WILDLIFE MANAGEMENT AND RESEARCH NOTES

No.		DATE
942	**AUTHOR:** W. Adam Phelps, Waterfowl Research Biologist	10/12/2007
	TITLE: Avian Influenza Monitoring in Indiana, 2006	

Abstract: *The Indiana Division of Fish and Wildlife sampled 501 hunter-killed waterfowl for avian influenza during the 2006-07 hunting season at six state Fish and Wildlife Areas and one reservoir. Only one bird, an adult male mallard, was confirmed positive for low-pathogenic avian influenza. Sampling will continue in future years.*

History

In 2006, concerns regarding the highly-pathogenic H5N1 strain of avian influenza (HPAI H5N1) causing human illness and fatalities in Asia caused the US government to fund monitoring in wild birds in North America. It is believed that it is possible for the virus to be transmitted via wild migratory birds from Asia or Europe to North America during the natural course of migration. The Indiana Division of Fish and Wildlife (IDFW), in cooperation with and with funding provided by the US Department of Agriculture, Wildlife Services (USDA-WS), took samples from hunter-killed waterfowl on state properties to monitor for this disease.

Procedures

The Indiana Division of Fish and Wildlife (IDFW) sampled 501 hunter-killed waterfowl for avian influenza during the 2006-07 hunting season at six Fish and Wildlife Areas (FWAs) (Lasalle, Willow Slough, Jasper-Pulaski, Minnehaha, Goose Pond, and Hovey Lake) as well as one reservoir (Monroe) (Figure 1; Table 1). Species sampled were chosen based on the Mississippi Flyway sampling strategy (MFAAFC 2006) and included Canada goose (*Branta canadensis)*, mallard (*Anas platyrhynchos*), American green-winged teal (*A. crecca*), American wigeon (*A. americana*), and northern pintail (*A. acuta*).

Hunter-harvested waterfowl were sampled using a sterile swab. A swab was inserted into the cloaca and placed into a vial of heart-brain infusion medium. Species, sex, and age of each sampled bird was recorded. Most sampling occurred on weekends, when the largest numbers of hunters were present on state properties. Samples were either shipped overnight or driven to the Animal Disease Diagnostic Laboratory (ADDL) at Purdue University, where initial virus screening occurred.

The initial screening that occurred at ADDL was a screening test for any AI virus subtypes. If a sample tested positive at this screening level, it was screened for specific H5, H7, and N1 virus subtypes. Positive results using this test were then submitted to the National Veterinary Services Laboratory (NVSL) for confirmation of the result.

Results

Of the 501 ducks and geese sampled by IDNR, only one was confirmed as positive for one of the viruses of concern (Table 2). This bird was an adult male mallard, shot at Jasper-Pulaski FWA, which was positive for a low-pathogenic H5 virus subtype.

Discussion And Recommendations

This was the first year of avian influenza monitoring in Indiana, and overall, it went very well. In future years Jasper-Pulaski FWA will be dropped from sampling, as harvest there is typically not high enough to warrant the sampling effort. Sampling should continue in Indiana as long as USDA-APHIS-WS continues to provide funding.

Literature Cited

MFAAFC (Mississippi Flyway Ad Hoc Avian Flu Committee). 2006. Surveillance for early detection of highly pathogenic avian influenza H5N1 in wild migratory birds: A strategy for the Mississippi Flyway. Unpublished report.

Table 1. Number of avian influenza samples taken, by species and property.

Property	Green-winged Teal	Northern Pintail	American Wigeon	Mallard	Canada Goose	Total
Willow Slough	77	2	0	0	3	82
LaSalle	23	4	4	25	14	70
Jasper-Pulaski	3	3	3	16	0	25
NORTH	**103**	**9**	**7**	**41**	**17**	**177**
Minnehaha	38	3	3	14	9	67
Goose Pond	34	3	1	20	6	74
Monroe Reservoir	23	0	4	70	8	105
Hovey Lake	1	1	3	83	0	88
SOUTH	**96**	**7**	**11**	**187**	**23**	**324**
TOTAL	**199**	**16**	**18**	**228**	**40**	**501**

Table 2. Avian influenza samples taken and positive results by species, age, and sex class.

Species [1]	Age	Sex	# Sampled	Preliminary + [2]	H5 Confirmed + [3]
AGWT	Adult	F	24	9	0
	Adult	M	31	10	0
	Juvenile	F	21	2	0
	Juvenile	M	28	3	0
	Unknown	F	32	21	0
	Unknown	M	22	13	0
	Juvenile	U	5	3	0
	Unknown	U	36	22	0
AMWI	Juvenile	F	4	1	0
	Juvenile	M	5	0	0
	Unknown	F	2	0	0
	Unknown	M	2	0	0
	Unknown	U	5	1	0
CAGO	Adult	F	2	0	0
	Adult	M	5	0	0
	Juvenile	F	0	0	0
	Juvenile	M	0	0	0
	Unknown	F	1	0	0
	Unknown	M	1	0	0
	Adult	U	1	0	0
	Juvenile	U	1	0	0
	Unknown	U	29	0	0
MALL	Adult	F	17	7	0
	Adult	M	40	15	**1**
	Juvenile	F	12	1	0
	Juvenile	M	25	3	0
	Unknown	F	33	9	0
	Unknown	M	79	9	0
	Juvenile	U	1	0	0
	Unknown	U	21	11	0
NOPI	Adult	F	2	1	0
	Adult	M	2	0	0
	Juvenile	F	3	1	0
	Juvenile	M	6	0	0
	Unknown	F	2	2	0
	Unknown	M	1	1	0

[1] AGWT = American Green-winged Teal; AMWI = American Wigeon; CAGO = Canada Goose; MALL = Mallard; NOPI = Northern Pintail

[2] Number that tested positive for H5/H7/N1 at Purdue ADDL.

[3] Number confirmed positive for H5 at NVSL. No samples were confirmed positive for H7, N1, or any highly-pathogenic strains of avian influenza.

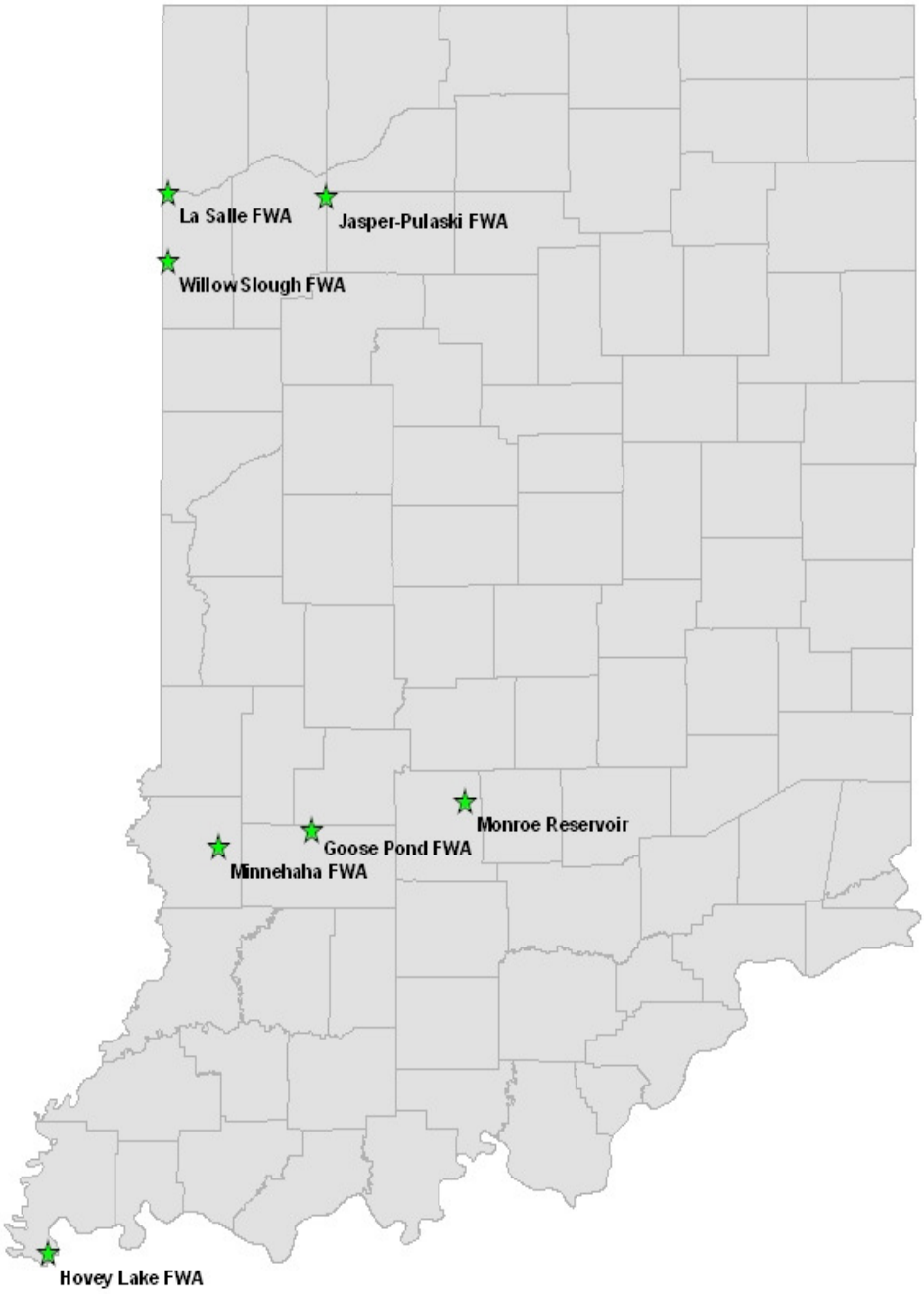
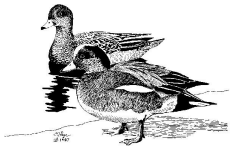


Figure 1. Properties at which IDFW took avian influenza samples, 2006.



These management notes are issued periodically to provide a quick source of information on wildlife surveys and investigations, and various wildlife programs prior to more terminal reports. Any information provided is subject to further analysis and therefore is not for publication without permission.