

# STATE OF ALASKA

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## DEPARTMENT OF FISH AND GAME

### DIVISION OF WILDLIFE CONSERVATION

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RC 047

## ALASKA FALCONRY MANUAL 9

### ADDENDUM

**Date: March 29, 2013**

**Re: West Nile Virus and falconry bird import requirements.**

Due to findings of recently published research the Department will no longer enforce West Nile virus testing or immunization requirements listed in Falconry Manual 9 for importing falconry birds. Specific findings that influenced this change are that raptors used in falconry do not generally produce a sufficiently high concentration of virus in the blood to pass the disease to mosquitos or lice that could infect other birds and that the virus requires nighttime minimum temperatures above 60 degrees Fahrenheit for extended periods to amplify in mosquito hosts. Therefore, environmental conditions throughout Alaska make it highly unlikely that the disease could be introduced by imported raptors.

Submitted By: Don Hunley

By DR. PAT REDIG

### 3. Risk Posed By Raptors introducing WNV TO AK

Raptors, like humans and horses, are regarded as "dead end" hosts for West Nile virus. This means they are not part of the amplification cycle. In experimental infections it has been shown that viremic birds do not exceed  $10^4$  viral units/ml of blood (Komar) except in great horned owls. Competent amplifiers are typically juvenile passerine species (catbird, robin, English house sparrows) that develop viral titers of greater than  $10^6$  viral units/ml and maintain that for days to a couple of weeks, generally without developing clinical disease. Similarly, it has been shown that in order for a mosquito to become infected, they need to ingest blood that contains greater than  $10^5$  virus particles/ml of blood. In addition, raptors exhibit very short term viremias beginning to rise on day 2 after infection and peaking about 3.5 days post-infection after which the virus is rapidly cleared from the blood and they are incapable of passing on the disease (Redig 2011). Most susceptible raptors develop clinical disease upon infection and die acutely; the number that develop mild or subclinical infections is unknown, however there is no evidence that they become carriers, rather they quickly clear the virus from their systems. Beyond the negligible risk raptors pose for introducing West Nile virus to Alaska, it should be considered that for large portions of the calendar year, essentially from October through May, there is no risk of them transporting or transmitting the disease.

#### 4. Why Alaska has little or no risk of WNV presently

The reasons are stated on Alaska Fish & Game Web page (<http://www.adfg.alaska.gov/index.cfm?adfg=disease.wnv>) - what follows reinforces the accuracy of that information in the context of current information. Not only does Alaska not have West Nile virus, but most of Canada does not (still), having been found only in the southern portions of Saskatchewan, Quebec and Ontario; Yukon Territories and Northwest Territories are devoid of WNV (figure 1) as recently as 2012. West Nile infections peaked in Canada in 2007 (table 1) and while the numbers were greater than in 2012 the distribution was the same. It is of interest to note that all of the cases reported in British Columbia were associated with travel outside the province. It may be suggested that human travel poses a greater risk of WNV introduction than does raptors based on known information. The factors that determine presence in any region are availability of competent mosquito vector species and temperature with the latter being the more important determinant. As noted above, nighttime temperatures in excess of 60 F (15 C) for extended periods of time are necessary for amplification in mosquitoes; table 2 shows that at no time does the average minimum temperature in Juneau reach 60 F. Therefore, it is inconceivable that, absent climate change of catastrophic proportions or some incredibly and unlikely mutation of this virus, WNV would ever become established in Alaska. And, any such occurrence would be preceded by evidence of substantial northward expansion of its range long before it arrived in Alaska for which there is adequate monitoring in place. Several pieces of online information by experts in Alaska further argue against WNV becoming established in Alaska (Arctic Science Journeys, 2004).

5. **Opinion:** Given the near zero risk of raptors intended for use in falconry would be able to carry West Nile virus into Alaska and the already apparent inability of West Nile virus to become established after 13 years of presence on the continent, it is not apparent why there is a need to implement complex control procedures. Further, this regulation would require veterinarians to use unapproved products for vaccination; products which,



though used, have not been subjected to any kind of challenge study to determine their efficacy or establish their ability to seroconvert a proportion of the vaccinated population. It would seem entirely adequate for raptors entering the state do so with a Health Certificate signed by a licensed veterinarian.

#### References:

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