

Q: What's causing the carp to die in Beaver Dam Lake: Results from molecular testing indicate the common carp that were sick and dying in Beaver Dam Lake were positive for koi herpes virus (KHV), a herpesvirus that affects the species *Cyprinus carpio* (koi and common carp) and common carp hybrids. Goldfish and crucian carp may also be susceptible to KHV. The tested carp were furthermore positive for *Flavobacterium columnare*, the bacteria that causes the disease known as columnaris. Secondary infections with *Flavobacterium columnare* are common in fish with KHV. Therefore, the common carp in Beaver Dam Lake are thought to have died from a Koi Herpes Virus infection coupled with a secondary bacterial infection with *Flavobacterium columnare*. Koi herpes virus is a reportable disease and DNR fish health veterinarians have completed notification to the proper agencies.

Q: Is koi herpes virus or the columnaris infection harmful to humans, other animals, or other fish? Koi herpes virus and the columnaris infection causing the fish kill are not harmful to people or other animals. Herpesviruses are known to infect specific or a very limited range of host species, so KHV is not a threat to the health of other fish like pike, muskellunge, bass, panfish, or other types of animals like birds or mammals. While not a threat to people, other mammals or birds, columnaris bacteria can infect a wide variety of fish in a weakened condition. Care should be taken in removing dead or dying carp because they also may contain other potentially harmful bacteria that multiply in warm weather conditions and could infect wounds. Health and safety experts recommend the use of gloves to handle any dead or dying fish.

Q: When will the die-off end? KHV can occur anytime water temperatures are between 61-82 °F, but most outbreaks occur between 73-79°F. Outbreaks usually happen when water is warming up in spring or early summer. From previous experience with KHV outbreaks in Wisconsin, the period of actual fish die-off is short lived. However, carp that survive an outbreak may carry the koi herpes virus and continue to spread it without showing symptoms or when they become sick again. Therefore WI DNR fish health veterinarians and biologists anticipate the virus may reappear in the future, when water temperatures and conditions are optimal.

Q: What is DNR doing to help? DNR fish health veterinarians and biologists are monitoring the fish kills to determine where the virus is present and whether it is spreading.

Q: In the meantime, what should property owners do about the dead fish? DNR encourages property owners to remove the fish, which can be buried, placed in landfills or used in farm fields as fertilizer. Naturally occurring fish kills are the responsibility of property owners and in some communities, lake or neighborhood associations may take the lead in securing a single contractor to handle the removal.

Q: Is it safe for humans and pets to swim in waters affected with koi herpes virus? Koi herpes virus does not cause disease in humans or pets. However, the DNR asks the public to exercise good judgment in deciding to participate in recreational water activities in areas where dead fish have accumulated. It is reasonable to suggest that the public avoid direct skin contact with dead or dying fish and it is never a good idea to swim or wade among large numbers of dead fish, particularly in stagnant areas of water. As a precaution, people who handle dying or dead fish or swim and wade in the water should wash thoroughly with soap and clean water. In regard to pets, they should be rinsed thoroughly with fresh water after swimming. Furthermore, do not let your pets eat the dead fish. While the pathogens causing the fish kill will not

transfer to your dog, eating the tissue of the dead fish can make them sick in general. These precautions should always be followed, not only in the presence of a fish kill situation.

Q: Is there treatment for koi herpes virus? There is no treatment for koi herpes virus. Antiviral drugs are not available to treat koi herpesvirus or any other viral diseases of wild fish. It is generally not feasible to treat wild fish.

Q: Is there anything citizens can do to help? Citizens who observe dead or dying carp in Beaver Dam Lake are asked to contact Mark Baldock, a DNR fisheries technician, by email via Mark.Baldock@wisconsin.gov or by phone at 608-921-3651, or fish health veterinarians Dr. Danielle Godard (608-332-2163) or Dr. Nicole Nietlisbach (608-224-4876). DNR welcomes citizen surveillance in identifying additional die-offs. It is thought that Koi Herpes Virus has been introduced to wild carp populations through the escape or release of pet koi. Citizens should never release or dispose of pet fish in the wild.

Q: Can I eat fish I catch from Beaver Dam Lake? Yes. Anglers can continue to enjoy fishing and eating their catch. Koi herpes virus does not infect humans. Fish are safe to eat as long as the fish are fresh and properly cooked. Never eat fish you find dead, decomposing or that appear sick, regardless of cause.