



COLORADO
Department of Agriculture
Animal Health Division

Poultry Emergency Disease Response Plan

2017

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1.0 Introduction

The introduction of a highly contagious disease or a poultry incident resulting from an all-hazards event could have devastating effects on Colorado's poultry industry. Limiting the scope of an outbreak is dependent on the early detection and rapid response to eradicate the disease. The Colorado Department of Agriculture (CDA) *Poultry Emergency Disease Response Plan* provides the response actions that will be implemented by the CDA in collaboration with the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Veterinary Services (VS) and poultry industry partners. Whether in commercial operations or backyard flocks, execution of the plan will allow swift detection, control and eradication of a poultry disease outbreak.

This plan provides the overview of protocols and procedures necessary to minimize the impact of an outbreak in poultry and is applicable to any highly contagious or economically destructive disease that causes significant morbidity or mortality in poultry.

1.1 Purpose

The purpose of the CDA *Poultry Emergency Disease Response Plan* is to provide a framework to ensure a rapid and coordinated response to an outbreak of a highly contagious disease in poultry within the State of Colorado. The goal of this plan is two-fold: to control and eradicate the disease on an infected premises as quickly as possible, and to protect and maintain business continuity on unaffected premises during a disease outbreak.

This Colorado Poultry Emergency Disease Plan will be applicable to any poultry disease that causes significant morbidity or mortality in commercial or back yard poultry. At this time the diseases of concern are Avian Influenza, Exotic Newcastle Disease and any other new, emerging, or reportable disease that causes significant economic losses to the poultry industries of Colorado.

While this plan primarily addresses highly pathogenic avian influenza (HPAI), the prevention, protection, response and recovery aspects of animal emergency management would likely be applicable to other highly infectious poultry diseases. Sections specific to the National Poultry Improvement Plan (NPIP) H5/H7 Low Pathogenic Avian Influenza (LPAI) Monitoring Program are also included to satisfy the basic requirements of the program, which are active surveillance, passive/diagnostic surveillance and an initial response and containment plan.

Natural disasters may also cause devastation in the State's poultry population requiring a similar response. Many of the protocols and procedures presented in this plan, such as disposal methods, will be applicable in a natural disaster event affecting poultry. In such incidents the *CDA Poultry Emergency Disease Response Plan* may be used as a template to help ensure an effective response.

1.2 Situation

The potential impact on Colorado's economy from a disease outbreak in the poultry industry would be devastating. Such an event would be far reaching affecting many different sectors beyond the farm including processors, distributors and retailers.

1.3 Assumptions

- Response to an animal disease outbreak will begin at the local level.
- If an animal disease emergency occurs in Colorado's poultry industry the most probable means of discovery will be by poultry producers, private practice veterinarians, routine surveillance testing at veterinary diagnostic laboratories, and / or trace information from an animal disease investigation in another state.
- Private veterinary practitioners will likely be the first responders to any animal disease outbreak.
- Veterinarians are required to immediately notify the State Veterinarian or the USDA-APHIS-VS District Six - Colorado Office of any suspected animal disease emergency.
- An animal disease outbreak may occur through natural pathways or could be introduced as an act of terrorism.
- Diagnosis of a highly contagious disease in Colorado, the United States or surrounding countries may significantly restrict the intrastate, interstate and international movement of animals (especially livestock) and animal products.
- Initiation and implementation of response actions for a suspected or confirmed foreign animal disease (FAD) will be under the jurisdiction of the CDA and carried out by the State Veterinarian or official designee. Producer input will be highly valued and integrated into the response.
- The State Veterinarian and the USDA-APHIS-VS Colorado Office will work in close coordination in any animal health emergency. There are established protocols for investigating and reporting potential foreign animal diseases (FADs) and new, or emerging infectious animal diseases.
- Response measures for an animal disease emergency may involve the mutual aid support from sister counties and municipalities as well as local private industry support.
- Animal disease emergencies may lead to prolonged economic impacts requiring long term federal and state assistance programs for response and recovery.
- Psychological counseling and support may need to be available for owners losing poultry or having to depopulate a flock in an animal disease emergency, or for persons responding to the situation

1.4 Plan Maintenance

The State Veterinarian is responsible for the management and maintenance of this plan, under the jurisdiction of the Colorado Agricultural Commission and the Commissioner of Agriculture or his designee. The CDA *Poultry Emergency Disease Response Plan* will be reviewed and updated as required but as often as needed to incorporate updates to Homeland Security Presidential Directive (HSPD) 9 – *Defense of United States Agriculture and Food*, Emergency Support Function (ESF)

11– *Agriculture and Natural Resources*, and legislative updates as well as lessons learned that are identified in the debriefing process and after action reports following an actual event or training exercise.

2.0 Concept of Operations

The concept of operations provides the operational framework for activating this plan and how the CDA will classify the response. In addition this section outlines the diseases of concern in poultry populations. It also provides an overview of the CDA's responder health and safety program and guidance on how the Department will interface with other agencies, the livestock industry, media and the public during an emergency response.

2.1 Animal Diseases Significant to Poultry

Animal diseases found in poultry vary in virulence, ease of transmission, mode of transmission and host affinity. Diseases of concern are highly contagious diseases that cause significant morbidity or mortality in poultry. Such diseases often present similar clinical signs requiring diagnostic testing to determine the specific disease agent. Upon diagnosis, if the disease identified is not considered highly contagious it will be managed within normal business operations, disease management and best production practices.

Animal diseases likely to cause high morbidity and mortality in poultry and trigger activation of this plan are FADs and new and emerging diseases. A list of diseases that poultry are susceptible to is provided at the following link to Iowa State University's Center for Food Security and Public Health, <http://www.cfsph.iastate.edu/Species/poultry.php>. The website will provide additional information on disease transmission, vaccine availability and recommended control measures for listed FADs. Three poultry diseases of major concern are low pathogenic avian influenza (LPAI), highly pathogenic avian influenza (HPAI) and Exotic Newcastle Disease (END) and are described in the following sections.

2.1.1 Avian influenza (AI)

Avian influenza is a viral infection of birds caused by type A influenza viruses. AI viruses are classified as either highly pathogenic AI (HPAI) or low pathogenic AI (LPAI), based on the genetic features of the virus and the severity of disease in poultry. Of particular concern are the H5 and H7 subtype viruses. While most AI viruses are LPAI and usually result in mild or asymptomatic infections, HPAI viruses are associated with very high morbidity and mortality rates in poultry. Some LPAI virus strains are capable of mutating under field conditions into HPAI viruses.

AI viruses are often found in migratory waterfowl and serve as a natural reservoir for the influenza A viruses. As the natural reservoir hosts, wild waterfowl often do not show any clinical signs, unlike their domestic poultry counterparts. The reservoir of AI virus in wild birds is a major source of infection for domestic birds, particularly free and open range poultry. Therefore, it is important to reduce the contact between these two groups. Live bird markets are another important reservoir of influenza viruses for commercial poultry.

HPAI is caused by type A influenza viruses of the family Orthomyxoviridae. The designation of highly pathogenic AI is determined by meeting criteria for specific genetic sequences and

pathogenicity in poultry. The disease is transmitted directly through aerosol and fecal-oral routes, and indirectly from contaminated clothing, equipment and vehicles. Incubation is from 1 to 7 days with morbidity and mortality ranging from 70 to 100%. Clinical signs include:

- Reduced feed and water intake
- Severe drop in egg production
- Severe depression
- Anorexia
- Watery diarrhea
- Cyanosis of the combs and wattles
- Facial edema
- Sudden death
- Increased mortality in the flock

LPAI may present with very mild to moderate clinical signs. The clinical signs of LPAI are similar but less severe and notable than HPAI. Even though LPAI infections are less severe, it is likely that the response to a LPAI H5 or H7 outbreak will be similar to that of a HPAI outbreak because of the potential for mutation to a highly pathogenic form. Vaccination, upon approval by state and federal animal health officials, may be an effective tool in response to an LPAI disease outbreak. The NPIP has approved both depopulation and vaccination in conjunction with enhanced biosecurity, and active surveillance as acceptable methods of eradication of H5 or H7 LPAI. Both options will be considered based on the epidemiological risk assessments and economic impact on the State, and upon the joint agreement of the State Veterinarian, USDA-APHIS-VS and the poultry industry.

2.1.2 Exotic Newcastle Disease (END)

Exotic Newcastle Disease (END) is a contagious and often fatal viral disease affecting all species of birds, and is particularly devastating in chickens. END is one of the most infectious diseases of poultry in the world. END can be so acute that many birds die without showing any signs of disease. High death rates can occur in unvaccinated poultry flocks. END affects the respiratory, nervous and digestive systems. The incubation period for the disease ranges from 2 to 15 days. Clinical signs include:

- Sneezing, gasping for air, nasal discharge, coughing
- Greenish, watery diarrhea
- Depression, muscular tremors, drooping wings, twisting of head and neck, circling, complete paralysis
- Partial to complete drop in egg production
- Production of thin-shelled eggs
- Swelling of the tissues around the eyes and of the neck
- Sudden death

- Increased mortality in a flock.

END is spread mainly through direct contact between healthy birds and the bodily discharges of infected birds. END virus is shed in feces and respiratory secretions in high concentrations. Therefore, the disease can be spread indirectly by mechanical means. Virus-bearing material can be picked up on shoes and clothing, and carried from an infected flock to a healthy one. The END virus can survive for up to three weeks in a warm and humid environment on bird feathers, manure and other materials. However, the virus is destroyed rapidly by dehydration and by ultraviolet radiation from sunlight.

END and HPAI can be clinically indistinguishable from each other and require laboratory testing to determine the causative agent in a poultry disease outbreak.

2.1.3 Categorization of Animal Diseases

Animal diseases of concern are commonly categorized in the following manner:

- Foreign Animal Disease (FAD) or exotic animal disease is defined as an important transmissible disease of livestock believed to be absent from the United States and its territories.
- New or emerging disease is defined as a completely new disease, an old disease occurring in new places with new presentations, or a disease that is newly resistant to available treatments.
- OIE List of Reportable Diseases is a unified list of reportable diseases maintained by The World Organization for Animal Health, once known as the Office of Internationale des Epizooties and still abbreviated as OIE. For several years the OIE created two lists (A and B) with different reporting obligations, but combined them into a single unified list of reportable diseases in 2005. The list has over 130 different diseases and is developed and revised periodically (<http://www.oie.int/animal-health-in-the-world/>). The four criteria used to develop the list are: potential for international spread, potential for zoonotic transmission, potential for significant spread within a naïve population and emerging diseases.
- CDC Bioterrorism Agents/Diseases are biological agents that are rarely seen in the United States. Centers for Disease Control and Prevention (CDC) prioritizes these agents into A, B & C categories (<https://emergency.cdc.gov/agent/agentlist.asp>).
 - Category A agents and diseases are easily transmitted from person to person, have a high mortality rate and have the potential for a major public health impact.
 - Category B agents and diseases are moderately easy to disseminate and result in moderate morbidity rates and low mortality rates.
 - Category C agents and diseases include emerging pathogens that could be engineered for mass dissemination.

- Zoonotic disease is defined as a disease that can be transmitted from animals to humans and/or humans to animals. According to the CDC, approximately 75% of recently emerging infectious diseases affecting humans are diseases of animal origin.

2.2 Colorado Reportable Diseases of Poultry

An additional animal disease category is the Colorado Reportable Disease List. A Colorado reportable disease is defined by Colorado Revised Statutes CRS 35-50-103 as an infectious, or contagious, or emerging disease of livestock that poses a significant risk to the livestock industry of the state resulting from infectious agents (viruses, rickettsia, bacteria, fungi, protozoa, internal or external parasites), or any reportable or emerging communicable disease that is capable of being transmitted from one animal to another animal, to a human, or communicated directly or indirectly through an intermediate plant or livestock host, vector, or the environment. Colorado Reportable Diseases of Poultry are listed below:

- Zoonotic diseases
- Avian Influenza - both highly pathogenic avian influenza (HPAI) or low pathogenic avian influenza (LPAI)
- Exotic Newcastle Disease (END)
- Salmonella (*S. pullorum* or *S. enteritidis*)
- Any infectious disease or parasite of livestock not previously known to exist in Colorado
- Any disease of unusual morbidity or mortality that does not fit the normal expected clinical picture
- Any suspected FAD

2.3 Incident Command System & Response Levels

Since incidents will vary in size and scope the level of activation will depend on the nature of the outbreak. Not all poultry disease incidents will require emergency response functions. Many incidents are handled routinely by private practice veterinarians and/or veterinarians employed by the State Veterinarian, or APHIS Veterinary Medical Officers (VMOs). The poultry industry has also invested time and resources in developing plans to deal with their own incidents and situations.

In the event of a highly contagious disease outbreak in poultry, the CDA will manage the incident using the National Incident Management System (NIMS). NIMS provides standardized incident management processes, protocols and procedures for all emergency responders. During an incident CDA will implement the Incident Command System (ICS), as mandated by NIMS. Designed to be a flexible all-hazard incident management system, ICS allows decision makers to fill ICS positions to meet the complexities and demands of the incident. For example, a localized disease event of short duration may only require the incident commander position to be filled; whereas a

regional or more wide-spread disease outbreak may require all positions in an ICS incident organization chart to be filled. See Appendix C for an ICS incident organization chart designed for an animal disease outbreak in CDA's authority and jurisdiction.

CDA will also follow NIMS incident typing and will respond to an animal health emergency using the activation levels described below. NIMS incident typing will assist decision makers in determining resources required for specific incidents. Table 1, CDA Response Levels & National Incident Management System (NIMS) Incident Typing System, summarizes level of response, lead agencies, and NIMS protocol for each level of response.

2.3.1 Level 5 Response

A level 5 response refers to a situation with little complexity that could be managed with one or two single resources. This level of response would be of a short duration and would consist of one 12-hour operational period or less.

2.3.2 Level 4 Response

A level 4 response is normally limited to one 12-hour operational period and requires minor state resources to manage the incident. This level of response does not require an incident action plan (IAP) and can be managed using the resources and personnel of the CDA Animal Health Division. Level 4 activities will include those identified for Level 5 in addition to the following:

- Increase animal origin verifications
- Notify private practice veterinarians of specific clinical symptoms of the disease(s) in question
- Notify USDA-APHIS-VS Colorado Office of the situation
- Review the Poultry Emergency Disease Response Plan in relation to potential response to the disease in question
- Notify the poultry industry representative(s) of the disease outbreak and clinical symptoms

2.3.3 Level 3 Response

A level 3 response reflects the elevated surveillance, preparation and limited response that may be initiated by the state if there is a presumptive positive or confirmed diagnosis of a FAD in Colorado. A level 3 response may trigger activation of the State Emergency Operations Center (SEOC) and deployment of the Eastern Colorado Incident Management Team (ECIMT) or a similar State Type 3 Incident Management Team (IMT).

The ECIMT will be activated to support incident management for incidents that exceed departmental capability to manage the incident effectively. Type 3 IMTs are deployed as a team of 10-20 trained personnel to manage major and/or complex incidents requiring a significant number of local, regional and state resources. A level 3 response may evolve into multiple operational periods that require a written IAP for each period. Level 3 activities will include those activities identified for all preceding levels and may also include the following:

- Suspend the importation of poultry from affected or from potentially affected areas, or possibly all poultry from the impacted states, pending control and eradication of the disease.
- Inventory relevant state resources and review and implement contract mechanisms to support the logistics portion of the response.
- Review and update public relations materials and collaborate with key contributors in preparation for release. CDA and APHIS-VS will be consulted for their message map on the appropriate disease, its implications for public health, animal health, trade and economic impacts upon the livestock industry.

2.3.4 Level 2 Response

A level 2 response reflects a full-scale multi-state response that may require regional and/or national resources to effectively manage the incident. Level 2 activation is in response to a large, complex incident that will involve multiple operational periods. A written IAP is required for each operational period. A Rocky Mountain Type 2 or equivalent IMT may be deployed to support management of the incident. A Type 2 IMT is deployed as a team of 20-35 to manage incidents of regional significance and other incidents requiring a large number of local, regional, state and national resources.

2.3.5 Level 1 Response

A level 1 response will be declared for the most complex incidents that require national resources to safely and effectively manage the incident. A level 1 response will be managed by a Type 1 IMT. A Type 1 IMT is deployed as a team of 35-50 to manage large national incidents and other incidents requiring a large number of local, regional, state, national and federal resources over multiple operational periods.

Table 1. Response Levels and National Incident Management System Incident (NIMS) Typing ¹

Response Level	NIMS Incident Type	Lead Agency	Emergency Response Actions*	Source of Resources
Level 5 – Local Response (Local veterinarian & Producer)	Type 5	CDA	<ul style="list-style-type: none"> - One 12hr Operational Period - Incident action plan (IAP) not required* - State Emergency Operations Center (SEOC) not activated - Incident Commander position staffed 	- Local
Level 4 – County Response	Type 4	CDA	<ul style="list-style-type: none"> - One 12hr Operational Period - Incident action plan not required* - Emergency Operations Center not activated - Incident Command System(ICS) command and general positions activated as needed 	<ul style="list-style-type: none"> - Local - CDA Animal Industry Division
Level 3 – State Response	Type 3	CDA	<ul style="list-style-type: none"> - May extend into multiple operational periods - IAP may be required* - ICS some/all command and general positions activated - Eastern Colorado Incident Management Team will manage incident - State EOC may be activated 	<ul style="list-style-type: none"> - Local (Support) - State - May require regional resources
Level 2 – Multi-State Response	Type 2	Joint Command National and regional coordination required	<ul style="list-style-type: none"> - Extends into multiple operational periods - IAP required - ICS some/all command and general positions activated - Rocky Mountain Type II Incident Management Team (IMT) will managed the incident - State EOC activated 	<ul style="list-style-type: none"> - Local (Support) - State - Regional - May require national resources
Level 1 – National Response	Type 1	Unified National Command	<ul style="list-style-type: none"> - Extends into multiple operational periods - IAP required for each operational periods - ICS all command and general positions activated - Type I IMT will manage incident - State EOC activated 	<ul style="list-style-type: none"> - Local (Support) - State - Regional - National

* IAPs are required for all HAZMAT incidents regardless of the type of incident.

¹ Based on the Department of Homeland Security, National Incident Management System, 2009

For all incidents triggering activation of this plan, the Public Information Officer(s) will be Industry’s contact for information on the incident.

2.4 Incident Complexity Analysis

The exact moment when an incident shifts from one level of complexity to the next is often a matter of perception. The State Veterinarian/Commissioner or designees must assess the complexity of an incident and authorize a level of response to meet the needs of the event. An Incident Complexity Analysis may be completed to assist in determining the appropriate level of response. The assessment tool consists of a series of questions regarding the incident and associated information that when answered will help determine the appropriate level of response and resources required to meet the needs of an incident. An example of an Incident Complexity Analysis worksheet is located in Appendix D.

2.5 Responder Health and Safety Program

A fundamental responsibility of CDA is ensuring the safety of department employees involved in responding to a disease outbreak. CDA developed the Responder Health and Safety program to meet this obligation. The CDA Responder Health and Safety Program is composed of three components: (1) Personal Protective Equipment *GUIDELINES* for CDA Employees – General Guidance Document; (2) CDA – Respiratory Protection Program; and (3) Medical Monitoring and Rehabilitation. Combined these documents and programs provide a means to assess employee fitness for emergency work, provide for personal health protection via the use of protective equipment and decontamination procedures, monitor vital signs and provide support to assure employees maintain fitness levels needed to conduct assigned activities.

2.5.1 Personal Protective Equipment

This General Guidance Document provides a plan to be followed to assure a safe working environment while allowing flexibility to meet varying needs that might be expected in a livestock emergency environment. The guidance is just that, guidelines that incident commanders, safety officers, operations section chiefs, Foreign Animal Disease Diagnostician (FADD) veterinarians, team or task force leaders or the like can utilize in assessing and deciding upon equipment and procedures they will utilize when conducting their assigned missions. See Appendix E for Personal Protective Equipment (PPE) guidance for zoonotic and non-zoonotic diseases.

Initially high levels of protection may be used while the causative agent is unknown. Once the agent is identified, levels of protection may be adjusted, generally decreased, to fit specific challenges an agent might pose. It is likely the level of protection, once the disease agent has been identified, will be similar to employer placed biosecurity programs.

Of special note is the fact Colorado is a “non-Occupational Safety and Health Administration (OSHA)” state. This means state employees are not subject to the same regulations as are production facilities and their respective employees. The CDA program has essentially been placed to close this gap. Even so, producers remain responsible for following appropriate OSHA programs related to their facilities. State employees cannot provide equipment or training to private

employees. However, they may recommend certain levels of PPE be utilized for different operational activities.

2.5.2 Respiratory Protection Program

A respiratory protection program is important, especially during a disease outbreak. Respiratory protection becomes essential when there are potential health risks from respiratory exposure to the disease agent, to chemicals used in cleaning and disinfection and to risks inherently present on livestock operations. Individuals who will be deployed to an incident will have completed a medical questionnaire that has been reviewed and approved by a medical doctor familiar with such programs. These individuals will have been trained and fit tested to utilize specific respiratory equipment. Production facilities may or may not have similar programs for their employees in place. It is anticipated if they do not have a respiratory protection program, employees may be allowed to work in less hazardous areas, or accommodations may be made to have employees trained and tested for such activity.

2.5.3 Medical Monitoring and Rehabilitation

Emergency response often requires long hours doing strenuous work in adverse conditions and environments. Physical exertion can lead to dehydration or exacerbation of environmental factors such as heat or cold conditions. It is essential that responders be medically fit and cleared to work in such conditions. Individuals with underlying medical problems (such as a preexisting cardiac issue) who work in such challenging situations can place themselves at risk for debilitating injuries or even death. Medical monitoring affords an opportunity to identify underlying problems and hopefully mitigate them before they become serious. Such monitoring occurs when risks exist and is conducted both prior to assignment and throughout the assigned work period. Rehabilitation periods are scheduled to allow responders a break in which to rest, rehydrate and get something to eat if need be.

Facility workers generally have scheduled breaks to eat or get something to drink. These may need to be extended and rehydration beverages or food provided dependent upon work schedules and on environmental factors such as temperature and humidity. Medical monitoring of facility employees might possibly be arranged for via local public health or emergency medical service departments.

2.6 Communication Plan

External communication during an outbreak will be the responsibility of the State Veterinarian and the CDA Director of Communications and Public Awareness. The State Veterinarian, with assistance from the CDA Liaison Officer, will direct and maintain communication with federal, state and local government agencies and partners that have a statutory responsibility in emergency response. Additionally, the CDA Communication Director and the State Veterinarian, or his designee, will communicate and collaborate with industry representatives throughout the incident.

Correspondence and communication with the media and public regarding the incident will be directed and managed by the CDA Director of Communications. The CDA Director of Communications may assume the ICS role of Public Information Officer (PIO) upon activation of this plan. In the event the ECIMT is called to manage the incident, the CDA PIO shall work in collaboration with the ECIMT, State EOC, Public Health, Industry and local emergency management PIO(s) in a joint information center (JIC).

3.0 Disease Outbreak Response

This section describes the processes and protocols utilized by the CDA during a poultry disease outbreak. These processes and protocols are designed to enable execution of the responsibilities of the CDA and to integrate federal, state, local and industry efforts into an effective and coordinated approach to a disease outbreak in poultry. Responding to a disease outbreak in poultry will involve the actions described below. Table 2, A Timeline for Disease Control Response Activities, provides a timeline for each action phase.

- **Disease Detection** - Investigate suspected animal disease and initiate preliminary poultry movement restrictions
- **Disease Control** - Quarantine infected and exposed premises and control movement of poultry and poultry products
- **Surveillance** - Develop surveillance plan based on epidemiological investigation
- **Epidemiology** - Determine the extent of the outbreak and/or confirm non-infected premises
- **Stabilization** - Control, prevent spread of and, as possible, eradicate disease
- **Business Continuity** - Protect economic viability and continuity of operations
- **Recovery** - Return affected premises to normal business operations

Table 2. Timeline for Disease Control Response Activities¹

Disease Outbreak Response Actions [*] , †	12 hours Within a confirmed positive case	24 Hours Within a confirmed positive case	48 Hours Within a confirmed positive case	24 Hours Within determination of need	72 Hours Within determination of need
Disease Control -- Quarantine Infected and Exposed Premises and Control Movement of Animals					
Mobilize livestock disease-related incident command personal.					
Establish initial control areas.					
Enhance biosecurity procedures on infected, contact and susceptible premises.					
Establish quarantine zones for infected and contacted premises, +/- broader movement restrictions.					
Surveillance -- Develop Surveillance Plan Based on Epidemiological Investigation					
Develop a surveillance plan and implement existing diagnostic support.					
Epidemiology -- Determine the Extent of the Outbreak and/or Confirmed Non-Infected Status					
Implement epidemiological surveillance and diagnostic support plan in at-risk species and notify other states of trace-outs.					
Stabilization -- Control, Prevent Spread of, and, as Possible, Eradicate Disease					
Begin treatment, inoculation, and /or depopulation of animals at identified site.					
Begin decontamination and disposal procedures at identified site.					
Business Continuity -- Protect Economic Viability and Continuity of Operations					
Implement procedures for the creation of bio-secure transportation corridors to market or other key facilities for disease – free goods and animals.					
Develop procedures for managing contaminated products.					
Establish storage and/or disposal areas for animals or products stopped in transit.					
¹ Based on Department of Homeland Security, Federal Emergency Management Agency. <i>Livestock and Poultry Disease Emergencies Capability</i> , August 2009. [*] Disease Detection and Recovery Actions are not in the scope of the above timeline. [†] Communication with neighboring states will be initiated within 4 hours of a confirmed positive case.					

4.0 Disease Detection – Investigations and Movement Restrictions

Rapid detection of reportable diseases is essential to minimize spread and impact on industry and local economy. Timeliness of the initial response is critical. In most situations a private and/or accredited veterinarian will be the first to encounter a foreign animal disease (FAD) and they are required by law to report any suspected FAD. Once a suspect case is identified, an FAD investigator (FADI) will be dispatched to collect samples. If there is adequate suspicion that an FAD is present he/she can place a verbal hold order. This hold order will then be converted to a quarantine if the samples come back confirmed positive by the National Veterinary Services Laboratory (NVSL). During this time the CDA will begin activating the emergency response plan outlined in this document.

4.1 Foreign Animal Disease Investigations

Upon notification of a suspected case of an FAD, the Colorado State Veterinarian or USDA-APHIS-VS Colorado Office will dispatch an FAD Diagnostician (FADD) to conduct an FAD Investigation (FADI). See CDA website at <https://www.colorado.gov/pacific/sites/default/files/atoms/files/VMO%20Map%20Colorado.pdf> for VMO territories in Colorado. The investigation is conducted using a standardized format developed by USDA. Information and data collected during the FADI includes a general assessment and gathering site information, samples and epidemiological data (see Appendix A for outline of steps of an FADI and Appendix I for an example of a FADI Data Collection Form). In addition, the FADD collects the following information about the facility:

- Premises Identification Number (PIN) or USAHerds Location ID (LID)
- Type of facility
- Plat map description
- GPS Coordinates
- Type and number of livestock
- Recent livestock movement
- Number of personnel or employees

The goal of the investigation is to confirm or rule out the presence of disease in a rapid and efficient manner. As such, the FADD examines the poultry on site and packages the appropriate diagnostic samples for delivery to a state and federal diagnostic laboratory – please refer to the HPAI Standard Operational Procedures (SOPs) Manual for protocol on submission of samples. Information from the investigation is reported to the State Veterinarian who, in consultation with the FADD and the USDA-APHIS-VS Colorado Office, determines the classification and diagnostic sample prioritization (defined below). This decision is critical and determines turnaround times on diagnostic samples and aids in establishing appropriate disease control measures. The priority

established will determine where the samples are sent, how they are handled for transportation and the level of response the lab gives the samples. Operations in the collection, shipping and management of laboratory samples shall be in accordance with the USDA-APHIS-VS protocol for FAD investigations.

- **Priority 1:** High Suspicion of FAD and needs rapid or extraordinary methods for sample collection, submission and transport. Testing is done immediately upon arrival.
- **Priority 2:** Intermediate Suspicion and needs rapid methods for sample collection, submission and transport. Testing is conducted as necessary according to business hours.
- **Priority 3:** Low Suspicion of FAD and routine methods used for sample collection, submission and transport. Testing is conducted in accession order.
- **Priority A:** Intermediate or Low Suspicion but circumstances of investigation indicate need for rapid methods of collection, submission and transport. Testing done immediately upon arrival.

In most cases, preliminary results are available within 24 hours. However, during the investigation the State Veterinarian may implement certain movement restrictions for poultry and poultry products. Decisions relative to movement controls would be based on the general clinical assessment, morbidity and mortality of the disease outbreak and the risk to other poultry facilities. A description of zones, areas and premises used for restricting movement is located in Section 5.

4.2 Hold Order

There are three possible outcomes of an FADI: negative, presumptive positive, or confirmed positive. In the event an FAD is suspected based on the initial outcome of the FADI, the State Veterinarian may issue a hold order as authorized by CRS 35-50-103 to restrict animal movement. CRS 35-50-103 defines a hold order as a temporary order issued by the state veterinarian when an infectious disease is suspected in livestock to isolate any specific livestock premises, county, district; and specify sanitary measures, pending completion of testing. The State Veterinarian may authorize the hold order through accredited veterinarians or through another appointed official.

4.3 Quarantine

A preliminary/presumptive positive test result must be confirmed by the National Veterinary Services Laboratories (NVSL). Once the appropriate NVSL lab has verified the testing results are a confirmed positive, the State Veterinarian as the Commissioner of Agriculture's designee may place the infected premises under quarantine. CRS 35-50-103 defines quarantine as "an order issued by the commissioner when testing has confirmed the presence of an infectious or contagious disease in livestock, which order isolates specific livestock, premises, counties, districts, or sections of the state; restricts the movement of livestock; and specifies sanitary measures."

4.4 Response Plan Activation Sequence

The activation of an emergency plan is at the discretion of the State Veterinarian. Upon confirmation from the Colorado State University Veterinary Diagnostic Laboratory (CSU-VDL) of a presumptive positive, or from NVSL of a presumptive, or positive to a highly contagious animal disease the State Veterinarian will activate the *Poultry Emergency Disease Response Plan*.

The State Veterinarian will immediately contact the Commissioner of Agriculture, Deputy Commissioner, and the USDA-APHIS-VS Colorado Office, along with other collaborative response agencies/partners as necessary, and relay all known information on the positive test notification. The State Veterinarian should be prepared to make recommendations with respect to any gubernatorial declarations and/or activation of the State EOC (SEOC) and appropriate level of response. Specifically, the State Veterinarian will relay the following information:

- Name and contact information of the verifying laboratory official reporting the confirmatory test
- Name(s) and location(s) of the infected premises including Global Positioning System (GPS) and USAHerds Location ID (LID) and/or federal Premises Identification Number (PIN) if available
- Type of production facility/facilities and number of poultry on each infected premises

If notification of a presumptive positive or NVSL confirmed positive of a highly contagious animal disease happens after normal working hours, on a weekend, or holiday, the State Veterinarian will communicate with the Commissioner, Deputy Commissioner, the USDA-APHIS-VS Colorado Office, and the necessary staff of the Animal Health Division of CDA at their after-hours contact numbers. Based on direction from the Commissioner, Deputy Commissioner and Assistant Director of USDA-APHIS-VS District 6, the State Veterinarian will take appropriate action to activate the response at a level based on incident type –see Table 1.

5.0 Disease Containment - Quarantine and Movement Control

Upon confirmation of a suspected or confirmed case of a highly infectious animal disease, the State Veterinarian will implement a series of response actions to control the spread of disease and minimize the impact of the outbreak. Though actions will vary based on the disease agent, the following section presents a series of possible control activities that may be utilized to contain a highly infectious disease outbreak in poultry.

5.1 Movement Restrictions

Movement restrictions for poultry, poultry products, vehicles and possibly people may be used to prevent further spread of disease. Once an outbreak has been confirmed, the Infected Premises will be placed under quarantine (see Section 4.3 for additional information on livestock quarantines). Diseased or disease exposed poultry will need to remain on the premises until the necessary control measures are determined by the State Veterinarian. A control zone, which includes any contact premises (farms or areas with a connection to the Infected Premises), will be established. Road blocks and/or check points and possibly decontamination stations may be needed at ingress and egress locations in the control zone. Additional zones may be designated to control and monitor the disease. Descriptions and a diagram of Premises, Zones and Area designations follow.

5.2 Premises, Zones and Area Designations

The designation of Control Areas and Zones is essential to successful quarantine and movement control activities. The State Veterinarian shall determine premises classification in the event of a presumptive positive or confirmed positive case of a highly contagious poultry disease. He/she shall work with the USDA-APHIS-VS Colorado Office and FADD veterinarians, emergency responder teams, the state EOC, law enforcement and other agencies/entities to establish zone and area designations that will allow for the identification, implementation and enforcement of quarantine and movement controls. Table 3 and Table 4 summarize designations used in a response. Figure 1 gives a visual representation of the zones and areas described in Table 3 and Table 4.

Table 3. Summary of Premises Designations

Premises	Definition	Zone
Infected Premises (IP)	Premises where a presumptive positive case or confirmed positive case exists based on laboratory results, compatible clinical signs, HPAI case definition, and international standards.	Infected Zone
Contact Premises (CP)	Premises with susceptible animals that may have been exposed to HPAI, either directly or indirectly, including but not limited to exposure to animals, animal products, fomites, or people from Infected Premises.	Infected Zone, Buffer Zone
Suspect Premises (SP)	Premises under investigation due to the presence of susceptible animals reported to have clinical signs compatible with HPAI. This is intended to be a short-term premises designation.	Infected Zone, Buffer Zone, Surveillance Zone, Vaccination Zone
At-Risk Premises (ARP)	Premises with susceptible animals, but none of those susceptible animals have clinical signs compatible with HPAI. Premises objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises. At-Risk Premises seek to move susceptible animals or products within the Control Area by permit. Only At-Risk Premises are eligible to become Monitored Premises.	Infected Zone, Buffer Zone
Monitored Premises (MP)	Premises objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises. Only At-Risk Premises are eligible to become Monitored Premises. Monitored Premises meet a set of defined criteria in seeking to move susceptible animals or products out of the Control Area by permit.	Infected Zone, Buffer Zone
Free Premises (FP)	Premises outside of a Control Area and not a Contact or Suspect Premises.	Surveillance Zone, Free Area
Vaccinated Premises (VP)	Premises where emergency vaccination has been performed. This may be a secondary premises designation.	Containment Vaccination Zone, Protection Vaccination Zone

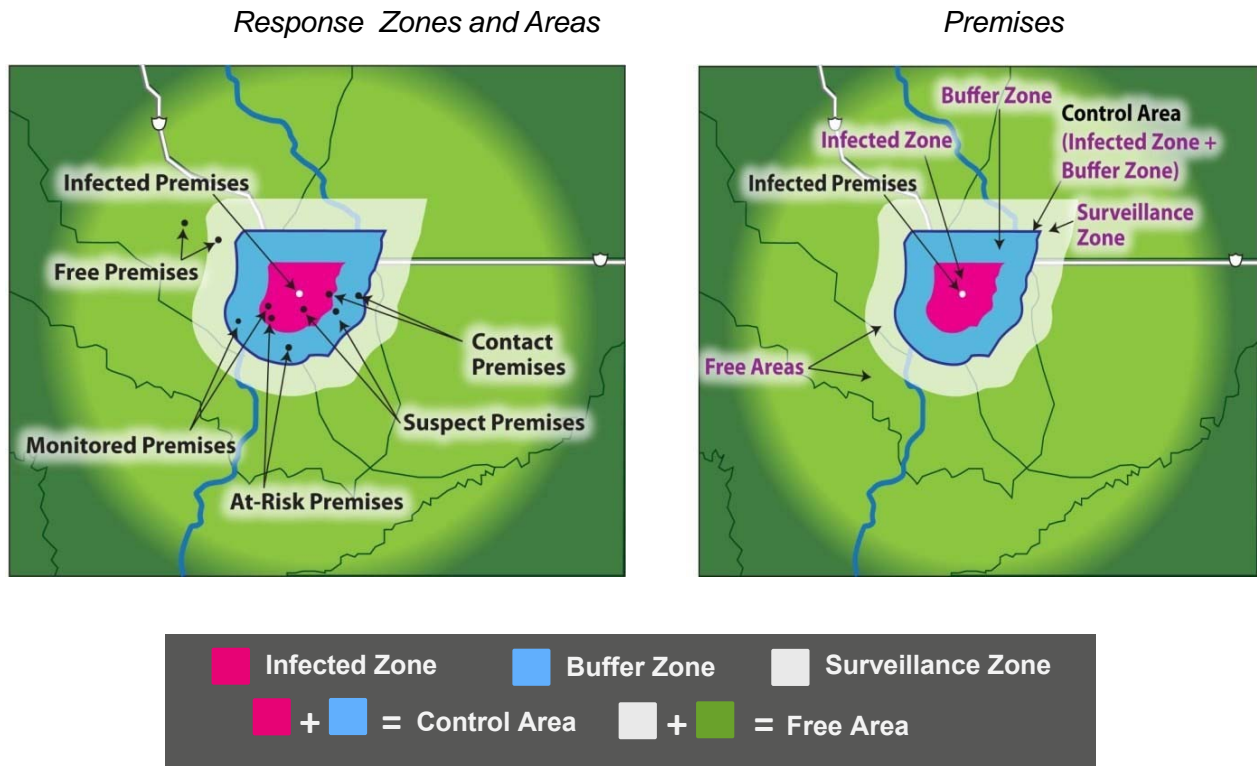
* Adapted from USDA-APHIS-VS Highly Pathogenic Avian Influenza Response Plan Red Book, Aug 2015, pg 5-15

Table 4. Summary of Zone and Area Designations

Zone/Area	Definition
Infected Zone (IZ)	Zone that immediately surrounds an Infected Premises.
Buffer Zone (BZ)	Zone that immediately surrounds an Infected Zone or a Contact Premises.
Control Area (CA)	Consists of an Infected Zone and a Buffer Zone.
Surveillance Zone (SZ)	Zone outside and along the border of a Control Area. The Surveillance Zone is part of the Free Area.
Free Area (FA)	Area not included in any Control Area. Includes the Surveillance Zone.
Vaccination Zone (VZ)	Emergency Vaccination Zone classified as either a Containment Vaccination Zone (typically inside a Control Area) or a Protection Vaccination Zone (typically outside a Control Area). This may be a secondary zone designation.

* Adapted from USDA-APHIS-VS Highly Pathogenic Avian Influenza Response Plan Red Book, Aug 2015, section 5.

Figure 1. Example of Zones, Areas, and Premises in HPAI Outbreak



* Adapted from USDA-APHIS-VS Outbreak 2014-2015 Ready Reference Guide – Overview of Zones

5.3 Biosecurity and Disease Control Measures

USDA-APHIS-VS defines biosecurity as the use of certain management practices designed to prevent the introduction and spread of disease. Good biosecurity can mitigate the spread of the disease once it has been introduced into a herd or area. Biosecurity for a poultry facility focuses on isolation of poultry, sanitation, site security and traffic control. Most poultry producers already incorporate biosecurity measures into their daily operations as part of normal poultry health and management practices. Example biosecurity measures for regular operations in poultry facilities can be found in the Colorado HPAI SOP Manual.

During a poultry health emergency, the State Veterinarian may prescribe additional biosecurity measures for premises located in defined zones for each of the infected premises. Biosecurity measures will be dependent upon the disease and its mode(s) of transmission.

5.3.1 Site Security as related to Biosecurity and Quarantine

Any site that is under investigation as an infected premises, a suspect premises, or a contact premises shall take steps to prevent all non-essential traffic from entering the premises. All traffic should be prohibited unless directly involved in the care and feeding of poultry or involved in the emergency response. Site security procedures that may be recommended are:

- Establish one ingress and egress location onto the premises. All other access points must be blocked or gates locked to prevent unregulated entry or exit from the facility. If possible, the ingress and egress location should be located on a level and solid surface with access to water (by hose or tanker truck) for cleaning and disinfection purposes. Vehicles transporting workers or supplies may need to park at the access gate and shuttle people and supplies in through a safe corridor system or transport on foot – exceptions would be large truck transport vehicles.
- Cease all non-essential work on the farm and restrict access to the facility to essential personnel only. Essential personnel are defined as having a direct role in the care of the poultry or in the response. All vehicles and equipment on the premises may be prohibited from leaving the premises unless approved by the State Veterinarian. All vehicles leaving the premises will likely be required to be cleaned and disinfected.
- Require all essential personnel to wear PPE at a level determined necessary to protect or prevent the spread of disease and to mitigate any zoonotic disease potential. Personnel entering the premises will be required to wear disposable or adequately cleaned and disinfected boots, coveralls, gloves, head/hair covering and possibly masks. The level of protection will be determined by the specific disease agent and area and nature of work individuals are to engage in. PPE must be put on prior to entering the premises and must be removed and thoroughly disinfected or disposed of prior to leaving.
- Maintain a log of all movement onto and off of the premises. Verify premises log book is complete. Deliveries for farm essentials shall be by appointment only.

5.3.2 Cleaning & Disinfection for Vehicles and Personnel Leaving an Infected Premises

Establishing decontamination procedures for vehicles and personnel leaving a premises are designed to prevent the spread of disease from an infected flock and premises. Cleaning and disinfection procedures as part of good biosecurity are essential both during and after an animal disease event. Materials that should be available at the designated entry/exit point on the infected premises includes: brushes, buckets, hoses, water, disinfectant and a pressure washer. Cleaning and disinfection must be performed on all personnel, equipment, and vehicles leaving the infected premises or control area. A list of disinfectants approved by EPA for specific diseases is located in Appendix I. Further details and specific protocols can be found in the Colorado HPAI SOPs Manual. Cleaning and disinfection procedures that may be required by the State Veterinarian include:

- Establishing a designated decontamination area/corridor on the premises. This is an area where personnel, vehicles, and equipment will undergo cleaning and decontamination before leaving the premises. This area should be close to the entry/exit point, on a hard surface and have access to water.
- Establishing a designated area for personnel to don and doff personal protective equipment and protocols for disposing of or treating contaminated personal protective equipment.
- Establishing a pest, especially rodent, control program.

5.3.3 Wildlife Management

If an animal disease outbreak has potential wildlife impacts or can be spread by wildlife, the Colorado Parks and Wildlife (CPW) will collaborate and lead all appropriate wildlife response activities. Section 11.3 provides additional information on the CPW role in an animal disease outbreak. Two important questions to ask are: “Are there sick wildlife?” and “Can wildlife carry this disease to another premises?”

5.3.4 Public Health Involvement

If an animal disease outbreak is identified as a zoonotic disease and has potential public health impacts, the State Veterinarian or other designated representative of the CDA will contact the Colorado Department of Public Health and Environment (CDPHE) to seek assistance to protect the public’s health. Section 11.3 provides additional information on the CDPHE’s role in an animal disease outbreak. An important question to ask is, “Are people with potential exposure to the disease agent getting sick?” If so, CDPHE will be involved and will conduct their own epidemiological investigation.

6.0 Surveillance - Develop Surveillance Plan Based on Epidemiological Investigation

Animal disease surveillance activities involve collecting and interpreting data from animal populations to determine their health status regarding diseases of concern. Surveillance programs are currently in place to assist in rapid detection of an animal disease incursion. Active surveillance techniques are also used in an animal disease response to determine the extent of a disease known to be present, and during the recovery phase of a response to provide the necessary evidence for the elimination of the disease.

Surveillance methods that may be used during a disease outbreak include inspecting poultry for clinical signs of the disease and clinical testing. Inspection of poultry for clinical signs involves observing poultry for any clinical presentation of the disease. Surveillance information is also obtained through the collection and testing of various biological samples from all commercial flocks and backyard hobby flocks within certain distances of infected premises regardless of clinical appearance. Possible biological samples include: animal blood (serological testing), swabs from the oropharynx and cloaca (PCR testing for pathogenic viruses), tissue, and necropsy of dead birds. The most common method of surveillance testing during an outbreak is oropharyngeal swabs in chickens and turkeys and cloacal swabs in water fowl.

The speed at which surveillance occurs will have a direct effect on the extent and thus the outcome of an outbreak. Once control areas, zones and premises are identified, a surveillance plan for each area or zone will be developed by the State Veterinarian. The surveillance plan will include information on methods to collect, manage and analyze animal health data. Since each animal disease outbreak is unique, the surveillance plan will be tailored to the event and disease agent.

7.0 Epidemiology

To respond quickly and effectively to an animal disease event, the CDA animal health officials need to know which poultry are involved, where they are located and what other poultry might have been exposed. The sooner reliable data is available the sooner affected poultry can be located, appropriate response measures established and disease spread halted.

7.1 Disease Trace-back and Trace-Forward

An important component of an animal disease outbreak epidemiologic investigation is to establish trace-forward and trace-backs from a premises to determine both the source of the disease and the risk for transmission to other premises with susceptible species. Trace-backs are conducted to assist in identifying the source of the virus or pathogenic microbe and to help determine how the disease was introduced to the facility. Trace-back procedures include collecting information from producers on the origins of all poultry (and possibly other animals), poultry products, feed, equipment and vehicles (livestock trucks, feed trucks, veterinary trucks) and people (sales and feed representatives, visitors, veterinarians) that have visited the farm prior to the outbreak. Trace-backs are usually applied for a minimum of 2 times the maximum incubation period before the onset of clinical signs.

Trace-forward procedures gather similar information on animal, people and equipment movements off the farm to identify other premises that received potentially infected poultry, contaminated animal products, or equipment. Trace-forward is usually applied up to the time quarantine is imposed. (Trace-backs and trace-forwards are usually applied from a minimum of 2 times the maximum incubation period prior to the onset of clinical signs until the time quarantine was imposed.)

It is recommended that producers maintain up-to-date flock records in part so thorough trace-back and trace-forward investigations can be completed. Additionally, producers may be required to participate in a traceability system. Accurate tracing investigations are critical to determining the magnitude of an outbreak and halting the spread of the disease.

Along with trace-back/trace-forward studies, surveying farm/producer activities is part of epidemiology investigations. Surveys will aid in determining how the disease spread, risk factors for infection, and ways to prevent or mitigate future outbreaks. As part of the emergency response, producers will likely be required to participate in epidemiology surveys in order to receive compensation from the federal government for activities related to cleaning and disinfection of the premises.

7.2 USAHerds

USAHerds is the animal health information management system within the Animal Health Division of the Colorado Department of Agriculture. It is a repository of Colorado livestock ownership data that can be accessed and utilized during an animal disease outbreak to assist in the

tracing of poultry and premises. Data for the USAHerds database is received from poultry operations and from existing data sources and integrated into one system that can be accessed by CDA animal health officials during an animal emergency. USAHerds enables CDA to respond quickly and to prevent disease at unaffected facilities when a significant disease event may impact their area or the type of poultry they own or manage.

7.3 Commercial Poultry Operations & Traceability

The highly integrated structure of many commercial poultry operations may significantly improve the level of traceability and communication within the commercial poultry industry. Such contracts and business arrangements could be utilized to efficiently and effectively improve biosecurity, prevent further spread of the disease, and to mitigate the negative impact to the poultry industry. CDA is committed to working with the industry and associations to provide for good business continuity of operations. (See section 9 for further discussion of continuity of operations)

8.0 Stabilization -- Control, Prevent Spread of and Eradicate Animal Disease

Elimination, if possible, of a highly contagious disease involves a series of activities that will be implemented by the State Veterinarian in collaboration with USDA-APHIS-VS personnel. Actions taken will be based on the particular circumstances of the outbreak including the disease agent, epidemiology of the disease, vaccine availability and resource availability. Descriptions of possible response actions to eliminate an animal disease (and sources of equipment and materials used to carry out these actions) are described in the following section.

8.1 Appraisal & Indemnity

According to the U.S. Code of Federal Regulations 9CFR53.3 a percentage of fair market value will be paid to the owners for livestock that must be depopulated or materials that must be destroyed to prevent the spread of an animal disease.

Additionally, CRS 35-50-113 grants the CDA Commissioner the authority, under certain circumstances and upon the recommendation of the State Veterinarian, to authorize the payment of indemnity to any livestock owner whose herd is depopulated due to exposure or diagnosis of an infectious or contagious disease.

With qualifying events, appraisal and indemnification process outlined in 9CFR53.3 is the most efficient appraisal process for livestock owners. The process outlined in CRS 35-50-113 is a cumbersome and often time-consuming procedure used in situations where depopulation of livestock is deemed necessary by the Commissioner and the State Veterinarian. For both processes, valuation of livestock must be mutually agreed upon by the owner and state or federal official prior to depopulation. Under certain situations this may require physical appraisal of livestock.

In previous highly infectious disease outbreaks, the USDA paid for the cost of euthanasia, carcass disposal and decontamination of the premises. Colorado will follow USDA procedures to request assistance with indemnification for poultry producers in response to an eligible disease event.

8.2 Depopulation

CRS 35-50-113 authorizes the State Veterinarian to order euthanasia, mass depopulation and carcass disposal to mitigate an animal disease in Colorado and is an integral part of a comprehensive response plan. In the event that a highly contagious disease in poultry is confirmed in the state of Colorado, poultry depopulation and carcass disposal may represent the most effective means of disease control and eradication. If deemed necessary by the State Veterinarian to contain a disease outbreak, the CDA will take every measure to ensure rapid and humane depopulation of all poultry affected by the disease outbreak. The State Veterinarian will develop a comprehensive depopulation and disposal plan based on guidance from the American Veterinary Medical Association (AVMA) Guidelines on Euthanasia, National Agriculture Biosecurity Center, Kansas State University, industry capabilities and other resources available. The State

Veterinarian's depopulation plan will be dependent upon the type of poultry and the numbers of poultry to be depopulated. Carcass disposal will be carried out in collaboration with the CDPHE Solid and Hazardous Waste Program as defined in the CDA/CDPHE joint Interagency Agreement (IA), Memorandum of Understanding (MOU), state statute and state rule/regulations. Additional information on poultry depopulation and carcass disposal is found in the Colorado HPAI SOP Manual.

8.3 Disposal

The goal of disposal is to facilitate the decomposition of carcasses and to destroy any pathogenic disease agent present. Proper disposal is an essential component in the eradication of a disease outbreak. Methods utilized should limit the potential for spread of the disease, or exposure of susceptible species to the disease, and limit any potential adverse environmental impact. Commonly used disposal methods include burial, composting, incineration, alkaline digestion and rendering (see Table 5). When applicable, poultry carcasses will be disposed of on the infected premises to limit the potential spread of disease. However, factors such as the number, size and species of livestock, the location of the infected premises, the soil types and groundwater locations, and the particular disease agent will determine the most appropriate method of carcass disposal. The State Veterinarian will collaborate with USDA-APHIS-VS and the CDPHE Solid and Hazardous Waste Program to determine the best location and type of disposal method. Possible methods of carcass disposal are outlined below. Additional information on each option is located in the Colorado HPAI SOP Manual.

8.3.1 Rendering

Rendering is a process of both physical and chemical transformation resulting in three end products: carcass meal, melted fat and water. The main carcass rendering processes include size reduction followed by cooking and separation of fat, water and protein materials. The resulting carcass meal is often used as an animal feed ingredient. It is unlikely that rendering will be used as a method of disposal during a highly contagious disease outbreak in poultry.

8.3.2 Composting

Composting involves a multi-phased decomposition of animal carcasses over a period of time. The process involves the breakdown of organic materials by microorganisms such as bacteria and fungi, which results in the release of heat, water, ammonia, CO₂ and other gases. The heat is the primary process for virus inactivation. The process can be complex and requires an appropriate site, proper management and a carbon source (such as wood chips, straw, cornstalks or similar products). Often it is vital to have composting subject matter experts (SMEs) on site when constructing windrows. Guidelines and protocols for disposal and virus inactivation can be found to the HPAI Standard Operational Procedures (SOPs) Manual previously mentioned.

8.3.2.1 Windrow Composting

Windrow composting takes place in a static pile. The windrow is typically built in open spaces with no walls, or roofs and not protected from weather. However, in other states during previous outbreaks of highly contagious poultry disease, windrows have been built inside floor raised poultry barns. Building windrows within the barns helps reduce disease spread via wild birds, scavengers, insect and wind. It can also be considered when there is not enough suitable land on the infected premises to build the windrows outside. Windrow composting is often used for disposal of a large number of animals or bigger livestock.

8.3.2.2 Bin Composting

Bin composting is the simplest form of a contained composting method where carcasses and composting material are confined within a structure built from any materials that are structurally adequate to confine the compost pile material.

8.3.3 Burial

Burial of deceased livestock can take place onsite or in an approved landfill. CDPHE has the following recommendations when burying animal carcasses on-site:

- Every part of the dead animals must be buried by at least two feet of soil.
- No dead animals shall be placed in any body of water, or seasonal creek, or pond.
- Surface water should be diverted from the pit utilizing an up gradient diversion berm or another method.
- All dead animals must be buried at least 150 feet down gradient from any groundwater supply source.
- In no case should the bottom of the burial pit be closer than five feet to the ground water table.
- Burial sites must be located more than one mile from any residence.

8.3.4 Landfill Burial

The use of permitted landfills for carcass and material disposal may be an option. The necessary equipment, personnel, procedures and containment systems are already in place. Landfill approval will be needed prior to transport of the carcasses to the facility. A downside to landfill burial is transport of the carcasses may pose some risk of disease spread.

8.3.5 Incineration

There are three broad categories of incineration: open-air, fixed facility and air-curtain. Open air includes burning carcasses in an open field. Examples of fixed facilities are crematoria, small carcass incinerators at veterinary colleges, large waste incineration plants, on-site incinerators and power plants. Air-curtain incineration involves a machine that fan-forces a mass of air through a manifold that accelerates the incineration process and is generally conducted in an earthen trench. Air-curtain incineration has been used in Colorado to dispose of animals infected with scrapie, a prion disease causing chronic wasting disease.

8.3.6 *Alkaline Hydrolysis*

Alkaline hydrolysis is a process that uses a caustic agent, such as sodium hydroxide and heat, to hydrolyze carcasses into a sterile solution and calcium products. The process requires expensive equipment and provides only low volume capacity, therefore this method has limited application in a disease outbreak situation.

Table 5. Poultry Disposal Methods: Considerations^{1,2}

Disposal Method	Advantages	Disadvantages	Required Resources
Mass Burial On Site	<ul style="list-style-type: none"> -- Removal of large amounts of biomass -- Facilities can be decontaminated immediately upon removal of livestock -- Risk of disease spreading is reduced upon burial of livestock. 	<ul style="list-style-type: none"> -- May serve as a containment site rather than decomposing livestock -- Requires multi-agency approval -- Significant Site Planning -- Economically Costly -- Public Opposition -- Potential environmental contamination 	<ul style="list-style-type: none"> -- Excavation Equipment -- Cover material -- Appropriate landscape
Composting	<ul style="list-style-type: none"> -- Removal of large amounts of biomass -- Produces a humus-like product containing nutrients and organic matter that can be recycled onto cropland -- Cost effective 	<ul style="list-style-type: none"> -- Slow carcass decay -- Poor odor retention -- Leachate production 	<ul style="list-style-type: none"> -- Carbon Source ie- sawdust, straw, corn stover -- Appropriate composting site -- Tractor or Skid Loader -- Long stem dial-type composting thermometer
Incineration Fixed Facility	<ul style="list-style-type: none"> -- Biosecure 	<ul style="list-style-type: none"> -- Fixed capacity -- Public Opposition -- Expensive to operate -- Incinerators are incapable of handling large volumes of carcasses 	<ul style="list-style-type: none"> -- Fuel -- Incineration facility
Incineration Air-Curtain	<ul style="list-style-type: none"> -- Mobile 	<ul style="list-style-type: none"> -- Fuel intensive -- Logistically challenging 	<ul style="list-style-type: none"> -- Fuel -- Air-curtain incineration facility
Alkaline Hydrolysis	<ul style="list-style-type: none"> -- combine sterilization and digestion into one process -- reduction of waste volume and weight by as much 97% -- Complete destruction of pathogens including Prions 	<ul style="list-style-type: none"> -- Currently limited capacity for destruction of large volumes of carcasses in US -- Potential issues regarding disposal of effluent 	<ul style="list-style-type: none"> -- Insulated, steam – jacketed stainless steel pressure vessel -- sodium hydroxide or potassium hydroxide -- water, energy for steam generation
Rendering	<ul style="list-style-type: none"> -- Good biosecurity at rendering plants -- High Rendering Temperatures destroy disease pathogens 	<ul style="list-style-type: none"> -- Requires transporting carcasses off-site -- Cost of Transportation to rendering plant -- Biosecurity concerns over rendering trucks going farm-to-farm. 	<ul style="list-style-type: none"> -- Rendering Plant

¹ National Agricultural Biosecurity Center, Kansas State University, *Carcass Disposal: A Comprehensive Review* 2004
² Council for Agricultural Science and Technology, *Poultry Carcass Disposal Options for Routine and Catastrophic Mortality* 2008

8.4 Alternatives to Depopulation - Vaccination

In most disease outbreaks, depopulation will be the primary method utilized to stop transmission and spread of the disease agent in affected animals on diseased premises. However, under certain circumstances, additional methods may need to be implemented to achieve full eradication of the disease or when stamping out is not possible (examples include wildlife collections such as zoos, or highly valuable poultry primary breeding stock). At this point, the State Veterinarian in collaboration with USDA-APHIS-VS representatives may implement alternatives such as vaccination and controlled animal movements. See section 9.1 for further details on animal movement during an outbreak.

Vaccination is a tool that can be utilized in conjunction with other emergency management procedures to alleviate a disease outbreak. Policy frameworks for the use of vaccines during an outbreak include:

- Using vaccines as a primary disease control strategy.
- Using vaccines in conjunction with disease control to assist in eliminating a disease agent.
- Using vaccines during a long-term campaign to eradicate a well-established disease.
- Not using a vaccine in disease response efforts due to unavailability, the vaccine does not meet safety standards, or reasons involving trade and marketing in international markets.

New technology in vaccine development has resulted in some ‘marker’ vaccines. This type of vaccine allows, via serological testing, animal health officials to distinguish vaccinated animals from naturally infected animals. Such a distinction is critical when providing proof of disease free status to world animal health organizations and individual countries. Use of vaccines can alter a country’s willingness to receive import of livestock and livestock products from the United States, and can affect disease free status as defined by the OIE.

8.5 Cleaning and Disinfection of an Infected Premises

After disposal of infected carcasses is complete and before the houses can be restocked, the infectious organism must be eliminated from the premises. There are a few methods of cleaning and disinfection that can be used to eliminate virus. Traditionally facilities have been dry cleaned, followed by power washing and application of a chemical disinfectant. More recently dry cleaning followed by heat disinfection have successfully been used to eliminate HPAI virus from a premises. There are pros and cons to each method and depend on the type of facility being treated.

8.5.1 Cleaning and Chemical Disinfection

Chemical disinfection has long shown to be an effective method of decontamination. Chemical disinfectants cannot penetrate debris or organic material, so a facility must be thoroughly cleaned and all organic debris prior to application. The cleaning process typically involves two steps. The first step is dry cleaning using brooms, compressed air, scrapers and other tools to break up and dislodge organic debris from surfaces. The

second step is wet cleaning of surfaces typically using pressure washers to wash away debris and remove smaller particulates left behind during dry cleaning.

Once all organic material has been sufficiently removed, a chemical disinfectant can be applied. The USDA does not recommend any specific disinfectant, but does require that the one selected be EPA approved. (<http://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants> - List M: Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants)

There are downsides to chemical disinfection, mostly related to the cleaning processes. Preparation of caged egg layer facilities for chemical disinfection can be very challenging and time consuming. Removal of organic debris has to be done by hand, and cages and manure curtains can be hard to access. Wet cleaning can damage electrical systems used for things like egg belts and lighting. There are as challenges with preparation for chemical disinfection in floor reared poultry facilities including the wet cleaning/power washing step which can damage clay floors and leave standing water inside.

8.5.2 Cleaning and Heat Disinfection

An alternative to chemical disinfection is heat. Heat disinfection has proven to be an effective method of virus elimination and was used extensively in the 2015 HPAI outbreak in Iowa. Preparation for heat disinfection includes just the dry cleaning step. Heat penetrates surfaces and organic debris and eliminates the need for wet cleaning/power washing. Wet cleaning is not recommended in preparation for heat disinfection due to likelihood of standing water and water pooling.

Protocols for heat disinfection and virus elimination can be found in the Colorado HPAI Standard Operating Procedures Manual and cover recommended temperatures and duration of treatment. The challenges with heat disinfection are mainly related to maintaining appropriate temperatures within the facilities. Heat disinfection may not be possible in older, drafty barns or in the middle of winter in colder areas of the state.

8.6 Environmental Testing, Fallow Period and Restocking

After a premises has completed disinfection of the poultry houses, the next step in recovery is testing the environment for the presence viable pathogen. Specific protocols for environmental testing can be found in the Colorado HPAI Standard Operating Procedures Manual.

Repopulation or restocking is dependent of completion of an approved cleaning and disinfection process of the entire premises, negative environmental testing results and written consent from the Colorado State Veterinarian and a USDA-APHIS-VS official. Once all premises affected by the outbreak are cleaned and disinfected and there are no new reports of the disease agent, restocking will be permitted by the State Veterinarian. An appropriate time period for the facility to remain vacant of poultry after depopulation will be required as determined by the State Veterinarian and USDA-APHIS-VS. The standard fallow period for HPAI and LPAI is 21 days after the completion of disinfection. Once all the criteria have been met and written approval has been received, a facility can proceed with restocking.

8.7 National Veterinary Stockpile

The National Veterinary Stockpile (NVS) is the Nation's repository of vaccines and other critical veterinary supplies and equipment. The NVS is designed to augment state and local resources in the fight against dangerous animal diseases that could potentially devastate American agriculture, seriously affect the economy, and threaten the public's health. Homeland Security Presidential Directive 9 (HSPD-9) established the NVS in 2004. The Directive requires APHIS to be able to deploy the NVS to the site of a dangerous animal disease outbreak within 24 hours. To accomplish this critical mandate, the NVS defined agents of greatest interest to animal health and has prioritized its resources accordingly. The NVS currently holds or has systems in place to provide:

- Personal protective equipment (PPE) for 310 responders for 10 days in a high-risk environment
- Further PPE to protect 3,000 responders for 40 days
- Contracts with vendors to provide depopulation and carcass disposal services – in an extensive outbreak those approved contractors will be in high demand. States need to prepare to be able to perform depopulation and carcass disposal without the assistance from USDA-APHIS-VS-NVS
- Foaming equipment to use for the depopulation of floor raised poultry
- Anti-viral medications for 3,000 responders for 6 weeks
- Satellite data and voice equipment that is portable and capable of establishing temporary command posts

9.0 Business Continuity -- Protect Economic Viability and Continuity of Operations

Maintaining business continuity and the movement of livestock that are unaffected by a disease outbreak is a critical component of the CDA Poultry Emergency Disease Response Plan. The movement of poultry and poultry products will be at the discretion of the State Veterinarian in collaboration with USDA-APHIS-VS officials and will be based on the epidemiology of the disease agent. Guidance documents on managed movement are found in the Secure Food Supply plans ([Secure Egg](#), [Turkey](#) and [Broiler](#) Plans) and cover biosecurity and testing requirements prior to movement. Information on movement control is also covered in the [USDA APHIS HPAI Response Plan: The Red Book](#).

The [Colorado Department of Agriculture Secure Egg Supply Plan](#) (CO SES Plan) provides additional guidance, beyond that described in the national Secure Egg Supply Plan, to the Colorado egg industry to be eligible to request egg and egg product movement permits from poultry producers with no evidence of HPAI infection in a control Area.

9.1 Controlled Animal Movement and Permitting

During a disease outbreak, the State Veterinarian may issue official permits for movement of poultry and poultry products and other livestock that would allow movement from a premises or geographic area within a quarantine order. Permits are required for movement of poultry or poultry products from premises to premises within a control area, from premises within a control area to a premises outside of a control area and from a premises outside of the control area to a premises within a control area. In order for a permit to be issued the following minimal criteria must be met. These are subject to change.

- No poultry or other livestock on that premises have shown clinical signs of the disease agent for a determined amount of days and disease free status has been verified within 24 hours prior to movement. Testing may be required in many cases.
- No susceptible species were added to the premises of origin for an appropriate amount of time as determined by the State Veterinarian.
- The premises of origin is not an infected premises, contact premises, or suspect premises and there is no detectable evidence of the disease agent.
- Transport conveyances for poultry and poultry product meet acceptable biosecurity standards.

During an outbreak a USDA-APHIS National Permitting Unit may be established. The unit's purpose is to coordinate and facilitate intrastate and interstate movements and to maintain a national database for all permits issued during an outbreak. This Unit would integrate with CDA's permitted movement group within the ICS structure of the State. Authority to approve permitted movement into and out of control areas in Colorado remains with the State Veterinarian.

9.2 Bio-secure Transportation Corridors

As mentioned, allowing unaffected animals and animal food products to move during an animal disease outbreak is essential to maintaining industry business continuity. Thus, movement of poultry and other livestock that are deemed disease-free will take place along bio-secure corridors. Bio-secure corridors are transportation routes located outside of the quarantine area that will allow livestock and animal food products

to travel safely without risk of exposure to an animal disease. Identifying bio-secure corridors will be the responsibility of the CDA with assistance from the Colorado State Patrol and local law enforcement agencies.

10.0 Recovery -- Returning Affected Premises to Normal Business Operations

The actions taken during the recovery period are focused on restoring operations to normal or near normal as quickly as possible. Issues to consider are repopulation of production facilities, financial considerations, re-establishing public trust and consumer confidence, and review of risk reduction measures. It is important to note that the recovery phase of an incident may last an extended length of time.

10.1 Surveillance and Monitoring of a Previously Infected Premises

Once the mandatory down time (fallow period) requirements are met and environmental samples are tested negative, producers will be given written consent to restock their facilities (see section 8.6). With approval of the State Veterinarian and USDA-APHIS-VS officials, producers may be given the option to fully restock their poultry populations rather than implementing a sentinel program. The flocks will be tested for the disease agent at intervals determined by the State Veterinarian and USDA-APHIS-VS officials. The producers will be required to report increased mortality or suspect clinical signs immediately. Standard testing procedures for repopulated flocks can be found in the Colorado HPAI SOP Manual.

The alternative to fully restocking is to use a small number of sentinel poultry. Serologically negative sentinel poultry are introduced to a facility to determine if pathogens are still present and viable. Sentinel poultry may be retained for at least two pathogen dependent incubation periods (to be determined by the State Veterinarian). They will be monitored for clinical signs of the disease and biological samples tested. In the event that sentinel poultry become infected or test positive for the disease, the sentinels will be depopulated and the cleaning and disinfection process will be repeated. The same holds true for facilities that restock with normal flock numbers.

11.0 Roles and Responsibilities

Responding to an outbreak of a highly contagious animal disease outbreak will require the coordination of multiple agencies, Industry representatives and stake holders. A list of local, state and federal agencies and their possible role in an outbreak response are listed in section 11.2.

11.1 Industry's Roles and Responsibilities

Industry will play an important role both in preventing a disease outbreak and in response to such an event. Collaboration and communication between government agencies and industry will be essential to effective disease response activities and for timely return to normal poultry production. It is vital for each poultry operation to have the following in place prior to an outbreak:

- A biosecurity plan with written SOPs and appropriate training for employees
- A depopulation plan with written SOPs and a list of equipment needed, a plan or contracts in place to obtain supplies and resources if equipment isn't already in hand
- A carcass/animal disposal plan for disposing of affected poultry – especially planning for a mass mortality event or disease outbreak

11.2 Local, State and Federal Agencies Roles and Responsibilities

Responding to a highly contagious animal disease outbreak will require the coordination of multiple agencies. A list of local, state, and federal agencies and their possible role in an outbreak response are listed below.

11.2.1 Roles and Responsibilities of the LEAD AGENCY – Colorado Department of Agriculture (CDA)

The CDA, Animal Health Division is the lead agency in any livestock health related emergency occurring in Colorado. CDA will respond by using the NIMS protocol. The specific components will be under the joint command of the State Veterinarian and USDA APHIS Veterinary Services (USDA-APHIS-VS) officials. Their overall responsibility will encompass command and management of the disease event, overseeing the management and dissemination of resources, establishing a communication and information management system and securing supporting technologies. The State Veterinarian and USDA-APHIS-VS officials may use any or all of the following action steps to control and/or eradicate the disease encountered in the event.

- Assign an emergency response level to the incident.
- In consultation with USDA-APHIS-VS officials, determine the scope and level of initial response and initiate a task force.
- In consultation with USDA-APHIS-VS, determine the location and size of hold/quarantine areas.
- Establish quarantine area(s) and issue quarantine orders as needed.

- In consultation with USDA-APHIS-VS officials and other agency personnel, strategically assign duties and areas of responsibility to state, deputy-state and federal veterinarians, members of the Colorado veterinary response team, livestock inspectors and animal health technicians.
- Determine appropriate movement restrictions for animals, people, equipment, feed, commodities and conveyances.
- Prepare information for dissemination to the public, producers, processors and other concerned groups through the Joint Information System or Center. Development of this information will be a collaboration between the CDA, USDA-APHIS-VS, and/or the Incident Management Team and the Public Information Officer.
- CDA will notify Colorado Division of Homeland Security and Emergency Management (HSEM) when a poultry disease sample is being sent to the Foreign Animal Disease Diagnostic Lab (NVSL or FADDL - Plum Island, NY) for analysis and is likely to be a highly contagious or infectious disease or agent of concern.
- CDA will coordinate with HSEM, USDA, Colorado Department of Transportation (CDOT), Colorado State Patrol (CSP) local jurisdictions, and other agencies as needed to enforce stop movement orders.
- Conduct livestock disease assessments at the site of the event to determine needs and priorities.
- Coordinate state-level livestock disease emergency response and recovery activities.
- Prioritize activities and areas of greatest urgency for state response and personnel in the field.
- CDA will coordinate with USDA-APHIS-VS, and provide liaison between other federal, state and local organizations when required.
- CDA, along with consultation from CDPHE, will develop protocols for worker protection related to incident-specific health and safety site plans, risk (hazard/exposure) assessments and PPE.
- Direct disease investigations, epidemiological investigations and trace outs to determine source of disease and scope of disease outbreak.
- Identify contaminated feed, poultry, and agricultural products that must be destroyed and disposed of or decontaminated.
- Identify and approve, in collaboration with CDPHE, animal carcass disposal sites.
- Identify and approve, in collaboration with CDPHE, sites for disposal of, contaminated feed, or other items that are contaminated.

- Identify and approve, in collaboration with CDPHE, temporary waste disposal sites for effluent from cleaning and disinfecting stations.
- Coordinate with appropriate organizations for the deployment of inspectors and veterinarians for agricultural response and recovery.
- Establish and/or coordinate appropriate regulatory controls.
- In collaboration with the CDA PIO provide advisories and related public information.
- CDA will coordinate with CSP, county and local law enforcement for site security and related issues.
- Maintain ongoing animal agriculture surveillance of affected communities in order to rapidly identify and address disease-related problems.
- Notify CPW of any wildlife disease threat or involvement.
- Work in close collaboration with the Colorado Brand Board and livestock industry groups as well as the major poultry producer associations and local producers.

11.2.2 Roles and Responsibilities of SUPPORT AGENCIES – Local government

Since all emergency response begins at the local level, local emergency management officials will be actively involved in the response and will be a key provider of resources for operational missions. Each county has a comprehensive emergency management plan which provides the framework for the jurisdiction's response to emergencies and disasters. Counties, through their assets of County Commissioners, County Extension Offices and their networks, will utilize their resources and provide an additional line of communication with local farmers, industry groups and the community. Additionally, as part of a coordinated response, local law enforcement officers with assistance from Brand Inspectors and Bureau of Animal Protection Agents (BAP) may:

- Assist in identifying clean transportation corridors for moving unaffected livestock and animal food products safely during an animal health incident.
- Provide security in implementing a hold or quarantine for the infected area.
- Assist in the conduct of a criminal investigation.
- Provide site security and conflict resolution as needed to ensure the safety of veterinarians, inspectors, all other responders and the general public should any conflicts arise.

11.2.3 Roles and Responsibilities of SUPPORT AGENCIES - State Agencies

State agencies have diverse roles within the state government and may contribute essential aspects of an emergency response to large-scale animal disease outbreaks. Depending on location and scale, certain smaller outbreaks may not require all of these agencies to be involved.

11.2.3.1 Colorado Division of Homeland Security and Emergency Management (DHSEM)

Colorado Division of Homeland Security and Emergency has many resources to address emergencies and experiences with all hazard responses. Their support and involvement would be to:

- Activate the State Emergency Management Plan and state EOC to support CDA.
- Support the CDA by providing statewide coordination for logistical support, security, biosecurity, support personnel, procurement of supplies, equipment, vehicles, food, lodging and administrative support during livestock disease emergency response and recovery. Coordinate with CDA for the provision of biosecurity training to support agencies and provide biosecurity training to agency personnel designated for operations in the affected area.
- Deployment of State Incident Management Teams (IMTs) to manage incidents such as the Eastern Colorado IMT with whom CDA has entered into a memorandum of understanding (MOU).

11.2.3.2 Colorado State Patrol (CSP)

Colorado State Patrol's (CSP) support and involvement would be to:

- Provide law enforcement support and coordination with conducting traffic checkpoints and roadblocks, enforcing controlled movement orders (CMOs) for poultry and poultry products, and securing quarantined areas and related sites during poultry disease emergencies.
- Coordinate with local law enforcement agencies to support response and recovery with all available resources.

11.2.3.3 Colorado Department of Public Health and Environment

The CDPHE will likely be involved in the response if a zoonotic potential condition exists. They are often involved during an outbreak of HPAI, which has a small risk of becoming infectious to humans. Their roles and responsibilities would be to:

- Coordinate with CDA if a zoonotic condition exists.
- Support public information efforts.
- Consult with CDA and USDA-APHIS-VS regarding bio-security issues related to zoonotic diseases.
- Provide veterinary and epizootiologic support.
- Assist and collaborate with CDA on subjects such as carcass disposal, cleaning and disinfection, and other issues that may affect humans through potential contamination of soil, water and air quality.
- Liaison with Environmental Protection Agency (EPA) to address issues that may arise.
- Provide laboratory emergency response and/or surge support.
- Colorado Human Services Department may provide or coordinate mental health staff to assist in crisis counseling efforts.

11.2.3.4 Colorado Parks and Wildlife

Parks and Wildlife will work with CDA to provide the following services:

- Provide disease surveillance in free-ranging wildlife and wildlife in zoos, parks, and other natural areas.
- Survey for and/or dispose of contaminated items and wild animals.
- Conduct wild animal inventories in the area of a disease event to identify susceptible species.
- In collaboration with the State Veterinarian, collect wildlife specimens and samples for disease testing to determine presence or absence of disease or transmission of the disease agent or impact of disease on wildlife.
- Provide field personnel to assist in avian disease response, control, and recovery efforts.

11.2.3.5 Colorado Department of Transportation (CDOT)

CDOT's roles and responsibilities during a disease outbreak would be to:

- Assist in the movement of state resources during livestock disease emergencies.
- Provide traffic control and routing assistance, barricades, and road monitoring.
- Provide equipment and operators to assist with animal disposal.

11.2.3.6 Colorado State University (CSU)

Colorado State University's College of Veterinary Medicine and Biomedical Sciences (CVMBS) is routinely involved in programs related to poultry and poultry diseases. From providing surveillance testing at live bird markets to providing educational materials to the community. During a major poultry disease outbreak, their responsibilities would be to:

- Provide veterinary support and expertise throughout the emergency as requested by CDA.
- Colorado State University Veterinary Diagnostic Laboratory may provide appropriate diagnostic support services as requested by CDA.
- Colorado State University Extension may provide, communication, and liaison between Incident Command, affected industry groups and local communities during emergencies.

11.2.4 Roles and Responsibilities of SUPPORT AGENCIES – United States Department of Agriculture (USDA)

There are multiple federal agencies that have the potential to be involved during a disease outbreak depending on areas affected and size and scope of the outbreak. There is great need for cooperation and interagency support to accomplish all of the processes involved with mitigating and eradicating a significant infectious disease. These federal agencies will work collaboratively with each other, CDA and the state and local agencies discussed above.

11.2.4.1 Animal and Plant Health Inspection Service (APHIS)

USDA-APHIS Veterinary Services (VS) is the primary federal agency in charge of significant animal disease outbreaks of concern. Across the nation, APHIS-VS collaborates daily with each State Veterinarian's office to monitor for foreign animal diseases (FADs), emerging infectious diseases and to administer programs to eradicate diseases such as tuberculosis and brucellosis.

APHIS-VS maintains a group of national IMTs, each one composed of 20 – 30 VS employees, ready to deploy and assist with containing and eradicating disease outbreaks of concern. During an outbreak, Colorado's State Veterinarian may request the assistance of APHIS-VS's national IMT to deploy and help with all aspects of the response:

- Assist in everything from quarantine, evaluation and indemnification of livestock, slaughter, disposal, cleaning and disinfecting, epidemiology and trace-backs, to facilitating permitting for poultry and poultry products movement.
- Assist in acquiring appropriate contractors to conduct various response activities such as those listed above.
- Consult with state and local authorities regarding eradication proceedings.
- Collect, analyze, and disseminate technical and logistical information.
- Define training requirements for temporary employees or support agencies involved in eradication operations.
- Issue a declaration of extraordinary emergency.
- Coordinate with state and local agencies to define quarantine and buffer zones.
- Prepare information for dissemination to the public, producers, processors and other concerned groups through the Joint Information Center (JIC).
- Allocate funding for indemnifying to the owner(s) of depopulated animals or related property loss.
- Allocate funding for activities related to depopulation, disposal and virus elimination.
- Define restrictions on interstate commerce.

11.2.4.2 APHIS Wildlife Services (APHIS-WS)

Wildlife Services (WS) is a division of APHIS and its mission is to resolve wildlife conflicts to allow people and wildlife to co-exist. During a disease outbreak in poultry, WS will assist in surveillance of wildlife bird populations for the disease of concern. As part of APHIS, WS employees may also be deployed to work within the incident as members of the IMT.

11.2.4.3 USDA Food Safety Inspection Service (FSIS)

FSIS is charged with protecting the Nation's food supply by providing inspectors and veterinarians in meat, poultry, and egg product plants to prevent, detect, and act in response to food safety emergencies. FSIS has developed the infrastructure needed to confront new biosecurity challenges. FSIS may assist state and local authorities in disease eradication activities and/or food-borne illness emergency investigations.

11.2.4.4 USDA Customs and Border Protection

Shall inspect and regulate movement of at risk people, agricultural products or product containers or the likely at ports-of entry (such as Denver International Airport) to prevent, detect or act in response to agricultural emergencies.

11.2.5 Roles and Responsibilities of SUPPORT AGENCIES – other federal agencies

Under Emergency Support Function (ESF-11) federal regulations, the USDA is responsible for response to animal disease emergencies. However, other federal agencies outside of the USDA may also have jurisdiction in a disease outbreak response.

11.2.5.1 Food and Drug Administration (FDA)

One of FDA's mandates is to protect the public health by assuring the safety of our nation's food supply. FDA also has an important role in prevention and control of contaminated animal feed. FDA may assist state and local authorities in disease eradication activities and/or food-borne illness emergency investigations.

11.2.5.2 Federal Bureau of Investigation (FBI)

The FBI is the agency responsible for investigating cases of bio-terrorism or agro-terrorism a part of the mission of a Joint Terrorism Task Force (JTTF). When food animals are the target of a terrorists attack and evidence suggests a foreign animal disease may have been intentionally introduced or threatened, CDA will notify the CIAC who in turn will coordinate activities with the JIFF within the Denver Office of the FBI.

11.2.5.3 Environmental Protection Agency (EPA)

The federal agency that may collaborate with CDPHE & CDA on decisions of carcass disposal, cleaning and disinfection and their effect on soil, air and water or the environment in general.

11.3 Stakeholders: Local Livestock Industry Groups

Serve as liaison on matters relating to livestock industries affected by an animal disease outbreak.

- Identify individuals who may be qualified to assist in disease control efforts.
- Develop a list of qualified appraisers.
- Provide assistance to families affected by an animal disease outbreak.
- Provide support for disease control and eradication activities.
- Provide appropriate information for dissemination to industries and public (through close coordination with CDA or the IMT public information officer).
- Support response and recovery with all available resources.

11.4 Roles and Responsibilities of Local Poultry Producers and Practicing Veterinarians

Poultry producers and practicing veterinarians will be the first to encounter an emerging disease or foreign animal disease outbreak. It is imperative that they report to the State Veterinarian's Office or USDA-APHIS-VS Colorado Office any situations in which poultry are experiencing a high morbidity or mortality rates, cases with clinical signs consistent with avian influenza, exotic newcastle disease, or any new or emerging disease and any cases of unknown cause or unusual clinical signs. Early detection and diagnosis is the key to mitigating losses to the poultry producers!

Another key responsibility of poultry producers is to implement proper biosecurity protocols. Good biosecurity can greatly reduce the introduction of infectious diseases into a flock. Poultry owners and producers should create plans for responding to disease outbreaks in their flocks. By having SOPs in advance

for depopulation and disposal, they can greatly reduce response times and decrease the potential for spread to other facilities.

12.0 Conclusion

The introduction of a highly contagious disease or a poultry incident resulting from an all-hazards event could have devastating effects on Colorado's poultry industry. Planning and preparation is vital to limiting the scope of a disease outbreak, which depends on rapid detection and eradication. These plans for response to disease eradication can be easily applied to all-hazard events such as wildfires, flooding and tornados, or economically destructive disease that causes significant morbidity or mortality in poultry.

The Colorado Department of Agriculture (CDA) *Poultry Emergency Disease Response Plan* provides the response actions that will be implemented by the CDA in collaboration with the USDA-APHIS-VS and poultry industry partners. Whether in commercial operations or backyard flocks, execution of the plan will allow swift detection, control and eradication of a poultry disease outbreak.

Appendix A: Foreign Animal Disease Investigation

Action Steps by Animal Health Officials upon Report of Suspected Foreign Animal Disease

The Colorado State Veterinarian or USDA-APHIS-VS personnel will dispatch a Foreign Animal Disease Diagnostician (FADD) to initiate an investigation within 24 hours of the initial notification.

The FADD will set up an appointment to visit the premises to assess the disease situation, collect and submit laboratory samples. If the FADD has a high suspicion for an FAD, a hold order may be placed. The FADD will file a report with the State Veterinarian and USDA-APHIS-VS. The State Veterinarian and USDA-APHIS-VS officials will assign a priority level to the laboratory submissions, which will govern the response of the federal lab(s).

Further actions may be taken at the discretion of the State Veterinarian in collaboration with USDA-APHIS-VS officials and in consultation with the FADD that investigated the case along with other veterinary staff.

Laboratory results will be reported to the State Veterinarian and USDA-APHIS-VS officials who will notify the appropriate staff and the FADD of the case. The FADD, in consultation with the State Veterinarian and USDA-APHIS-VS, will then notify the practitioner and the owner/manager of the facility. See Ready Reference Guide for a visual representation of the steps outlined above.

Information collected during a Foreign Animal Disease Investigation:

- Name and Address of Owner / Manager
- Physical location of the affected premises
- Type of operation being investigated
- Number and type of animals on premises
- Movement of animals on and off premises and date of movement
- Location of animals prior to arriving on premises
- Location of animals after leaving premises
- Number of sick and dead animals
- Physical examinations of the affected animals
- Results of postmortem examinations
- Number and types of samples taken
- Name of suspected disease

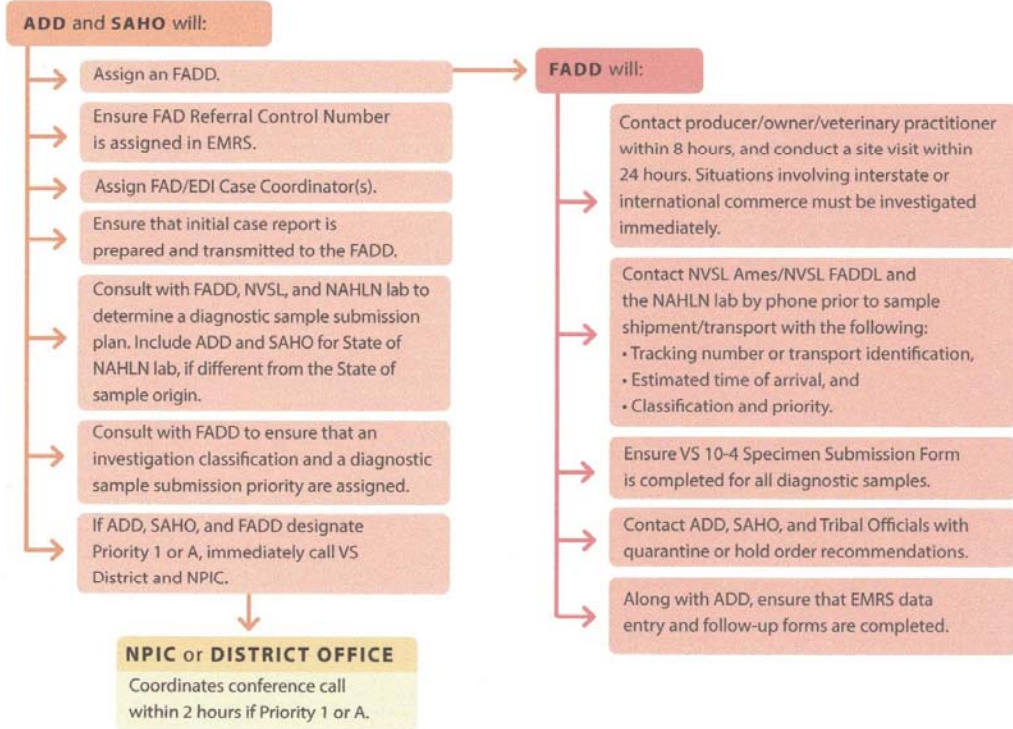
Contacts for a suspected FAD:

- Colorado State Veterinarian's Office at the Colorado Department of Agriculture (CDA) - Animal Health Division: (303) 869-9130
- USDA-APHIS-VS-SPRS District 6 – Colorado Field Office: (303) 231 – 5385

READY REFERENCE GUIDE: PROCEDURES AND POLICY FOR THE INVESTIGATION OF POTENTIAL FOREIGN ANIMAL DISEASE (FAD)/EMERGING DISEASE INCIDENTS (EDI) (VS GUIDANCE 12001.2)



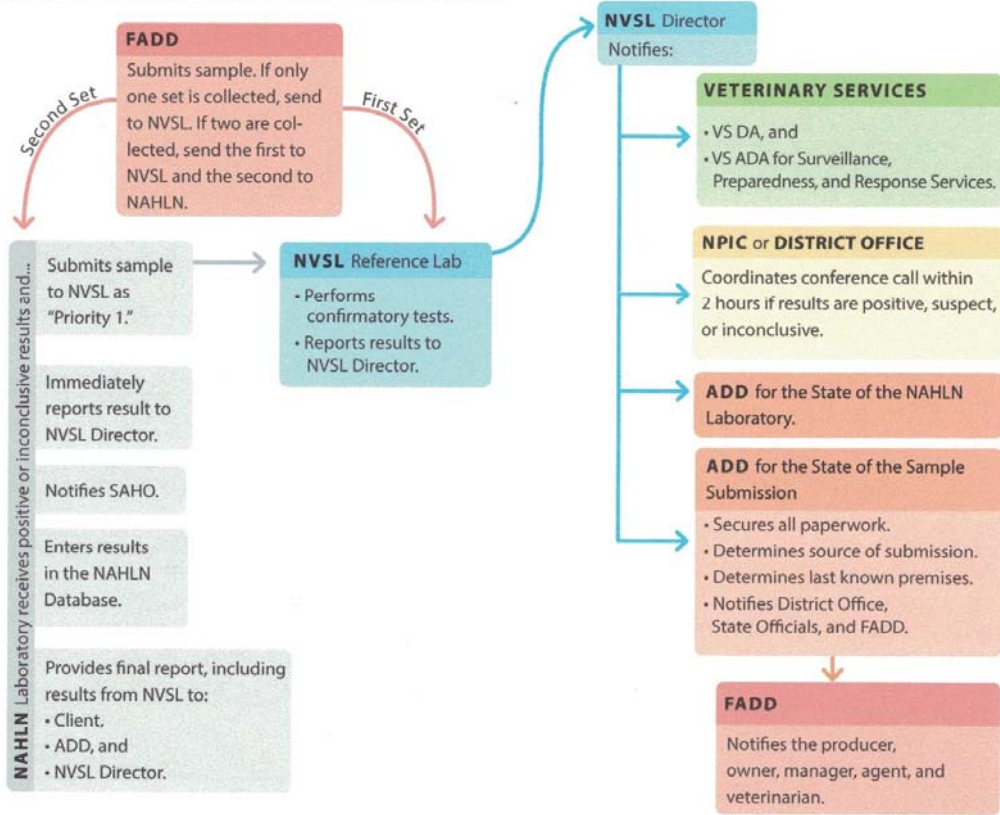
FAD INVESTIGATION IS INITIATED



PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY A
<ul style="list-style-type: none"> • High Suspicion • NPIC or District Office coordinates conference call within 2 hours • Rapid or extraordinary methods for sample collection and transport • Testing conducted immediately upon arrival (overtime services as needed) 	<ul style="list-style-type: none"> • Intermediate Suspicion • Rapid methods for sample collection and transport • Testing conducted as necessary (overtime services as needed) • If sample arrives before close of business test immediately; after close of business test the following day; Saturday test on weekends only with prior notification and approval 	<ul style="list-style-type: none"> • Low Suspicion • Routine methods for sample collection and transport • Testing conducted in accession order (no overtime services) 	<ul style="list-style-type: none"> • Intermediate or Low Suspicion • NPIC or District Office coordinates conference call within 2 hours • Potential circumstances of investigation indicate need for rapid or extraordinary methods for sample collection and transport • Testing conducted immediately upon arrival (overtime as needed)

December 2014

DIAGNOSTIC SAMPLE REPORTING PROCEDURES



NVSL FADDL		NVSL AMES	
Main Office	(631) 323-3256	NVSL Director	(515) 337-7301
AFTER HOURS AND WEEKENDS		Diagnostic Virology	(515) 337-7551
Diagnostic Services Section Head	(631) 375-5314	Pathobiology	(515) 337-7526
Acting Diagnostic Services Section Head	(631) 332-6814	Diagnostic Bacteriology	(515) 337-7568
Courier	(631) 377-9877	AFTER HOURS AND WEEKENDS	
NPIC (M-F, 8:00 AM – 4:30 PM ET)		Nat'l Centers for Animal Health Dispatch	(515) 337-7200
Main Office	(301) 851-3595	APHIS VS DISTRICT OFFICES	
Jon Zack	(240) 252-8074	District One	(508) 363-2290
Darrel Styles	(240) 581-3958	District Two	(352) 313-3060
Nathan Birnbaum	(240) 508-9888	District Three	(517) 337-4700
AFTER HOURS AND WEEKENDS		District Four	(512) 383-2400
NPIC/NVS 24/7 Emergency Answering Service	(800) 940-6524	District Five	(970) 494-7400
		District Six	(916) 854-3950

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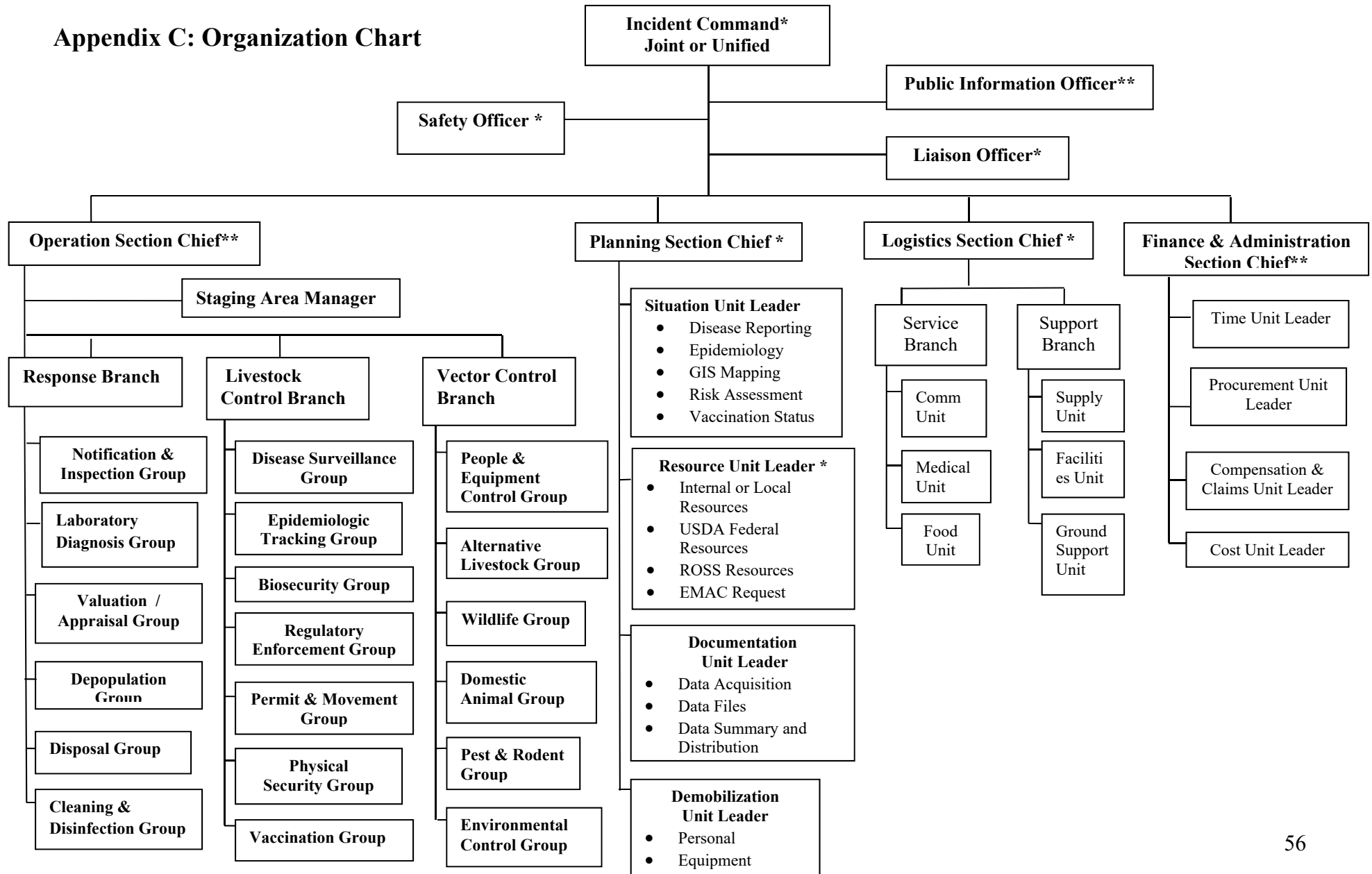
Appendix B: List of Acronyms

APHIS	Animal and Plant Health Inspection Service	FADDL	Foreign Animal Disease Diagnostic Lab
		FADI	Foreign Animal Disease Investigation
AVMA	American Veterinary Medical Association	FBI	Federal Bureau of Investigation
CCR	Code of Colorado Regulations	FDA	Food and Drug Agency
CDA	Colorado Department of Agriculture	FSIS	Food Safety Inspection Service
CDC	Centers for Disease Control and Prevention	GPS	Global Positioning System
CDHSEM	Colorado Division of Homeland Security and Emergency Management	HSEM	Division of Homeland Security and Emergency Management
CDPHE	Colorado Department of Public Health and Environment	HSPD	Homeland Security Presidential Directive
CDOT	Colorado Department of Transportation	IA	Interagency Agreement
CFR	Code of Federal Regulations	IAP	Incident Action Plan
CIAC	Colorado Information Analysis Center	ICS	Incident Command System
		IMT	Incident Management Team
CO ₂	Carbon Dioxide	JTTF	Joint Terrorism Task Force (within FBI)
		MOU	Memorandum of Understanding
CRS	Colorado Revised Statutes	NIMS	National Incident Management System
CSP	Colorado Safety Patrol	NVSL	National Veterinary Service Laboratories
		OIE	World Organization of Animal Health (previously Office of Internationale des Epizooties)
CSU	Colorado State University	OSHA	Occupational Safety and Health Association
CVMBS	College of Veterinary Medicine and Biomedical Sciences		
CPW	Colorado Parks and Wildlife	PIN	Premises Identification Number
ECIMT	Eastern Colorado Incident Management Team	PIO	Public Information Officer
EOC	Emergency Operation Center	PPE	Personal Protective Equipment

Appendix B cont.

EPA	Environmental Protection Agency		SEOC	State Emergency Operations Center
ESF	Emergency Support Function		SOP	Standard Operating Procedure
FAD	Foreign Animal Disease		USDA	United States Department of Agriculture
FADD	Foreign Animal Disease Diagnostician		VMO	Veterinary Medical Officer
			VS	Veterinary Services

Appendix C: Organization Chart



Appendix D: All-Hazard Incident Complexity Analysis

Appendix D: All-Hazard Incident Complexity Analysis		
Incident Name:	Date:	
Incident Number:	Time:	
This Complexity Analysis is weighed based on the relevance to Life Safety, Incident Stabilization, and Property Conservation.		
Complexity Factors		Check if Pertinent
Impacts to Life, Property, and the Economy		
Urban interface; structures, developments, recreational facilities, or potential for evacuation.		<input type="checkbox"/>
Community and Responder Safety		
Performance of public safety resources affected by cumulative fatigue		<input type="checkbox"/>
Overhead overextended mentally and/or physically		<input type="checkbox"/>
Communication ineffective with tactical resources or dispatch		<input type="checkbox"/>
Incident action plans, briefings, etc. missing or poorly prepared		<input type="checkbox"/>
Resources unfamiliar with local conditions and tactics		<input type="checkbox"/>
Potential Hazardous Materials		
Potential of Hazardous Materials		<input type="checkbox"/>
Weather and other Environmental Influences		
Unique natural resources, special-designation areas, critical municipal watershed, protected species habitat, cultural value sites		<input type="checkbox"/>
Likelihood of Cascading Events		
Variety of specialized operations, support personnel or equipment		<input type="checkbox"/>
Potential Crime Scene (including Terrorism)		
Potential crime scene		<input type="checkbox"/>
Potential of terrorism		<input type="checkbox"/>
Political Sensitivity, External Influences, and Media Relations		
Sensitive political concerns, media involvement, or controversial policy issues		<input type="checkbox"/>
Organizational Performance Values and Product Development		
Non-IAP Products not being developed or deficient.		<input type="checkbox"/>
Area Involved, Jurisdictional Boundaries		
Incident threatening more than one jurisdiction and potential for unified command with different conflicting management objectives.		<input type="checkbox"/>
Availability of Resources		
Operations are at the limit of span of control.		<input type="checkbox"/>
Unable to property staff air operations.		<input type="checkbox"/>
Limited local resources available for initial attack/response		<input type="checkbox"/>
Heavy commitment of local resources to logistical support.		<input type="checkbox"/>
Existing forces worked 12 hours without success.		<input type="checkbox"/>
Percentage Score		%
If 10% or lower look at going to or staying at Type 4 Team.		
If 10 % to 20% maintain or go to Type 3 Team		
If greater than 20% increase to Type 2 Team or additional overhead		
Prepared By	Date:	Time:

Appendix E: Personal Protective Equipment Guidelines for Colorado Department of Agriculture Employees

Appendix E: Personal Protective Equipment Guidelines for Colorado Department of Agriculture Employees																
Environment	Zoonotic Disease not Diagnosed in the U.S.		Zoonotic Disease Diagnosed in the United States													
			Suspect Disease Outbreak Investigation			Confirmed Zoonotic Disease Diagnosis – Emergency Response Activities										
Equipment	Routine Surveillance	Suspect Disease Outbreak Investigation	Routine Surveillance	Outdoor Environment	Indoor Environment	General Operations Areas Surveillance		Near or Contact Premises Surveillance		Biological Control Area Surveillance		Biological Control Area Activity				
						Outdoor Environment	Indoor Environment	Outdoor Environment	Indoor Environment	Outdoor Environment	Indoor Environment	Indoor Depopulation Preparation	Indoor Depopulation Re-Entry CO2 & CO2 Level Testing	Routine Surveillance Operations	Outdoor Environment	Any Cleaning and/or Disinfection Activity
Coveralls, Work Uniforms, etc.	X															
Tyvek Coveralls		X	X			X		X		X		X	X			
Tychem Coveralls														X	X	X
Exam gloves (heavy Disposable)	X	X	X	X	X	X	X	X	X	X plus	X plus	X plus	X plus	X plus	X plus	X plus
Rubber Gloves (heavy duty)												X	X	X	X	X
N-95 or N-100 Filtering Face piece*		X	X	X	X plus	X	X	X plus	X plus	X plus					X plus	
Goggles (indirect vented)**				+/-	X or		+/-	X or	X or	X or					X or	
Full-face APR with N-100 Canister					X			X	X	X	X	X	X	X	X	X
Self-contained breathing apparatus SCBA													X			
Boot Covers (Disposable)	+/- OR	+/- OR	+/- OR			+/- OR	+/- OR									
Rubber Boots	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

* Examples of zoonotic disease with higher transmission risk would include influenza in poultry or other non-avian species, anthrax, plague and tularemia, among others.

** A separate table has been developed for avian influenza. See HPAI PPE Guidelines.

**Appendix E (cont.): Personal Protective Equipment Guidelines for Colorado Department of Agriculture Employees
Non- Zoonotic Animal Disease Incident**

Suspect Disease Diagnosed in the United States										
Environment	Suspect Disease not Diagnosed in the U.S.		Suspect Disease Outbreak Investigation	Confirmed Diagnosis of Suspect Disease – Emergency Response Activities						
				General Operations Areas Surveillance	Near or Contact Premises Surveillance	Biological Control Area Surveillance	Biological Control Area Activity			
Equipment	Routine Surveillance	Suspect Disease Outbreak Investigation	Routine Surveillance	Routine Surveillance Operations	Routine Surveillance Operations	Routine Surveillance Operations	Indoor Depopulation Preparation	Indoor Depopulation Re-Entry CO2 & CO2 Level Testing	Routine Surveillance Operations	Any Cleaning and/or Disinfection Activity
Coveralls, Work Uniforms, etc.	X									
Tyvek Coveralls		X	X	X	X	X	X	X		
Tychem Coveralls									X	X
Exam gloves (heavy Disposable)	X	X	X	X	X	X plus	X plus	X plus	X plus	X plus
Rubber Glovers (heavy duty)						X	X	X	X	X
N-95 or N-100 Filtering Face piece*		X	X	X	X	X	X		X	X plus
Goggles (indirect vented)**										X or
Full-face APR with N-100 Canister										X
Self-contained breathing apparatus SCBA ***								X		+/-
Boot Covers (Disposable)	+/- OR	+/- OR	+/- OR	+/- OR						
Rubber Boots	X	X	X	X	X	X	X	X	X	X

* Filtering face pieces are recommended to avoid transmission of a disease agent to other physical locations via the responders respiratory system as can occur with agents such as the Foot and Mouth virus.

**Goggles /full race piece maybe considered for dust control in any location /activity and should routinely be used in cleaning and disinfection activities.

*** SCBA should be used in altered environments such as gas euthanasia or ihigh risk confined space such as manure pits.

Appendix F: County Emergency Management Offices of Colorado

Appendix F: County Emergency Management Offices of Colorado			
Current as of January 2011			
Colorado County	Website	Phone Number (24-Hour)	Fax Number
Adams	Adams County website	720-322-1400	720-322-1404
Alamosa	Alamosa County website	719-589-5807	719-587-0264
Arapahoe	County website	303-795-4711	720-874-4158
Archuleta	County website	970-263-2131	970-731-4800
Baca	County website	719-523-4511	719-523-6584
Bent	County website	719-456-1363	719-456-0476
Boulder	County website	303-441-4444	303-441-3884
Broomfield	County website	303-438-6400	720-887-2001
Chaffee	County website	719-539-2596	719-539-7442
Cheyenne	County website	719-767-5633	719-346-8542
Clear Creek	County website	303-679-2393	303-679-2440
Conejos	County website	719-589-5804	719-376-5661
Costilla	County website	719-672-3302	719-672-3003
Crowley	County website	719-267-5555 x1	719-267-3114
Custer	County website	719-783-2270	719-783-9085
Delta	County website	303-640-9999	970-874-2014
Denver	County website	303-640-9999	720-865-7691
Dolores	County website	970-677-2500	970-677-2880
Douglas	County website	303-660-7500	303-814-8790
Eagle	County website	970-479-2201	970-328-8694
Elbert	County website	303-805-6131	303-805-6159
El Paso	County website	719-390-5555	719-575-8591
Fremont	County website	719-276-5555	719-276-7304

**Appendix F (Cont.): County Emergency Management Offices of Colorado
Current as March 2016**

Colorado County	County website	Phone Number (24-Hour)	Fax Number
Garfield	County website	970-625-8095	970-945-6430
Gilpin	County website	303-582-5500	
Grand	County website	970-887-2732	
Gunnison	County website	970-641-8000	970-641-7693
Hinsdale	County website	970-641-8000	970-944-2630
Huerfano	County website	719-989-8220	
Jackson	County website	970-723-4242	970-723-4706
Jefferson	County website	303-277-0211	303-271-4905
Kiowa	County website	719-438-5411	719-438-5503
Kit Carson	County website	719-346-8538	719-349-8542
Lake	County website	719-486-1249	719-486-0139
La Plata	County website	970-385-2900	970-382-6272
Larimer	County website	970-416-1985	970-498-9203
Las Animas	County website	719-846-2211	719-845-2598
Lincoln	County website	719-743-2426	719-743-2280
Logan	County website	970-522-3512	(970) 521-0632
Mesa	County website	970-250-1279	
Mineral	County website	719-658-2600	719-658-2764
Moffat	County website	970-824-6501	970-826-2423
Montezuma	County website	970-565-8441	970-565-3991
Montrose	County website	970-252-4010	970-249-7761
Morgan	County website	970-867-8531	970-867-7344
Otero	County website	719-384-5941	719-384-2272

Colorado Department of Emergency Management. <http://www.dola.state.co.us/dem/localem.htm>. Jan 2011

**Appendix F (Cont.): County Emergency Management Offices of Colorado
Current as March 2016**

Colorado County	Emergency Manager	Phone Number (24-Hour)	Fax Number
Ouray	County website	970-252-4020	970-325-0452
Park	County website	719-836-4121	719-836-4156
Phillips	County website	970-854-3144	970-854-3811
Pitkin	County website	970-920-5300	970-920-5307
Prowers	County website	719-336-3977	719-336-4883
Pueblo	County website	719-583-6250	719-583-6218
Rio Blanco	County website	970-878-9620	970-878-3127
Rio Grande	County website	719-657-4000	
Routt	County website	970-846-1552	
Saguache	County website	719-655-2525	
San Juan	County website	970-387-5531	970-387-0251
San Miguel	County website	970-728-1911	970-728-9206
Sedgwick	County website	970-474-3355	970-474-2607
Southern Ute Indian Tribe	County website	970-563-4401	970-563-0215
Summit	County website	970-453-2232 ext 336	970-453-7329
Teller	County website	719-687-9652	719-687-1202
Ute Mountain Ute Indian Tribe	County website	970-565-3706	970-564-5443
Washington	County website	970-345-2244	970-345-2701
Weld	County website	970-304-4015 x2700	970-304-6543
Yuma	County website	970-848-0464	970-848-0160

Colorado Department of Emergency Management. <http://www.dola.state.co.us/dem/localem.htm>. Jan 2011

Appendix G: County Sheriff's Offices of Colorado

Appendix G: County Sheriff's Offices of Colorado

Colorado County	Current as of March 2016 Sherriff's Office Website	Phone Number**
Adams	Sherriff's Office Website	303-288-1535
Alamosa	Sherriff's Office Website	719-589-6608
Arapahoe	Sherriff's Office Website	720-874-3600
Archuleta	Sherriff's Office Website	970-264-8430
Baca	Sherriff's Office Website	719-523-4511
Bent	Sherriff's Office Website	719-456-0796
Boulder	Sherriff's Office Website	303-441-3650
Broomfield*	Chief of Police Website	303-438-6400
Chaffee	Sherriff's Office Website	719-539-2596
Cheyenne	Sherriff's Office Website	719-767-5633
Clear Creek	Sherriff's Office Website	303-679-2376
Conejos	Sherriff's Office Website	719-376-2196
Costilla	Sherriff's Office Website	719-672-0673
Crowley	Sherriff's Office Website	719-267-5555
Custer	Sherriff's Office Website	719-783-2270
Delta	Sherriff's Office Website	970-874-2000
Denver*	Sherriff's Office Website	720-913-2000
Dolores	Sherriff's Office Website	970-677-2257
Douglas	Sherriff's Office Website	303-660-7505
Eagle	Sherriff's Office Website	970-328-8500
Elbert	Sherriff's Office Website	303-621-2027
El Paso	Sherriff's Office Website	(719) 390-5555
Fremont	Sherriff's Office Website	719-276-5555
Garfield	Sherriff's Office Website	970-945-0453

County Sheriffs of Colorado. <http://www.csoc.org/counties.asp>. March 2016

*Chief of Police for Broomfield and Denver Counties; **Non-emergency number

Appendix G (Cont.): County Sheriff's Offices of Colorado

Current as of March 2016
Sheriff

Colorado County	Sheriff	Phone Number**
Gilpin	Sherriff's Office Website	303-582-1060
Grand	Sherriff's Office Website	970-725-3343
Gunnison	Sherriff's Office Website	970-641-1113
Hinsdale	Sherriff's Office Website	970-944-2291
Huerfano	Sherriff's Office Website	719-738-1600
Jackson	Sherriff's Office Website	970-723-4242
Jefferson	Sherriff's Office Website	303-277-0211
Kiowa	Sherriff's Office Website	719-438-5411
Kit Carson	Sherriff's Office Website	719-346-8934
Lake	Sherriff's Office Website	719-486-1249
La Plata	Sherriff's Office Website	970-247-1157
Larimer	Sherriff's Office Website	970-498-5100
Las Animas	Sherriff's Office Website	719-846-2211
Lincoln	Sherriff's Office Website	719-743-2846
Logan	Sherriff's Office Website	970-522-2578
Mesa	Sherriff's Office Website	970-244-3500
Mineral	Sherriff's Office Website	719-658-2600
Moffat	Sherriff's Office Website	970-824-4495
Montezuma	Sherriff's Office Website	970-565-8452
Montrose	Sherriff's Office Website	970-249-7755
Morgan	Sherriff's Office Website	970-542-3445
Otero	Sherriff's Office Website	719-384-5941
Ouray	Sherriff's Office Website	970-325-7272
Park	Sherriff's Office Website	719-836-2494
Phillips	Sherriff's Office Website	970-854-3144

County Sheriffs of Colorado. <http://www.csoc.org/counties.asp>. March 2016

**Non-emergency number

Appendix G (Cont.): County Sheriff's Offices of Colorado
Current as of March 2016

Colorado County	Sheriff	Phone Number**
Pitkin	Sherriff's Office Website	970-920-5300
Prowers	Sherriff's Office Website	719-336-8050
Pueblo	Sherriff's Office Website	719-583-6125
Rio Blanco	Sherriff's Office Website	970-878-9620
Routt	Sherriff's Office Website	970-879-1090
Saguache	Sherriff's Office Website	719-655-2525
San Juan	Sherriff's Office Website	970-387-5531
Sedgwick	Sherriff's Office Website	970-474-3355
Summit	Sherriff's Office Website	970-453-2232
Teller	Sherriff's Office Website	719-687-9652
Washington	Sherriff's Office Website	970-345-2244
Weld	Sherriff's Office Website	970-356-4015
Yuma	Sherriff's Office Website	970-332-4805

County Sheriffs of Colorado. <http://www.csoc.org/counties.asp>. March 2016
** Non-emergency number

Appendix H: County Extension Offices

(table below)

Appendix H: Colorado County Extension Offices
Current as of March 2016

Colorado County	Phone Number	Address
Adams	(303) 637-8100	9755 Henderson Road, Brighton, CO 80601
Alamosa	(719) 852-7381	1899 E. Hwy 160, Monte Vista, CO 81144
Arapahoe	(303) 730-1920	5804 South Datura, St. Littleton, CO 80120
Archuleta	(970) 264-5931	344 Highway 84, Pagosa Springs, CO 81147
Baca	(719) 523-6971	772 Colorado St., Springfield, CO 81073
Bent	(719) 456-0764	1499 Ambassador Thompson BLVD, Las Animas, Co 81054
Boulder	(303) 678-6238	9595 Nelson Road, Longmont, CO 80501
Broomfield	(720) 887-2286	6650 W. 120th Ave., Broomfield, CO 80020
Chaffee	(719) 539-6447	10165 County Road 120, Salida, CO 81201
Cheyenne	(719) 767-5716	425 South 7th W., Cheyenne Wells, CO 80810
Conejos	(719) 852-7381	1899 E. Hwy 160, Monte Vista, CO 81144
Costilla	(719) 852-7381	1899 E. Hwy 160, Monte Vista, CO 81144
Crowley	(719) 267-5243	601 North Main Street, Ordway, CO 81063
Custer	(719) 783-2514	205 South 6 th , Westcliffe, CO 81252
Delta	(970) 874-2195	525 Dodge Street, Delta, CO 81416
Denver	(720) 913-5270	888 E. Iliff Avenue, Denver, CO 80210
Dolores	(970) 677-2283	409 North Main Street, c/o Courthouse, Dove Creek, CO 81324
Douglas	(720) 733-6930	410 Fairgrounds Road, Castle Rock, CO 80104
Eagle	(970) 328-8630	441 Broadway, Eagle CO 81631
El Paso	(719) 520-7675	305 South Union Blvd., Colorado Springs, CO 80910
Elbert	(719) 541-2361	325 Pueblo, Simla, CO 80835
Elbert Branch Office	(303) 621-3162	P.O. Box 189, Kiowa, CO 80117
Fremont	(719) 276-7390	615 Macon Avenue, Canon City, CO 81212
Garfield	(970) 625-3969	Fairgrounds, 1001 Railroad Avenue, Rifle, CO 81650

Appendix H (Cont.): Colorado County Extension Offices

Current as of March 2016

Colorado County	Phone Number	Address
Gilpin	(303) 582-9106	230 Norton Drive, Blackhawk, CO 80422
Grand	(970) 724-3436	210 11th Street, Extension Hall, Fairgrounds, Kremmling, CO 80459
Gunnison	(970) 641-1260	275 South Spruce, Gunnison, CO 81230
Huerfano	(719) 738-2170	928 Russell Ave, Walsenburg, CO 81089
Jackson	(970) 723-4298	312 5th Street, Walden, CO 80480
Jefferson	(303) 271-6620	15200 West Sixth Avenue, Golden, CO 80401
Kiowa	(719) 438-5321	County Courthouse - 1305 Goff, Eads, CO 81036
Kit Carson	(719) 346-5571	251 16th Street, Burlington, CO 80807
La Plata	(970) 247-4355	2500 Main Ave., Durango CO 81301
Larimer	(970) 498-6000	1525 Blue Spruce Drive, Fort Collins, CO 80524
Las Animas	(719) 846-6881	2200 North Linden Ave, Trinidad, CO 81082
Lincoln	(719) 743-2542	326 8 th St., Hugo, CO 80821
Logan	(970) 522-3200	508 South 10 th Ave, Sterling, CO 80751
Mesa	(970) 244-1834	2775 Highway 50, Grand Junction, CO 81502
Mineral	(719) 852-7381	1899 E. Hwy 160, Monte Vista, CO 81144
Moffat	(970) 824-9180	539 Barclay Street, Craig CO 81625
Montezuma	(970) 565-3123	109 West Main Street, Cortez, CO 81324
Montrose	(970) 249-3935	1001 North 2 nd , St. Montrose, CO 81401
Morgan	(970) 542-35	914 E. Railroad, Ave, Fort Morgan, CO 80701
Otero	(719) 836-42	411 North 10 th St. Rocky Ford, CO 81067
Park	(719) 836-4293	880 Bogue St. Fairplay, CO 80440
Phillips	(970) 854-3616	127 East Denver, Holyoke, CO 80734
Prowers	(719) 336-7734	1001 S. Main St., Pueblo, CO 81003
Pueblo	(719) 583-6566	212 W. 12 th St. Pueblo, CO 81003

Appendix H (Cont'd): Colorado County Extension Offices
Current as of March 2016

Colorado County	Phone Number	Address
Rio Blanco	(970) 878-9490	779 Sulphur Creek Road, Meeker, CO 81641
Rio Blanco Branch Office	(970) 675-2417	Western, Annex 17497 Highway 64, Rangely, CO 81648
Rio Grande-Saguache	(719) 852-7381	1899 E. Hwy 160, Monte Vista CO 81144
Routt	(970) 879-0825	136 6 th St. Steamboat Springs, CO 80477
San Miguel	(970) 327-4393	1120 Summit, Norwood CO 81423
Sedgwick	(970) 474-3479	315 Cedar, Julesburg, CO 80737
SLV Area Office	(719) 852-7381	1899 E. Hwy 160 Monte Vista, CO 81144
Summit	(970) 668-3595	37 Peak One Dr., CR1005, Frisco, CO 80443
Teller	(719) 689-2552	112 North A St. Cripple Creek, CO 80813
Washington	(970) 345-2287	181 Birch Avenue Akron, CO 80720
Weld	(970) 304-6535	525 North 15 th Ave., Greeley CO 80631
Yuma	(970) 332-4151	310 Ash Street, Wray, CO 80758

Appendix I: Resources and Links

The following resources and links can provide the most up to date information for livestock disease emergency response. It is by no means comprehensive, but can provide a starting point to locate the most recent standard operating procedures (SOPs).

Foreign Animal Disease Investigation forms:

The most current forms can be found on the APHIS-VS [Laboratory Information and Services](#) website. The most common submission form is the [VS Form 10-4](#)

World Organisation for Animal Health (OIE):

OIE List of Reportable Diseases is a unified list of reportable diseases maintained by The World Organization for Animal Health. For several years the OIE created two lists (A and B) with different reporting obligations, but combined them into a single unified list of reportable diseases in 2005. The list has over 130 different diseases and is developed and revised periodically (<http://www.oie.int/animal-health-in-the-world/>). The four criteria used to develop the list are: potential for international spread, potential for zoonotic transmission, potential for significant spread within a naïve population and emerging diseases.

APHIS-VS HPAI Response Plan (Redbook) and SOPs:

The [Redbook](#) reviews in detail Veterinary Services' (VS) response plan to highly pathogenic avian influenza (HPAI). The standard operating procedures (SOPs) have been posted on a separate website to allow easier access and faster updates to individual plans. These SOPs are found on the [FAD PReP](#) website.

Secure Food Supply Plans:

The [Secure Food Supply](#) Plans are designed to maintain business continuity during a disease outbreak. There are plans for various animals and animal products. In regards to poultry the plans include:

1. The [Secure Egg Supply](#) Plan
2. The [Secure Turkey Supply](#) Plan
3. The [Secure Broiler Supply](#) Plan

These plans are developed through a collaborative effort between state governments, academia, Industry and USDA-APHIS. The project is funded by USDA-APHIS National Preparedness and Incident Coordination Center (NPIC).

Colorado Emergency Management Documents:

[Colorado HPAI SOP Manual](#)

[Colorado Department of Agriculture Secure Egg Supply Plan](#)

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