

## **Why Do Some Wild Birds in New Brunswick Get Sick? We Need to Know**

Naturescope is on a very specific mission today, that being to accurately determine the cause of sickness in certain wild birds species that we may note especially around bird feeders.

We are very fortunate in Atlantic Canada to have a regional location of the Canadian Cooperative Wildlife Health Centre (CCWHC) at the Atlantic Veterinary College in Charlottetown, PEI. The CCWHC is an organization encompassing Canada's five veterinary colleges which coordinates Canada's national wildlife health surveillance program and provides educational programs, information, and consultation to both government and non-government agencies, as well as to the public. In our region, the CCWHC is coordinated by Dr Pierre-Yves Daoust and staffed by Drs María Forzán and Scott McBurney. All three of these individuals are veterinary pathologists who are keenly interested in examining sick or dead wildlife to determine what diseases are present in wildlife and the potential significance these might have to the health of wildlife, domestic animal and human populations. Drs McBurney and Forzán, are actively examining wild birds found dead of unknown causes to accurately monitor what diseases are present in the wild bird community.

More importantly for us, the Wildlife Health Center needs specimens to do its job. The very mission Naturescope is on today is assist in the collection of certain species of birds showing illness. To do this, the specimens have to be collected in a manner ensuring the human collector's health is protected and the specimens get to the lab in a condition to allow proper necropsy (postmortem) and result in the correct determination of the cause of death.

That's the mission. However, it requires the help of any of us who spot those sick birds to perform a role in "Citizen Science" and enable our Wildlife Health Center to get a reliable handle on wildlife health.

Although the Wildlife Health Center deals with everything from whales to hummingbirds, it is certain species of birds that we will tend to see around bird feeders that Naturescope and its "lieutenants" will be aimed at.

We'll start off with what bird species to watch for, what signs of illness to look for, how to collect the specimens, and where to take them.

The target species to watch for are the finches (Purple Finch, House Finch, Pine Siskin, redpolls, and American Goldfinch), all sparrows, Mourning Doves, and pigeons. Crows, ravens, and Blue Jays were monitored in the past for West Nile virus however; this is not a concern at this time. Any other bird species dying due to apparent illness can be forwarded as well.

It is not as important to include bird specimens that die of trauma such as window strikes, hit by cars, cat attacks, or similar lethal injuries. However, sick birds can be predisposed

to such accidents. Also, if they are simply healthy birds involved in a mishap, these specimens can be used as controls to better understand how many of these birds may carry organisms and not show illness.

There are three disease conditions in these birds that are of particular interest. These are salmonellosis, trichomoniasis, and mycoplasma eye infection.

**Salmonellosis (*Salmonella typhimurium*)**-all bird species carry the Salmonella bacteria in their intestine and they usually pose no problem to the bird's health. A strong parallel exists with E. coli in mammals. We all carry this organism in our digestive tracts and normally no problem results from it. However, if a bird is under stress for various reasons such as a lack of sufficient food supply, extreme cold, deficient immune system (as in the very young or elderly), overpopulation, etc, that scenario can change. Those Salmonella bacteria normally present in equilibrium can invade and cause illness. Birds with symptoms of salmonella infection often simply appear as "fluffed up" lethargic birds "moping" about the yard. This bird should be removed from the site as it is a carrier transmitting the Salmonella bacteria in its feces. Salmonellosis is most commonly seen in the winter, however can be seen in late fall and early spring as well. Birds carry a specific species (strain) of salmonella (*Salmonella typhimurium*). Certain strains of this bacterium readily can cause illness in birds and will occasionally cause illness in mammals (humans), however simple routine hygiene such as diligent handwashing will prevent any problems in humans. This is why it is suggested to collect specimens using an inverted plastic bag over your hand as a precaution. Domestic cats can become infected if they consume a sick bird. This is simply one more reason to never allow our domestic pet cats to freely roam.

**Trichomoniasis (*Trichomonas gallinae*)**-this disease is caused by a microscopic parasite that invades the crop area of susceptible birds which leads to blockages in the mouth and throat so severe the infected bird is not able to eat and dies of starvation. This is a recently identified illness in the bird species mentioned earlier. It does not survive well in cold temperatures so it is often more common in summer or late spring/early fall. The outward signs of this disease are more evident with food and mucus often present on the face, head or neck of the affected bird. The trichomoniasis parasite does not cause disease in humans but the same collection precautions are indicated in case birds are carrying other organisms.

**Mycoplasma eye infection (*Mycoplasma gallisepticum*)**-this disease has been a serious problem in the House Finch to the south and west of us but much less prominent in our area... so far. The signs of this disease are very swollen and crusty eyelids. Infected birds die as sight is compromised by the severely swollen eyelids. It is transmitted by direct contact. This Mycoplasma bacterium is not a threat to humans but again collection precautions are indicated

Now, for the important steps: how to safely collect those birds that die with these signs of illness and where to take them.

Many of us are quite skilled at picking up dog poop! The technique is similar. Invert a plastic bag over your hand (two bags if you prefer), pick up the dead bird, then close the plastic bag over it and tightly wrap or tie the bag and place the carcass in a freezer or just temporarily outside if cold enough to freeze. Once collected get the specimens ASAP to one of the two collection sites available at the moment (with hopefully more to be added in other areas).

In Moncton: Moncton Animal Clinic, 771 Mountain Rd. (857-4271)

In Miramichi: contact Julia Connell (622-1505) or e-mail Julia at [Connellp@nbnet.nb.ca](mailto:Connellp@nbnet.nb.ca).

From these collection sites, specimens will be forwarded periodically to the Wildlife Health Centre in Charlottetown and reports will come back to the submitter when processed.

Science is not definitive on the relationship between feeding birds and disease transmission. In the case of Mycoplasma eye disease, it has been shown that bird feeders can play a role in spreading the disease, but the actual consequences for the affected birds is not clear. Also, platform feeders might increase transmission of salmonellosis. This simply highlights the need for caution and the application of good hygiene and management practices, particularly if you are finding dead birds at your feeder. Things to consider include cleaning feeders with a solution of 1 part bleach: 9 parts water, rotating feeder sites, or using certain types of feeders. Determining the cause of death will permit you to decide the best management action to take. Complete removal of all feeders is possibly not desirable because supplementing the diet of stressed and sick individuals might actually help them recover. Finding dead birds at your feeder is possibly not a result of anything you are doing wrong, it could simply reflect what is occurring in the natural setting. It is very difficult to detect or find these sick birds in the wild setting because they hide or die in places we are not likely to locate them, they get consumed quickly by predators, or they rapidly decompose. We are much more apt to see them if the scenario plays out around our bird feeders we frequently enjoy watching.

I hope bird feeder folk will snip this column to save for future reference or to share with folks they know that may be able to help assist the important efforts of the Canadian Cooperative Wildlife Health Center with the important role we can play as "citizen scientists".

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