

A JOINT PROJECT
BETWEEN

USDA APHIS
WILDLIFE SERVICES

AND

INDIANA DNR
DIVISION OF FISH AND
WILDLIFE

Indiana Wildlife Disease News



Volume 2, Issue 3

July 2007

Special points of interest:

- Avian influenza surveillance in 2007
- Changes to CWD surveillance in Indiana
- Exotic parasites affect coots in Midwest
- Call for papers for the Midwest Fish and Wildlife Conference

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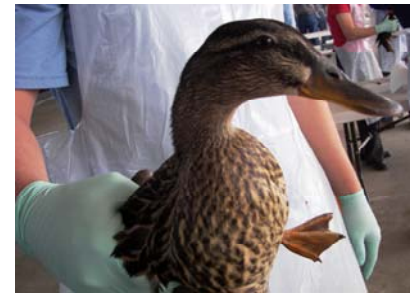
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2007 Indiana Avian Influenza Surveillance

Since 1998, U.S. Department of Agriculture (USDA) research scientists, have monitored wild migratory birds for avian influenza viruses. The agencies have tested more than 12,000 birds in the Alaska flyway, and since 2000, tested more than 3,000 birds in the Atlantic flyway.

In 2006, the U.S. Geological Survey (USGS), U.S. Fish and Wildlife Services (USFWS), DOI, USDA, and state wildlife agencies have been working to conduct avian influenza surveillance, which will include all of the major migratory flyways. This program serves to provide an early warning to the agriculture, public health, and wildlife communities should migratory birds be found to carry this particular virus. Details about the surveillance in Indiana were in the January 2007 of the Indiana Wildlife Disease News.

The avian influenza surveillance in wild birds continues in Indiana in 2007. USDA Wildlife Services and the Indiana Department of Natural Resources



A female mallard waiting to be sampled for avian influenza. Photo: USDA.

(IDNR) implemented the surveillance plan for the H5N1 strain of high path avian influenza in wild birds in July.

There are several important changes from the 2006 surveillance season. One of the major changes is that two swabs (one from the

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Black Spot in Fish

Black Spot is a parasitic disease of fish that causes black peppery spots in the flesh and fins. Nearly all species of fish can be infected, but particularly members of the "sunfish" or Centrarchidae family seem to be easily infected. Yellow perch and northern pike are common hosts as well. Black spot is found throughout Indiana and the Midwest. Bodies of water which are relatively shallow containing a good population of snails seem troubled most by this parasite.

The parasite, *Uvulifer ambloplitis*, is a digenetic trematode (Class Trematoda). Eggs are deposited into water bodies through the droppings of fish eating birds such as herons and kingfishers. The eggs hatch into larvae called miracidia that swim about until they find a snail (genus *Planorbella*). At that point they burrow into the snail, eventually reaching the liver where they form sporocysts. In about six weeks each sporocyst



Black Spot causes "peppery" spots in fish flesh and fins. Photo: Minnesota DNR

develops into a cercariae. The cercariae exit the snail and penetrate the muscles and fins of fish where they encyst. The fish's body responds by sending dark pigment (melanophores) to surround the cyst causing the

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Avian Influenza Surveillance (continued from Pg. 1)

oral cavity and one from the cloaca) for each bird, samples will no longer be pooled in the lab. Another significant change is that surveillance will be targeted primarily on waterfowl that showed the highest prevalence of H5 low pathogenic avian influenzas. All of these changes have been made to enhance our ability to achieve early detection of the H5N1 HPAI. This means that samples will continue to be taken, delivered to the lab, and analyzed within a few days. This emphasis on early detection is the primary method by which USDA APHIS can meet its objective of protecting American agriculture.

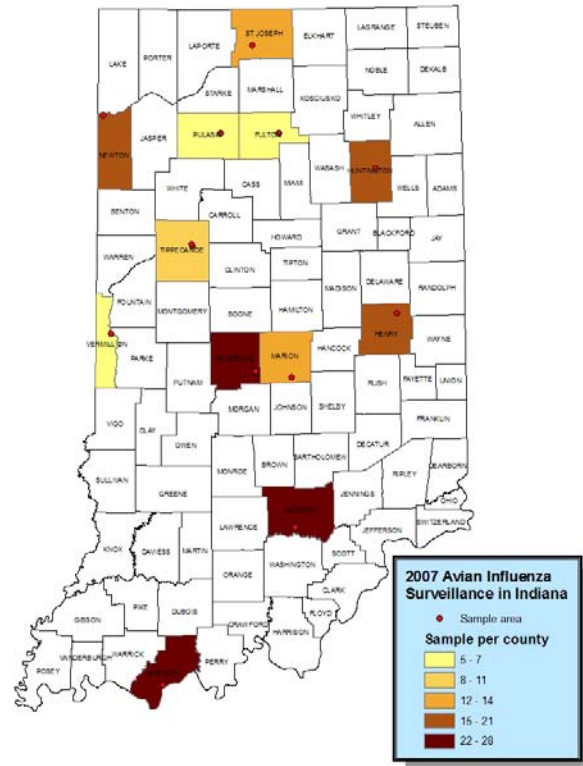
During the 2007 surveillance season, which runs from April 2007 until March 31, 2008, USDA APHIS Wildlife Services and the Indiana Department of Natural Resources Division of Fish and Wildlife will collect 750 samples from throughout Indiana. Approximately one-third of the samples will be taken during the resident bird season. Samples during this period

will consist primarily of Canada geese (~175) and nesting wood ducks (~50). The remaining two-thirds of the samples will be taken during the migratory season from hunter-harvested birds. During the hunting season, the samples will come from mallards (~200 birds), American green-winged teal (~200 birds), and other dabbling ducks such as American black ducks, pintails, northern shovelers, American wigeon, and gadwalls (~125 birds).

Similar to last year, surveillance of morbidity and waterfowl mortality events of will occur year-round. Any mortality events consisting of waterfowl or shorebirds can be reported to USDA APHIS Wildlife Services Wildlife Conflicts Information Hotline at 1-800-893-4116. Mortality events consisting of any species reported to the hotline, consisting of 5 or more individuals will be first investigated through phone evaluation. Based on the phone evaluations, biologist may decide to investigate the mortality event and sample individuals for avian influenza.

SAMPLING TO DATE

In June, USDA APHIS Wildlife Services collected samples from 180 resident Canada geese during several of the Indi-



Location of avian influenza surveillance in Indiana from May 2007 until July 30, 2007.



Banding and collecting samples from Canada geese in Lafayette, Indiana. Photo: USDA

ana Division of Fish and Wildlife goose banding projects. After samples and other relevant data were collected, the geese were released on-site.

In July, approximately 20 free-ranging wood ducks were sampled by the Indiana Division of Fish and Wildlife. To date, only one avian mortality event (one mallard) has been investigated. All results were negative for H5N1. Sampling of wild birds will continue through 2008.

Article by: Dr. J. N. Caudell, USDA

Black Spot (continued from Pg. 1)

peppery black spots. When an infected fish is eaten by a bird such as a heron, a cyst develops in the digestive tract of the bird into an adult worm. The process then begins anew with the shedding of eggs from the adult.

Fish are seldom harmed by the black spot

cysts unless the fish comes under extreme stress. Lipid (fat) levels can be reduced lowering energy reserves and affecting the ability of a fish to survive winter or other significant stresses.

Fish infected with black spot are perfectly fine to consume if well cooked. A few

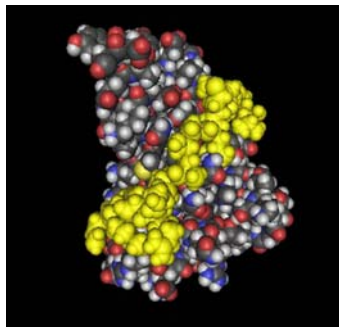
spots may be picked or trimmed from the flesh, but infestations are sometimes too numerous to get all cysts. Once black spot becomes established in a pond, little can be done to eradicate it.

Article by: D. Zimmerman, IDNR

Changes to CWD Surveillance Protocol

Since Chronic Wasting Disease (CWD) was first reported in the Midwest in 2002, the Wildlife Division, Indiana Department of Natural Resources (IDNR), and the Indiana Board of Animal Health (BOAH) have cooperated to conduct surveillance efforts designed to determine the distribution and prevalence of CWD in free-

ranging and captive cervids under a cooperative plan that was drafted in September of 2002. Between September 2002 and June 2007, extensive sampling of both free-ranging (8,999 samples)



and captive (over 3,100 samples) cervids has not detected any of the prions indicative of CWD. The failure to detect a CWD positive individual does not confirm the absence of CWD in the state, but does indicate that there most likely are either no or relatively few infected animals in the state. As a result of the lack of detection of CWD, and as more has become known about the disease through research, the two agencies are revising some of our surveillance sampling strategies.

As in the past, the DNR will continue to seek reports from the public of sick, free-ranging white-tailed deer, which, if deemed suspicious, will be collected and sampled. Sampling of reported sick deer has been documented as the most sensitive CWD surveillance technique available, and was responsible for the initial detection of the disease in the Midwest (i.e., Wisconsin and Illinois).

During the last 5 years, research in Colorado has shown a higher level of CWD infection in road killed animals than in hunter harvested animals in the same locality. This research, coupled with reductions in staff & increased work loads, will have DNR personnel sampling a portion of the road killed deer that they encounter incidental to their travel in their normal work duties this fall. This effort will replace the prior intensive sampling of hunter harvested deer that was targeting counties where deer farms had imported deer from known CWD infected states, and targeting counties in northwestern Indiana due to their

proximity to the known occurrences of CWD in Illinois and Wisconsin. The less intensive sampling of hunter harvested deer, that DNR initiated in 2005, will continue this fall at all biological check stations scattered across the entire state.

All sampling will consist of collection of retropharyngeal lymph nodes which will be analyzed via immunohistochemistry at Purdue University by the Animal Disease Diagnostic Laboratory. If a sample is believed to test positive for CWD prions, the preserved tissues will be sent to the National Veterinary Services Laboratory in Ames, Iowa for final determination of CWD status.



White-tailed deer in winter. Photo USDA

Article by: J. Mitchell, IDNR

Avian influenza surveillance for upland game bird farms in Indiana

In 2007, the Indiana State Poultry Association (ISPA) obtained funds from a federal cooperative agreement from USDA APHIS Veterinary Services to conduct avian influenza surveillance with upland game bird producers. The primary focus on the surveillance in 2007 will be to collect basic data about the



Pheasants are a species commonly raised in Indiana. Photo: USDA

upland game bird facilities in Indiana. Information will include biosecurity procedures, species bred and raised, flock size, use of birds, and other aspects of management. The ISPA will also provide voluntary testing for avian influenza for any upland game bird farmers who

would like to do so. Additional testing may be conducted for other wild game bird diseases such as blackhead, avian pox, or coccidia. USDA APHIS Wildlife Services will be assisting the ISPA with gathering data, data analysis, evaluation of biosecurity at upland gamebird farms, and for transporting samples to the lab.



Article by J. Caudell, USDA APHIS

Wildlife Health Bulletin 07-01

Exotic parasites affects American Coots in Upper Midwest

In June 2007, scientists at the USGS National Wildlife Health Center (NWHC) discovered *Leyogonimus polyoon*, an exotic parasitic trematode affecting American coot, in exotic faucet snails collected from the Upper Mississippi National Wildlife and Fish Refuge, near La Crosse, Wisconsin. The snails came from Lake Onalaska, a major backwater lake of the Upper Mississippi River. USGS documented the first record of *L. polyoon* in North America in 1998 when it infected and killed thousands of

American coots in north-central Wisconsin. The discovery of snails infected with *L. polyoon* in Lake Onalaska confirms that the parasite has become established in the Upper Mississippi River System (UMRS) and can potentially spread into its many tributaries.

Based on data from 2004–2006 surveys, *L. polyoon* was **not** present in the Up-

per Mississippi River until now. The life cycle of *L. polyoon* involves the exotic faucet snail (*Bithynia tentaculata*) and various species of aquatic insect larvae such as dragonflies and damselflies. The American coot is the only natural definitive host thus far reported to be susceptible to infection in North America. Coot fall victim to the parasite by feeding on infected insect larvae. See USGS Fact Sheet : *Exotic Parasite Causes Large Scale Mortality in American Coots* (http://www.nwhc.usgs.gov/publications/fact_sheets/pdfs/fact_lpolyoon.pdf). In Eastern Europe, where the faucet snail and parasite are native, the spread of the parasite is limited by the geographic distribution of the faucet snail. In the United States, coot and aquatic insects are widely distributed,



American coots. Photo: USDA

so control of the parasite will focus on controlling the snail.

The faucet snail was first reported in the UMRS in 2002, when it was associated with large, recurring die-offs of American coot and lesser scaup attributed to two other parasitic trematodes (*Cyathocotyle bushiensis* and *Sphaeridiotrema globulus*). The common link among the three trematodes is the exotic faucet snail, documented in USGS Open-File Report 2007-1065, *Finding the Exotic Faucet Snail* (<http://pubs.usgs.gov/of/2007/1065/>).

NWHC is working closely with Refuge staff and the USGS Upper Midwest Environmental Sciences Center to develop adaptive management strategies and techniques to limit the expansion of the faucet snail into new areas of the UMRS. Preliminary results from small scale controlled experiments will be available in the fall of 2007.

Natural Resource managers and biologists are asked to report wildlife mortality events to USGS Wildlife Disease Specialists Mark Jankowski (608-270-2443) or Krysten Schuler (608-270-2447). In light of this discovery, disease outbreaks involving American coot and lesser scaup are of special interest.

L. polyoon and the other two parasitic trematodes mentioned above have not been reported to infect humans. No human health threats are known, but hunters are reminded to wear gloves when cleaning or handling birds and to cook them until well done.

There appears to be no threat to raptors or mammals scavenging on infected carcasses.

For additional information related to this Bulletin please contact Rebecca Cole at 608-270-2468 (rcole@usgs.gov) or Mark Jankowski at 608-270-2443 (mjankowski@usgs.gov).

WILDLIFE HEALTH BULLETINS are distributed to natural resource/conservation agencies to provide and promote information exchange about significant wildlife health threats in their geographic region. If you'd like to be added to or removed from the mailing list for these bulletins, please contact Gail Moede Rogall at 608-270-2438 or e-mail: gmrogall@usgs.gov.

USGS
science for a changing world

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Call for Papers:

68th Annual Midwest Fish and Wildlife Conference

The Midwest Fish and Wildlife Conference will hold its 68th Annual Conference in Madison, Wisconsin, December 9-12, 2007. The meeting will include workshops, symposia, contributed papers (oral presentations), and contributed posters. We invite submission of contributed papers and posters on topics of fish and wildlife science, management, conservation, education, or policy within the broad theme of Manage Locally and Conserve

Globally. Abstracts will be made available on the website but Proceedings will not be published, so we encourage reports from the author's most recent scientific investigations and management experiences.

Papers and posters from completed studies or significant results from completed phases of long-term projects will be given

priority. Acceptance of papers and posters from work still in progress will be dependent on the quality of the abstract and space availability. Papers and posters will be accepted based on their technical merit and contribution to our knowledge of species, populations, communities, ecological processes, management practices, conservation initiatives, education models, or policy issues. Please note presentations from students are welcome but are not given preferential treatment during review. Time and space is a limiting factor and we may not be able to accept all papers/posters submitted (whether from students or professionals).

PAPERS

All contributed papers (oral presentations) will be scheduled for 20 minutes, which includes 15 minutes for the presentation and 5 minutes for questions.



POSTERS

We urge participants to consider presentation of their work as posters. Posters provide an opportunity for authors to participate in more detailed communication with attendees.

For more information on submitting posters, papers, or for registering for the conference, visit the Midwest Fish and Wildlife Conference website at: <http://midwest.ncd-afs.org/index.asp>

In Focus:

Indiana Chapter of The Wildlife Society

The Wildlife Society (TWS), founded in 1937, is an international non-profit scientific and educational association dedicated to excellence in wildlife stewardship through science and education. The Indiana Chapter of The Wildlife Society (ICTWS) was founded in 1968, under the parent society, as the professional organization of trained wildlife ecologists, biologists, and managers in the state of Indiana. The mission of the Indiana Chapter of The Wildlife Society is to enhance the ability of wildlife professionals to conserve diversity, sustain productivity, and ensure responsible use of wildlife resources for the benefit of society. The Wildlife Society encourages professional growth through certification, peer-reviewed publications, conferences, and working groups.

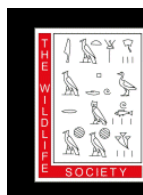
The ICTWS membership consists of over 100 wildlife professionals representing state, federal, public, and private agencies/organizations plus students of academic institutions. ICTWS members are active in all aspects of wildlife,

habitat, and wildlife management issues. The Indiana Chapter of TWS is well known for its continuing education workshops. Examples of past workshop topics include: Wildlife Diseases in Indiana: What to Look for- How to Respond; Wetland Management; Vegetation Management; Increasing Awareness and Knowledge of Natural Resource Issue with the Public, Media, and Legislature; Impacts of Forest and Wildlife Management Practices on

Neotropical Migrant Bird and Herptile Populations: A Field Workshop; and GIS Application for

Natural Resources. In addition to providing continuing education opportunities, ICTWS strives to develop future wildlife professionals by working with student chapters of TWS at Purdue and Ball State Universities and promoting additional student chapter development at other academic institutions. For more information on ICTWS visit <http://www.agriculture.purdue.edu/fnr/itws/index.htm> or contact Mitch Marcus, 2007 ICTWS President, at mmarcus@dnr.IN.gov.

Article by M. Marcus, ICTWS



Indiana Chapter THE WILDLIFE SOCIETY

Epizootic hemorrhagic disease (EHD) found in Indiana and nearby states in 2007

A viral disease called epizootic hemorrhagic disease (EHD) appears to be infecting, and often killing, white-tailed deer in southern Indiana.

EHD is not normally found in domestic animals, and is not transmissible to humans.

Hoosier hunters and landowners have recently been finding and reporting to the Department of Natural Resources an unusual number of dead wild deer in Daviess, Dubois, Gibson, Jackson, Jefferson, Perry, Pike, Spencer, Warrick, and Washington counties.

Investigations by DNR biologists point to a viral disease called EHD (Epizootic Hemorrhagic Disease), transmitted by small flying insects called biting midges.

The Southeastern Cooperative Wildlife Disease Study (SCWDS) in Athens, Georgia, confirmed, from samples submitted by DNR wildlife biologists, that EHD is the cause of some of these mortalities. Additional samples are being analyzed by SCWDS.

This year's EHD outbreak is starting earlier than in past years, and earlier than last fall's outbreak in west-central Indiana.

Many EHD-infected deer were found last year in Greene, Clay, Owen, Parke, Putnam, Sullivan, Vermillion, Fountain and Vigo counties.

DNR deer biologists do not expect the outbreak will cause significant deer mortality in areas where the disease hit last fall due to residual immunity in those animals.

However, the early onset of this year's outbreak and drought conditions that provide excellent reproductive conditions for the midges, may lead to significant wild deer mortality in southern Indiana this fall.

"It's likely that a good number of deer have been and will be lost," said DNR Deer Management Biologist Jim Mitchell.

EHD infected animals have also been reported in August, 2007, in Illinois, Kentucky, Ohio, Pennsylvania and Tennessee.

EHD causes severe flu-like symptoms in the deer, including a high fever. Infected deer seek open water in streams or ponds to cool off. Many of the reported dead deer were found near water.

Sick deer may lose their appetite, coordination and their fear of normal dangers. Animals become dehydrated and progressively weaker, with mouth and eye tissue often showing a rosy or bluish color.

Indiana deer hunters are asked to observe deer they intend to take for a brief time. If the deer's posture or behavior indicates the deer may be sick, don't

harvest it.

There appears to be no risk associated with direct exposure to or consumption of an EHD-infected deer.

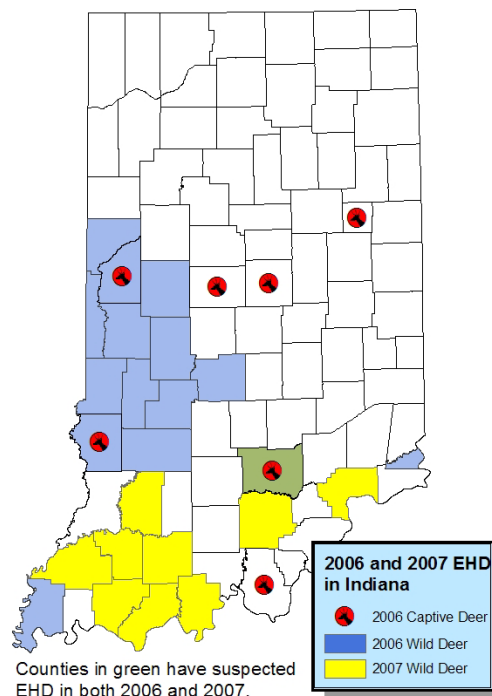
Use common sense when cleaning and preparing any deer. Never kill or eat a sick deer. Use rubber gloves. Be sure meat is cooked thoroughly to kill any bacteria or organisms that may be present.

EHD should not be confused with the unrelated brain disease, Chronic Wasting Disease (CWD), which has never been found in Indiana.

EHD usually affects local deer populations until a few hard freezes kill the biting midges that spread the disease.

Hoosiers can report sick deer to their local District Wildlife Biologist, Conservation Officer, or the Board of Animal Health. Contact information is listed in the Indiana Hunting and Trapping Guide and at: <http://www.IN.gov/dnr/fishwild/huntguide1/wbiolo.htm>

More EHD information: http://www.in.gov/dnr/deerhealth/EHD_Fact_Sheet.pdf



Both captive and wild white-tailed deer species are susceptible to EHD. Photo: USDA



Midwest Wildlife Disease Update

Fish Virus Discovered in Lake Michigan-

According to the email list ProMED, the Wisconsin DNR reported on May 24, 2007 that two sport fish from Lake Michigan have tested positive for Viral Hemorrhagic Septicemia (VHS). This is the first confirmation of the virus in Lake Michigan. A smallmouth bass and a brown trout, from separate locations along Wisconsin's shore, tested positive. Although not unexpected, it is disappointing that the virus has reached Lake Michigan so soon.

New York VHS Fish Kill- The New York Department of Environmental Conservation (NYDEC) announced June 19, 2007 that an ongoing fish kill of smallmouth bass and rock bass in Skaneateles Lake has been linked to VHS. VHS has been previously confirmed in Lake Ontario, Lake Erie, the St. Lawrence River, the Niagara River and Conesus Lake. On July 23, 2007 three additional sites had fish test positive for VHS including a rainbow trout in the Little Salmon River, and sunfish and koi in a private farm pond. (Source- ProMED)

CWD in West Virginia- The West Virginia DNR announced in mid-May that

three more free-ranging white-tailed deer tested positive for CWD in Hampshire County. This brings the total number of CWD positive deer in that county to 13. The three positives came out of testing 101 adult deer taken by DNR staff during a March and April 2007 reduction in their CWD containment area. (Source- ProMED)

Illinois CWD Update- The Illinois DNR has collected 6,733 usable CWD surveillance samples since July 1, 2006, and found 41 CWD-positive deer, all in four counties in northern Illinois. Although no new counties were identified as having CWD, one positive was 20 miles southeast of previously identified locations in DeKalb County. Hunter harvested deer accounted for 41% of the positives identified. (Source- Wildlife Disease Information Node Website)

Ehrlichiosis Fatality in Missouri- On June 7, 2007 Missouri health officials warned residents to protect themselves from ticks after the death of a child in northeastern Missouri. The youngster became ill after being bitten by a tick, and died May 23 after ten days of intensive medical care. Tests performed at St. Louis Children's Hospital showed the child was infected with Ehrlichiosis, a

disease related to Rocky Mountain Spotted Fever. Missouri has had an average of 9 cases of this disease per year over the past five years. (Source- ProMED)

Exotic Trematode Found in Exotic Snail in Wisconsin- In June 2007 the USGS National Wildlife Health Center (NWHC) discovered an exotic parasitic trematode (*Leyogonimus polyoon*) in exotic faucet snails (*Bithynia tentaculata*) collected from a national wildlife refuge near La Crosse, Wisconsin. The trematode was found to be the causative agent in killing thousands of American coots in 1998 in central Wisconsin. The trematode and snail are native to Eastern Europe, and finding them together in Lake Onalaska confirms that the parasite has become established in the upper Mississippi River System. An invasive strikes again. (Source- USGS Wildlife Health Bulletin)

Oral Rabies Vaccine For Raccoons Continues in Ohio- A spring oral rabies baiting vaccination program continued this spring in five northeast Ohio counties. The effort is coordinated by the Ohio Departments of Health, Transportation and Natural Resources, and the USDA Wildlife Services. In late April about 249,000

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AI Training for Agencies in Indiana

For two weeks in June, representatives from state and federal fish and wildlife agencies, animal diagnostic laboratories, and related organizations from across the United States met at the USDA APHIS Wildlife Services National Wildlife Research Center (NWRC) for training in avian influenza surveillance in wild waterfowl. Each 3-day training, sponsored by Wildlife Services Wildlife Disease Surveillance and Emergency Response Program, brought together cooperators from each state to learn changes from last year's avian influenza surveillance plan.

Representatives from Indiana Department of Natural Resources Division of Fish and Wildlife, Indiana Animal Disease Diagnostic Lab, and USDA APHIS Wildlife Services attended the first of these trainings in early June. The first part of the program consisted of lectures to discuss changes from last year's protocol (see related avian influenza story in this issue for major changes), new data collection and reporting techniques, how to properly package and submit samples, biosecurity, and other related top-

ics. Speakers from the USDA APHIS National Veterinary Services Laboratory were brought in to discuss the testing procedures for samples submitted to their laboratory and new diagnostic protocols.

The training concluded with a hand-on sampling simulation which included taking samples from waterfowl, data process, and proper packaging. Participants were then evaluated on their techniques. The training concluded with a tour of the facilities at the NWRC.



A. Phelps (IDNR), C. Santrich (ADDL), and J. Caudell (WS) from Indiana attended the training. Photo USDA

Indiana Wildlife Disease News

A joint project between:

Indiana DNR
Division of Fish and Wildlife

and

USDA APHIS Wildlife Services
National Wildlife Disease Surveillance and Emergency Response Program

to provide information on wildlife diseases in Indiana and surrounding states.

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The Indiana Wildlife Disease News is only published in electronic format. To add or remove you name from the mailing list, please send an e-mail to jcaudell@aphis.usda.gov

Submissions or Participation

If you would like to submit a wildlife disease related article, ideas, comments, or other information, please contact one of the editors.

We welcome individuals or agency representatives to act as reviewers or to provide assistance in the production of this newsletter. To assist, please contact one of the editors.

Providing information on wildlife diseases in Indiana and surrounding states



Indiana Department of Natural Resources Division of Fish and Wildlife

The mission of the Division of Fish and Wildlife is to professionally manage Indiana's fish and wildlife for present and future generations, balancing ecological, recreational, and economic benefits. Professional management is essential to the long term welfare of fish and wildlife resources, and providing for human health and safety. Communication between agency professionals and educating the public are important aspects of professional management.

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USDA APHIS Wildlife Services NATIONAL WILDLIFE DISEASE SURVEILLANCE AND EMERGENCY RESPONSE PROGRAM

The mission of the National Wildlife Disease Surveillance and Emergency Response Program is to provide Federal leadership in managing wildlife disease threats to agriculture, human health and safety, and natural resources by assisting Federal, State, Tribal, and Local governments, private industry, and citizens with management of zoonotic and other wildlife diseases of concern.

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Midwest Wildlife Disease Update (Continued from pg. 7)

baits will be distributed over a 1,149 square mile area. This

immune barrier has successfully slowed the spread of raccoon strain rabies into Ohio from Pennsylvania and West Virginia.

There were only 10 positive rabies cases in Ohio in 2006 compared to 34 cases in 2005. (Source- USDA-APHIS)

Shovel-nose Sturgeon Die Off in Wabash River- About 100 shovel-nose sturgeon have turned belly up in Indiana's Wabash River in early July



Wabash River. Photo: IDNR

2007. The mortalities have occurred in 2-3 groups over a 48 mile stretch of the river in the Delphi-Lafayette-Attica area.

The sturgeon show no injuries and appear in good condition. No other fish species have been affected suggesting that the die off may be disease related. The Purdue Animal Disease Diagnostic Lab and DNR Fisheries Section are searching for a cause.

"Dirt" May Be Factor In CWD Spread- Judd Aiken, a University of Wisconsin- Madi-

son professor, has found that by binding to the common soil mineral montmorillonite, the folded proteins (prions) that are thought to cause chronic wasting disease in deer, can be as much as 700 times more infectious than exposure to the proteins alone. Many herbivores like deer consume a fair amount of dirt each day as they graze, and they also consume soil to secure minerals. Researchers were shocked at how tightly the prions adhered to the mineral, and found that they had to boil the soil in detergent to remove the prions. If you'd like to read more on this topic, check the following website: <http://www.wiscnews.com/pdr/news/200263>

Column by D. Zimmerman, IDNR