

Appendix V: The Handling and Submission of Avian Specimens

Thanks to CCWHC – Dr. Ian Barker
ONTARIO WEST NILE VIRUS RESPONSE - 2005
CCWHC Ontario/Nunavut - March, 2005

RESPONSE TO A SICK OR DEAD BIRD

Health Units need to develop local plans for a timely response to reports of sick or dead birds. This response should incorporate 4 steps, described below. First contact with the person finding sick or dead birds normally will be by Health Unit personnel manning telephones. Those employees should be made aware of the organization of the program locally, and be informed about how to deal with calls about dead birds. A protocol needs to be in place for the collection and submission of carcasses to CCWHC. Pick-up and submission of birds may be by Health Unit personnel or by others contracted locally to carry out nuisance or dead animal response.

All persons taking decisions regarding response and submission, and those handling and submitting dead birds, must be familiar with this document.

1. The person receiving a call records: date of call, identity/contacts of caller, species involved (if known), condition of carcass(es), and exact location. Based on that information and criteria described below (species, carcass condition, number of birds sick or dead) decide whether the bird should/can/will be picked up, and if possible, inform caller of that decision. **This person will need to try to determine if the bird involved is a species of concern, specifically a crow, blue jay or raven** (see next section re Species of Particular Concern for questions to ask). If the bird can't/won't be picked up, inform caller of means of carcass disposal (see below).
2. Dispatch, as soon as possible, person responsible for pick-up of bird, if appropriate based on decision in 1.
3. Collection of dead bird: the person doing so completes the WNV Surveillance Form based on direct identification of species and local observations. A decision is made re suitability for submission, based on informed knowledge of species, condition/appearance of carcass and circumstances of mortality. If the bird is not suitable for submission, retrieve and dispose of appropriately.
4. Submit suitable carcass to CCWHC lab, as described below, accompanied by 2005 WNV Surveillance Form (to be sent to Health Units in April).

SPECIES OF PARTICULAR CONCERN:

Submit carcasses of Corvidae (crows, blue jays and ravens) that are suitable for examination.

Photos: http://wildlife1.usask.ca/ccwhc2003/west_nile_virus/bird_pictures.php

Corvidae

In southern Ontario, the crow and blue jay are the species of concern for WNV surveillance

Crows: - colour - completely black, with black bill and black eyes.

- size - flighted young and adults are large birds; up to 45 cm (18") long from tip of bill to tip of tail; one to one and a half times as long as a large man's shoe.

Blue Jay: - colour: blue and gray with white and black markings, and a small crest on the head

- flighted young and adults are medium-sized; up to 28 cm (11") long, a little shorter than a man's shoe

In northern Ontario, add the raven

Ravens: - like a large crow, up to 60 cm (24") long (length of 2 large man's shoes) and totally black, with a heavy straight bill

'Confusing' species: Species that are black, iridescent dark gray or dark brown in colour (starling, cowbird, blackbird, grackle, pigeon, mourning dove), and hence might be mistaken for crows or ravens, are all much smaller (none larger than 30 cm [12"], the size of a large man's shoe), none are jet black overall, and many have a light coloured white, yellow or red eye.

OTHER SPECIES OF BIRDS AND MAMMALS

CCWHC also carries out surveillance for diseases other than WNV in all species of wildlife.

Please submit the following specimens for autopsy, if they are brought to your attention:

- Any raptorial birds - (eagles, hawks, falcons, kestrels, owls etc.)
- Birds of any species **if there is a clear history of central nervous system signs** (loss of fear, tremors, convulsions, paralysis, wing droop, immobile limb) in live birds, or **if there appears to be an outbreak of disease** (several birds of any species reported affected/dead in a local area [~2 km radius] within a period of 2-3 days). If more than one bird is found dead, submit up to 6 carcasses.
- Squirrels or other small mammals, especially if they have nervous signs (loss of fear, convulsions, circling, etc.).

Use the WNV Surveillance Form to accompany the carcass to the CCWHC. These cases will be diverted from the WNV surveillance stream for a full diagnostic work-up, which includes testing for WNV. WNV infections have been detected in avian species other than those used in surveillance, as well as in grey squirrels, as a result of such submissions, but many other infectious, parasitic or toxic agents can be implicated in these cases as well.

If it is not feasible to collect and submit such animals, have the person reporting call the **CCWHC Communications Coordinator (519 824 4120 Ext 54662)** for instructions on how to submit a case themselves, or inform us by email or phone of the event, so that we may follow up.

CARCASSES TO BE SUBMITTED

Birds must be intact and reasonably fresh (not obviously rotten, no maggots or scavenging) for profitable examination. **Birds that have been found on roadsides or obviously have been traumatized are acceptable.** Crows with WNV seem more susceptible to trauma and misadventure than normal, perhaps because they are sick. Carcasses that are in the open, full sun etc., could be moved to the shade by the person finding the bird, if they are willing (see instructions for handling, below).

A complete examination for cause of death is not normally carried out on WNV surveillance submissions. As well, in the event of a WNV outbreak, effort will be focused on determining the geographic distribution of infection. Hence, WNV status may not be determined on every carcass, depending on the quality or species of the submission, workload and recent WNV activity in the Health Unit. As WNV activity clearly becomes established in a Health Unit, or more widely, dead bird surveillance will be discontinued in parts of a Health Unit, or in individual or contiguous Health Units or larger regions of the province, depending on the extent of WNV activity that has been recognized. This decision will come from the CCWHC Ontario Communications Coordinator, by email or phone, and will be preceded by consultation with Health Unit WNV contact persons regarding reasonable and clear-cut boundaries to areas from which birds should not be submitted, if the entire Health Unit is not involved. This is to save the cost of collection, submission and processing of birds from known endemic areas, so that we can focus our resources on determining the extent of the outbreak beyond its known distribution.

If there is any uncertainty regarding whether or not a submission should be made, telephone the CCWHC Communications Coordinator for advice (519 824 4120 Ext. 54662).

HANDLING BIRDS:

Although direct transmission of WNV from birds to people has not been proven to occur other than through accidental needle sticks, lacerations etc., during laboratory handling, West Nile virus is present at high titre in excretions and secretions from affected birds, and contact transmission and transmission by ingestion is known to occur in birds. Members of the public are to be discouraged from handling dead birds. If they must do so for submission or disposal, they should follow these guidelines, which also should be followed by all others handling birds, including Health Unit or Animal Control personnel picking up birds for surveillance.

The Public Health Agency of Canada Occupational Health Advisory on West Nile Virus is found at: http://www.phac-aspc.gc.ca/wnv-vwn/pdf/wnv_occhealth2003_e.pdf

Live, sick birds should be referred to a local animal control agency, humane society, rehabilitator or collaborating veterinarian for evaluation and, if appropriate, euthanasia. If they meet the species and other criteria, such birds, and those recently-dead of natural causes are ideal submissions.

Birds or carcasses should be handled using an implement such as a small shovel or large tongs, or by hand only if disposable plastic or rubber gloves are worn. Alternatively, carcasses may be placed in a puncture-resistant leak-proof plastic bag of appropriate size by everything the bag over the hand, then grasping the carcass through the bag, and wrapping the bag around the bird without touching it. Heavy-duty plastic bags of adequate size should be used to contain the bird, sealed securely by a twist-tie, knotted string, or by knotting the bag tightly on itself. It then should be placed inside a second leak-proof plastic bag, which is similarly sealed. Double-bagging prevents cross-contamination between carcasses and fluid leaks in shipping, and is required to conform with shipping regulations. Carcasses should be chilled, but not frozen, unless it will be impossible to get them to the lab within 24-36 hours (distance, weekend intervening), in which case they should be frozen. If in doubt about freezing specimens, consult the CCWHC Communications Coordinator for advice.

Carcasses not submitted should be double-bagged and placed in garbage destined for a landfill, or buried several feet deep where they will not be disturbed. Do not dispose of in a manner such that they could be handled again by someone. **People handling birds should wash hands thoroughly with soap and water afterward.**

SUPPLIES REQUIRED FOR SUBMISSION OF A BIRD

- Canadian Cooperative Wildlife Health Centre Ontario/Nunavut Region WNV Surveillance Forms: to be sent in April; download 2005 form from <http://wildlife1.usask.ca/ccwhc2003/>; or contact the CCWHC Communications Coordinator and request additional forms to be sent by fax or email attachment.
- Zip-Loc or other clear plastic bags of a size appropriate to enclose WNV Surveillance Forms.
- Heavy duty plastic bags big enough to enclose a blue jay, crow or raven, and strong enough to resist puncture by bills, beaks and claws; secure ties for same.
- Waterproof labels/tags, or small waterproof plastic bags (Zip-loc or Whirl-pac) in which to enclose labels/tags; waterproof marking instrument.
- Frozen cold packs (**not wet ice**).

- Newspaper and a larger leak-proof plastic bag (such as a garbage bag) in which to wrap specimens.
- Insulated shipping containers: hard-sided plastic picnic cooler with return address clearly marked. Do not use styrofoam, cardboard or other non-durable shipping containers. Containers will be returned quickly.
- Heavy packing/shipping/duct tape.

SUBMISSION OF SPECIMENS:

If more than one specimen is being submitted, they should be double bagged separately. Bagged carcasses should be identified clearly, using a waterproof writing instrument, on a waterproof label or tag affixed to the carcass, or on paper sealed inside a leak-proof plastic bag, and enclosed inside the bag containing the carcass. **Each Health Unit must develop a coding system for identifying birds submitted from their region, and put the reference number on the carcass tag and on the WNV Surveillance Form in the space provided.** This number will be carried over with other information on the bird to our database, and will assist you in identifying results reported.

A separate WNV Surveillance Form (2005) should be filled out legibly for each carcass to accompany the shipment. The form, or forms, if more than one carcass is being submitted, should be enclosed in a Zip-Loc bag (it is permissible to fold the form) and placed in a sealed 8.5 x 11" envelope securely taped on the outside to the side or top of the shipping container. **Do not submit forms to CCWHC just to report sightings of dead birds.**

The 2005 WNV Surveillance Form should include the following information; spaces to fill in, or responses to circle, prompt a response to each item on the form:

- Name of the person completing the submission form, full mailing address, telephone number, Fax number, email address
- Address to send report, if different from above
- Date bird reported to Health Unit
- Internal reference number used by the Health Unit
- Name of the person reporting dead bird(s), full mailing address, telephone number
- Location bird found (most specific street or rural municipal address [Twp., Concession, Lot #], including municipality, province or territory and postal code). In rural areas, due to implementation of a new automated mapping database, 911 addresses are of little use, and Twp/concession/lot are of limited value, though each is better than no address. **If possible, for rural locations, in addition to other address descriptors, include GIS coordinates (latitude, longitude as decimal WGS84 data to 4 decimal places or more, not minutes and seconds).** Otherwise, describe a rural address in relation to a clear locality (e.g. 6 km NW of Aberfoyle). A specific location, if possible, is very important, to facilitate mapping of each submission for epidemiologic purposes.
- Species: circle species name (crow, blue jay, raven), or 'unknown', or enter written name of 'other' species. Species of birds submitted will be confirmed by CCWHC, but try to be as accurate as possible.
- Date carcass picked up
- Date submitted

Double-bagged carcasses **must be wrapped in several layers of newspaper**, which insulates them and absorbs fluid. A freezer pack (not wet ice) should be wrapped in the newspaper with the chilled carcass(es), but is unnecessary with frozen carcasses. The carcass(es) in newspaper then should be placed in an outer plastic bag, such as a heavy-duty garbage bag,

which is sealed securely. The wrapped, bagged carcass then should be placed in a hard-sided plastic insulated picnic cooler (which will be disinfected, rinsed out and sent back with a new waybill enclosed, if it has a return address). **All shipping containers must be securely packed, sufficiently sturdy, and taped shut, to prevent leaks, breakage or opening in handling. Leakage or breakage of a single package in transit could place the entire shipping system, and therefore the surveillance program, in jeopardy.**

Packages should be shipped to the address **on the pre-addressed and coded waybills provided by CCWHC**. Supplies of waybills will be sent in April or early May 2005, and a new waybill will be enclosed in shipping containers returned to you. The waybills provided will have been completed fully, with the exception of the information regarding the sender, and the weight. **Please fill in the weight of the parcel on all waybills.** The weight must be marked on the waybill for us to get the concessional rate on shipping charges. Parcels should be under 10 pounds gross weight, if possible. **There is no need to fill in the value of the shipment;** if you do, use 'Nil', or a value under \$100. **Do not check any options regarding delivery times in the Service Box;** these options can cost us hundreds of dollars per shipment. The contents of the parcel have been described correctly as a '**DIAGNOSTIC SPECIMEN**' on the preprinted waybills sent to you. **Do not use any other terms, and do NOT check the Dangerous Goods square.** The packaging and labelling described meets the criteria for ground transport by courier of specimens to diagnostic laboratories.

Ship by Purolator Courier to:
**Canadian Cooperative Wildlife Health Centre,
OVC Receiving, McGilvray St.,
University of Guelph,
Guelph, ON N1G 2W1.**

[If you need additional waybills, call 519 824 4120 Ext. 54662, or email at ccwhc@ovc.uoguelph.ca].

Ship on Mondays to Thursdays inclusive, ground delivery. **Do not ship specimens on Friday.** Freeze specimens that cannot be shipped to arrive overnight Monday-Friday, and ship on the next appropriate day, bearing in mind any long weekends. **Phone, FAX or Email the CCWHC lab with the waybill # of each shipment,** the day that it is shipped [see phone #, email address above]. This helps us track any shipments that go astray.

Be sure to enclose all WNV Surveillance Forms in a clearly marked envelope taped securely to the outside of the shipping container. **Do not enclose WNV Surveillance Forms in bags with carcasses.**