europe and found in Russia, Asia and the Middle East, cannot infect humans. The disease is an international animal health concern, however, and covered under an international treaty that requires confirmation of the virus by a designated laboratory, reporting to international animal health authorities, and other measures.

Only members of the minnow family, which include carp, are naturally susceptible to the virus, but northern pike fry also have been infected in laboratory studies. That possibility worries Wisconsin fisheries and state aquaculture officials, as does the possibility that that the virus may have already passed to downstream waters. The outlet of Cedar Lake flows into the Apple River, which in turn flows into the St. Croix River and the Mississippi River.

“We’re concerned this virus could be a problem for northern pike and some important forage fish so we’re proceeding as if we’ve got a positive diagnosis of spring viremia of carp,” says Mike Staggs, who directs the Department of Natural Resources fisheries management and habitat protection program.

Dr. Myron Kebus, aquaculture veterinarian with the Wisconsin Department of Agriculture, Trade and Consumer Protection, said that SVC threatens the state’s fish farms and hatcheries as well. That department has alerted fish farmers to the threat of spring viremia.

(more)

“We haven’t studied the epidemiology yet, so we can’t speculate how the virus arrived in Wisconsin,” Kebus says. “Other states in our region are now sharing that they have also experienced carp kills over the past several years, so this may be a virus that has been present in the United States for a while, but just not previously detected. The fact that it is here, however, raises the possibility that it could move from wild fish to hatcheries and farms.”

The possibility also exists that the virus may have moved the other way -- from fish farms or the pet industry to wild fish. Koi from that farm were shipped across the country, including to Wisconsin. However, there is no indication that the ornamental carp found their way into the waters of the state, whether the fish that came to Wisconsin were infected, or whether the virus found in Wisconsin is the same strain as that found in North Carolina, Kebus says.

Starting Sept. 10, DNR fish health specialist Sue Marcquenski and DNR fisheries crews will begin sampling carp from Cedar Lake. The virus can’t be detected in fish in water temperatures above 68, but Marcquenski hopes that antibodies to the virus can be detected in the blood of fish that were previously infected by SVC but survived.

"If we can find antibodies to SVC in carp that we know were previously infected, we can use this same technique to learn whether carp from downstream waters were infected with the virus," Marcquenski says.

Such information about the distribution of the virus will help DNR decide the feasibility of attempting measures to control or eradicate the disease. Two actions fisheries officials are considering include temporarily banning carp harvest and bait harvest from the Cedar Lake.

Spring viremia in carp strikes primarily in the spring or fall, when fish immune systems are suppressed due to very cold water temperatures. Signs of the fish disease include a fluid buildup in the body cavity, small hemorrhages on the skin, the belly, and hemorrhages on the swim bladder. Infected fish become diseased and can die within 10 to 17 days.

Infected fish can shed the virus in their urine and feces for at least three months, and the virus can survive in the mud for six weeks and in water for two weeks. The virus is transmitted to other fish through the water.

SVC’s discovery in Wisconsin started unfolding when DNR fisheries biologist Marty Engel noticed that large numbers of carp in Cedar Lake were dying in the late fall and spring of unknown causes. Engel estimated that through June, more than 2,000 carp died in Cedar Lake. Further reports from the Cedar Lake Management and Rehabilitation District indicate that volunteers removed 10 tons of carp, with many more disposed of by lakeshore residents.

Engel was able to collect dying carp for lab analysis, a critical step since live, dying fish are needed to test for bacterial or viral infections. Marcquenski examined the fish and suspected spring viremia of carp because of fluid build up in the fish. She sent the tissue samples to the Wisconsin Veterinary Diagnostic Lab in Madison on May 23 for virus testing.

That lab isolated the virus and sent it to the University of Arkansas laboratory in Pine Bluff, Ark., which had just diagnosed SVC in koi from the North Carolina fish farm. Virus isolates suspected of being SVC must be sent to the Centre for Environment, Fisheries and Aquaculture in Weymouth, England, so the Wisconsin samples were sent to that laboratory.

Two initial tests conducted by the Weymouth Lab strongly suggest a diagnosis of spring viremia of carp virus; scientists expect final confirmation in about two weeks through a third test, Marcquenski says. DNR officials have notified the state veterinarian's office and the appropriate USDA officials, who in turn have reported the outbreak to the Office International des Epizooties, as required under the international trade treaty.

State fisheries officials in Minnesota, Iowa, and Illinois, and the U.S. Fish & Wildlife Service have been notified and are consulting with DNR and the Department of Agriculture, Trade and Consumer Protection to learn how the virus came to Wisconsin, how to determine its prevalence and distribution, and how to contain it if possible.

"We'll be reviewing our options to contain this disease if it's at all possible," Staggs says.