

Disposal of Domestic Birds Infected by Avian Influenza – An Overview of Considerations and Options

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1. PURPOSE

This document provides information to State and local decision makers addressing disposal problems associated with domesticated bird carcasses (and associated fecal material) infected by the avian influenza virus H5N1. It provides a description of successful disposal management options for infected carcasses and identifies critical considerations for decision makers. This document draws from a variety of available resources and complements existing guidance from the U.S. Department of Agriculture (USDA). The information contained in this document may be used by State and local governments to conduct advanced planning (e.g., special permit conditions, emergency orders, pre-screening of sites) in coordination with the Federal government and the private sector. The use of any management option in response to an avian influenza outbreak must be in compliance with all State/local requirements (e.g., air, solid waste and public health requirements.) This document is not intended to provide detailed guidance on how to implement specific disposal options but rather it identifies successful approaches taken in the past. And it provides references to specific guidance on the different management and disposal options.

This document focuses on domesticated birds. The Department of the Interior (DOI) is the lead Agency in response to an outbreak of the avian influenza virus H5N1 in wild birds. The USGS National Wildlife Health Center, under DOI, has several sites where more information can be obtained:

http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_05_03.jsp, and

http://www.nwhc.usgs.gov/publications/field_manual/chapter_4.pdf.

2. BACKGROUND

In domestic poultry, avian influenza viruses cause two main forms of disease, distinguished by low and high extremes of pathogenicity, as well as many different subtypes (i.e., H5N2, H7, etc). The low-pathogenic (LPAI) form causes relatively mild symptoms (ruffled feathers, drop in egg production), with no serious human health concerns identified. The highly pathogenic (HPAI) form is a much more serious threat to bird health. Occurrence of HPAI in the U.S. has been very infrequent, quickly contained and normally affects only birds. The Asian High Pathogenic Avian Influenza form, which is a subtype of HPAI, also known as H5N1, has been found in Asia, Europe, and Africa, but not in the U.S. to date. It spreads very rapidly through poultry flocks causing mortality rates of domesticated birds that can approach 100% within 48 hours (see Resource: WHO, 2006.) As of December 2005, over 150 million domesticated birds have been killed by the virus or culled to prevent further spread (see Resource: World Health Organization (WHO), 2005.) There have been some cases in Asia and Eastern Europe of HPAI H5N1 spreading to humans through sustained close contact with live birds. The U.S. Department of Agriculture (USDA) has indicated that this virus has the potential to generate large numbers of animal carcasses from the response to an avian influenza outbreak.

2.1 Key Occurrences of HPAI in Domestic Avian Populations

To date, all occurrences of HPAI in U.S. domestic poultry have been caused by H5 or H7 Influenza A subtypes, but not H5N1. Until 1999, HPAI was considered relatively rare, with only 17 outbreaks reported worldwide between 1959 and 1998; however, since 1999 the number of occurrences globally has increased significantly (see Resource: WHO, Avian Influenza Timeline, 2006.) USDA and others have dealt effectively with the management of animal carcasses during HPAI outbreaks (highlighted below).

Occurrences of HPAI in the U.S.				
Year	Type	State	Impact	Comments
1924	H7	East Coast	Occurred on the East Coast	Outbreak was contained and eradicated.
1983-1984	H5N2	PA, VA	Caused severe clinical disease & high mortality rates in chickens, turkeys, & guinea fowl. 17 million birds were culled.	A serologically identical but apparently mild virus had been circulating in poultry in the area for 6 months. No human cases identified.

2004	H5N2	TX	About 7,000 Chicken Broilers were culled.	Quickly eradicated due to close coordination b/n USDA, State, Local & Industry. Response included quarantine and culling of birds. Outbreak limited to one flock. No human cases identified.
*Additional outbreaks of HPAI have been identified in a variety of countries.				

These occurrences show how to successfully respond to an avian influenza outbreak in a manner that is protective of human health and the environment. This guide integrates the lessons learned from these previous avian influenza outbreaks by USDA and states as they responded to these occurrences.

3. ROLES DURING DISPOSAL ACTIONS

The National Response Plan (NRP), http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml, identifies USDA as the lead federal agency in responding to a large-scale animal carcass disposal incident. USDA authority to act swiftly to protect U.S. animal health from a foreign pest or disease is identified in the Animal Health Protection Act (AHPA) of 2002. The AHPA gives USDA authority to carry out operations and measures to detect, control, or eradicate any pest or disease of livestock, including poultry. Other departments and agencies of the Executive branch provide supporting roles under this plan. EPA's principal support role includes providing technical assistance, subject matter expertise, and support for decontamination (including licensing use of disinfectant pesticides) and disposal issues, including interpretation of EPA's disposal requirements. Recently, EPA, USDA, HHS, DoD, and DHS issued an interagency document, "Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities," November 2005, <http://www.epa.gov/homelandsecurity/pdfs/conops11222005.pdf>, which outlines the Federal government roles, responsibilities and capabilities for decontamination and disposal of diseased animals. Appendix A presents contact information for those agencies involved in the NRP. Appendix B presents how an AI outbreak scenario would unfold according to the interagency plans developed for an AI outbreak and in accordance with the NRP.

It is important to realize that each AI outbreak incident is unique and involves site specific conditions that need to be considered in making the best disposal decision for the situation at the site. The decision making for disposal occurs at the State and local levels, with technical and resource support in place from federal agencies, should the situation require it or should the State and/or local government request it.

4. CRITICAL FACTORS (Transportation, Expedience, & Virus Inactivation)

There are three critical factors that influence the potential management options for disposal of domestic birds associated with an avian influenza outbreak:

1. Contain the virus by limiting transportation of infected birds;
2. Respond expeditiously to reduce the potential for genetic mutations and the transmission of pathogens to humans and other species (USDA's goal is for euthanized carcasses to be disposed of within 24 hours.) USDA describes common methods of disposal to include composting, burial, incineration, landfilling, rendering, and alkaline hydrolysis. (The 24 hr. period should not limit proper packaging, transportation or disposal. Also, it should not preclude composting which can be a very successful option.) See Reference, USDA National Animal Health Emergency Management System Guidelines for Disposal, April 2005, pg 5); and
3. Select carcass treatment/disposal option(s) that ensure containment and inactivation of the virus and protection of the environment given the site-specific conditions.

To minimize the spread of the virus by transportation, USDA prefers on-site management, which limits the options to activities that can be carried out at a poultry farm (USDA Interim Avian Influenza (AI) Response

Plan, January 2006.) On-site management (e.g., on-site composting) minimizes biosecurity concerns involved in moving contaminated carcasses, animal products, and other materials off an affected premises. On-site composting has been shown to be a successfully used practice based on its effectiveness by inactivating the virus in recent AI outbreaks. However, USDA recognizes that not all types of poultry operations (e.g., live bird markets) lend themselves to on-site management, and therefore, secure transport to an off-site treatment/disposal facility may also be a viable option. The need for expeditious response further limits the selection of options to those that are readily available. As for the ability of the virus to survive, in general, HPAI viruses are not particularly hardy under certain circumstances, and thus basic options can be effective and protective.

In the selection of treatment/disposal options, survivability of the virus is a key consideration. Short-term exposure to heat, extremes of pH, and dryness can inactivate avian influenza. However, survivability is lengthened when viruses are protected in organic matter, such as feces or maintained in colder temperatures. Several sources have identified that the avian influenza virus, H5N1, has a limited time of survival without a live host of less than or equal to 1-7 days at temperatures around 70°F. Survival time may be over 30 days in water at 32°F, and indefinite in frozen conditions or shortened to ½ to 3 hours at elevated temperatures (132-140°F). Studies on the survivability of various forms of the avian influenza virus include:

- Studies of domestic ducks have shown that H5N1 can survive in the environment for 6 days at 98°F. (See References: WHO; Lab study of H5N1 viruses in domestic ducks, Oct 2004.)
- HPAI can persist in feces for 30-35 days at 39°F, and about 7 days at 68°F. (See References: Swayne, DE and Halvorson, DA. Avian Influenza, Diseases of Poultry, pg 135-160, 2003.)
- HPAI virus remains viable at moderate temperatures for long periods in the environment and can survive indefinitely in frozen material. It can survive for 4 days in water at 71°F and for over 30 days at 32°F. (See Reference: <http://www.poultry-health.com/fora/fowlplag.htm>, Poultry Health Services website.)
- Lu et al. (2003) reported that Avian Influenza Virus (AIV) can be inactivated in 10 minutes at 140°F or 90 minutes at 133°F. (See Reference: Lu H., Castro A.E., Pennick K., Liu J., Yang Q., Dunn P., Weinstock D. and D. Henzler. 2003. Survival of Avian Influenza virus H7N2 in SPF Chickens and Their Environments. Avian Diseases 47:1015-1021.)

See Appendix C for additional discussion on the environmental persistence of the avian influenza virus.

5. CARCASS MANAGEMENT OPTIONS

The management options presented below are organized with on-site treatment/disposal options presented first followed by off-site landfills and then other potential management options. The order of the treatment/disposal options is not meant to reflect that certain options are better than others. All the options presented can be designed and conducted in an environmentally protective manner, depending on the specific site conditions, which need to be considered.

USDA has several extensive documents that discuss the various management options and the critical factors that need to be considered by States in the decision making process during an avian influenza occurrence. One example of such is a report prepared for the USDA Animal and Plant Health Inspection Service (APHIS) by the National Agricultural Biosecurity Center (NABC). This 2004 report, "Carcass Disposal: A Comprehensive Review" is available at:

The overall approach outlined by USDA for an avian influenza outbreak is a three-pronged strategy of depopulation (also known as culling), followed by proper quarantining and disposal of animal carcasses, and disinfection of farms and equipment used in the response. The overall goal of disposal operations, which is the subject of this document, is to eliminate, in a timely, biosecure, aesthetically acceptable, and environmentally responsible manner, all animal carcasses that result from the response to an avian influenza outbreak. Common methods used to manage infected animal carcasses and associated materials include composting, burial, incineration, rendering, and isolation. (See References, USDA National Animal Health Emergency Management System Guidelines for Disposal, April 2005; USDA Interim Avian Influenza Response Plan, January 2006.) As with any of the management options, there are some considerations, such as down time of the poultry house, lack of available equipment, timing, and end use of the material that need to be factored into the decision making process when selecting a management option. With some of the management options, e.g., on-site burial and on-site isolation, the survivability of the avian influenza virus is the critical factor, and as such, decision makers should consult with Federal/State USDA officials to gather the latest information on the survivability of the virus. A brief summary of these waste management options is provided below.

5.1 On-Site Composting

Although not sufficiently rapid to allow disposal of the carcasses within 24 hours, on-site (including in-house) composting will likely be a very widespread practice because its effectiveness has been proven in recent AI outbreaks. On-site composting limits the risk of groundwater and air pollution contamination, the potential for farm-to-farm disease transmission, and transportation costs and tipping fees associated with off-site disposal. Additionally, there is the benefit of producing a potentially useful product, compost. As indicated earlier, HPAI may be inactivated in 3 hours at 132°F or ½ hour at 140°F, well within the temperature range of composting. In the case of the Delmarva Peninsula (Delaware, Maryland and Virginia) outbreak in 2004, composting in-house occurred for 10 days, after which the material, which no longer contained a viable virus, was allowed to continue the composting process over several months elsewhere on-site. (See References, 2005 Guidelines for In-House Composting of Poultry Mortalities Due to Catastrophic Disease.)

Composting is defined as the controlled decomposition of organic materials. Decomposition occurs when organic materials go through a "slow cooking" process as microorganisms metabolize the organics. The combination of the cooking process, rapid degradation, and compost cover minimizes odors, flies, and other vectors. For this option to be effective, composting materials need to be available. These materials usually are accessible on most farms and include poultry litter, wood chips, sawdust, ground corn cobs, baled corn stalks, manure, and rice hulls. In March 2006, Virginia issued recommendations for whole-flock disposal of poultry due to Avian Influenza which identifies on-site in-house composting as the preferred disposal method. (See References: VA DEQ Recommendations For Whole-Flock Disposal of Poultry due to Avian Influenza, March 2006.) For some general resources on composting, see the Maryland Center for Agro-Security and Emergency Management website, Virginia Department of Environmental Quality, or the EPA Composting website at:

<http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=fs-537>

<http://www.deq.virginia.gov/waste/pdf/factsheet1va.pdf>

<http://www.deq.virginia.gov/waste/solid.html>

<http://www.deq.virginia.gov/waste/pdf/deqaidisposal.pdf>

<http://www.epa.gov/epaoswer/non-hw/composting/index.htm>

When the composting process inactivates the virus, but does not continue long enough to produce usable compost, the material can be further composted on-site, sent off-site to a compost facility, landfill or

incinerator, or buried on-site. If compost is produced, consistent with State compost quality standards, it may be beneficially used on- or off-site to enrich soils by providing nutrients and reducing the need for chemical fertilizers. State officials should be consulted when the ultimate fate of the material is determined.

5.2 On-Site Burial:

On-site burial avoids transportation and can be accomplished in a very expeditious manner. Site conditions, however, need to be carefully assessed to ensure there will not be contamination of groundwater or surface waters by either the HPAI H5N1 virus or conventional pollutants, such as total dissolved solids, nitrate, or ammonia from the decaying carcasses. Adequate upfront assessment of on-site burial can prevent expensive remediation costs. If on-site burial will be used, monitoring of ground water and surface water is a consideration that State officials should take into account, as well as the potential need for a notation on the deed. Potential future land use of the property should be considered in deciding whether this management option is appropriate.

When making decisions regarding on-site burial, those responsible should:

- Consult with the USDA-Natural Resources Conservation Service (NRCS) and State solid waste agencies to obtain soil maps and drainage information. In addition, some local NRCS offices maintain a listing of suitability for "Animal Mortality Burial" by soil map unit (See Reference: Carcass Disposal: A Comprehensive Review.)
- Determine a sufficient distance from the proposed burial site to groundwater wells and surface waters such that the HPAI H5N1 virus will no longer be viable by the time groundwater migrates to such locations. A sufficient distance needs to take into account site-specific hydrogeology.
- Consider practices to ensure groundwater is not contaminated by conventional pollutants, such as total dissolved solids and ammonia. Site-specific factors should be considered such as 1) soil type (e.g., karst areas) and 2) depth to groundwater (e.g., seasonally high). USDA recommends animal carcasses not be buried within 10 ft of the groundwater table. (See Reference: USDA National Animal Health Emergency Management System Guidelines for Disposal, April 2005.) Where site-specific conditions are determined not to be protective, the use of a liner system may be considered.
- Evaluate the potential for the carcasses to rise to the surface after burial.
- Consult with the landowner in those cases where producers do not own the land to determine if the landowner will permit on-site burial.

5.3 On-Site Air Curtain Incineration:

In some cases, site conditions may not be amenable to on-site composting or burial of animal carcasses. One solution is to employ air-curtain incinerators to destroy the virus and burn the carcasses. This involves burning with forced air within a site which greatly accelerates the burning process. Air-curtain incinerators can be moved from place-to-place and from site to site. Air-curtain incinerators also require 1) trained operators to properly operate the equipment and 2) a large amount of fuel because the carcasses have a high water content. Advances in this technology include more efficient burners, and the use of misters to reduce the air emission concerns normally associated with open air-curtain technology. With air-curtain incinerators, the loading of the incinerators and the effect of the carcasses on the combustion process needs to be considered, as well as the ultimate disposal of any solid and/or liquid residue. Upfront planning between poultry growers/companies and air-curtain incinerator suppliers is important to ensure such equipment and operators will be available and discussions with local and State officials are necessary to assure compliance with environmental requirements. Incineration destroys the virus so the ash from an air-curtain incinerator can be disposed of on-site or at an off-site landfill. (See Reference: USDA National Animal Health Emergency Management System Guidelines for Disposal, April 2005, pg 14-15.)

5.4 On-Site Isolation:

In some cases, particularly in warm weather, where the deactivation of the virus is fairly rapid, isolation of carcasses may be a viable option. Considerations for this option should include a covering or the use of bags/containers prior to isolation to improve handling, (i.e., poultry carcasses become difficult to manage after 24 hours) to prevent the spread of the virus, control odors, as well as controls to prevent vectors. This option also can be used in combination with other on-site options to provide additional time to set up composting or air-curtain incinerators or for on-site burial. If the isolation is sufficient to deactivate the virus, the material may be buried on-site or sent off-site to a landfill or incinerator. (See Reference: USDA National Animal Health Emergency Management System Guidelines for Disposal, April 2005, pg 5.)

5.5 Off-Site Landfills:

Off-site landfills that can be used to manage carcasses include municipal solid waste landfills (MSWLFs), in compliance with the Federal criteria (40 CFR Part 258), and industrial solid waste landfills. (In considering this option, the off-site transport of these carcasses will need to be appropriately considered. See discussion below in Section 7 regarding the off-site transport of birds infected with avian influenza virus.) Municipal landfills are properly sited and have the necessary environmental controls to manage the carcasses. Larger MSWLFs have the capacity to handle a larger number and mass of carcasses. The use of a MSWLF, of course, depends upon the willingness of the facility operator to accept the carcasses. These facilities operate under state permits, which might require modifications to allow management of the carcasses.

5.6 Other Management Options:

There also may be consideration of other options, such as: off-site incinerators, mobile incinerators, alkaline hydrolysis units, off-site composting, and rendering without prior deactivation of the HPAI H5N1 virus and possibly new and alternative/innovative approaches. Certain situations may require alternative approaches. For example, very cold temperatures may make some options impractical and dictate different approaches (e.g., burn barrels, boiling, or the use of lime to raise the pH) to respond to an HPAI H5N1 outbreak in a very cold climate.

Incinerators, such as mobile and municipal solid waste incinerators, are contained and controlled devices that can burn the carcasses and limit air emissions in a manner that is environmentally protective. An alkaline hydrolysis unit uses sodium hydroxide or potassium hydroxide to increase the rate of hydrolysis of the biological materials into a sterile solution. Heat is also applied to accelerate the process further. The only solid byproducts of the alkaline hydrolysis unit are the mineral constituents of the carcasses. Rendering of animal carcasses involves conversion of the carcasses into three end products – carcass meal, tallow, and water using mechanical and thermal processes. Carcass rendering processes include size reduction followed by cooking and separation of fat, water, and protein. Such options may prove advantageous when site-specific conditions, timing issues, or some other factors make the previous options less advantageous. As a general matter, however, the off-site options require additional care to prevent the potential spread of the virus, can be more expensive, and may run into public acceptance concerns. Off-site options, however, should not be automatically dismissed – for example, off-site incinerators are well designed to manage wastes and are environmentally protective.

6. EQUIPMENT CLEANING AND DISINFECTION:

With both on-site and any off-site carcass disposal options, farm structures, poultry houses, and equipment should be cleaned and disinfected after the carcasses are removed to prevent spread of the virus and to repopulate. In addition, equipment used on-site, such as trucks, should be cleaned and disinfected prior to

leaving the site to prevent any potential transmission of the virus off-site. Worker's clothing also should be disinfected for the same reason. The USDA's guidance (see References: USDA National Animal Health Emergency Management System Guidelines for Cleaning and Disinfection, November 2005, USDA Interim Avian Influenza Response Plan, Jan 2006) on appropriate disinfectant procedures should be consulted for further information. EPA provides technical support to USDA and others on the use of appropriate disinfectants. A resource that lists EPA registered (or licensed) disinfectants for use in poultry and farm facilities to inactivate avian influenza viruses is available at: www.epa.gov/pesticides/factsheets/avian.htm. EPA registers pesticide products, including disinfectants. Currently, 100 disinfectant products are registered and intended for use against avian influenza A viruses. These products are effective on hard, non-porous surfaces usually with a 10-minute application. If the need arises for an unregistered pesticide or for an unregistered use of a registered product, EPA may (if adequate data are available to support the request) grant an emergency exemption to allow the distribution, sale, and use of the unregistered product or unregistered use of a registered product for a limited period of time.

7. TRANSPORTATION:

The transportation of birds infected with the avian influenza virus from the affected premises to off-site locations will need to consider special procedures to prevent the spread of disease. These procedures include having a disinfectant appropriate for the pathogen or virus, leak-proof transportation, and polyethylene plastic sheets. In addition, it is recommended that a designated government representative accompany these vehicles for biosecurity reasons where practical. In addition, all vehicles should be cleaned and disinfected before they leave the affected premises and again after the material has been unloaded at the disposal site. Cleaning and disinfection procedures are important for all personnel, vehicles, and equipment. (See Reference: USDA National Animal Health Emergency Management System Guidelines for Disposal, April 2005, pg 3-5 and USDA Interim Avian Influenza (AI) Response Plan, January 2006.) Consideration needs to be given to lining the trucks used in transporting carcasses to contain any fluids and to make it easier to remove the carcasses from the vehicles. An alternative to lining trucks may be the use of 1) macro-vaults (i.e., roll-off containers which can be sealed and are used by some portion of the waste management industry) or 2) biomedical waste transport vehicles. For more details on the above environmental issues and to better understand economic and social challenges regarding transportation, see "Lessons Learned from AI Outbreaks in Virginia 1983 and 2002."

8. PERSONNEL PROTECTIVE EQUIPMENT (PPE)

Biosecurity is important for the eradication and control of a disease during an animal health emergency. The use of personnel protective equipment (PPE) is an essential element of a successful biosecurity plan. PPE refers to equipment used as a barrier between an individual and a hazard that could result in an injury or occupational illness. The selection of PPE to protect workers in any given hazard situation should be based on consideration of three factors: 1) information on the nature and magnitude of the hazard, 2) performance data on the PPE under consideration, and 3) the estimated level of residual risk resulting from the quantity or concentration of the agent to which workers will be exposed while the PPE is in use. Appendix B in the USDA Interim Avian Influenza (AI) Response Plan discusses the use of PPE by foreign animal disease diagnosticians (FADDs) and associated personnel charged with investigating reports of animal diseases.

9. SUMMARY

The USDA is the lead federal agency in responding to foreign animal diseases. EPA, along with several other federal agencies, has support roles within the overall federal response. EPA's principal support role includes providing technical assistance and subject-matter expertise and support for disinfection and disposal issues. In

addition, EPA maintains communication with other federal agencies involved in an avian influenza outbreak response, as well as States, Tribes, local agencies, and other solid waste management stakeholders.

This document identifies three critical factors and considerations in the disposal decision-making process during an avian influenza outbreak: contain the virus by limiting transportation of infected birds; respond expeditiously to reduce the potential for genetic mutations and transmission of pathogens to humans and other species (USDA's goal is for euthanized carcasses to be disposed of within 24 hours); and select carcass treatment/disposal options that ensure containment and inactivation of the virus and protection of the environment given the site-specific conditions. As for key potential carcass management options, this document provides information on on-site composting, burial, incineration, and isolation, and off-site landfills. In addition, other management options are briefly identified. Numerous references and resources are provided in Appendix D for those seeking more detailed information.

USDA and others have effectively dealt with a variety of animal diseases, including the disposal of HPAI contaminated animal carcasses. Through the combined efforts of the federal, state, and local governments, management of an avian influenza H5N1 outbreak can be handled in a manner that is protective of human health and the environment.

APPENDIX A

CONTACT INFORMATION FOR KEY PROGRAM OFFICES AND EMERGENCY OPERATION CENTERS

Agency	Phone Number	Website
National Response Center (NRC) <i>To report oil or chemical spills</i>	800-424-8802	http://www.nrc.uscg.mil/
U.S. Dept of Agriculture (USDA) Animal & Plant Health Inspection Service (APHIS) APHIS Emergency Operations Center (EOC) APHIS Plant Protection and Quarantine (PPQ) Food Safety Inspection Service (FSIS) Veterinary Services (VS)	877-677-2369 (toll free)	http://www.usda.gov/ http://www.aphis.usda.gov/ http://www.aphis.usda.gov/ppq/ http://www.fsis.usda.gov/
U.S. Dept of Defense (DoD)	703-428-0711	http://www.dod.gov/
U.S. Dept of Interior (DOI)	202-208-4108	http://www.doi.gov/
U.S. Dept of State (DOS)	202-647-1512	http://www.state.gov/
U.S. Dept of Health & Human Services (HHS) Food and Drug Administration (FDA) FDA Emergency Operations Center (EOC)	301-443-1240	http://www.hhs.gov/ http://www.fda.gov/
U.S. Dept of Homeland Security (DHS) Homeland Security Operations Center (HSOC)	202-282-8000 202-282-8100	http://www.dhs.gov/
U.S. Environmental Protection Agency (EPA) Office of the Administrator Office of Homeland Security Office of Enforcement and Compliance Assurance (OECA) Office of Criminal Enforcement Training and Forensics Criminal Investigation Division Office of Prevention, Pesticides, and Toxic Substances (OPPTS) Office of Pesticide Programs (OPP) Office of Solid Waste & Emergency Response (OSWER) Emergency Operations Center Office of Emergency Management Office of Water (OW) Office of Groundwater and Drinking Water Water Security Division	202-272-0167 202-564-6978 202-564-2440 202-564-2480 202-564-2523 202-564-2902 703-305-7090 202-566-0200 202-564-3850 202-564-8600 202-564-5700 202-564-3750 202-564-3779	http://www.epa.gov http://www.epa.gov/adminweb/ http://www.epa.gov/homelandsecurity/ http://www.epa.gov/compliance/ http://www.epa.gov/oppts http://www.epa.gov/pesticides/ http://www.epa.gov/swerrims/ http://www.epa.gov/swerrims/emergencies.htm http://www.epa.gov/OW http://www.epa.gov/safewater/ http://cfpub.epa.gov/safewater/watersecurity/index.cfm

APPENDIX B

AVIAN INFLUENZA OUTBREAK SCENARIO

- A farmer observes either sick or dying birds within his or her flock and notifies the State Department of Agriculture or State veterinarian (depending on the state). The state veterinarian would then notify USDA.
- An agency/laboratory obtains the initial suspected sample (e.g., a domestic bird) and notifies the USDA of the suspected sample. The USDA sends the suspected sample to USDA's National Veterinary Services Laboratory (NVSL) in Ames, IA for confirmation.
- USDA initiates a Foreign Animal Disease Investigation with the appropriate State Department of Agriculture and State Lead Veterinarian to initiate confirmatory sampling. USDA notifies the Department of Homeland Security (DHS).
- DHS notifies the National Interagency Contingency Team (NICT) with a Situation Report (SITREP) to the USDA Emergency Operations Center network, who then notifies the other Federal Interagency Emergency Operation Centers.
- USDA and DHS activate the Joint Information Center (JIC).
- Upon confirmation of the detection of the HPAI H5N1 virus, USDA will issue a public message and notify commercial poultry operators of the possibility of H5N1 in the area.
- USDA, with State and local agencies, initiates control (quarantine and depopulation) and cleanup efforts (disposal and disinfection).
- EPA, if requested, provides technical guidance to the decision makers at USDA, States, and the solid waste and poultry industries on decontamination, disposal, and information on approved disinfectants.
- The process above continues throughout the cleanup and clearance phases and for as many incidents that are reported.

APPENDIX C

Environmental Persistence & Transmission of Avian Influenza Viruses

(Source: Diseases of Poultry, 11th ed)

Avian influenza viruses are relatively unstable in the environment. Physical factors such as heat, extremes for pH, nonisotonic conditions, and dryness can inactivate avian influenza viruses. Because avian influenza viruses have lipid envelopes, they are inactivated by organic solvents and detergents, such as sodium desoxycholate and sodium dodecylsulfate. In the presence of organic matter, avian influenza virus can be destroyed by chemical inactivants such as aldehydes (formaldehyde or glutaraldehyde), beta-propiolactone and binary ethylenimine. After removal of organic matter, chemical disinfectants such as phenolics, ammonium ions (including quaternary ammonium disinfectants), oxidizing agents (such as sodium hypochlorite), dilute acids, and hydroxylamine can destroy avian influenza viruses. In field situations, influenza viruses are protected by organic material such as nasal secretions or feces, which increase resistance to physical and chemical inactivation. Cool and moist conditions favor long survival of avian influenza viruses in the environment. Avian influenza viruses have been viable in liquid manure for 105 days in the winter and in feces for 30-35 days at 39°F and for 7 days at 68°F. Proper inactivation and elimination of avian influenza viruses shed in the environment is essential in the control of field infection and can be accomplished through integrated approaches including heating of buildings to 90-100°F for one week, thorough removal and proper disposal of manure and litter, cleaning and disinfecting of buildings before restocking. Virus in manure and litter must be inactivated or disposed of by burial, composting, or incineration. Effective disinfectants against avian influenza viruses on clean surfaces include 5.25% sodium hypochlorite, 2% sodium hydroxide (lye), phenolic compounds, acidified ionophore compounds, chlorine dioxide disinfectants, strong oxidizing agents and 4% sodium carbonate/0.1% sodium silicate. However, organic material must be removed before disinfectants can work properly.” Swayne, DE and Halvorson, DA. Avian Influenza. Diseases of Poultry, 11th Ed. Saif, Y.M. et.al Ed. Iowa State Press, pp. 135-160, 2003.

Infectivity and inactivation of H7N2 avian influenza virus under various environmental conditions was studied by Lu H, et al. in 2003. The virus in these studies was completely inactivated when combined with field chicken manure in less than a week at an ambient temperature of 59-58° F. At a pH 2, heating at 132° F, and exposure to 70% ethanol or a commercial disinfectant (DC&R), the avian influenza virus infectivity was destroyed in less than 30min. Lu, H, Castro, AE, Pennick, K, Liu, J, Yang, Q, Dunn, P, Weinstock, D, Henzler, D. Survival of avian influenza virus H7N2 in SPF chickens and their environments. Av. Dis. 47 (3 Suppl) 1015-21, 2003.

Study of waterfowl epidemiology of avian influenza viruses resulted in finding that temperature, pH and salinity of water affect the persistence of these viruses in surface water. When temperature alone was examined, linear regression models predicted a initial concentration of 1 x 10⁶ TCID₅₀/ml water could remain infective for up to 207 days at 62°F and up to 102 days at 82°F, suggesting these viruses are adapted to survive in waterfowl wintering habitats. When pH and salinity effects were studied, persistence was found to be 100 days at 62°F, 0 ppt salinity at pH 8.2 and only 9 days at 82° F, 20 ppt salinity and a pH of 8.2. Overall, the duration of infectivity decreased with increasing salinity and pH. Stallnecht, DE, Kearney, MT, Shane, SM, Zwank, PJ. Persistence of avian influenza in water. Avian. Dis. 34: 406-411, 1990 Stallnecht, DE, Kearney, MT, Shane, SM, Zwank, PJ. Effects of pH, temperature, and salinity on persistence of avian influenza viruses in water. Avian Dis. 34: 412-428, 1990.

APPENDIX D

REFERENCES AND RESOURCES

NAME OF REFERENCE	TYPE	WEBSITE AVAILABILITY	SOURCE
Animal Disposal Following an Emergency , Sep 05	Article	http://www.bt.cdc.gov/disasters/animaldisposal.asp	Centers for Disease Control & Prevention
Carcass Disposal: A Comprehensive Review, 04	Reference	http://fss.k-state.edu/research/books/carcassdispfiles/	National Biosecurity Resource Center for Animal Health Emergencies
Environmental Survival of Avian Influenza Viruses, Feb 06	Article	http://www.cidrap.umn.edu/cidrap/content/influenza/avianflu/biofacts/avflu.html	Center for Infectious Disease Research & Policy
Guidelines for In-house Composting of Catastrophic Poultry Mortality, 02	Fact Sheet	http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=fs-801	University of MD Agriculture & Natural Resources
Guidelines for In-House Composting Poultry Mortality as a Rapid Response to Avian Influenza	Fact Sheet	http://www.deq.virginia.gov/waste/pdf/factsheet1va.pdf	VA. DEQ
VA DEQ Recommendations For Whole-Flock Disposal of Poultry due to Avian Influenza, Mar 06	Article	http://www.deq.virginia.gov/waste/pdf/deqaidisposal.pdf	VA DEQ Preferred Methods of Disposal of Poultry due to AI
National Response Plan, Dec 04	Reference	http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml	US Department of Homeland Security
Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities”, Nov 05	Reference	http://www.epa.gov/homelandsecurity/pdfs/conops11222005.pdf	US Department of Agriculture and other Federal Agencies
USDA Interim Avian Influenza Response Plan, Jan 06	Plan	Unavailable	USDA
USDA National Animal Health Emergency Management System Guidelines for Disposal, Apr 05	Guidelines	Unavailable	USDA
USDA National Animal Health Emergency Management System Guidelines for Cleaning and Disinfection	Guidelines	Unavailable	USDA
WHO; Lab study of H5N1 viruses in domestic ducks, Oct 04	Article	http://www.who.int/csr/disease/avian_influenza/labstudy_2004_10_29/en/print.html	World Health Organization (WHO)
Avian Influenza. Diseases of Poultry, pg 135-160, 03	Article	Unavailable	Swayne, DE and Halvorson, DA.
Fowl Plague, Avian Influenza-Highly Pathogenic	Fact Sheet	http://www.poultry-health.com/fora/fowlplag.htm	Poultry Health Services
Composting Dead Birds, 1991	Fact Sheet	http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=fs-537	Dennis W. Murphy and Lewis Carr
Lessons Learned From AI Outbreaks in VA 1983 & 2002	Article	ftp://ftp.deq.virginia.gov/pub/solidwst/2002leslearned.doc	Eric S. Bendfeldt, Robert W. Peer, and Gary A. Flory
AI Carcass Disposal, 2006	Presentation	http://www.deq.virginia.gov/waste/pdf/vaaidpre.pdf	Gary A. Flory, VA DEQ
Extensive Poultry Information Source	Reference	http://www.dpichicken.org/index.cfm?content=poultry-links	Delmarva Poultry Industry, Inc
2005 Guidelines for In-house Composting of Poultry Mortalities Due to Catastrophic Disease	Presentation	http://www.rec.udel.edu/poultry	Nathaniel Tablante, Univ of MD George W. Malone, Univ. of DE

APPENDIX D (CONTINUED)

REFERENCES AND RESOURCES

NAME OF RESOURCE	TYPE	SOURCE	SUBJECT(s)
American Veterinarian Medical Assoc	Website	http://www.avma.org/	Animal Health/ Avian Influenza Specific
EPA Pesticides	Website	http://www.epa.gov/pesticides/	Disinfectants approved by EPA
ASTSWMO	Website	http://www.astswmo.org/	State Disposal Contacts
National Chicken & Turkey Councils, Egg Safety Center	Website	http://www.avianinfluenzainfo.com	AI Info from Industry
National Biosecurity Resource Center for Animal Health Emergencies	Website	http://www.biosecuritycenter.org/	Animal Carcass Disposal Info
Poultry Health Services	Website	http://www.poultry-health.com/fora/fowlplag.htm	Avian Influenza Forum
Center for Agro-Security & Emergency Management (UMD)	Website	http://www.agnr.umd.edu/AgroSecurity/	Composting Research Articles & Presentations
Centers for Disease Control & Prevention	Website	http://www.cdc.gov/	Avian Flu Specific Information
USDA Center for Animal Disease Information & Analysis	Website	http://www.aphis.usda.gov/vs/ceah/cadia/	Animal Health Surveillance & Emerging Animal Diseases
EPA National Agriculture Compliance Assistance Center	Website	http://www.epa.gov/oecaagct/	Biosecurity & Homeland Security issues in Agriculture
EPA Homeland Security Links	Website	http://www.epa.gov/ohs/htm/links.htm	Links EPA Homeland Security
EPA Homeland Security Research	Website	http://www.epa.gov/ordnhsr/index.htm	Homeland Security Research
Food and Agriculture Organization (FAO) of the UN	Website	http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html	International Avian Influenza Information
Integrated Waste Services Assoc	Website	http://www.wte.org/	Municipal Waste to Energy Assoc
National Association of State Departments of Agriculture	Website	http://www2.nasda.org/NASDA	AI Info Resource Site/Outreach
National Biosecurity Research Center	Website	http://www.biosecuritycenter.org/error404.php	State Carcass Disposal Regs & Info
Solid Waste Management Association of North America	Website	http://www.swana.org/	Training, Certification, & Communication
US Poultry & Egg Association	Website	http://www.poultryegg.org/	AI from an Industry Perspective
Avian Flu & Pandemic Flu	Website	http://www.pandemicflu.gov/	U.S. Government avian & pandemic flu info
Delmarva Poultry Industry, Inc	Website	http://www.dpichicken.org/index.cfm?content=poultry-links	Academic, Industry & Government Websites on Poultry Issues
World Health Organization	Website	http://www.who.int/csr/disease/avian_influenza/en/index.html	International Avian Influenza Information
EPA Composting	Website	http://www.epa.gov/epaoswer/non-hw/composting/index.htm	Composting Information

APPENDIX E

State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
ALABAMA (AL)			
Dept of Ag & Industries Richard Beard Bldg P.O. Box 3336 Montgomery, AL 36109 Phone: (334) 240-7100 Fax: (334) 240-7190 http://www.agi.state.al.us/	Div of Wildlife & Freshwater Fisheries Dept of Conservation & Nat Res 64 N. Union St Montgomery, AL 36130 Phone: (334) 242-3849 Fax: (334) 242-3032 http://www.outdooralabama.com	Dept of Public Health The RSA Tower, Ste 1552 201 Monroe St Montgomery, AL 36104 Phone: (334) 206-5200 Fax: (334) 206-2008 http://www.adph.org	Dept of Environ Mngmt Land Div, Waste Programs Branch P.O.Box 301463 Montgomery, AL 36130-146 Phone: (334) 271-7755 Fax: (334) 279-3050 http://www.adem.state.al.us/landdivision/solidwaste/SolidWasteMainInfo.htm
ALASKA (AK)			
Division of Agriculture Dept of Natural Resources 1800 Glenn Highway, Suite 12 Palmer, Alaska 99645-6736 Phone: (907) 745-7200 Fax: (907) 745-7112 http://www.dnr.state.ak.us/ag/index.htm	Dept of Fish & Game P.O. Box 25526 Juneau AK 99802-5526 Phone: (907) 465-4100 Fax: (907) 465-2332 http://www.dnr.state.ak.us	Division of Public Health 350 Main Street, Room503 P.O. Box 110610 Juneau, AK 99811 Phone: (907) 465-3090 Fax: (907) 586-1877 http://www.hss.state.ak.us/dph	Dept Environmental Conservation Division of Environ Health Solid Waste Program 555 Cordova Street Anchorage, AK 99501 Phone:907/269-7802 Fax:907/269-7655 http://www.dec.state.ak.us/
AMERICAN SOMOA (AS)			
Dept of Agriculture AS Government Executive Office Bldg, Utulei Territory of AS Pago Pago, AS 96799 Phone: 011(684) 699-1497 Fax: 011(684) 699-4031 http://www.asg-gov.net/AGRICULTURE.htm	Marine & Wildlife Resources Dept P.O. Box 3730 Pago Pago, AS 96799 Phone: (684) 633-4456 Fax: (684) 633-5944 http://www.asg-gov.net/MARINE%20&%20WILDLIFE%20RESOURCES.htm	Dept of Health LBJ Tropical Medical Center Pago Pago, AS 96799 Phone: (684) 633-4606 Fax: (684) 633-5379 http://www.asg-gov.net/HEALTH.htm	Solid Waste Manager AS Power Authority AS Government EQC P.O. Box PPB Pago Pago, AS 96799 Phone: (684) 699-1462 Fax: (684) 699-8070
ARIZONA (AZ)			
Dept of Agriculture 1688 W. Adams St Phoenix, AZ 85007 Phone: (602) 542-4373 Fax: (602) 542-5420 Web: http://www.azda.gov/	Game & Fish Dept 2222 W. Greenway Rd Phoenix, AZ 85023-4312 Phone: (602) 942-3000 Fax: (602) 789-3924 Web: http://www.azgfd.com/	Dept of Health Services 1740 W. Adams, Rm 407 Phoenix, AZ 85007 Phone: (602) 542-1025 Fax: (602) 542-1062 Web: http://www.hs.state.az.us/	Dept of Environmental Quality Waste Programs Div 1110 W. Washington St Phoenix, AZ 85007 Phone: (602) 771-4208 Fax: (602) 771-2302 http://www.azdeq.gov/environ/waste/solid/
ARKANSAS (AR)			
Dept of Agriculture No. 1 Natural Resource Dr. Little Rock, AR 72205 Phone: (501) 683-4851 Fax: (501) 683-4852 Web: http://aad.arkansas.gov/	Game & Fish Commission #2 Natural Resources Dr Little Rock, AR 72205 Phone: (501) 223-6305 Fax: (501) 223-6448 Web: http://www.agfc.state.ar.us/	Dept of Health 4815 W. Markham St Little Rock, AR 72205 Phone: (501) 611-2111 Fax: (501) 671-1450 http://www.health.yarkansas.com	Dept of Environmental Quality Solid Waste Management Div 8017 Interstate 30, P.O. Box 8913 Little Rock, AR 72219-8913 Phone:(501) 682-0600 Fax: (501) 682-0611 www.adeq.state.ar.us/solwaste/default.htm

APPENDIX E (Continued)
State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
CALIFORNIA (CA)			
CA Dept of Food & Agriculture 1220 N. St, Ste A-400 Sacramento, CA 95814-5607 Phone: (916) 654-0433 Fax: (916) 654-0403 http://www.cdfa.ca.gov/	CA Dept of Fish & Game P.O. Box 944209 Sacramento, CA 94244-2090 Phone: (916) 653-7667 Fax: (916) 653-1856 http://www.dfg.ca.gov/	CA Dept of Health Services 1501 Capitol Ave, Ste 6001 Sacramento, CA 95814 Phone: (916) 440-7400 Fax: (916) 440-7404 http://www.dhs.ca.gov/	CA Integrated Waste Mngmt Board 1001 I St, P.O. Box 4025 Sacramento, CA 95812 Phone: (916) 341-6000 Fax: (916) 341-6054 http://www.ciwmb.ca.gov/Landfills/
COLORADO (CO)			
Dept of Agriculture 700 Kipling St, Ste 4000 Lakewood, CO 80215-8000 Phone: (303) 239-4100 Fax: (303) 239-4125 http://www.ag.state.co.us/	Division of Wildlife 6060 Broadway Denver, CO 80216 Phone: (303) 291-7208 Fax: (303) 294-0874 http://www.wildlife.state.co.us/	Dept of Public Health & Environment 4300 Cherry Creek Dr, South Glendale, CO 80246 Phone: (303) 692-2000 Fax: (303) 691-1979 http://www.cdphe.state.co.us/	Dept of Public Health & Environment Hazardous Materials & Waste Management Div 4300 Cherry Creek Dr, South Denver, CO 80246-1530 Phone: (303) 692-3300 Fax: (303) 759-5355 http://www.cdphe.state.co.us/hm/hmhom.asp
CONNECTICUT (CT)			
Dept of Agriculture 165 Capitol Ave. Hartford, CT 06106 Phone: (860) 713-2500 Fax: (860) 713-2514 http://www.ct.gov/doag/site/default.asp	Bureau of Natural Resources CT Dept of Environmental Protection 79 Elm St Hartford, CT 06106-5127 Phone: (860) 424-3010 Fax: (860) 424-4078 http://www.dep.state.ct.us/	Dept of Public Health 401 Capitol Ave Hartford, CT 06134 Phone: (860) 509-7101 Fax: (860) 509-7111 http://www.dph.stats.ct.us	Dept of Environmental Protection Bureau of Waste Management 79 Elm St, 4th Floor Hartford, CT 06106-5127 Phone: (860) 424-3021 Fax: (860) 424-4060 http://www.dep.state.ct.us/wst/
DELEWARE (DE)			
Dept of Agriculture 2320 S. DuPont Highway Dover, DE 19901 Phone: (302) 698-4500 Fax: (302) 697-4463 http://www.state.de.us/deptagri/	Division of Fish & Wildlife 89 Kings Highway Dover, DE 19901 Phone: (302) 739-5295 Fax: (302) 739-6157 http://www.fw.delaware.gov	Health and Social Services Jesse Cooper Bldg 417 Federal St Dover, DE 19901 Phone: (302) 739-4700 Fax: (302) 739-6659 http://www.dhss.delaware.gov/dhss/index.html	Dept of Natural Resources & Environ Control Air and Waste Management Div Hazardous and Solid Waste Management 89 Kings Highway Dover, DE 19901 Phone: (302) 739-9403 Fax: (302) 739-5060 http://www.dswa.com/

APPENDIX E (Continued)
State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
DISTRICT OF COLUMBIA (DC)			
DC Dept of Health 825 N. Capitol St, NW, Ste 4400 Washington, DC 20002 Phone: (202) 442-5999 Fax: (202) 442-4788 http://dchealth.dc.gov/doh/site/default.asp	Fisheries & Wildlife Program Environmental Health Administration Fisheries & Wildlife Div 51 N. St, NE, 5th Floor Washington DC 20002-3323 Phone: (202) 535-2266 Fax: (202) 535-1373 http://dchealth.dc.gov/doh/cwp/view,a,1374,Q,584468,dohNav_GID,1810,.asp	DC Dept of Health 825 N. Capitol St, NW, Ste 4400 Washington, DC 20002 Phone: (202) 442-5999 Fax: (202) 442-4788 http://dchealth.dc.gov/doh/site/default.asp	DC Dept of Public Works Solid Waste Administration 2750 S. Capitol St, S.E. Washington, D.C. 20032 Phone: (202) 727-5907 Fax: (202) 727-9314 http://dchealth.dc.gov/doh/cwp/view,a,3,Q,573184,dohNAV_GID,1802,dohNAV_3320033215,.asp
FLORIDA (FL)			
Dept of Agriculture & Consumer Services The Capitol, PL10 Tallahassee, FL 32399-0810 Phone: (850) 488-3022 Fax: (850) 922-4936 http://doacs.state.fl.us/	Fish & Wildlife Conservation Commission 620 S. Meridian St Tallahassee, FL 32399-1600 Phone: (850) 488-2975 Fax: (850) 921-5786 http://myfwc.com/	Dept of Health 2585 Merchants Row Blvd Tallahassee, FL 32399 Phone: (850) 245-4321 Fax: (850) 487-3729 http://www.doh.state.fl.us/	Dept of Environmental Protection Division of Waste Management Bureau of Solid & Hazardous Waste Solid Waste Mgmt Section (MS 4565) 2600 Blair Stone Rd, Tallahassee, FL 32399-2400 Phone: (850) 245-8707 Fax: (850) 245-8811 http://www.dep.state.fl.us/waste/categories/solid_waste/default.htm
GEORGIA (GA)			
GA Dept of Agriculture 204 Agricultural Bldg 19 Martin Luther King, Jr. Dr Atlanta, GA 30334 Phone: (404) 656-3600 Fax: (404) 651-8206 http://agr.georgia.gov	GA Dept of Natural Resources 2 Martin Luther King, Jr. Dr., SE, Ste 1252 East Atlanta, GA 30334 Phone: (404) 656-3500 Fax: (404) 656-0770 Web: http://www.gadnr.org/ GA Wildlife Resources Division 2070 US Highway 278, SE Social Circle, GA 30025 Phone: (770) 918-6401 Fax: (706) 557-3030 http://www.gadnr.org	GA Dept of Human Resources 2 Peachtree Street, NW, Suite 7-300 Atlanta, GA 30303 Phone: (404) 657-2700 Fax: (404) 657-2715 http://health.state.ga.us/	GA Dept of Natural Resources Environmental Protection Division Land Protection Branch 4244 International Parkway Atlanta, GA 30354 Phone: (404) 362-2537 Fax: (404) 362-2580 http://www.gaepd.org/Documents/index_land.html

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
GUAM (GU)			
GU Dept of Agriculture 192 Dairy Road Mangilao, GU 96923 Phone: (671) 734-3942 Fax: (671) 734-6569	Div of Aquatic & Wildlife Resources Dept of Agriculture 192 Dairy Road Mangilao GU 96923 Phone: (671) 735-3984 Fax: (671) 734-6570 http://www.guamdawr.org/	Dept of Public Health & Social Services P.O. Box 2816 Agana, GU 96910 Phone: (671) 735-7102 Fax: (671) 734-5910 http://www.govguam.net/agency/dphss/index.html	GU Environmental Protection Agency Air & Land Programs Div P.O. Box 22439 GMF Barrigada, GU 96921 Phone: (671) 475-1609 Fax: (671) 477-9402 http://www.guamepa.govguam.net/
HAWAII (HI)			
HI Dept of Agriculture Office of the Chairperson 1428 S. King St Honolulu, HI 96814 Phone: (808) 973-9551 Fax: (808) 973-9613 http://www.hawaiiag.org/hdoa/	HI Dept of Land & Natural Resources PO Box 621 Honolulu, HI 96809 Phone: (808) 587-0401 Fax: (808) 587-0390 http://www.state.hi.us/dlnr/	HI Dept of Health 1250 Punchbowl St Honolulu, HI 96813 Phone: (808) 566-4410 Fax: (808) 586-4444 http://www.state.hi.us/health	HI Dept of Health Environmental Management Division Solid & Hazardous Waste Branch 919 Ala Moana, Ste 212 Honolulu, HI 96814 Phone: (808) 586-7497 Fax: (808) 586-7509 http://www.hawaii.gov/health/environmental/waste/sw/index.html
IDAHO (ID)			
ID Dept of Agriculture 2270 Old Penitentiary Rd Boise, ID 83712 Phone: (208) 332-8500 Fax: (208) 334-2170 http://www.idahoag.us/	ID Fish & Game Dept Box 25, 600 S. Walnut Boise ID 83707 Phone: (208) 334-5159 Fax: (208) 334-4885 http://fishandgame.idaho.gov/	ID Dept of Health & Welfare 450 W. State St, Box 83720 Boise, ID 83720 Phone: (208) 334-5500 Fax: (208) 334-6558 http://www.healthandwelfare.idaho.gov/	ID Dept of Environmental Quality Waste Management & Remediation Div 1410 N. Hilton St Boise, ID 83706 Phone: (208) 373-0502 Fax: (208) 373-0154 http://www.deq.state.id.us/waste/assist_business/so lid_waste/index.cfm
ILLINOIS (IL)			
IL Dept of Agriculture State Fairgrounds P.O. Box 19281 Springfield, IL 62794-9281 Phone: (217) 782-2172 Fax: (217) 785-4505 http://www.agr.state.il.us/	IL Dept of Natural Resources One Natural Resources Way Springfield, IL 62702-1271 Phone: (217) 785-0075 Fax: (217) 785-9236 http://dnr.state.il.us/	IL Dept of Public Health 535 W. Jefferson St Springfield, IL 62761 Phone: (217) 782-4977 Fax: (217) 782-3987 http://www.idph.state.il.us/	IL Environmental Protection Agency Bureau of Land Div of Land Pollution Control 1021 N. Grand Ave. East, P.O. Box 19276 Springfield, IL 62794-9276 Phone: (217) 785-8604 Fax: (217) 557-4231 http://www.epa.state.il.us/land/

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
INDIANA (IN)			
IN Board of Animal Health 805 Beachway Dr., Ste 50 Indianapolis, IN 46224 Phone: (317) 227-0300 Fax: (317) 227-0330 http://www.boah.in.gov	Division of Fish & Wildlife IN Dept of Natural Resources 402 W. Washington St, Rm W-273 Indianapolis, IN 46204 Phone: (317) 232-4091 Fax: (317) 232-8150 http://www.state.in.us/dnr/fishwild	IN State Dept of Health 2 North Meridian Street Indianapolis, IN 46204 Phone: (317) 233-7400 Fax: (317) 233-7387 http://www.in.gov/isdh/	IN Dept of Environmental Mngmt Office of Land Quality P.O. Box 6015, Rm 1154 Indianapolis, IN 46206-6015 Phone: (317) 233-6591 Fax: (317) 232-3403 http://www.in.gov/idem/programs/land/index.html
IOWA (IA)			
IA Dept of Agriculture & Land Stewardship Wallace Bldg, 502 E. 9th St Des Moines, IA 50319 Phone: (515) 281-5322 Fax: (515) 281-7046 http://www.agriculture.state.ia.us/	IA Dept of Natural Resources E. Ninth & Grand Ave Des Moines, IA 50319-0034 Phone: (515) 281-5385 Fax: (515) 281-6794 www.iowa.gov/state/main.agnr.html	IA Dept of Public Health Lucas State Office Bldg 321 E. 12th St Des Moines, IA 50319 Phone: (515) 281-5605 Fax: (515) 281-4958 http://www.idph.state.ia.us/	IA Dept of Natural Resources Energy & Waste Management Bureau 502 E. 9th St Des Moines, IA 50319-0034 Phone: (515) 281-8927 Fax: (515) 281-8895 http://www.iowadnr.com/waste/index.html
KANSAS (KS)			
KS Animal Health Dept 708 SW Jackson Topeka, KS 66603-3714 Phone: (785) 296-2326 Fax: (785) 296-1765 http://www.kansas.gov/kahd/index.html	Wildlife Operations KS Dept of Wildlife & Parks 512 SE 25th Ave Pratt, KS 67124-8174 Phone: (316) 672-5911 Fax: (316) 672-6020 http://www.kdwp.state.ks.us/	KS Dept of Health & Environment Curtis State Office Bldg 1000 SW Jackson, Ste 300 Topeka, KS 66612 Phone: (785) 296-1086 Fax: (785) 296-1562 http://www.kdhe.state.ks.us/	KS Dept of Health & Environment Division of Environment Bureau of Waste Management 1000 SW Jackson, Ste 320 Topeka, KS 66612-1366 Phone: (785) 296-1612 Fax: (785) 296-8909 http://www.kdheks.gov/waste/index.html
KENTUCKY (KY)			
KY Dept of Agriculture Rm 188, Capitol Annex Frankfort, KY 40601 Phone: (502) 564-5126 Fax: (502) 564-5016 http://www.kyagr.com/	KY Dept of Fish/Wildlife Resources One Game Farm Rd Frankfort, KY 40601 Phone: (502) 564-7109 X333 Fax: (502) 564-6508 http://www.kdfwr.state.ky.us/	KY Dept for Health Services 275 E. Main St Frankfort, KY 40621 Phone: (502) 564-3970 Fax: (502) 564-6533 http://publichealth.state.ky.us	KY Dept for Environmental Protection Div of Waste Mngmt, Solid Waste Branch Frankfort Office Park 14 Reilly Rd Frankfort, KY 40601 Phone: (502) 564-6716 Fax: (502) 564-4049 http://www.kdheks.gov/waste/index.html

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
LOUISIANA (LA)			
LA Dept of Ag & Forestry P.O. Box 631 Baton Rouge, LA 70821-0631 Phone: (225) 922-1234 Fax: (225) 922-1253 http://www.ldaf.state.la.us/	LA Dept of Wildlife and Fisheries P. O. Box 98000 Baton Rouge, LA 70898-9000 Phone: (225) 765-2623 Fax: (225) 765-2607 http://www.wlf.state.la.us/	LA Dept of Health & Hospitals P.O. Box 3214 Baton Rouge, LA 70821 Phone: (225) 342-8093 Fax: (225) 342-8098 http://www.oph.dhh.state.la.us/	LA Dept of Environmental Quality Office of Environmental Assessment Environmental Technology Div 602 N. Fifth St Baton Rouge, LA 70802 Phone: (225) 219-3406 Fax: (225) 219-3474 http://www.deq.louisiana.gov/portal/
MAINE (ME)			
ME Dept of Agr, Food & Rural Resources Deering Bldg (AMHI), #28 State House Station Augusta, ME 04333 Phone: (207) 287-3419 Fax: (207) 287-7548 http://www.maine.gov/agriculture/index.html	ME Dept of Inland Fisheries & Wildlife 284 State Street, Station #41 Augusta, ME 04333 Phone: (207) 287-5202 Fax: (207) 287-6395 http://www.state.me.us/ifw/	ME Dept of Human Services 157 Capitol St Augusta, ME 04333 Phone: (207) 287-8016 Fax: (207) 287-9058 http://www.state.me.us/dhs/boh	ME Dept of Environmental Protection Bureau of Remediation & Waste Mngmt Div of Solid Waste Management 17 State House Station Augusta, ME 04333-0017 Phone: (207) 287-2651 Fax: (207) 287-7826 http://www.maine.gov/dep/rwm/solidwaste/index.htm
MARYLAND (MD)			
MD Dept of Agriculture 50 Harry S. Truman Parkway Annapolis, MD 21401 Phone: (410) 841-5880 Fax: (410) 841-5914 http://www.mda.state.md.us/	Wildlife & Heritage Service MD Dept of Natural Resources 580 Taylor Ave. E-1 Annapolis, MD 21401 Phone: (410) 260-8549 Fax: (410) 260-8595 http://www.dnr.state.md.us/	MD Dept of Health & Mental Hygiene 201 W. Preston St, Ste 500 Baltimore, MD 21201 Phone: (410) 767-6500 Fax: (410) 767-6489 http://www.dhmh.state.md.us/	MD Dept of the Environment Waste Management Administration Solid Waste Program 1800 Washington Blvd Baltimore, MD 21230-1719 Phone: (410) 537-3318 Fax: (410) 537-3842 http://www.mde.state.md.us/Programs/LandPrograms/Solid_Waste/home/index.asp
MASSACHUSETTS (MA)			
MA Dept of Ag Resources 251 Causeway St, Ste 500 Boston, MA 02114-2151 Phone: (617) 626-1700 Fax: (617) 626-1850 http://www.mass.gov/agr/	Division of Fisheries & Wildlife MA Dept of Fisheries, Wildlife & Environmental Law Enforcement One Rabbit Hill Road Westborough, MA 01581 Phone: (508) 792-7270 Fax: (508) 792-7275 http://www.state.ma.us/dfwe/dfw	MA Dept of Public Health 250 Washington St, 2nd Floor Boston, MA 02108 Phone: (617) 624-6000 Fax: (617) 624-5206 http://www.state.ma.us/dph/dphhome.htm	MA Dept of Environmental Protection Bureau of Waste Prevention Waste Branch, Regulatory Standards Unit One Winter St Boston, MA 02108 Phone: (617) 292-5574 Fax: (617) 292-5778 http://www.mass.gov/dep/recycle/

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
MICHIGAN (MI)			
MI Dept of Agriculture Box 30017 525 W. Allegan Lansing, MI 48909 Phone: (517) 373-1052 Fax: (517) 335-1423 http://www.michigan.gov/mda	MI Dept of Natural Resources P.O. Box 30028 Lansing, MI 48909 Phone: (517) 373-2329 Fax: (517) 335-4242 http://www.michigan.gov/dnr	MI Dept of Community Health 201 Townsend Lansing, MI 48913 Phone: (517) 335-8165 Fax: (517) 335-8263 http://www.michigan.gov/mdch	MI Dept of Environmental Quality Waste and Hazardous Materials Div Storage Tank & Solid Waste Section P.O. Box 30241 Lansing, MI 48909-7741 Phone: (517) 335-4035 Fax: (517) 373-4797 http://www.michigan.gov/deq/0,1607,7-135-3311--,00.html
MINNESOTA (MN)			
MN Dept of Agriculture 90 West Plato Blvd St. Paul, MN 55107 Phone: (651) 297-3219 Fax: (651) 297-5522 http://www.mda.state.mn.us/	Division of Fish and Wildlife MN Dept of Natural Resources 500 Lafayette Rd St. Paul, MN 55155-4007 Phone: (651) 297-4218 Fax: (651) 297-7272 http://www.dnr.state.mn.us/	MN Dept of Health 85 East 7th Place, Ste 400 St. Paul, MN 55164 Phone: (651) 215-5800 Fax: (651) 215-5801 http://www.health.state.mn.us/	MN Pollution Control Agency Municipal Div 520 Lafayette Rd, North St. Paul, MN 55155 Phone: (651) 296-7340 Fax: (651) 297-8676 http://www.pca.state.mn.us/waste/index.html
MISSISSIPPI (MS)			
MS Dept of Ag & Commerce 121 N. Jefferson St Jackson, MS 39201 Phone: (601) 359-1100 Fax: (601) 354-7710 http://www.mdac.state.ms.us/	MS Dept of Wildlife, Fisheries & Parks 2906 Building, P.O. Box 451 Jackson, MS 39205 Phone: (601) 432-2001 Fax: (601) 432-2024 http://www.mdwfp.com/	MS Dept of Health 2423 N. State St P. O. Box 1700 Jackson, MS 39215 Phone: (601) 576-7634 Fax: (601) 576-7931 http://www.msdh.state.ms.us/	MS Dept of Environmental Quality Office of Pollution Control Solid Waste Management Branch 2380 Highway 80 W., P.O. Box 10385 Jackson, MS 38289 Phone: (601) 961-5304 Fax: (601) 961-5785 http://www.deq.state.ms.us/MDEQ.nsf/page/SWHome?OpenDocument
MISSOURI (MO)			
MO Dept of Agriculture P.O. Box 630 Jefferson City, MO 65102 Phone: (573) 751-3359 Fax: (573) 751-1784 http://www.mda.mo.gov/	MO Dept of Conservation P.O. Box 180 Jefferson City, MO 65102-0180 Phone: (573) 522-4115 Fax: (573) 751-4467 http://www.mdc.mo.gov/	MO Dept of Health & Senior Services 912 Wildwood Dr Jefferson City, MO 65102 Phone: (573) 751-6001 Fax: (573) 751-6041 http://www.dhss.mo.gov/	MO Dept of Natural Resources Div of Environmental Quality Solid Waste Management Program 1738 E. Elm St, P.O. Box 176 Jefferson City, MO 65102 Phone: (573) 526-3900 Fax: (573) 526-3902 http://www.dnr.mo.gov/env/swmp/index.html

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
MONTANA (MT)			
MT Dept of Agriculture P.O. Box 200201 Helena, MT 59620-0201 Phone: (406) 444-3144 Fax: (406) 444-5409 http://agr.mt.gov/	MT Dept of Fish, Wildlife & Parks P O Box 200701 Helena, MT 59620-0701 Phone: (406) 444-3186 Fax: (406) 444-4952 http://fwp.state.mt.us/	MT Dept of Public Health & Human Services 111 N. Sanders, 3rd Floor Helena, MT 59604 Phone: (406) 444-5622 Fax: (406) 444-1970 http://www.dphhs.state.mt.us/	MT Dept of Environmental Quality Permitting & Compliance Div Waste & Underground Tank Management Bureau P.O. Box 200901 Helena, MT 59620-0901 Phone: (406) 444-5300 Fax: (406) 444-1374 http://www.deq.mt.gov/SolidWaste/index.asp
NEBRASKA (NE)			
NE Dept of Agriculture P.O. Box 94947 301 Centennial Mall S., 4th Floor Lincoln, NE 68509-4947 Phone: (402) 471-2341 Fax: (402) 471-6876 http://www.agr.state.ne.us/	NE Game & Parks Commission 2200 North 33rd, Box 30370 Lincoln NE 68510 Phone: (402) 471-5539 Fax: (402) 471-5528 http://www.ngpc.state.ne.us/default.asp	NE Health & Human Services System P. O. Box 95007 Lincoln, NE 68509 Phone: (402) 471-8566 Fax: (402) 471-9449 http://www.hhs.state.ne.us/	NE Dept of Environmental Quality Waste Management Div 1200 N St, Ste 400 Lincoln, NE 68509-8922 Phone: (402) 471-0001 Fax: (402) 471-2909 http://www.deq.state.ne.us/
NEVADA (NV)			
NV Dept of Agriculture 251 Jeanell Ave., Ste 3 Carson City, NV 89703 Phone: (775) 688-1180 Fax: (775) 688-1178 http://agri.state.nv.us/	NV Dept of Wildlife 1100 Valley Rd Reno NV 89512 Phone: (775) 688-1599 Fax: (775) 688-1595 http://www.ndow.org	NV State Health Div 505 E. King St, Rm 201 Carson City, NV 89710 Phone: (775) 684-4200 Fax: (775) 684-4211 http://health2k.state.nv.us/	NV Div of Environmental Protection Bureau of Waste Management Solid Waste Branch 901 S. Stewart St, Ste 4001 Carson City, NV 89701 Phone: (775) 687-9467 Fax: (775) 687-6396 http://ndep.nv.gov/bwm/bwm01.htm
NEW HAMPSHIRE (NH)			
NH Dept of Agriculture, Markets, & Food P.O. Box 2042 Concord, NH 03302-2042 Phone: (603) 271-3551 Fax: (603) 271-1109 http://agriculture.nh.gov/	NH Fish & Game Department Hazen Dr Concord, NH 03301 Phone: (603) 271-3422 Fax: (603) 271-1438 http://www.wildlife.state.nh.us/	NH Dept of Health & Human Services 129 Pleasant St. Concord, NH 03301 Phone: (603) 271-8560 Fax: (603) 271-4912 http://www.dhhs.state.nh.us/	NH Dept of Environmental Services Waste Management Div Solid Waste Management 6 Hazen Dr Concord, NH 03301-6509 Phone: (603) 271-2925 Fax: (603) 271-2456 http://www.des.state.nh.us/SW/

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
NEW JERSEY (NJ)			
NJ Dept of Agriculture P.O. Box 330 John Fitch Plaza Trenton, NJ 08625 Phone: (609) 292-3976 Fax: (609) 292-3978 http://www.state.nj.us/agriculture/	NJ Div of Fish & Wildlife P.O. Box 400 Trenton, NJ 08625 Phone: (609) 292-9410 Fax: (609) 292-8207 http://www.state.nj.us/dep/fgw/	NJ Dept of Health & Senior Services P. O. Box 360, Rm 805 Trenton, NJ 08625 Phone: (609) 292-7837 Fax: (609) 292-0053 http://www.state.nj.us/health	NJ Dept of Environmental Protection Solid & Hazardous Waste Program P.O. Box 414 Trenton, NJ 08625-0414 Phone: (609) 633-1418 Fax: (609) 777-0769 http://www.nj.gov/dep/dshw/
NEW MEXICO (NM)			
NM Dept of Agriculture P.O. Box 30005, MSC: 3189 Las Cruces, NM 88003-8005 Phone: (505) 646-3007 Fax: (505) 646-8120 http://www.nmda.nmsu.edu/	NM Game & Fish Dept One Wildlife Wy Santa Fe, NM 87507 Phone: (505) 476-8008 Fax: (505) 476-8124 http://www.wildlife.state.nm.us	NM Dept of Health 1190 Saint Francis Dr Santa Fe, NM 87502 Phone: (505) 827-2613 Fax: (505) 827-2530 http://www.health.state.nm.us/	NM Environmental Dept Environmental Protection Div Solid Waste Bureau 1190 St. Francis Dr., P.O. Box 26110 Santa Fe, NM 87503 Phone: (505) 827-0197 Fax: (505) 827-2902 http://www.nmenv.state.nm.us/swb/index.htm
NEW YORK (NY)			
NY Dept of Agriculture & Markets 10B Airline Dr Albany, NY 12235 Phone: (518) 457-4188 Fax: (518) 457-3087 http://www.agmkt.state.ny.us/	Div of Fish, Wildlife & Marine Resources NY Dept of Environmental Conservation 625 Broadway, 5th Floor Albany, NY 12233-4750 Phone: (518) 402-8924 Fax: (518) 402-8925 http://www.dec.state.ny.us/	NY Dept of Health Empire State Plaza Corning Tower Bldg. 14th Floor Albany, NY 12237 Phone: (518) 474-2011 Fax: (518) 474-5450 http://www.health.state.ny.us/	NY Dept of Environmental Conservation Div of Solid & Hazardous Materials 625 Broadway Albany, NY 12233-7250 Phone: (518) 402-8651 Fax: (518) 402-9024 http://www.dec.state.ny.us/website/dshmsldwaste/index.htm
NORTH CAROLINA (NC)			
NC Dept of Agriculture & Consumer Services 1001 Mail Service Center Raleigh, NC 27699 Phone: (919) 733-7125 Fax: (919) 733-1141 http://www.ncagr.com/	NC Wildlife Resources Commission 512 N. Salisbury St Raleigh, NC 27604-1188 Phone: (919) 733-3391 Fax: (919) 733-7083 http://www.ncwildlife.org/	NC Dept of Health & Human Services 101 Blair Dr Raleigh, NC 27626 Phone: (919) 733-4261 Fax: (919) 715-4645 http://www.state.nc.us/DHR	NC Dept of Environ & Nat Resources Div of Waste Management Solid Waste Section 1646 Mail Service Center Raleigh, NC 27699-1646 Phone: (919) 508-8497 Fax: (919) 733-4810 http://www.wastenotnc.org/swhome/swhome.htm

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
NORTH DAKOTA (ND)			
ND Dept of Agriculture Board of Animal Health 600 E. Blvd Ave., Dept. 602 Bismarck, ND 58505-0020 Phone: (701) 328-2231 Fax: (701) 328-4567 http://www.agdepartment.com/Programs/Livestock/BOAH/BOAH.html	ND Game & Fish Dept 100 North Bismarck Expressway Bismarck, ND 58501 Phone: (701) 328-6351 Fax: (701) 328-6352 http://gf.nd.gov/	ND Dept of Health 600 East Boulevard Avenue Bismarck, ND 58505 Phone: (701) 328-2378 Fax: (701) 328-4727 http://www.ndhealth.gov/	ND Dept of Health Div of Waste Management 918 E. Divide Ave Bismarck, ND 58501-1947 Phone: (701) 328-5166 Fax: (701) 328-5200 http://www.health.state.nd.us/WM/
NORTHERN MARIANNA ISLANDS			
Director of Agriculture Department of Lands & Natural Resources P.O. Box 10007 Saipan, MP 96950	Dept of Lands & Natural Resources P.O. Box 10007 Saipan, MP 96950 Phone: (670) 322-9834 Fax: (670) 322-2633 http://www.dfw.gov.mp/default.htm	Northern Marianna IIs Dept of Public Health P.O. Box 500409 Saipan, MP 96950 Phone: (670) 234-8950 Fax: (670) 234-8930 http://www.dphsaipan.com/	Commonwealth of the Northern Mariana IIs Div of Environmental Quality 3rd Floor Morgen's Bldg., San Jose P.O. Box 50134 Saipan, MP 96950 Phone: (670) 664-8500 Fax: (670) 664-8540
OHIO (OH)			
OH Dept of Agriculture 8995 E. Main St Reynoldsburg, OH 43068-3399 Phone: (614) 466-2732 Fax: (614) 466-6124 http://www.ohioagriculture.gov/	OH Division of Wildlife 2045 Morse Rd, Bldg G Columbus, OH 43229-6605 Phone: (614) 265-6304 Fax: (614) 262-1143 http://www.dnr.state.oh.us/wildlife/default.htm	OH Dept of Health 246 N. High St P. O. Box 118 Columbus, OH 43266 Phone: (614) 466-2253 Fax: (614) 644-0085 http://www.odh.state.oh.us/	OH Environmental Protection Agency Div of Solid & Infectious Waste Mngmt 122 S. Front St, P.O. Box 1049 Columbus, OH 43216-1049 Phone: (614) 644-2621 Fax: (614) 728-5315 http://www.epa.state.oh.us/
OKLAHOMA (OK)			
OK Dept of Agriculture, Food, & Forestry P.O. Box 528804 Oklahoma City, OK 73152-8804 Phone: (405) 521-3864 Fax: (405) 522-0909 http://www.oda.state.ok.us/	OK Dept of Wildlife Conservation P.O. Box 53465 Oklahoma City, OK 73152-3465 Phone: (405) 521-4660 Fax: (405) 521-6505 http://www.wildlifedepartment.com/	OK Dept of Health 1000 N. East 10th St Oklahoma City, OK 73117 Phone: (405) 271-5600 Fax: (405) 271-3431 http://www.health.ok.gov/	OK Dept of Environmental Quality Waste Management Div 707 N. Robinson, P.O. Box 1677 Oklahoma City, OK 73102 Phone: (405) 702-5100 Fax: (405) 702-5101 http://www.deq.state.ok.us/lpdnew/swindex.html

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
OREGON (OR)			
OR Dept of Agriculture 635 Capitol Street, NE Salem, OR 97301-2532 Phone: (503) 986-4552 Fax: (503) 986-4750 http://egov.oregon.gov/ODA/	OR Dept of Fish & Wildlife 3406 Cherry Ave N.E. Salem, OR 97303-4924 Phone: (503) 947-6044 Fax: (503) 947-6042 http://www.dfw.state.or.us/	OR Dept of Health Services 800 NE Oregon St, Ste. 930 Portland, OR 97232 Phone: (503) 731-4000 Fax: (503) 731-4078 http://www.oregon.gov/dhs	OR Dept of Environmental Quality Land Quality Div Solid Waste Policy & Program Development 811 S.W. Sixth Ave Portland, OR 97204 Phone: (503) 229-5808 Fax: (503) 229-6977 http://www.deq.state.or.us/wmc/solwaste/rswh.htm
PALAU			
Republic of Palau Office of the President PO Box 6051 Palau, PW 96940 P: (680) 488-2403/2828 F: (680) 488-2424/1662 http://www.palau.gov.net/minresources/agriculture.html	Republic of Palau Office of the President PO Box 6051 Palau, PW 96940 P: (680) 488-2403/2828 F: (680) 488-2424/1662 http://www.palau.gov.net/minjustice/DFWP/index.html	Republic of Palau Office of the President PO Box 6051 Palau, PW 96940 P: (680) 488-2403/2828 F: (680) 488-2424/1662 http://www.palau.gov.net/minhealth/publichealth/index.htm	Republic of Palau Office of the President PO Box 6051 Palau, PW 96940 P: (680) 488-2403/2828 F: (680) 488-2424/1662 http://www.palau.gov.net/minresources/publicwrk.html
PENNSYLVANIA (PA)			
PA Dept of Agriculture 2301 N. Cameron St Harrisburg, PA 17110-9408 Phone: (717) 772-2853 Fax: (717) 705-8402 http://www.agriculture.state.pa.us/	PA Fish & Boat Commission P.O. Box 67000 Harrisburg, PA 17106-7000 Phone: (717) 657-4515 Fax: (717) 657-4033 http://www.state.pa.us/PA_Exec/Fish_Boat/pfbcho_m2.html PA Game Commission 2001 Elmerton Ave Harrisburg, PA 17110-9797 Phone: (717) 787-3633 Fax: (717) 772-0502 http://www.pgc.state.pa.us/	PA Dept of Health P. O. Box 90, Room 802 Harrisburg, PA 17108 Phone: (717) 787-6436 Fax: (717) 772-6959 http://www.health.state.pa.us/	PA Dept of Environmental Protection Bureau of Land Recycling & Waste Management Division of Municipal & Residual Waste P.O. Box 8471 Harrisburg, PA 17105-8471 Phone: (717) 787-7381 Fax: (717) 787-1749 http://www.depweb.state.pa.us/landrecwaste/cwp/view.asp?a=1216&q=462227
PUERTO RICO (PR)			
PR Dept of Agriculture P.O. Box 10163 Santurce, PR 00908-1163 Phone: (787) 722-0871 Fax: (787) 723-8512 http://www.agricultura.gobierno.pr/	Marine Resources Division PR Dept of Natural Resources P.O. Box 9066600 San Juan, PR 00906-6600 P: (787) 723-3090 F: (787) 724-0365 http://www.gobierno.pr/drna	PR Dept of Health P. O. Box 70184 San Juan, PR 00936 Phone: (787) 274-7602 Fax: (787) 250-6547 http://www.salud.gov.pr/	Environmental Quality Board Office of the Governor Land Pollution Area P.O. Box 11488 Santurce, PR 00910 P: (787) 763-4448 F: (787) 766-0150

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
RHODE ISLAND (RI)			
RI Div of Agriculture, DEM 235 Promenade St, Rm 370 Providence, RI 02908-5767 Phone: (401) 222-2781 Fax: (401) 222-6047 http://www.dem.ri.gov/programs/bnatres/agricult/index.htm	RI Div of Fish & Wildlife Stedman Government Center 4808 Tower Hill Rd Wakefield, RI 02879 Phone: (401) 789-3094 Fax: (401) 783-4460 http://www.dem.ri.gov/programs/bnatres/fishwild/index.htm	RI Dept of Health 3 Capitol Hill, Rm 401 Providence, RI 02908 Phone: (401) 222-2231 Fax: (401) 222-6548 http://www.health.ri.gov/	RI Dept of Environmental Management Office of Waste Management 235 Promenade St Providence, RI 02908 Phone: (401) 222-2797 Fax: (401) 222-3812 http://www.dem.ri.gov/programs/benviron/waste/index.htm
SOUTH CAROLINA (SC)			
SC Dept of Agriculture Wade Hampton Office Building P.O. Box 11280 Columbia, SC 29211 Phone: (803) 734-2190 Fax: (803) 734-2192 http://www.scdas.state.sc.us/	SC Dept of Natural Resources P.O. Box 167 Columbia SC 29202 Phone: (803) 734-4007 Fax: (803) 734-6310 http://water.dnr.state.sc.us/	SC Dept of Health & Environmental Control 2600 Bull St Columbia, SC 29201 Phone: (803) 898-3300 Fax: (803) 898-3323 http://www.scdhec.net/	SC Dept of Health & Environmental Control Bureau of Land & Waste Management Div of Mining & Solid Waste Mngmt 2600 Bull St Columbia, SC 29201 Phone: (803) 896-4202 Fax: (803) 896-4001 http://www.scdhec.gov/lwm/html/min.html
SOUTH DAKOTA (SC)			
SD Dept of Agriculture 523 E. Capitol Pierre, SD 57501-3182 Phone: (605) 773-5425 Fax: (605) 773-5926 http://www.state.sd.us/doa/	SD Game, Fish and Parks Dept 523 E. Capitol Pierre, SD 57501-3182 Phone: (605) 773-3387 Fax: (605) 773-6245 http://www.state.sd.us/gfp/	SD Dept of Health 600 E. Capitol Pierre, SD 57501 Phone: (605) 773-3361 Fax: (605) 773-5683 http://www.state.sd.us/doh	SD Dept of Environmental & Natural Resources Div of Environmental Services Waste Management Program Foss Bldg, 523 E. Capitol Pierre, SD 57501-3182 Phone: (605) 773-3153 Fax: (605) 773-6035 http://www.state.sd.us/denr/des/WasteMgn/SWaste/SWpage1.htm
TENNESSEE (TN)			
TN Dept of Agriculture P.O. Box 40627 Nashville, TN 37204 Phone: (615) 837-5100 Fax: (615) 837-5333 http://www.state.tn.us/agriculture/	TN Wildlife Resources Agency P.O. Box 40747 Nashville, TN 37204 Phone: (615) 781-6552 Fax: (615) 781-6551 http://www.state.tn.us/twra/index.html	TN Dept of Health 3rd Floor Cordell Hull 425 Fifth Ave, N. Nashville, TN 37247 Phone: (615) 741-3111 Fax: (615) 741-2491 http://tennessee.gov/health	TN Dept of Environ & Conservation Div of Solid & Hazardous Waste Management 5th Floor, L & C Tower 401 Church St Nashville, TN 37243-1535 Phone: (615) 532-078 Fax: (615) 532-0886 http://tennessee.gov/environment/swm/

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
TEXAS (TX)			
TX Dept of Agriculture P.O. Box 12847 Capitol Station Austin, TX 78711 Phone: (512) 463-7476 Fax: (512) 463-1104 http://www.agr.state.tx.us/	TX Parks & Wildlife Dept 4200 Smith School Rd Austin, TX 78744 Phone: (512) 389-4802 Fax: (512) 389-4814 http://www.tpwd.state.tx.us/	TX Dept of State Health Svcs 1100 W. 49th St Austin, TX 78756 Phone: (888) 963-7111 Fax: (512) 458-7477 http://www.dshs.state.tx.us/	TX Commission on Environ Quality Waste Permits (MC 126) P.O. Box 13087 Austin, TX 78711-3087 Phone: (512) 239-2334 Fax: (512) 239-2007 http://www.tceq.state.tx.us/permitting/waste_permits/waste_planning/wp_swasteplan.html
UTAH (UT)			
UT Dept of Agriculture P.O. Box 146500 Salt Lake City, UT 84111 Phone: (801) 538-7101 Fax: (801) 538-7126 http://ag.utah.gov/	UT Div of Wildlife Resources 1594 W. North Temple, Ste 2110 P.O. Box 146301 Salt Lake City, UT 84114 Phone: (801) 538-4703 Fax: (801) 538-4709 http://wildlife.utah.gov/index.php	UT Dept of Health 288 North 1460 ,West P. O. Box 142802 Salt Lake City, UT 84114 Phone: (801) 538-6111 Fax: (801) 538-6306 http://health.utah.gov/	UT Dept of Environmental Quality Div of Solid & Hazardous Waste P.O. Box 144880 Salt Lake City, UT 84114-4880 Phone: (801) 538-6170 Fax: (801) 538-6715 http://www.hazardouswaste.utah.gov/SWBranch/SWSection/SolidWasteSection.htm
VERMONT (VT)			
VT Agency of Agriculture, Food & Markets Drawer 20, 116 State St Montpelier, VT 05620 Phone: (802) 828-2430 Fax: (802) 828-2361 http://www.vermontagriculture.com/	VT Dept of Fish & Wildlife 103 S. Main St, 10 South Waterbury, VT 05671-0501 Phone: (802) 241-3730 Fax: (802) 241-3295 http://www.vtfishandwildlife.com/	VT Dept of Health 108 Cherry St Burlington, VT 05402 Phone: (802) 863-7280 Fax: (802) 865-7754 http://www.healthvermont.gov	VT Dept of Environ Conservation Waste Management Div Solid Waste Management 103 S. Main St Waterbury, VT 05671-0404 Phone: (802) 241-2368 Fax: (802) 241-3296 http://www.deq.state.va.us/waste/solid.html
VIRGIN ISLANDS (VI)			
VI Dept of Agriculture #1 Estate Lower Love St. Croix, VI 00850 Phone: (340) 778-0997 Fax: (340) 778-7977 http://www.usvi.org/agriculture/index.html	Div of Fish & Wildlife Dept of Planning & Natural Resources 6291 Estate Nazareth 101 St. Thomas, VI 00802 Phone: (340) 775-6762 Fax: (340) 775-3972 http://www.dpnr.gov.vi	VI Dept of Social & Health Svcs 48 Sugar Estate St. Thomas, VI 00802 Phone: (304) 774-0117 Fax: (304) 773-4001 http://www.usvi.org/health/	VI Dept of Planning & Natural Resources Div of Environmental Protection 45 Mars Hill, Frederiksted St. Croix, VI 00840-4472 Phone: (340) 773-1082 Fax: (340) 773-9310 http://www.dpnr.gov.vi

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State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
VIRGINIA (VA)			
VA Dept of Agriculture & Consumer Svcs 1100 Bank St, Ste 210 Richmond, VA 23219 Phone: (804) 786-3501 Fax: (804) 371-2945 http://www.vdacs.virginia.gov/	VA Dept of Game & Inland Fisheries 4010 W. Broad St, Box 11104 Richmond, VA 23230 Phone: (804) 367-9231 Fax: (804) 367-0405 http://www.dgif.state.va.us/	VA State Health Dept 1500 E. Main St P. O. Box 2448 Richmond, VA 23218 Phone: (804) 786-3561 Fax: (804) 786-4616 http://www.vdh.state.va.us/	VA Dept of Environmental Quality Waste Division P.O. Box 10009 629 E. Main St, 10th Floor Richmond, VA 23240-0009 Phone: (804) 698-4145 Fax: (804) 698-4234 http://www.deq.state.va.us/waste/solid.html
WASHINGTON (WA)			
WA Dept of Agriculture P.O. Box 42560 Olympia, WA 98504-2560 Phone: (360) 902-1887 Fax: (360) 902-2092 http://agr.wa.gov/	WA Dept of Fish & Wildlife 600 Capitol Way North Olympia WA 98501-1091 Phone: (360) 902-2225 Fax: (360) 902-2947 http://wdfw.wa.gov/	WA Dept of Health 101 Israel Rd SE Tumwater, WA 98501 Phone: (360) 236-4501 Fax: (360) 586-7424 http://www.doh.wa.gov/	WA Dept of Ecology Waste Management Div Solid Waste & Financial Svcs Program P.O. Box 47600 Olympia, WA 98504-7600 Phone: (360) 407-6103 Fax: (360) 407-6102 http://www.ecy.wa.gov/programs/swfa/index.html
WEST VIRGINIA (WV)			
WV Dept of Agriculture 1900 Kanawha Blvd East Charleston, WV 25305 Phone: (304) 558-2201 Fax: (304) 558-2203 http://www.wvagriculture.org/	Wildlife Resources Section WV Div of Natural Resources 1900 Kanawha Blvd, East Charleston WV 25305 Phone: (304) 558-2771 Fax: (304) 558-3147 http://www.wvdnr.gov	WV Bureau for Public Health 350 Capitol St, Rm 702 Charleston, WV 25301 Phone: (304) 558-2971 Fax: (304) 558-1035 http://www.wvdhhr.org/bph	WV Dept of Environmental Protection Div of Water & Waste Management 601 57th Street SE Charleston, WV 25304 Phone: (304) 926-0465 Fax: (304) 926-0477 http://www.wvdep.org
WISCONSIN (WI)			
WI Dept of Ag, Trade, & Consumer Protection 2811 Agriculture Dr Madison, WI 53708 Phone: (608) 224-5012 Fax: (608) 224-5045 http://datcp.state.wi.us/index.html	WI Dept of Natural Resources Box 7921 Madison, WI 53707-7921 Phone: (608) 266-2621 Fax: (608) 266-6983 http://www.dnr.state.wi.us/	WI Div of Public Health 1 W. Wilson St P.O. Box 2659 Madison, WI 53701 Phone: (608) 266-1251 Fax: (608) 267-2832 http://www.dhfs.state.wi.us/	WI Dept of Natural Resources Bureau of Waste Management P.O. Box 7921 Madison, WI 53707 Phone: (608) 266-0014 Fax: (608) 267-2768 http://www.dnr.state.wi.us/org/aw/wm/solid

APPENDIX E (Continued)
State Agricultural, Wildlife, Public Health & Solid Waste Contacts

AGRICULTURE	WILDLIFE	PUBLIC HEALTH	SOLID WASTE
WYOMING (WY)			
WY Dept of Agriculture 2219 Carey Ave Cheyenne, WY 82002 Phone: (307) 777-6569 Fax: (307) 777-6593 http://wyagric.state.wy.us/	WY Game & Fish Dept 5400 Bishop Blvd Cheyenne, WY 82006 Phone: (307) 777-4501 Fax: (307) 777-4699 http://gf.state.wy.us/	WY Dept of Health Hathaway Bldg 2400 Capitol Ave Cheyenne, WY 82002 Phone: (307) 777-7656 Fax: (307) 777-7439 http://wdh.state.wy.us/main/index.asp	WY Dept of Environmental Quality Solid & Hazardous Waste Div SW Permitting & Corrective Action 152 North Durbin, Ste 100 Casper, WY 82601 Phone: (307) 473-3450 Fax: (307) 473-3458 http://deq.state.wy.us/shwd/Old%20Stuff/index_old.asp?pageid=4