DEPARTMENT of the INTERIOR

news release

FISH AND WILDLIFE SERVICE FEATURE MATERIAL

For Release On Receipt (prepared 11/2/73) McGarvey 202/343-5634

DUCK VIRUS THREATENS NORTH AMERICAN WATERFOWL

Fall migration of ducks and geese is well underway, and biologists of the Department of the Interior's Fish and Wildlife Service are preparing to cope with an extremely deadly disease that last winter killed an estimated 43,000 wild ducks and geese in a few weeks at the Lake Andes National Wildlife Refuge in South Dakota. So far as is known the disease does not affect humans.

The cause of the unprecedented die-off was a virus infection called duck plague, or duck virus enteritis, or simply DVE. DVE is believed to have occurred among domestic waterfowl in Europe, particularly the Netherlands, for at least 50 years. It was first reported in domestic waterfowl in the United States in 1967, but last winter's outbreak at Lake Andes was the first ever noted in epidemic proportions among wild waterfowl. How the virus was introduced to North America is not clearly understood. Biologists fear that the virus, known to be present today in some domestic flocks and probably in wild ducks and geese exposed to the disease last winter in South Dakota, may spread to other wild waterfowl as the migration south continues.

DVE virus is carried by the birds themselves, unlike other major diseases which are prompted by conditions at specific locations. Highly mobile and gregarious flocks of waterfowl provide a ready medium for rapid spread of this highly contagious disease. Researchers suspect that stress among birds triggers the release of the virus in individual birds that are "carriers." Changes in climate and crowding are examples of factors which may stress the birds and result in spreading the virus. Any one or many such factors may exist during the migration and wintering period.

Birds affected with DVE quickly lose vigor and are reluctant to fly or even to escape man until approached closely. Birds that die of DVE usually succumb within a week. Whether on land or water, the death struggle is dramatic.

Birds are gripped in a seizure. They show convulsive foot, wing, and body movements that commonly terminate with a rigor that leaves the victim arched backward or with the head and neck unnaturally thrown to the side. A tell-tale sign of DVE is bleeding from the anus and the nostrils. Bloody droppings are also common. Within the body, organs are typically hemorrhagic and disease experts recognize more specific damage in the digestive tract, liver, and spleen.

(MORE)

Positive diagnosis of DVE can be made only by laboratory tests to isolate the virus. These tests usually require susceptible cultures of unhatched duck tissues that are grown in test tubes. When such cultures are inoculated with extracts from a DVE victim, the virus produces visible damage to the tissues usually within a week.

Vaccination against infectious diseases is impractical for wildlife. Knowledge about control of DVE in migratory birds is limited. Even domestic ducks which are confined can be vaccinated only under certain restricted conditions. For wild waterfowl, the only reasonable measures that can be applied are surveillance--alertness for any evidence of DVE--and management techniques tailored to prevent conditions which may increase the odds that DVE will erupt, or management to minimize the impact of DVE if it appears.

It may not be possible to avoid future DVE outbreaks, but the U.S. Fish and Wildlife Service is marshalling its laboratories, scientists, and resource managers in a planned effort to try and prevent it from occurring and, failing that, to deal successfully with it if it does occur.

A Service contingency plan for dealing with DVE is being developed in two major parts--preventive management and combative actions. The combative action portion of the plan is now operational. Simply put, this plan is a cook-book version of who does what, when, where, and how in the event of an actual DVE emergency on Service lands. Under this plan, regional DVE coordinators have been named to oversee outbreaks in their respective areas and to disseminate information to the public. The plan establishes "disease teams" which include diagnosticians or "advance men" who are on call and ready to react quickly to suspected DVE outbreaks anywhere in the Service's vast network of refuges, fish hatcheries, and research facilities. Management teams have also been established in each region and are prepared to move in and augment the disease teams in control and mop-up operations.

These teams will dispose of dead birds, disinfect the contaminated areas with chemicals, quarantine the necessary areas so the disease doesn't spread unnecessarily, and alert the press and public. A reporting system will be established to inform Fish and Wildlife personnel and other agencies of government of the movement of waterfowl flocks associated with the affected area.

The Eastern Fish Disease Laboratory at Leetown, West Virginia, which serves as the Service's chief DVE diagnostic laboratory, has developed a continuous culture of embryonic duck cells suitable for culturing and isolating the DVE virus. DVE diagnosis can now be confirmed in 3 or 4 days. The significance of the new approach is not only increased speed, but also a year-round capability for DVE diagnosis.

Plans are going forward for a comprehensive research effort. Investigations will include characteristics of the virus, habitat and population conditions which trigger outbreaks, and a determination of virus incidence in wild populations.

The Service has expanded its diagnostic capability by designating four fish hatchery virology laboratories around the country as focal points for diagnosis of DVE. These facilities are manned by trained and experienced fish disease diagnosticians who have recently received special training in the techniques for isolating and identifying the DVE virus.

The second and extremely important part of the Service's contingency plan deals with prevention of DVE. The Service has developed criteria and designed a method for systematic identification of areas where waterfowl concentrations, densities, water quality, and other conditions increase the risk that DVE will occur and where its impact would be greatest. Identification of these high risk areas and management recommendations will be shared with the individual State game and fish commissioners and Flyway Councils prior to final decisions to concentrate, disperse, or otherwise influence waterfowl. Information and programs developed by the U.S. Fish and Wildlife Service will be shared with the Canadian Wildlife Service. These Federal agencies are jointly responsible for administering treaties for international migratory bird management.

Since communicable disease spreads faster when birds are crowded, and since the total impact is greater when large numbers of birds are involved, large concentrations of waterfowl on relatively small areas are receiving critical scrutiny. Alternative methods which may be used to prevent or disperse waterfowl concentrations, if warranted, include water and food manipulation, and the introduction of disturbance. In some situations it may be desirable to concentrate and hold birds until the disease has run its course and the area can be disinfected. Each regional director and DVE coordinator will decide the best course of action during a DVE outbreak. In some cases, extermination of a flock might be required to stem the outbreak, but such a decision would be made only by the Director of the Fish and Wildlife Service.

At this stage, the Service is concentrating only on plans for dealing with outbreaks on Service lands. Because of its limited experience with the disease and the lack of time available for broad-scale planning, the Service has not yet developed the capability to expand its coverage to lands managed by other agencies or private owners. However, if a DVE emergency situation should arise on such lands, the Service will do what it can to assist.

After the outbreak of duck virus enteritis at Lake Andes, a symposium composed of wildlife and disease technicians from the United States Government, the Canadian Government, and the academic community concluded: "The duck plague outbreak at Lake Andes is a dramatic example of what may be expected to occur more frequently as waterfowl populations are increasingly concentrated upon habitat that is progressively shrinking and declining in environmental quality. Increased losses from other infectious disease can also be expected because of the same trend in the reduction of prime waterfowl habitat. These disease outbreaks could result in a dramatic reduction of the continental waterfowl population, leading to possible closure of hunting seasons."

Concerned citizens whose private property may serve as wintering or stopover points for migratory waterfowl are asked to keep a sharp eye on this fall's waterfowl migration. If dead birds show up, make careful note of their position at death. Look for arched necks, spread wings, and signs of blood on the bill and around the nostrils. Photographs of the birds as found would also be of great assistance. If you discover ducks, geese, or swans displaying the symptoms described above contact a regional office of the Fish and Wildlife Service at one of the following locations:

Pacific Region - 1500 Plaza Building, 1500 N.E. Irving Street, Portland, Oreg. 97208 (503/234-3361). Washington, Oregon, Idaho, California, Nevada, Hawaii.

Southwest Region - 500 Gold Avenue, S.W., Albuquerque, N. Mex. 87103 (505/843-2321). Arizona, New Mexico, Oklahoma, Texas.

North Central Region - Federal Building, Fort Snelling, Twin Cities, Minn. 55111 (612/725-3500). Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio.

Southeast Region - 17 Executive Park Drive, N.E., Atlanta, Ga. 30329 (404/526-4674). Arkansas, Louisiana, Kentucky, Tennessee, Mississippi, Alabama, Georgia, North Carolina, South Carolina, Florida.

Northeast Region - John W. McCormack Post Office and Courthouse, Boston, Mass. 02109 (617/223-2961). Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Virginia.

Denver Region - P.O. Box 25486, Denver Federal Center, Denver, Colo. 80225 (303/234-2209). Montana, Wyoming, North Dakota, South Dakota, Nebraska, Iowa, Utah, Colorado, Kansas, Missouri.

Alaska Area - 813 D Street, Anchorage, Alaska 99501 (907/265-4864). Alaska.

x x x

Glossy prints are available to editors only from Public Affairs, Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C. 20240.

INT: 2173-73

Flocks of wild ducks and geese commonly number in the tens, even hundreds, of thousands during migration and wintering periods at national wildlife refuges across the country. Maintaining a proper balance among wildfowl concentrations and effectively controlling epidemics like duck virus enteritis is but one of the wildlife management challenges faced by the U.S. Fish and Wildlife Service.

Ducks virus enteritis affects all wild waterfowl, ducks, geese, and swans. These are Canada geese at a national refuge in Michigan.