Avian Influenza and Wild Birds

The most current general source of information for Avian Influenza in BC is provided by the Canadian Food Inspection Agency http://www.inspection.gc.ca (and click on Avian Influenza).

The following sources provide additional information on Avian Influenza:

1. British Columbia Centre for Disease Control: http://www.bccdc.org/news.php?item=82&PHPSESSID=93308cb2a555cd6ac6c1905ce53adff8
2. USGS Field Manual of Wildlife Diseases: General Field Procedures and Diseases of Birds (http://www.nwhc.usgs.gov/pub_metadata/field_manual/chapter_22.pdf)
3. ProMed (http://www.promedmail.org/pls/askus/f?p=2400:1000)
4. Wildlife Health listserv (http://lists.services.wisc.edu:81/cgi-bin/lyris.pl?visit=wildlifehealth&id=237265307)
5. World Health Organization (http://www.who.int/csr/disease/avian_influenza/en/)
6. Food and Agriculture Organization of the United Nations
7. (http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html)
8. Office International des Epizooties (http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm)
9. Centers for Disease Control and Prevention (http://www.cdc.gov/flu/avian/index.htm)
10. US Department of Agriculture (http://www.aphis.usda.gov/lpa/issues/ai/ai.html)

Strains of Avian influenza virus have been found in as many as 90 species of wild birds around the world. Sporadic outbreaks of AI in domestic birds also occur worldwide. Most transmission of the disease during an outbreak is related to movement of poultry (dead or alive), humans or pigs from infected premises to uninfected premises. Avian influenza has been diagnosed in domestic poultry in five states in the United States and in British Columbia in 2004.

The H5N1 subtype of AI occurring in Asia has not occurred here; several other subtypes of AI caused the outbreaks in North America. While two outbreaks have involved a Highly Pathogenicity AI form (H5N2 subtype in Texas and H7N3 in British Columbia), the other outbreaks have been identified as low pathogenicity forms AI (LPAI).

In Canada, Avian Influenza is a reportable disease under the Health of Animals Act. This means that all suspected cases must be reported to the CFIA. All reported suspect cases are immediately investigated. Canada's emergency response strategy in the event of an outbreak of a foreign animal disease is to eradicate the disease and re-establish the country's disease-free status as quickly as possible. In an effort to eradicate AI, the CFIA employs its "stamping out" policy, which would include:

- The humane destruction of all infected and exposed animals;
- Surveillance and tracing of potentially infected or exposed animals;
- Strict quarantine and animal movement controls;
- Thorough decontamination of infected premises;
- Zoning to define infected and disease-free areas.

The disease investigation associated with the outbreak is done with consultation and with the cooperation of many agencies, including the Ministries of Agriculture, Fisheries and Food, Water, Land and Air Protection and Health.

What is the role of wild birds in these outbreaks?

Avian influenza is present in as many as 90 species of wild birds. Wild birds, primarily ducks and shorebirds, are the principal reservoirs of AI viruses. There are many subtypes ("strains") of AI virus circulating in bird populations, but these rarely cause disease in wild birds. Wild birds have not been reported to be affected at any 2004 AI outbreak sites in domestic poultry in North America. Wild birds may introduce an AI subtype into a poultry flock where the virus may mutate into a more severe form in the very high density environment, causing illness and death in the

poultry flock. There is no evidence that once a strain of AI infects a chicken and mutates that the mutated virus can reinfect wild birds, and wild birds could then subsequently transmit the virus. Transmission between poultry flocks generally occurs by movement of infected poultry or poultry products, or contaminated equipment, feed humans, or other materials between flocks.

At present there is no evidence that wild or migratory birds are the vectors for spread of any of the current Avian Influenza outbreaks in Asia or North America. There is also no evidence that collections of wild birds in zoos are involved in the spread of Avian Influenza to domestic poultry. Meat products from infected poultry, un-regulated movement, and the mechanical spread of infected materials by people in contact with infected poultry are considered to be the most likely routes of transmission of the virus.

As many as 90 species of wild birds may harbor a large number of strains of avian influenza. It is inappropriate and not feasible to attempt to prevent the disease by destroying free ranging wild bird populations. Control efforts are more effective if domestic poultry is targeted for control measures. There are a number of biosecurity measures that have been developed for domestic duck, chicken and turkey producers to reduce the spread of AI. They include:

- Stop movement of birds onto or off of poultry farms.
- Restrict movement of people onto or off of poultry farms.
- Persons that enter poultry premises should wear clothing that remains on the farm.
- Persons that handle poultry should wash their hands frequently.
- Persons handling live poultry should wear face masks
- When finished handling poultry, disinfectant should be used on hands.
- Persons working with poultry should not visit other poultry farms.
- Persons not working with poultry should not visit poultry farms.

Should people that routinely handle wild birds (banders, rehabbers, biologists) be concerned about exposure to avian influenza?
There is no evidence that humans can contract avian influenza directly from live wild birds. There are a number of other infections that wild birds may carry (aspergillosis, salmonellosis). Depending on the species you are handling and the nature of the work being done, you may consider various personal protective measures, including wearing gloves, face mask, and goggles. At a minimum, proper hygiene (washing hands) should be followed.

Should hunters be concerned about eating game birds?
There is no evidence that consumption of infected game birds will cause AI in humans. Avian influenza in humans is rare, and all reported cases have been acquired by exposure to infected poultry or their excretions. To prevent exposure to other potential infectious diseases that may be carried by wild birds, meat should be properly prepared and thoroughly cooked. Proper hygiene (e.g., hand washing) should always be followed after handling carcasses or raw meat.

Should wild birds be killed to prevent the spread of avian influenza?
There is no evidence that wild birds play a significant role in spreading AI among domestic poultry flocks, nor is there evidence that wild birds transmit AI to humans. Elimination of wild birds to prevent the spread of AI and human infection is not considered an effective control measure. For more information from the Food and Agriculture Organization of the United Nations (FAO), visit: (http://www.fao.org/newsroom/en/news/2004/37427/index.html).