

Eastern poultry producers brace for avian flu this fall as waterfowl migrate

July 22 2015, by Jeff Mulhollem



Pintails, like this one, will be among dabbling ducks that migrate through Pennsylvania down the Eastern Flyway this fall, headed to their wintering grounds. Along the way, wildlife experts worry, they may shed pathogens that cause avian flu, a disease that does not infect humans or other mammals, but has devastated the poultry industry in the West and Midwest. Credit: Bradley Davis

Right now, in the vast prairie pothole region of southern Canada and the United States' upper Midwest, waterfowl are mingling, raising their young and instinctively preparing to migrate, some leaving as early as August.

All spring and summer these wild birds—known as puddle or dabbling ducks, such as gadwalls, mallards, pintails, teal and wigeons, to name a few—have shared aquatic habitats, food supplies, brood-rearing responsibilities and likely something ominous—avian flu.

When those ducks, acting on a primordial impulse, do head toward their wintering grounds, they will take different routes. By far, most will fly more or less due south, on the Mississippi Flyway, but many will embark east and then merge onto the Eastern Flyway. That route will take them over Pennsylvania, Maryland, Virginia, the Carolinas and Georgia to Florida's Gulf coast.

When they stop to rest and feed along the way, infected birds may potentially shed the pathogens that cause the highly contagious disease in their droppings and secretions.

"This strain of avian flu, H5N2—which has yet to be seen along the Eastern Flyway – usually doesn't make waterfowl sick, in fact many don't show any symptoms, and it doesn't affect people or other mammals," said Margaret Brittingham, professor of wildlife resources in Penn State's College of Agricultural Sciences.

"But it does sicken and kill other birds, namely domesticated chickens and turkeys. It has devastated the poultry industry in states such as Minnesota and Iowa along the Mississippi Flyway, and Washington and Oregon along the Western Flyway."

Two years ago, explained Brittingham—a wildlife specialist with Penn

State Extension— migrating waterfowl carried a novel strain of avian flu out of Asia to breeding grounds in the Bering Sea region of northern Russia, and from there at least a few ducks are believed to have conveyed it to Alaska, where south-migrating birds brought it to the Pacific Northwest.

It somehow spread east from there.



Avian influenza has yet to be seen along the Eastern Flyway. Migrating ducks, such as these northern shovelers, are expected to carry the disease here. Credit: InAweofGod'sCreation

Along the way, it is believed, the disease evolved—or "recombined"—to become a highly pathogenic virus that is even more deadly to domestic poultry.

"Historically, the Eastern Flyway has not been spared by avian flu outbreaks, and there is no reason to expect that the disease won't show up here this time. We have had big avian influenza outbreaks in the past," Brittingham said. "The difference this time seems to be that this strain of the disease is so pathogenic."

The threat has eastern U.S. poultry producers bracing for the potential arrival of the deadly virus this fall, trying to prevent an outbreak that farmers in the Midwest have struggled to stop. Thanks to strict biosecurity, avian influenza can be kept out of most poultry barns along the Eastern Flyway, Brittingham predicted.

But how the disease is spread is not entirely clear, Brittingham pointed out. Migratory paths vary greatly. Some species, such as pintails, have wide-ranging migratory routes that cross between Asia, Russia and North America, while others have much more confined routes. She suggested that it is not only dabbling ducks that pose a risk for spreading avian flu to the East.

"Even birds like tundra swans that breed up in the Arctic migrate down through Wisconsin, which already has this disease, and then they turn eastward and go straight across Pennsylvania. We have about 90 percent of the population of tundra swans migrating through Pennsylvania on their way to the Chesapeake Bay, which is a big wintering area."

Although avian flu poses a risk to wild turkeys, raptors and upland birds such as grouse and pheasants, ironically their populations are probably protected by their high susceptibility to the disease and their low density, relative to poultry or waterfowl, on the landscape, according to Dr. Justin

Brown, wildlife veterinarian for the Pennsylvania Game Commission and adjunct clinical associate professor at Penn State, headquartered at the university's animal diagnostic laboratory.

Because [wild turkeys](#), birds of prey and upland birds seem to be so vulnerable to avian flu—it kills them quickly—they are not effective carriers, he explained, and they are spread out, making a large-scale mortality event unlikely.



Another species of dabbling duck, American wigeons, may be among those to spread avian flu in the East to raptors, wild turkeys, grouse and other species. However, wild bird experts don't expect disease outbreaks to be severe or wide

spread. Credit: Julia Wagner

"If they are exposed, there will be some mortality, but I'm not expecting that we'll see severe, widespread infection or population-scale impacts," he said.

Brown is concerned about the potential effect of [avian flu](#) on the Game Commission's four pheasant-producing facilities—which turn out upwards of 200,000 ringnecks annually—private gamebird propagation farms and backyard poultry enterprises. Maintaining any kind of biosecurity is extremely challenging when birds, especially galliforms, are being raised outdoors.

The Game Commission has educated its personnel about influenza ecology and impacts on captive galliforms, and is stressing biosecurity precautions such as not allowing truck tires, equipment or boot soles to carry pathogens from wetlands to pheasant pens, and making sure that any clinically ill bird is quickly administered diagnostic tests.

"But there's only so much we can do with our captive farms because they're open facilities. In the unlikely event a dabbling duck flies over and defecates into a pen or enclosure, we may have a problem," Brown said. "But we will be closely monitoring the birds and looking for any sign of an outbreak so that we may respond quickly and appropriately."

The Game Commission intends to do disease surveillance in ducks this fall. The agency will definitely be conducting surveillance in the northwest corner of the state at Presque Isle in ducks through a collaboration with the University of Georgia, Brown said.

"I would also really like to conduct surveillance at the commission's

Middle Creek Wildlife Management Area in Lancaster County, but at this point that is dependent on available funds and what surveillance is being conducted by the U.S. and Pennsylvania departments of agriculture."

Provided by Pennsylvania State University

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