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## 2005 Guidelines for West Nile Virus Surveillance in Alaska

### Background

West Nile virus (WNV) was first detected on the North American continent in 1999 in New York City. Each year thereafter, the disease has infected human, animal, and mosquito populations ever westward. Already in 2005, WNV activity has been detected among avian, mosquito or veterinary populations in Arizona, California, Florida, Indiana, Louisiana, Mississippi, and New York.

Alaska has yet to record local WNV activity in any human, bird or other animal. In past years, cases of imported WNV illness were detected in Alaska among tourists or travelers exposed in states with WNV activity. No one can be sure whether Alaska will continue to remain free of WNV. The Alaska Division of Public Health will continue to work with our partners to conduct WNV surveillance in 2005.

### WNV Testing at ASVL

The Alaska State Virology Laboratory (ASVL) in Fairbanks can evaluate both human and avian specimens for WNV. Human testing involves assessing serum for presence of IgM antibodies by MAC ELISA (enzyme-linked immunosorbent assay). Positive specimens will be forwarded to the Centers for Disease Control and Prevention in Fort Collins, Colorado, for confirmatory testing via a PRNT (plaque reduction neutralization test). Although IgM levels have been shown to remain elevated in some cases for over a year, detectable WNV IgM usually indicates acute infection.

Avian testing involves assessing brain tissue for presence of WNV by polymerase chain reaction (PCR). A positive result indicates that virus was present in the bird's tissues at the time of death.

### Surveillance for WNV in Humans

Healthcare providers who suspect cases of WNV should contact the Section of Epidemiology at 907-269-8000 (8AM-5PM) or 800-478-0084 (after hours) for consultation about the diagnosis and for information regarding transport of diagnostic specimens to ASVL.

Specimens will be accepted for WNV evaluation **ONLY** for patients hospitalized with presumptive diagnoses indicative of neuroinvasive disease, such as:

- Viral encephalitis
- Viral meningoenzephalitis
- Guillain-Barré Syndrome
- Acute flaccid paralysis

At least 0.5 ml of serum is needed for testing and should be collected at least 8 days after illness onset. Specimens must be kept cool (4°C) prior to, and during shipment.

### Surveillance for WNV in Birds

Although many species of birds have demonstrated evidence of WNV infection, we will continue to focus surveillance on species that appear to be exquisitely sensitive to WNV and more likely than other species to die when infected. **ONLY** the following species of dead birds will be accepted for testing:

- Common ravens
- Northwestern or American crows
- Black-billed magpies
- Steller's or Gray jays
- Any owl, hawk, eagle or falcon

For all testing, carcasses must be fresh to detect virus by PCR. Therefore, dead birds will be tested by ASVL **ONLY** if they are in the following condition:

- No maggots or maggot eggs on or under body
- No foul odor or watery dark brown/black liquid emanating from body
- Bird observed alive within last 12 hours, i.e., not observed dead for >12 hours
- Body intact and not scavenged, e.g., viscera present

Birds suspected to have been electrocuted, shot, poisoned, or otherwise killed under suspicious circumstances should be reported immediately to the U.S. Fish and Wildlife Service (USFWS) Law Enforcement Division at 800-858-7621; or, if in Anchorage, at 907-271-2828.

**If you find a dead bird meeting the above species and freshness criteria, DO NOT PICK UP THE BIRD.**

**Instead, contact either of the following:**

- 1) A local wildlife authority, such as ADFG (Alaska Department of Fish & Game), USFWS, or the U.S. Geological Survey. Call ADFG at 907-267-2257 in Anchorage, 907-459-7206 in Fairbanks, or 907-465-4148 in Juneau, for more information about regional contacts.
- 2) Section of Epidemiology at 907-269-8000, during business hours.

Officials will determine whether the bird should be tested and the most efficient method for collecting the carcass and transporting it to ASVL. Not all birds meeting the criteria will be tested.

### Method of Carcass Disposal:

If instructed by a wildlife or public health authority to dispose of a dead bird, use gloves or put your hand inside of a plastic bag to pick up the bird. Double bag the carcass and dispose of it in the garbage.