

To: Natural Resource/Conservation Managers
From: Leslie Dierauf, Director, USGS National Wildlife Health Center
Title: West Nile Virus in Greater Sage-Grouse
Date: November 6, 2006

Since July 2006, greater sage-grouse deaths from West Nile virus have been reported in Oregon, Colorado, Idaho, Nevada, Montana, South Dakota, North Dakota, and Wyoming. This bulletin is a summary of interim reports from those states and from USGS investigators. Additional mortality may be documented before the end of the year. Biologists and others are encouraged to report sage-grouse mortality to their respective agencies or the USGS National Wildlife Health Center. State, Tribal and Federal contact information is provided towards the end of this document.

West Nile virus has now been detected in sage-grouse in California, Colorado, Idaho, Montana, Nevada, Oregon, North Dakota, South Dakota, Utah and Wyoming, as well as Alberta, Canada. Experimental studies at the USDA National Wildlife Research Center have shown that West Nile virus is usually fatal to sage-grouse, resulting in death within 6 days of infection.

Oregon: The USGS National Wildlife Health Center (NWHC) has confirmed West Nile virus infection in greater sage-grouse and a northern harrier found dead in Malheur County, Oregon, in August 2006. This was the first isolation of the virus in sage-grouse in Oregon. A landowner near Burns Junction reported the dead sage-grouse, resulting in the Oregon Department of Fish and Wildlife (ODFW) and USGS biologists to investigate the mortality event. They found 3 fresh sage-grouse carcasses, 1 sick northern harrier, and more than 60 decomposed remains of sage-grouse. A sage grouse from Harney County was also confirmed positive for WNV; however, extensive searches in the surrounding area, which is about 70 miles from the outbreak near Burns Junction, did not reveal any significant mortality (except for a feather pile). Additionally, sage-grouse losses have been reported by two landowners near Jordan Valley, Oregon, and the remains of a few sage-grouse were found at one of these properties, although WNV has not been confirmed in these events.

A team of biologists from ODFW and USGS have been monitoring the area around Jordan Valley for additional mortality and collecting blood samples from live sage-grouse to test for the presence of WNV antibodies. Overall, Oregon's greater sage-grouse population remains stable at about 35,000 birds. Most sage-grouse are found in the southeast portion of the state, particularly Lake, Harney and Malheur counties.

Colorado: The Colorado Division of Wildlife (DOW) has confirmed that four greater-sage grouse found dead in the northwestern part of the state died from WNV. In 2004, one greater sage-grouse was confirmed to have died from WNV in Colorado's Eagle South Routt population. Currently, 160 radio-collared birds are in the study areas. Four carcasses found in July and August 2006 were sent to the DOW Wildlife Health Laboratory in Fort Collins; three additional carcasses were too decomposed for testing. Two recently discovered carcasses are en route to the lab. Nearly 150 radio-collared greater and Gunnison sage-grouse are being monitored intensively in other areas of Colorado to detect any further unusual mortality.

Idaho/Nevada/Duck Valley Indian Reservation: Idaho Department of Fish and Game wildlife biologists have reported that 11 dead sage-grouse have tested positive for West Nile virus this summer. This includes three in Owyhee County, one in Twin Falls County, one in Washington County, and six on the Duck Valley Indian Reservation on the Idaho-Nevada border. One sage-grouse tested positive from the Nevada side of the Duck Valley Indian Reservation. A total of 25 dead sage-grouse on the Duck Valley Reservation and about 30 in Owyhee County were found by Tribal and Department of Fish and Game officials. Landowners and hunters also reported seeing unusual numbers of dead sage-grouse in Owyhee County, and all sage-grouse hunting was closed on the Duck Valley Indian Reservation and most of Owyhee County until the impact of WNV on the sage-grouse population is better known.

Idaho biologists are monitoring about 150 radio-collared sage-grouse at eight study areas in an effort to learn more about the extent of the virus in the state. Fish and Game and other agency biologists have been alerted to collect any reported sick or dead sage-grouse.

Montana/Wyoming: In the Powder River Basin of Montana and Wyoming, research conducted by David Naugle of the University of Montana confirmed that WNV killed radio-marked sage-grouse for the fourth year in a row. Cause of death was verified by the Wyoming State Veterinary Laboratory in Laramie. Eleven birds have been tested so far; five were positive for WNV. Another six dead birds are being tested currently. In 2003, about 25 percent of the radio-marked sage-grouse in the Powder River Basin died from WNV. With cool summers in 2004 and 2005, that number dropped to 10 percent and 2 percent, respectively. The hot summer in 2006 was accompanied by increased mortality. A significant increase in sage grouse mortality (16 of 67 with radio transmitters) was also reported by biologists at the Charles M. Russell National Wildlife Refuge in north central Montana. While WNV was not confirmed, north central Montana was one of the sites that experienced high female sage grouse mortality due to WNV in 2003.

South Dakota/North Dakota: Kent Jensen at South Dakota State University reported that they have documented sage grouse mortality associated with WNV in South Dakota and North Dakota in 2006.

Utah: The Utah Division of Wildlife Resources (UDWR) has been working closely with other state and local agencies, including: the Utah Department of Health, the Utah Mosquito Abatement Association and the Utah Department of Agriculture and Food, in WNV surveillance and prevention since 2002, but it was not until 2003 that the virus was detected in Utah. To date, one greater sage-grouse death has been attributed to WNV. The bird was collected on the edge of an alfalfa field near the town of Arcadia in Duchesne County in 2005. There are currently about 230 radio-collared greater sage-grouse throughout Utah being monitored as part of various research studies.

General Information: Those handling dead birds should take at least minimal precautions. Anyone who encounters a dead bird and is unsure of why it died should wear protective gloves when handling it, or use an inverted plastic bag to collect the bird. Anyone cleaning wild game should wear disposable latex gloves or similar protective alternative. Cooking meat, including game, to over 170 degrees F will kill any viruses present in the meat.

Contact Information

Oregon: Oregon Division of Fish and Wildlife (ODFW) is requesting the assistance of the public, particularly landowners and pronghorn antelope hunters, in monitoring the disease and asks that dead sage-grouse be reported or turned in to an ODFW office. Contact Colin Gillin, 541-231-9271 for information on WNV; and Christian Hagen 541-388-6350, Ext 27, www.dfw.state.or.us, Fax: 503-947-6009, for information on sage-grouse biology.

Idaho: The Idaho Department of Fish and Game (IDFG) asks anyone who sees sick or dead sage grouse to contact any IDFG regional office or the Idaho Wildlife Health Lab in Caldwell at 208-454-7638 as soon as possible. Dead sage grouse can be refrigerated and taken to an IDFG office. Another contact at the Idaho Department of Fish and Game is Tom Hemker, 208-287-2749.

Duck Valley Indian Reservation, Owyhee, NV: Daniel N. Gossett, Shoshone-Paiute Tribes, Phone: 208-759-3246, 1-800-761-9133, Fax: 208-759-3248, E-mail: gossett_daniel@yahoo.com

Colorado: Colorado hunters who find greater sage grouse, blue grouse or raptor carcasses that are in good condition can assist the DOW by collecting the carcass for testing. Carcasses should be frozen and delivered to the nearest DOW office. Contact Tony Apa, Colorado Division of Wildlife, 970-255-6196, tony.apa@state.co.us.

Wyoming: Tom Christiansen, Wyoming Game and Fish Department, 307-875-3225 ext. 227 or tom.christiansen@wgf.state.wy.us

Montana: For information about WNV contact, Mark Atkinson, 406-994-6183; for information about sage grouse biology contact Rick Northrup 406-444-5633 or rnorthrup@mt.gov

Nevada: The Nevada Department of Wildlife is requesting information from the public, particularly sportsmen and private landowners, on any unusual cases of sick or dead sage-grouse encountered while in the field. Please contact any NDOW regional office or the headquarters office at 775-688-1500 with information regarding locations, numbers of birds observed that are sick or dead, and the date of the observation. Shawn Espinosa, Nevada Department of Wildlife, 775-688-1523 or sespinosa@ndow.org.

South Dakota/North Dakota: Kent Jensen at South Dakota State University, 605-688-6121 or kent.jensen@sdstate.edu

Utah: The Utah Division of Wildlife Resources (UDWR) is requesting that anyone who encounters sick or dead sage-grouse to contact the following as soon as possible. Please contact the Contact: Leslie McFarlane lesliemcfarlane@utah.gov at (801) 538-4700.

USGS National Wildlife Health Center: To report sage grouse mortality or obtain information on WNV and USGS sage grouse work, contact Kathryn Converse, 608-270-2445, kathy_converse@usgs.gov, or Bob Dusek, 608-270-2403, rdusek@usgs.gov.

We thank all of the respective State, Tribal and University contributors for allowing us to share this information with the Wildlife Health Bulletin list of natural resource and conservation professionals.