

Protocol for handling birds with regards to West Nile Virus
National Wildlife Health Center

The appearance of West Nile virus (WNV) in North America has sparked concern among biologists because of the zoonotic nature of this virus. The possibility of acquiring a zoonotic disease from the handling of wildlife is not new, in fact, a number of diseases are more transmissible to humans during the course of handling an infected animal than WNV. Moreover, the majority of people that become infected with WNV either have very mild disease or are completely unaware of the infection. However, the prevalence of WNV in wildlife, domestic animals, and humans, throughout North America, makes this disease of particular concern to biologists.

The following safety recommendations are provided for individuals, particularly wildlife biologists/researchers, that have field contact with wild animals that are proven or potential hosts capable of amplifying and shedding West Nile virus. At this time, all birds should be considered at least potential hosts capable of amplifying and shedding WNV.

General Considerations - For persons working with wildlife in the field, the primary concern for becoming infected with WNV is through the bite of an infected mosquito. The recommendations presented here, besides those meant to reduce the risk of being bitten by an infected mosquito, are meant to reduce the possibility of direct exposure to a variety of diseases from an infected animal to the biologist involved in the handling of that animal. The methods for direct transmission include (but may not be limited to):

1. *Inhalation*: breathing in air contaminated with virus contained in body fluids; splashing of body fluids from infected animals.
2. *Direct Exposure*: body fluids from infected animals in contact with abrasions or open cuts in the skin; contact with mucous membranes (eyes).
3. *Puncture Wounds*: cuts with contaminated bones, beaks, claws, etc; punctures and cuts from contaminated equipment (needles, scissors, scalpels, etc.)

It is important to remember that for the most part, these general precautions should be utilized while handling all wildlife, especially those that appear sick. Handling wild animals can increase the opportunity for exposure to a number of diseases in addition to WNV.

The direct transmission of WNV from infected animal to biologist outside of the laboratory has not yet been documented but what is known about the nature of WNV is sufficient to warrant concern. Fecal material, saliva, and blood are the most likely sources of virus infection from handling an infected animal.

If you believe you have contacted infected animals or other materials, flush and wash the exposed area with soap and fresh water. If you encounter any of the above-mentioned modes of transmission or illness develops following a suspected exposure, report to a physician as soon as you can and be sure to advise them of your occupational exposure to wild birds and other wildlife.

Individuals who may be more susceptible to WNV infection, or who may be more susceptible to disease following infection, should consider using all possible precautions including excusing themselves from the work in question. This group of individuals may include, but is not limited to, those that are immune suppressed for any reason (e.g. steroid therapy, chemotherapy, etc.) and those individuals that have a history of respiratory or other health problems. Individuals should contact their physician if they have specific questions or concerns.

Personal Protective Equipment/Procedures - Depending on the circumstances, some or all of the personal protective measures covered in this document should be used. The personal protective measures that can be employed include; use of mosquito repellents, wearing mosquito resistant clothing (e.g. long pants, long sleeves, bug jackets, head nets), washing of hands, face, and other exposed skin surfaces, using latex, or latex-free ‘surgical type’ gloves, wearing coveralls and boots, wearing eye protection or full face shields, and wearing face masks.

Minimum Recommended Personal Protective Measures

Activity	Mosquito Protection	Wash hands, other exposed surfaces	Coveralls & Boots	Gloves	Eye Protection/ Face Shield	Face Mask
Wildlife Survey	XX	[XX]				
Capture/Banding/Tagging	XX	XX				
Capture & Sampling (aerosol unlikely)	XX	XX		[XX]		
Capture & Sample (aerosol likely)	XX	XX	XX	XX	XX	XX
Capture & Sample (sick)	XX	XX	XX	XX	XX	[XX]
Pickup (dead)	XX	XX	[XX]	XX		
Pickup (sick)	XX	XX	[XX]	XX	XX	[XX]

Note: A few of the suggested protective measures are surrounded by [brackets]. This indicates that varying circumstances will dictate the degree of protection necessary. For example, it would not be as necessary to utilize all of these precautions while picking up a single dead or sick small bird. However, more precautions would be recommended if responding to a die-off of many birds. “Wildlife Survey” means those activities where contact with animals is minimal but the opportunity to be bitten by mosquitoes is great. Examples would be a walking survey for birds or visiting wetlands to count waterfowl.

These precautions are suggested only for handling birds and are not designed for more involved procedures such as dissections and necropsies. These procedures would require considerably more precautions including using a tight-sealed forced-air respirator.

Prevention of Further Spread of Disease- Additional precautions should be considered in order to prevent the spread of disease while handling sick or dead wild animals. Care should be taken to not spread disease from animal to animal during field activities. Examples of how this can happen include not wearing gloves while handling animals and not washing hands between each animal; not changing gloves or cleaning gloves with a disinfectant between each animal; not changing needles and syringes between blood collection of different animals; wearing the same clothing and footwear to different activity sites without washing between sites. Some of these precautions appear obvious while others may not. Preventing the spread of disease requires thinking differently but it is based upon common sense.

Precaution with insect repellants- Using insect repellent is an effective way to protect yourself from WNV and other diseases spread by mosquitoes. However, the repellents can cause some harm themselves. In particular, repellents can be lethal to amphibians because they absorb through their skin. Thoroughly wash hands before handling amphibians.