

Exotic Newcastle Disease National Surveillance Plan

Exotic Newcastle Disease (END) was identified in backyard poultry in Southern California in October 2002. Since that time, the disease has spread to commercial poultry flocks in Southern California, and backyard flocks in both Nevada and Arizona. A plan to enhance national END surveillance has been developed. Concerns of possibilities of additional spread are addressed, and it provides assistance in identifying the disease rapidly if it spreads. The plan is based on risk factors identified in the current outbreak.

To avoid confusion, terms and categories used in the plan are identified. An explanation of risk factors is provided, followed by surveillance recommendations based on these risk factors. Recommendations should be taken as a minimum – any area is free to go beyond these recommendations as deemed necessary.

Reporting

A critical component of surveillance is reporting. Obviously, reporting of suspected or positive cases is critical in any disease eradication program so action may be taken. However, even if no overt evidence of disease is disclosed, data on surveillance being conducted is critical in affirming absence of the disease. Such data is also needed to support regionalization efforts to keep markets open for poultry from unaffected States.

Reporting will be done on a weekly basis from each State or Area. A spreadsheet is attached for these reports (Attachment #1). An electronic version has been provided to all Area Offices. A completed report should be submitted on Friday each week by noon Eastern Standard Time. The report should be submitted to the National Response Management Team at the following e-mail address (preferred) or fax number:

E-Mail: nrmt-surv.aeoc@aphis.usda.gov
Fax: 301-734-7817

Terminology

- Bird: any member of the class *Aves* other than poultry.
- Poultry: refers to chickens, doves, ducks, geese, grouse, guinea fowl, partridge, pheasants, peafowl, pigeons, quail, swans, and turkeys.
- Non-commercial Pet Bird: any bird other than poultry kept for personal pleasure and not for sale.
- Commercial Pet Bird: any confined bird other than poultry intended for wholesale or retail sale.

- Captive bred game bird: refers to pheasant, quail, grouse, and chuckar partridge. These birds are typically upland game birds and raised for specialty markets and shooting preserves.
- Game Fowl: refers to game cocks, fighting cocks, fighting birds, game chickens and birds used for fighting purposes. Not all game fowl are used for fighting purposes.

Poultry Industry Segments

- Commercial poultry: Vertically integrated poultry production system in which the company has central ownership and controls decisions of the breeder flocks, feed mill, production flocks, processing plants and marketing system. These may be large corporations with multi-State locations of production and decisions. The commercial poultry industry is further divided into three distinct segments: the broiler industry, the turkey industry, and the table egg industry. Each segment has a primary breeder unit producing genetic foundation. All commercial segments have very distinct management practices, health programs, and methods of operation:
- Non-Commercial poultry: Susceptible poultry not under the control of a corporate type structure. These operations range from individual owners with large production flocks to small backyard flocks. For clarity these groups may be subdivided into the following definable segments, based on movement patterns or type of operation.

a) Specialty groups: Individuals or associated members with similar interests that raise and exhibit poultry of various types. Includes exhibition type birds (i.e. fancy poultry shows), hobbyist groups, breed specialty groups, pigeon racing combines, game fowl associations, and others. These birds may have significant monetary value on an individual basis. Specialty groups are of particular interest because individuals may be highly mobile in terms of group interactions, movement of birds, and co-mingling of large groups of birds from widely varied areas and locations. Interaction may be at auctions, shows, combines, swap meets, flea markets, sporting events, or livestock sales, as well as individual sales. Many of these types of public assembly points currently have some presence of State animal health officials. Assembly points may be reached through current records as well as through county extension offices. However, some assembly points may have no State animal health official present. Groups have shown great interest in health related information and disease prevention and have working relationships with State and Federal health officials. A need exists for a specialized information flow to groups based upon their membership and specialty group.

b) Back yard: Small farms with a limited number of poultry, generally with no commercial interest. This includes small family egg industry, production flocks, or an individual group of chickens with little outside poultry contact. Multiple avian species may be present at a single location. These are generally not mobile populations because they are not moved off of locations to shows, fairs, or club meetings. They represent stable populations at a fixed location. Owners will be

difficult to identify and reach because they may have limited outside poultry contacts other than feed purchases. Local extension agents and feed stores may be the most direct method to deliver educational information to these groups.

c) **Small Production:** Specialty poultry production flocks including live bird market production farms, small organic producers or squab production, and captive- bred game bird farms. Small flocks may be a primary business or provide secondary income for an individual or family. Producers may include large volume-operations but are not associated with a vertically integrated corporate structure. With the commercial nature of these operations, even on a small scale, there will be some Department of Agriculture contact through current agricultural rules and regulations. Another distinction of this group is no final product exists for marketing through small slaughter plants, custom slaughter, live bird markets, small retail outlets, or private sales. The primary concern of producers is the movement of equipment, cages, crates, and vehicles of conveyance. Birds may be moved through concentration points such as auctions, and the live-bird-marketing-system. Captive bred game birds are produced for game shooting preserves or custom processing. Due to their nature, small production farms typically operate under permits from State game associations or commissions; therefore a legitimate contact source is available.

Other Susceptible Avian Species

- Pet Birds: Represented by individual bird owners, pet shops, aviaries, and wholesale suppliers.
- Wildlife species: Addressed through game or wildlife agencies at a State and Federal level.

National Surveillance Plan Overview

The END national surveillance plan overview is based on an estimation of risk in various geographic areas. Two identified risk factors form the basis of this plan. The first risk factor is population overlap - areas where concentrated commercial poultry operations overlap with significant game fowl and/or non-commercial poultry operations. The second risk factor is proximity to or links to infected areas - areas adjacent to existing infected areas or known epidemiological links to infected areas. Areas with one or both of these risk factors present a higher risk and need intensive surveillance efforts.

Risk factors have been used to define four risk levels. Surveillance recommendations are then based on the differing risk levels. Risk levels and recommendations are outlined in the remainder of this document.

Estimations were made of game fowl populations based on information provided by the USDA, APHIS, and Veterinary Services Area Offices. Populations were plotted by county. Commercial poultry populations were plotted in the same manner based on National Agricultural Statistics Service (NASS) reports. Individual State maps will be provided for each office. Please use these maps to help define the risk levels in your State.

This surveillance plan builds on already existing surveillance, especially in commercial poultry. Passive surveillance has long been used as the primary method to detect END in commercial poultry. It is essential that this system not be disrupted by additional surveillance. The most sensitive initial criteria for recognizing a problem is daily observation for increases of mortality or change in other production parameters at the farm or house level. Poultry producers (growers) are contractually bound and have great economic incentive to report unusual disease or mortality.

Exotic birds and vaccinated poultry flocks are susceptible to END infection. They may or may not exhibit clinical signs depending on the level of immunity achieved. However, these birds can also shed the virus even if they are not showing clinical signs. These inapparent infections can compromise the effectiveness of passive surveillance as the only means of END detection in exotic birds, and vaccinated or previously exposed flocks.

It is in the interest of the entire program that efforts be directed to encourage and facilitate rapid diagnosis and reporting of END should this occur anywhere in the United States. In the commercial poultry sector, educational efforts from the company level to the grower level must be directed toward rapid recognition and reporting of suspect cases. Assurance of Federal indemnity at fair market value gives further incentive for reporting and diagnostic investigation. It is equally important that all END negative suspect cases be reported quickly to prevent the dissemination of incorrect information.

Although surveillance currently exists in commercial poultry operations, there is a concern that surveillance for END has been inadequate or non-existent in non-commercial poultry. Since END in this non-vaccinated population would be characterized by high mortality, a significant aspect of the enhanced surveillance efforts will focus on outreach and education

to maximize reporting of mortality or sick birds. Suggested communication routes for non-commercial segments of the poultry industry are included in the surveillance recommendations section later in this document.

Wildlife Surveillance

Most wild birds are susceptible to END. Migratory birds, non-native birds, and domestic pigeons may be a possible mechanical vector for the spread of END. As reported in Southeastern Cooperative Wildlife Disease Study Briefs, Volume 18, No. 4, the END risk level in wild birds seems to be low. This study reported on surveillance conducted in the 1971-1973 END outbreaks, in which 9,446 wild birds were tested and four were positive. Even though the risk might be low, any unusual mortality or die-offs in wild birds should be reported through normal channels. Please work closely with State wildlife agencies to be notified of any die-offs in wild birds in the area, and also to help assess the need to sample any wild birds for END testing.

Diagnostic laboratory support

Laboratories currently exist to conduct testing for Newcastle Disease. The intent of this surveillance plan is to utilize the existing laboratories as much as possible. Laboratories working infrequently with avian cases will be encouraged to submit appropriate samples to the National Veterinary Services Laboratories (NVSL). Funding will be provided to laboratories for testing that is beyond the average normal level of Newcastle Disease screening conducted in a non-outbreak situation. Laboratories will also be expected to report summary data of number of submissions on a weekly basis to the Area Office.

The following actions should be taken in providing diagnostic laboratory support.

1. Each State should identify laboratories within their State that work infrequently with avian cases. Information regarding appropriate samples and submission procedures to forward these cases to NVSL or another laboratory should be provided as necessary.
2. Laboratories routinely conducting testing should also be identified in each State. These laboratories should provide an estimated average number of tests conducted per month in a non-outbreak situation. Twelve months preceding outbreak would be a good example.
3. Laboratories must be encouraged to report summary data on a weekly basis, as defined in the reporting requests previously outlined.
4. Laboratories need to clearly instruct their clientele to properly clean and disinfect vehicles upon leaving the premises. It is not the responsibility of the laboratory to disinfect the vehicles, but it should be their responsibility to provide the equipment

and facilities to do this, even if this is the availability of water, disinfectant and hose with sprayer attached.

Area Risk Classification

Risk Level 1 – Concentrations of commercial poultry operations (as defined) and non-commercial poultry in the same location. These concentrations are either within two hundred miles of a known infected county or have a known epidemiological link to areas with infection.

Risk Level 2 – Concentrations of commercial poultry operations and non-commercial poultry in the same location. These concentrations are either outside two hundred miles of a known infected county or have no known epidemiological link to areas with infection.

Risk Level 3 – Concentrations of non-commercial poultry.

Risk Level 4 – Concentrations of commercial poultry operations.

Surveillance Recommendations According to Risk Level

Risk Level 1

A) Commercial poultry

1. Encourage and support rapid reporting and diagnosis of suspect cases.
2. Working with company management and technical support personnel, literature, educational materials, and outreach should be provided as necessary.
3. State or Federal animal health officials should contact commercial poultry operations to obtain a description of their current surveillance activities. Poultry operations may be requested to submit routinely collected mortality and morbidity data summaries to their State animal health officials.
4. Contact between commercial poultry operations, their equipment, their employees, and any non-commercial poultry enterprise should be avoided.

B) Non-commercial poultry

1. Extensive outreach and educational efforts must be initiated and maintained with all three industry segments in this group. Educational efforts should emphasize the necessity for sick birds to be examined by a veterinarian and, if necessary, tested for END.

- a) Contact all known local avian and poultry associations and provide END information and literature. Request their assistance in distributing the same information to their members.
 - b) Contact the Food Safety and Inspection Service (FSIS) and plant management in commercial poultry slaughter operations, and livestock slaughter operations. Request their assistance in distributing END information to their employees. Many slaughter plants have a high number of immigrant workers, and many of these employees may own non-commercial poultry.
 - c) Contact the USDA, Agricultural Marketing Services and plant management in commercial egg facilities. Request their assistance in distributing END information to their employees.
 - d) Contact pet shops and provide information about END in pet birds.
 - e) Provide information to feed and farm stores for distribution to customers who are purchasing feed for backyard poultry or birds.
 - f) Send END general information, updates on the outbreak, and reminders of contact numbers for reporting disease to all licensed veterinarians in the State.
 - g) Work with local wildlife or game authorities to contact hunting preserves and captive game bird farms. Provide END information and literature.
2. Establish a local telephone hotline for reporting sick or dead birds. This can be done through existing animal health reporting hotlines or by working with existing State emergency response organizations.
 3. To prevent the spread of the disease, sick or dead birds should NOT be transported by owners directly to laboratories, veterinary clinics, etc. They should be picked up by State or Federal animal health officials to allow for application of appropriate biosecurity measures.
 4. Animal health authorities should be present at fairs, shows, exhibitions and other concentration points for non-commercial poultry as defined. Visual examinations should be conducted for any clinical signs of END. Any sick or dead bird should be sampled. Educational materials should be provided to owners, managing authorities of the event, and others affiliated with such concentration points.
 5. If live bird markets are present, consider routine screening of birds with clinical signs (tracheal or cloacal swabs) at the market and production flocks supplying the market.

6. Diagnostic testing assistance (no cost or reduced cost) should be provided to small production facilities through routine pick-up of dead birds by animal health officials and/or swabs of dead birds at their facility. If the facility has increased mortality or clinical signs consistent with END, the facility should be quarantined and an epidemiological investigation initiated immediately.
7. Locations for non-commercial poultry operations in these three categories must be identified and documented. Where available, geographic information systems should be used to store geospatial and epidemiological information about identified operations.

Risk Level 2

A) Commercial poultry

Same as Risk Level 1

B) Non-commercial poultry

1. Outreach and educational efforts must be initiated and maintained with all three industry segments in this group. Educational efforts should emphasize the necessity for sick birds to be examined by a veterinarian and, if necessary, tested for END.
 - a) Contact all known local avian and poultry associations and provide END information and literature. Request their assistance in distributing the same information to their members.
 - b) Contact FSIS and plant management in commercial poultry slaughter operations and livestock slaughter operations. Request their assistance in distributing END information to their employees. Many slaughter plants have a high number of immigrant workers, and many of these employees may own non-commercial poultry
 - c) Contact the USDA, Agricultural Marketing Services and plant management in commercial egg facilities. Request their assistance in distributing END information to their employees.
 - d) Contact pet shops and provide information about END in pet birds.
 - e) Provide information to feed and farm stores for distribution to customers who are purchasing feed for backyard poultry or birds.
 - f) Send letters to all licensed veterinarians in the state, with general information about END, updates on the outbreak, and reminders of contact numbers for reporting disease.

- g) Work with local wildlife or game authorities to contact hunting preserves and captive game bird farms.
2. Triage of reports of sick or dead birds should be conducted by animal health officials at a regional-level hotline. Those determined to warrant action will be referred to the State Veterinarian's office or Veterinary Services Area office in the State from which the report originates.
 3. Animal health authorities should be present at fairs, shows, exhibitions, and other concentration points for non-commercial poultry as defined. Visual examinations of birds for any clinical signs of END should be conducted. Any sick or dead birds should be sampled. Educational materials should be provided to owners, managing authorities of the event, and any others affiliated with such concentration points.
 4. If live bird markets are present, consider routine screening of birds with clinical signs (tracheal or cloacal swabs) at the market and production flocks supplying the market.
 5. Diagnostic testing assistance (no cost or reduced cost) should be provided to small production facilities through routine pick-up of dead birds by animal health officials and/or swabs of dead birds at their facility. If the facility has increased mortality or clinical signs consistent with END, approximately 10 dead birds should be tested weekly from the houses or flocks on the operation with the highest mortality.
 6. Locations for non-commercial poultry operations in these three categories should be identified and documented when possible. Where available, geographic information systems should be used to store geospatial and epidemiological information about identified operations.

Risk Level 3

A) Non-commercial poultry

Extensive outreach and educational efforts must be initiated and maintained with all three industry segments in this group. Educational efforts should emphasize the necessity for sick birds to be examined by a veterinarian and, if necessary, tested for END.

- a) Contact all known local avian and poultry associations and provide information and literature about END. Request their assistance in distributing the same information to their members.

- b) Contact FSIS and plant management in commercial poultry slaughter operations, and livestock slaughter operations. Request their assistance in distributing END information to their employees. Many slaughter plants have a high number of immigrant workers, and many of these employees may own non-commercial poultry.
 - c) Contact the USDA, Agricultural Marketing Services and plant management in commercial egg facilities. Request their assistance in distributing END information to their employees.
 - d) Contact pet shops and provide information about END in pet birds.
 - e) Provide information to feed and farm stores for distribution to customers who are purchasing feed for backyard poultry or birds.
 - f) Send a letter to all licensed veterinarians in the state, with general information about END, updates on the outbreak, and reminders of contact numbers for reporting disease.
 - g) Work with local wildlife or game authorities to contact hunting preserves and captive game bird farms.
- 2) Reports of sick or dead birds should be referred to the state veterinarian's office or Veterinary Services Area office in the state from which the report originates for determination of what action should be taken.
 - 3) Animal health authorities should consider being present at fairs, shows, exhibitions and other concentration points for non-commercial poultry as defined. Visual examinations of birds should be conducted for any clinical signs of END. Any sick or dead birds should be sampled. Educational materials should be provided to owners, the managing authorities of the event, and others affiliated with such concentration points.
 - 4) If live bird markets are present, consider routine screening (tracheal or cloacal swabs) of birds at the market and production flocks supplying the market.
 - 5) Diagnostic testing assistance (no cost or reduced cost) should be provided to small production facilities through routine pick-up of dead birds by animal health officials and/or swabs of dead birds at their facility. If the facility has increased mortality or clinical signs consistent with END, approximately 10 dead birds should be tested weekly from the houses or flocks on the operation with the highest mortality.
 - 6) Locations for non-commercial poultry operations in these three categories should be identified and documented when possible. Where available, geographic information systems should be used to store geospatial and epidemiological information about identified operations.

Risk Level 4

A) Commercial poultry

Same as Risk Level 1