

## Cormorants Edwardsburgh/Cardinal Project

As you may be aware Cormorants are roosting in specific trees, on the island, just in front of your waterfront home. There is property damage occurring on the island from the bird's guano. In addition, when the weather dries the guano dust is airborne. Your property is down stream of the prevailing winds. Perhaps you have noticed a foul smell.



Cormorants habitually return to the same locations to roost and, they would simply move to the next tree if the current roost tree was removed. If the birds are allowed to establish into large colonies the surrounding landscape is quickly devastated and it becomes a health hazard to you and your pets.

EC is working hard to protect property and I will be working in the evenings for the next couple of weeks to alleviate bird concentration causing the property damage.

Some pets do not like the muzzle blast of a shotgun or a start pistol. As a suggestion if your pet reacts negatively I suggest that, every time your pet reacts, give them a treat. In time they may begin to associate the muzzle blast as a treat opportunity.

Some facts about Cormorants that may be of interest to you.

Birds kidneys extract nitrogenous wastes from the bloodstream and excrete it as Uric Acid [ $C_5H_4N_4O_3$  (pH 3.0 - 4.5)]. Uric acid is not water soluble. The bird guano we see is crystals of Uric Acid that look like a white paste. It is caustic. Bird guano contains nasty fungi, including *Histoplasma capsulatum* and *Cryptococcus neoformans* as well as bacteria such as *Chlamydomyces psittaci*. Migratory birds can also spread antibiotic-resistant bacteria.



From Public Health Agency of Canada

### SECTION II – HAZARD IDENTIFICATION

**PATHOGENICITY/TOXICITY:** Infection by *Histoplasma capsulatum* usually presents as a pulmonary infection that may be transient or chronic. There are a number of clinical forms, including asymptomatic, acute pulmonary, chronic pulmonary, acute disseminated, chronic disseminated, mediastinitis, meningitis, osteomyelitis, and cutaneous infection<sup>(6)</sup>. Widespread infection (dissemination) throughout the body has

resulted in death; however, dissemination usually results in chronic illness<sup>(1,7)</sup>. Symptoms can appear within 1 week and include fever, chills, headache, non-productive cough, myalgia, chest pain, loss of appetite and fatigue. Infection is usually asymptomatic for low level exposure or mild infections. There is no evidence that mild or asymptomatic infections can induce protective immunity. Interestingly it has been noted that previously controlled infections can become active upon impaired cellular immunity<sup>(8)</sup>. Higher levels of exposure and more severe infections will result in symptomatic presentations like flu-like symptoms that may persist for several weeks. Visceral infection can lead to the destruction of the adrenal gland. Infection of the CNS will appear as chronic meningitis or focal brain lesions and occurs in 5-20 % of the cases. *Var. duboisii* causes African histoplasmosis<sup>(1)</sup>. Infection sites are typically the skin and bones and will spread to the liver and spleen if left untreated. Lesions on face and trunk are common. Thirty percent of patients develop osteomyelitis. Arthritis and purulent subcutaneous abscesses can occur when the infection spreads to joints and soft tissue. *Var. farciminosum* infects horses and mules but not humans<sup>(5)</sup>. The mechanisms underlying host specificity and tissue tropism remain unknown



*C. neoformans* usually infects the lungs or the central nervous system (the brain and spinal cord), but it can also affect other parts of the body. The symptoms of the infection depend on the parts of the body that are affected.<sup>1-4</sup>

### **In the lungs**

A *C. neoformans* infection in the lungs can cause a pneumonia-like illness. The symptoms are often similar to those of many other illnesses, and can include: Cough; Shortness of breath; Chest pain; Fever

### **In the brain (cryptococcal meningitis)**

Cryptococcal meningitis is an infection caused by the fungus *Cryptococcus* after it spreads from the lungs to the brain. The symptoms of cryptococcal meningitis include: Headache; Fever; Neck pain; Nausea and vomiting; Sensitivity to light; Confusion or changes in behavior.

## **Psittacosis**

### **Clinical Features**

In humans, fever, chills, headache, muscle aches, and a dry cough. Pneumonia is often evident on chest x-ray.

### Issues for your pets.

*Histoplasma capsulatum* is a fungus that is inhaled from soil and bird guano. It can cause histoplasmosis in dogs, cats and humans. Histoplasmosis usually begins as an infection of the lungs, and may result in breathing difficulties and coughing. If a pet has compromised immune system, the infection may spread to the gastrointestinal system, lymph nodes, spleen liver or eyes. Symptoms include weight loss, diarrhea, fever, poor appetite, anemia, chronic cough and depression. It may also cause sink lesions, joint pain, blindness and can be fatal. Simple cases of Histoplasmosis may resolve on their own if the pet is healthy and can fight the infection. Treatment with an antifungal is usually undergone in all cases and may last for months or more. Treatment success is usually very good if it is begun before the animal becomes too sick.

*Cryptococcus neoformans* is a fungus also found in soil and bird guano. Pets are infected through inhaling the spores or through open wounds. Cryptococcus can occur in dogs, cats, humans and wild animals. Dogs will often get a body-wide disease that includes the nervous system and eyes, lungs, kidneys, lymph nodes, spleen, liver, thyroid, adrenals, pancreas, bones, gastrointestinal tract, muscles and heart. Treatment includes antifungal therapy.

*Chlamydophila psittaci* is a bacterial transmitted from birds. Infection can cause pneumonia, fever, coughing, inflammation around the eyes, vomiting, diarrhea, and neurological signs. Treatment includes antibiotics and must start as soon as possible after infection.

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