

Fish and Wildlife Diseases in Saskatchewan

Most diseases and parasites are a natural part of a healthy ecosystem. Saskatchewan collaborates with the Canadian Cooperative Wildlife Health Centre to survey for fish and wildlife diseases. **We need your help! If you see sick or dead fish or wildlife, report them to the Ministry of Environment's toll-free line at 1-800-567-4224.**

Avian Influenza in Wild Birds

Avian Influenza Viruses

Avian influenza viruses (AIV) occur globally in wild birds, especially in waterfowl. AIV is usually in wild species but occasionally the virus may be spread to domestic poultry, where they can develop into strains that cause significant mortality.

H5N1 AIV is a highly transferable strain found in wild and domestic birds in Europe, Asia and Africa. It can affect people who come in close contact with birds. Although there is no evidence to suggest that this strain is in North America, the mixing of Eurasian and North American birds in Arctic breeding areas could result in the strain coming into Saskatchewan with migrating wild birds in late summer and fall.

Avian Influenza in Saskatchewan

In September 2007, H7N3, a strain of AIV that is not associated with human illness, was detected in a commercial poultry operation in Saskatchewan. As of April 25, 2008, Saskatchewan has been declared free of high pathogenic avian

influenza in the commercial poultry operations by the Canadian Food Inspection Agency.

National Inter-Agency Wild Bird Influenza Survey

The Government of Saskatchewan participated in the National Inter-Agency Wild Bird Influenza Survey since 2006. Saskatchewan's Ministry of Environment takes an active role in the dead wild bird survey and encourages field officers to target their investigation and collection of dead wild birds based on a priority approach for waterfowl and water bird mortality.

Safe Handling Procedures for Dead Birds

Avian Influenza virus is shed in the fecal droppings, saliva and nasal discharges of birds, so you should avoid direct or indirect contact with these body fluids and secretions. There is very low risk of contracting avian influenza without having direct, significant and prolonged contact with infected birds. You can minimize that risk even further by following the instructions provided here for safe handling of dead birds.

Public

If you have direct or indirect contact with birds or their bodily fluids, follow with thorough cleansing with soap and water, or rinsing with alcohol-based hand products (containing >60 per cent alcohol) if hands are not visibly soiled.

If handling dead birds, wear heavy-duty rubber gloves, dish gloves, latex plastic gloves, or double latex gloves. You may also use leak-proof plastic bags as gloves.

When picking up dead birds, ensure that the bird's bill and claws do not puncture the bag or gloves.

Birds should be double bagged using clean garbage bags, sealed and kept cool or frozen until they can be dropped off at a Ministry of Environment office or at the Canadian Cooperative Wildlife Health Center. Collect and submit the appropriate information, such as location where the bird was found, species, number dead and finder's contact information) are collected and submitted with the specimen.

Dispose of or wash gloves afterwards with soap and water. Wash hands thoroughly with soap and water or with alcohol-based hand products.

Hunters

You can safely hunt, handle and eat healthy game birds; however, follow routine precautions:

- Do not handle or consume sick birds, or birds that have died from unknown causes.
- Avoid direct contact (skin or mucous membranes of the eyes, nose and mouth) with blood, feces and respiratory secretions of all wild birds.
- Do not rub eyes, eat, drink, or smoke while cleaning, defeathering or removing the contents of game.
- Ideally, wear dish gloves or latex/plastic gloves when cleaning, defeathering and removing the contents of game.
- Wash gloves, hands and clothing with soap and warm water immediately after processing game.
- Wash tools, work surfaces, and other equipment with soap and warm water, then with a 10 per cent solution of household bleach - just the same as you would after handling raw chicken.
- Cook game meat thoroughly, to an internal temperature of approximately 70° C (160° F). Observe good food safety practices, such as [food safety1](#) and [food safety2](#).
- If you become ill while handling birds or shortly thereafter, see your doctor. Inform your doctor that you have been in contact with wild birds.
- For public health reasons, people who frequently handle wild birds should consider annual vaccinations against

seasonal human influenza. This will not protect people from avian influenza, but it will reduce the likelihood of a person becoming infected with both human and avian influenza strains simultaneously. This reduces opportunities for viral reassortment and mutation that would allow a highly pathogenic avian influenza to become a highly transferable human influenza.

Report and Submit Dead Birds

The Ministry of Environment leads the collection and shipment of dead birds to the Canadian Cooperative Wildlife Health Centre (CCWHC) in Saskatoon. The Inter-Agency Wild Bird Influenza Survey 2008 has set a target number for the dead bird survey in Saskatchewan at 500 wild birds.

Field officers will only go and pick up carcasses of dead wild birds if the mortality found or reported fits the following criteria:

- Bird species that use aquatic or wetland habitats, especially waterfowl and water birds.
- Mortality that appears unusual for the region and locations.
- Mortality involving more than one species of wild birds.
- Mortality involving notable number of wild birds (more than 5).
- Mortality from May until fall.

For all other wild birds found dead, the public may submit the specimens either directly to the CCWHC situated in Saskatoon, or drop off the specimens (double-bagged and labeled appropriately) at any of the field offices during regular office hours. For each dead wild bird specimen, location of where the dead bird was found, species, please note and submit the estimated number dead, and contact information of the finder

should be noted and submitted along with the specimen to CCWHC.

For further information, please contact:

Katherine Mehl
Ph: 306-933-5040

Erin Moffatt
CWHC National Office
Ph: 306-966-5099
AIV Hotline (toll-free):
1-866-544-4744
Email: info@cwhc-rcsf.ca
cwhc-rcsf.ca

Anthrax

Outbreaks of anthrax have occurred in a number of rural municipalities in Saskatchewan.

Please report the exact location, type of animal and your name and phone number in case follow-up is required.

More information on anthrax can be found at:

[Ministry of Agriculture](#)
[Canadian Food Inspection Agency](#)
[Public Health Agency of Canada](#)

Chronic Wasting Disease (CWD)

Chronic wasting disease (CWD) is a fatal disease that affects the nervous system of deer, elk and moose. There is no cure or prevention for the disease.

The disease is caused by infectious proteins, called prions. These infectious proteins accumulate in the nervous tissue of the animal causing microscopic holes in the brain. Animals appear healthy in the early stages of the disease. CWD is invariably fatal and expected to have negative impacts on deer and elk populations throughout North America.

The disease transmits from one animal to another through contaminated saliva, feces, urine, soil and water.

CWD was first discovered in Saskatchewan in 1996 in a game farm. In the wild, CWD was first confirmed in a mule deer in 2000. The disease has since been found in white-tailed deer, elk and moose in the wild. Occurrence of the disease has grown geographically in Saskatchewan where it has now been found in 28 wildlife management zones. Saskatchewan-wide, [CWD surveillance in 2015-16](#) included tests on 214 heads submitted by both hunters and conservation officers. Of those sampled, 26 cervids were found positive for CWD to include 21 mule deer, four white-tailed deer and one moose.

As of April 2016, 85 cervid farms were found to be infected with CWD, Canada wide. All occurrences are within Saskatchewan (81/85 cervid farms) and Alberta (4/85 cervid farms).

The World Health Organization (WHO), Canada Health and the Saskatchewan Ministry of Health recommend that all products from animals infected with any prion disease not be consumed, and that all hunters' animals are tested before eating.

Research

Past research projects on deer include one in the Manitou Sandhills, south of Lloydminster, and another along the Saskatchewan River from Riverhurst to the Alberta border. A third research project on cervids occurred in 2014 near Nipawin.

Some things of note:

- Over 300 radio-collars were deployed on deer in these areas.
- Please do not shoot any collared deer.
- If a collared deer is observed, found dead or accidentally shot, please report the occurrence to the number

specified on the neck collar or the University of Saskatchewan at 1-888-966-5815. Turn the collar into your nearest conservation officer.

- In addition, some deer will be tranquilized and implanted with ear tags. It is important that hunters contact 1-888-966-5815 prior to consuming meat from any tagged or collared deer.
- Researchers also require the tag number and the location where the deer was taken.

Newcastle Disease in Wild Birds

The Newcastle Disease Virus (NDV) exists in a variety of strains and occasionally causes mortality in colony-nesting birds, such as double-crested cormorants, pelicans and gulls. NDV in wild birds generally is not lethal in poultry. Newcastle disease occurs naturally in wild cormorants throughout their range in North America. Occasional outbreaks occur, but they appear to be short-lived and affect limited numbers of colony-nesting species.

Birds affected with the NDV show signs of partial paralysis of the wings and legs. Affected birds cannot fly or dive and some limp or fall over.

The disease does not pose a health risk for people; however, in rare cases it has been known to cause conjunctivitis (mild eye irritation with possible flu-like symptoms for up to seven days), usually in people who have come into contact with many infected birds.

If you come in contact with sick or dead cormorants or gulls, etc., avoid handling the birds, but please report them to the nearest Ministry of Environment office.

Anyone who has handled a sick or dead bird or visited a nesting colony in the affected areas should

wash their hands and clothes immediately and disinfect shoes and equipment with a five per cent bleach solution. Precautions such as these will help prevent spreading the disease to other areas of the province.

Ticks and Tick-borne diseases in Saskatchewan

Common tick species in Saskatchewan include *Dermacentor albipictus* (Winter ticks), *D. andersoni* (Wood ticks), and *D. variabilis* (American dog ticks). *Ixodes scapularis* (black-legged ticks), responsible for the transmission of Lyme disease, are found in very low numbers in Saskatchewan and is not a major concern.

Winter ticks usually do not carry bacterial pathogens. However, many winter ticks on an individual may reduce health and. In contrast, wood ticks have been found to carry bacterial pathogens which causes *Rickettsia* (*Anaplasma marginale*) and Rocky Mountain Spotted Fever (*Rickettsia rickettsia*) in humans, and *Tularemia* (*Francisella tularensis*) in wild rodents and humans.

Brainworm or "moose sickness"

Brainworm or meningeal worm (*Parelaphostrongylus tenuis*) is a parasitic roundworm that affects cervids in North America. This species is a slender roundworm commonly found in the brain cavity. White-tailed deer are the normal host for the brainworm, but moose, elk, caribou and mule deer are also susceptible. Brainworm does not affect white-tailed deer. However, in mule deer, moose, elk and caribou, the worm can affect the nervous system of the animal causing weakness, fearlessness, lack of coordination of movement, circling,

deafness, impaired vision, paralysis and subsequent death of the animal.

Brainworm has a wide distribution in eastern and central North America. Declines in the moose populations of New Brunswick, Nova Scotia, Maine and Minnesota may be associated with this disease.

The worm is of no public health significance because it does not infect humans, and meat of infected animals is safe for human consumption.

Viral Hemorrhagic Septicemia (VHS)

Help Stop the Spread of VHS

VHS is an extremely serious and deadly infectious fish disease. It can cause large-scale fish kills, resulting in significant economic effects.

There are several strains of VHS, including the strain VHSv IVb, which affects freshwater fish species.

The virus DOES NOT affect humans; fish carrying VHS are safe to eat and to handle.

VHS is not in Saskatchewan, but the VHSv IVb virus was detected in fish from Lake St. Clair, Ontario in 2003. Since then it has spread regionally to the following waters: Lake Huron; Lake St. Clair; Lake Erie; Lake Ontario; Detroit River; Niagara River; St. Lawrence River; and Lake Superior.

Many native and stocked species of fish in Saskatchewan are susceptible to the VHSv IVb strain found in the Great Lakes, including:

Game Species

Walleye
Yellow perch
Northern Pike
Lake whitefish
Burbot
Lake trout
Smallmouth bass
Rainbow trout
Brook trout
Brown trout
Channel catfish

Bait Fish

Emerald shiner
Spottail shiner
Fathead minnow
Trout-perch

Other species

Common carp
Rock bass
Brown bullhead
Shorthead redhorse
Silver redhorse

VHS could be introduced into Saskatchewan by any method that involves the movement of fish, frozen bait fish, water, vessels or equipment that has had contact with the virus.

While leeches are not known to contract VHSv IVb, they have the potential to carry and transmit the virus if they have been in contact with infected fish, or are from VHSv IVb infected waters.

VHSv IVb can be spread by using frozen bait that comes from VHSv IVb affected areas.

Anglers can prevent the spread of VHS by:

- Using bait (frozen minnows and leeches) that has been produced locally. To help protect our waters from fish diseases, Saskatchewan prohibits the importation of leeches, crayfish and other aquatic invertebrates and requires that all frozen fish originating from the Great lakes region of North America to be used as bait in the province, be certified free of VHS.
- Thoroughly cleaning and disinfecting equipment (boat, fishing equipment, fish gloves, etc.) before and after entering any Saskatchewan waterbody if coming from a known infected VHSv IVb area.

These actions will help prevent VHS from being introduced into Saskatchewan. For further information contact the Ministry of Environment @ 1-800-567-4224 or your local area fisheries biologist.