# What is Avian Flu?

Influenza in poultry falls into two groups: low pathogenic avian influenza (LPAI), or highly pathogenic avian influenza (HPAI).

Similar to influenza symptoms in people, birds infected with LPAI usually experience only mild signs if any, including respiratory signs such as conjunctivitis and nasal discharge, ruffled feathers or a drop in egg production.

Unlike LPAI, the first indication of HPAI in poultry is sudden death, often without signs of illness.

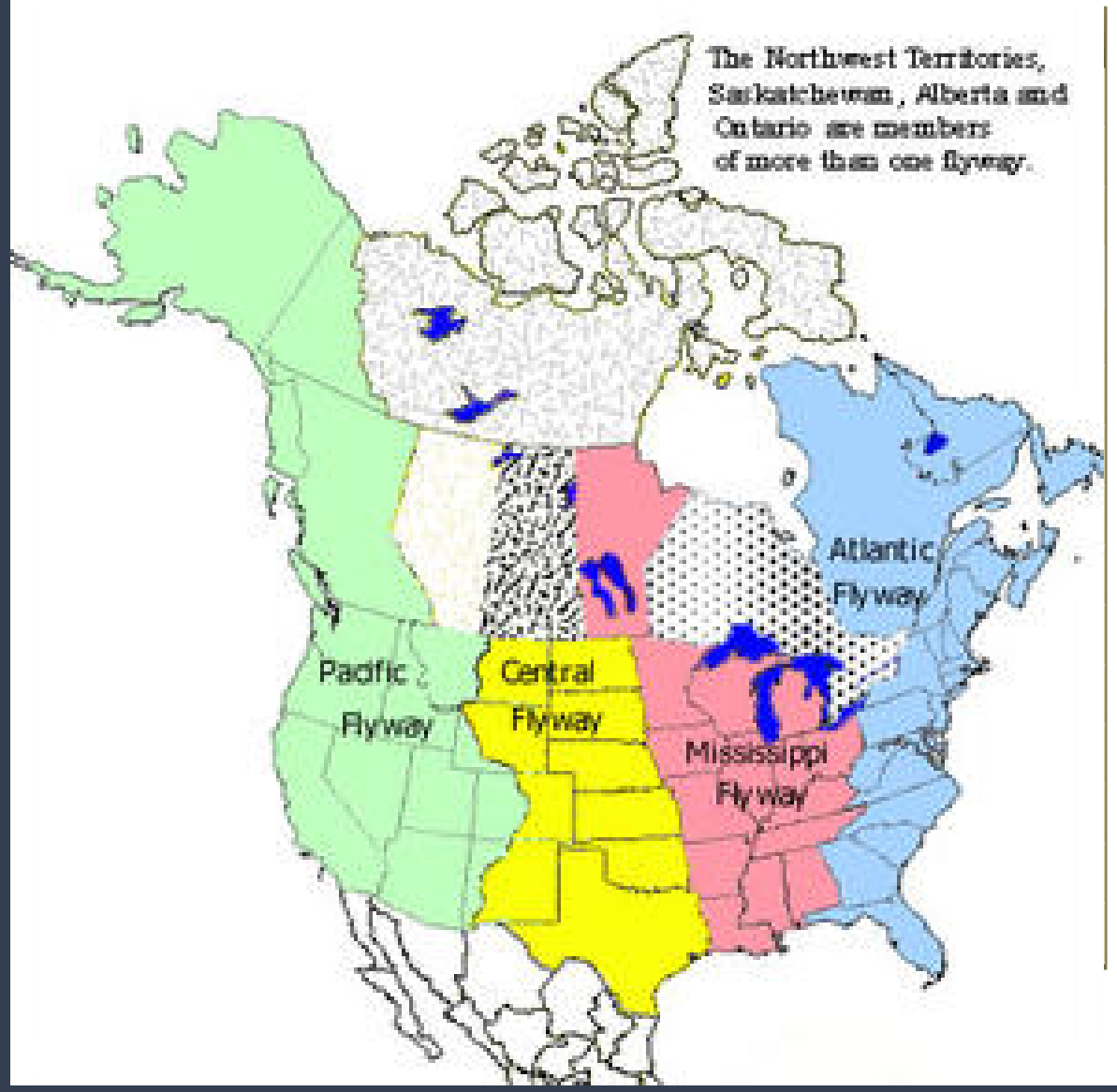
# What you need to know about

# AVIAN INFLUENZA

1. **Our food supply is safe.** Sick birds are not processed for food.

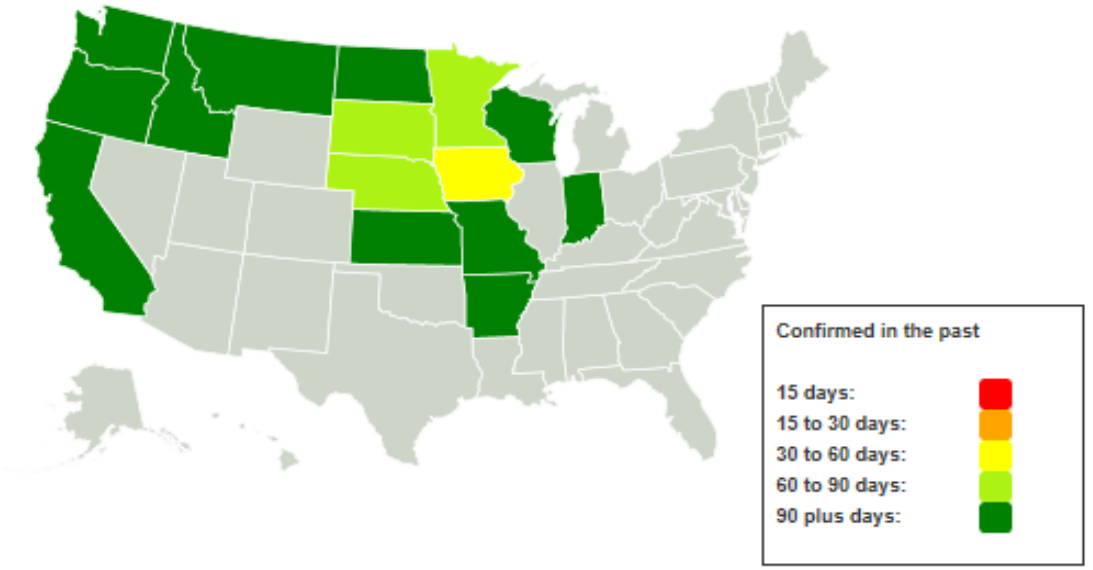
2. **The risk to humans is low.** No humans have become ill from this virus strain.

3. **NCDA&CS is actively monitoring for the virus** and is ready to support poultry owners if the virus is detected in the state.



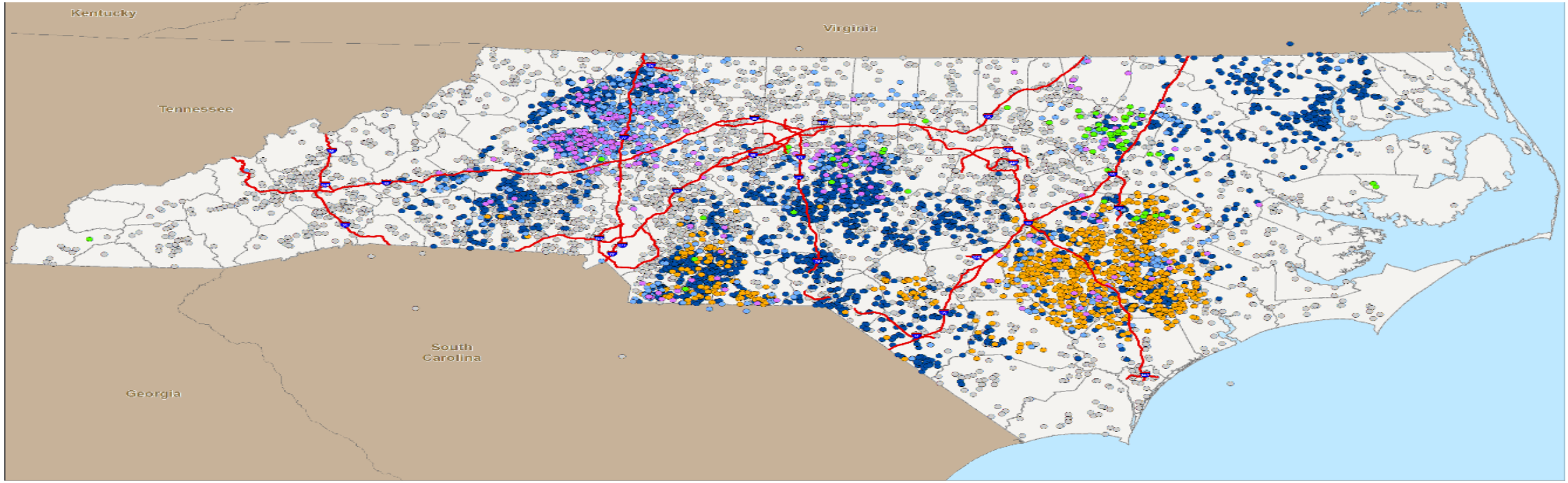

## ALL Findings

**Update on Avian Influenza Findings**
**Poultry Findings Confirmed by USDA's National Veterinary Services Laboratories**




| | |
|---|---|
| **223** Detections Reported | **48,091,293** Birds Affected |
| **12/19/14** First Detection Reported | **6/17/15** Last Detection Reported |

# North Carolina Poultry Farms




**Legend**

- Table Egg Layers
- Broiler Breeder Pullets
- Broiler Breeders
- Broilers
- Turkeys
- Backyard
- Interstates
- County

N
W E
S

0 25 50 100 Miles

**Steve Troxler, Commissioner**
**Dr. David T. Marshall, State Veterinarian**

NOTICE
Every effort has been made to ensure the accuracy of information, but errors and conditions originating from physical sources used to develop the database may be reflected in the data supplied. The requester must be aware of data conditions and ultimately bear responsibility for the appropriate use of the information with respect to possible errors, original map scale, collection methodology, currency of data, and other conditions specific to certain data.

Source: North Carolina Department of Agriculture and Consumer Services, Veterinary Division
The projection for this map is North Carolina State Plane Feet North American Datum 1983

This map was created by Robert Hilton on 3/20/2014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FARM BIOSECURITY
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Do not enter property without prior approval.
Keep to roadways and laneways.
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# BIOSECURITY

**Fall ban on live bird shows and sales in effect Aug. 15, 2015 to Jan. 15, 2016**

**Backyard poultry farmers *must* register with the *state program only* to aid in the state's preparation for a possible highly pathogenic avian influenza outbreak.**

http://www.ncagr.gov/ncfarmid/Poultry.htm


# http://www.ncagr.gov

NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

NCDA&CS Home | Programs | Services | Divisions | Newsroom | Search NCDA&CS | NCDA&CS Divisions

HOME | INDUSTRY

# NORTH CAROLINA PREPARES FOR HIGHLY PATHOGENIC AVIAN INFLUENZA

**CURRENT STATUS**
**North Carolina is free from HPAI**
Check National Status Here

**BIOSECURITY LEVEL**
**All N.C. poultry farms should be following STRICT biosecurity protocols**

What is Avian Influenza? | Consumers/Food Safety | Biosecurity | Newsroom | FAQs
Small-Flock/Backyard Chickens | Wild birds and hunting | Fall ban on live bird shows/sales

## Information for Small-Flock / Backyard Chicken Owners


**CURRENT STATUS**
**North Carolina is free from HPAI**
Check National Status Here

**BIOSECURITY LEVEL**
**All N.C. poultry farms should be following STRICT biosecurity protocols**

Biosecurity | Testing/Reporting | For Veterinarians | Resources | FAQs | Newsroom
Contact Us | Grower Response Plan | Depopulation/Composting | Poultry Industry Workers

# HPAI Grower Response Plan

Requires any commercial poultry grower with 200 or more birds to submit an HPAI outbreak plan.

A commercial grower would be any grower under contract with an integrated company.

Growers need to submit the plan to the Veterinary Division no later than Sept. 15 (Subject to be moved to Oct 1.)

# HPAI Grower Response Plan

Companies can submit a master plan for all growers.

However, the grower must receive a copy of the plan.

The exception is if burial is the preferred method for mortality disposal.

Each premise will have to be preapproved for burial.

**Aert Chain Saw Training**
"Chain saw crew ready to mobilize at any time"

**Foam Training**
"Consistent training provides the confidence needed during an event."

# NCDA&CS Emergency Programs Division

**ICS Training**
"Emergency Programs provides Incident Command Training System (ICS) training for responders enabling them to respond to an event in an organized structure."

**Hurricane Sandy**
"Knowing the projected path of a weather event can help with successful preparations, thereby limiting damage and loss of life."

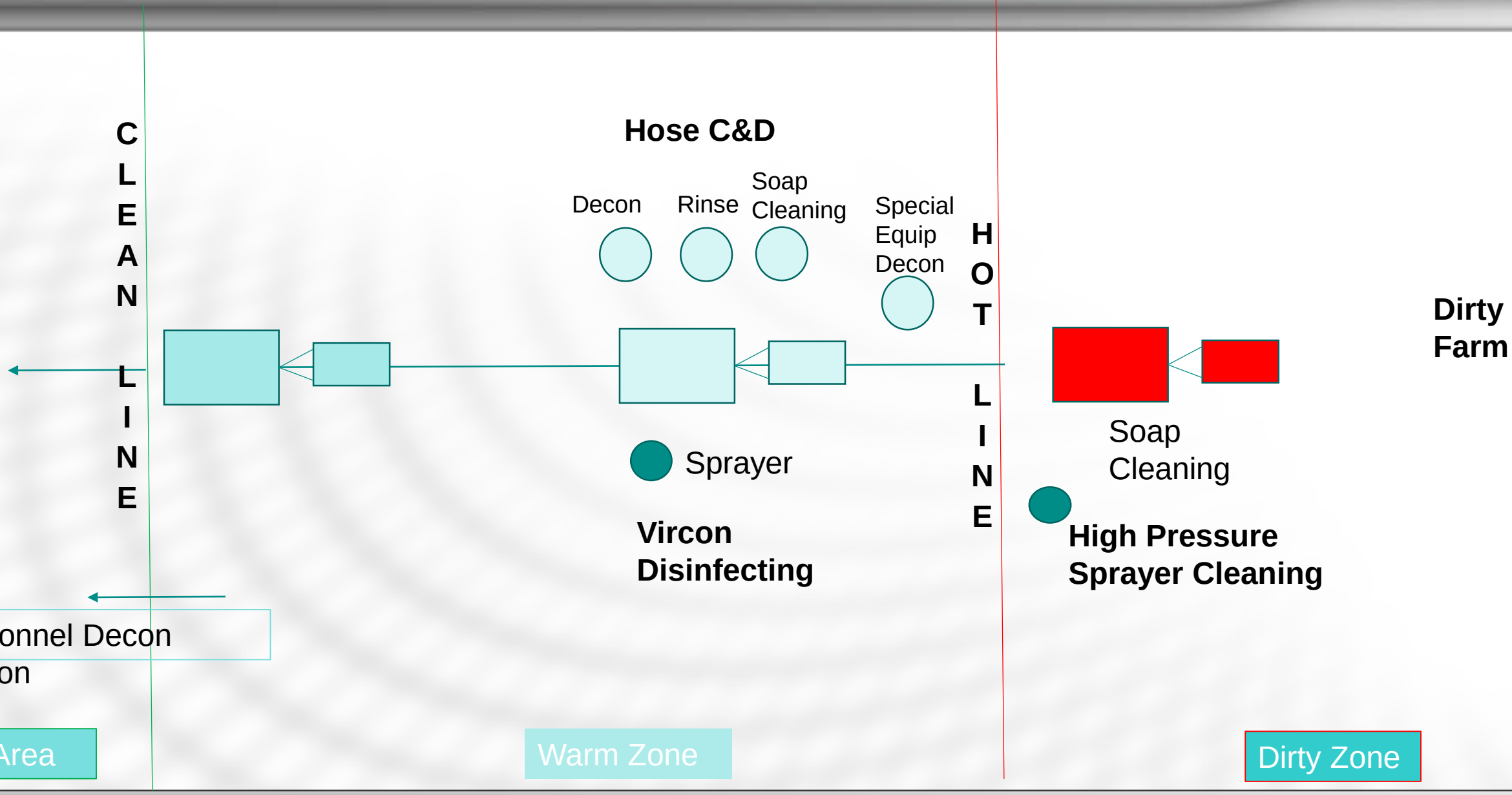
## Depop Task Force

| | |
|---|---|
| Task Force Leader | 1 |
| • Machine Operator | 2 |
| • Nozzle technicians | 4 |
| • Hose technicians | 4 |
| • Penners- if needed | 2 |
| • Cold Side | 1 |

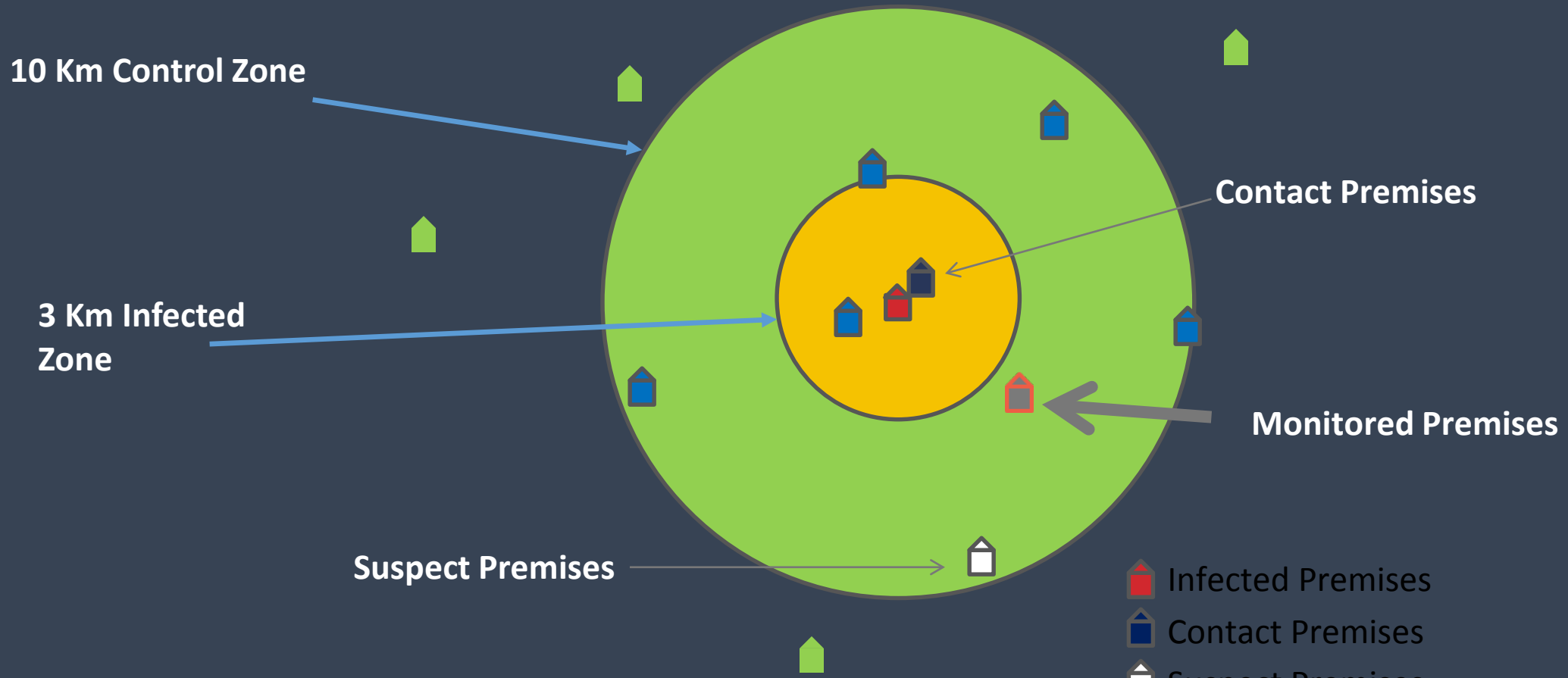
• 2 Units

• 14 members


# EQUIPMENT DECON LINE

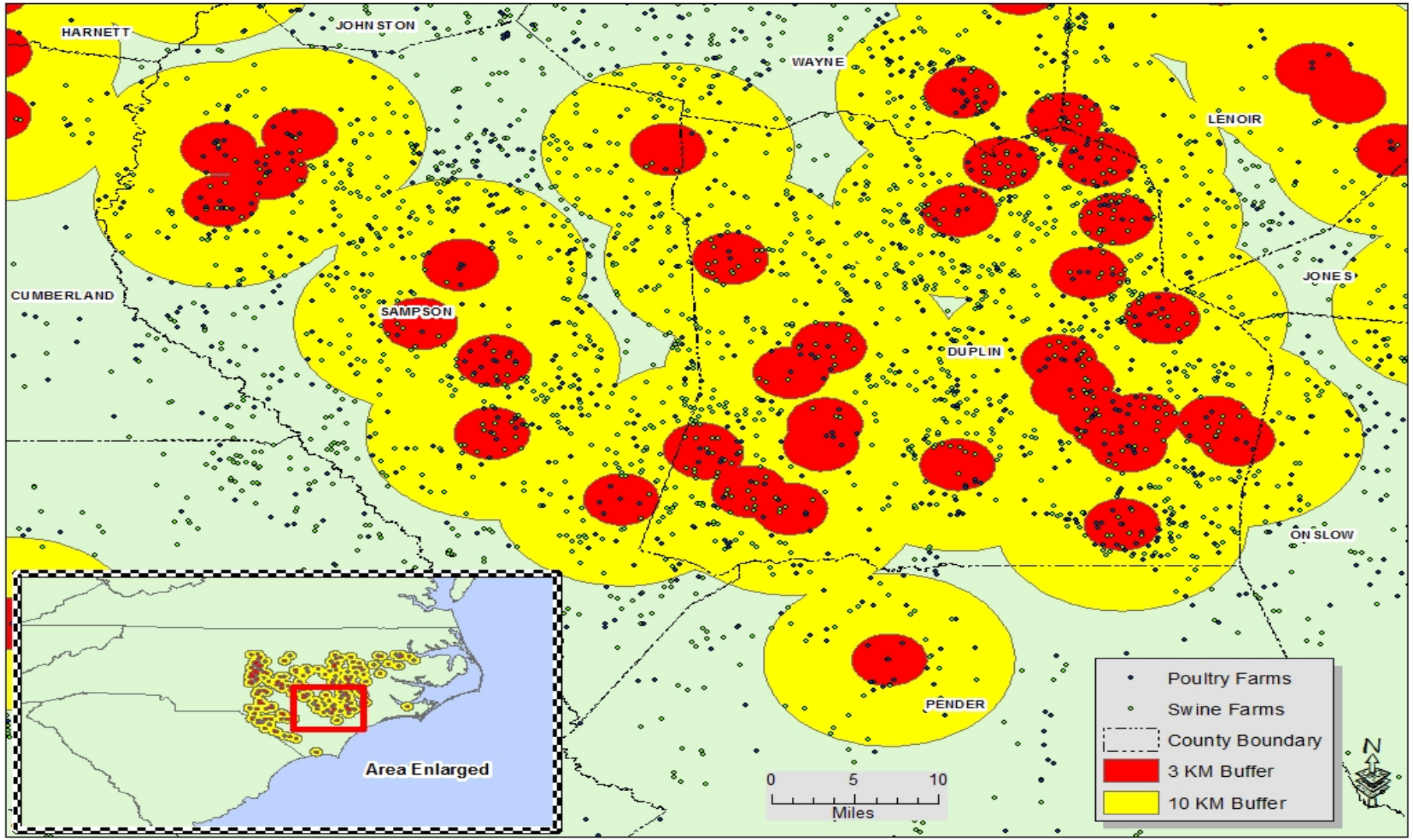


# The Control Zone




NO Movement of Animals Without a Permit

## Sampson and Duplin Counties with 3 and 10 KM Buffers of 200 Poultry Farms in Southeastern North Carolina and All Poultry Farms and Swine Farms in North Carolina

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# Mortality Management Guidance

Guidance was developed in cooperation with:

- NCDA&CS State Veterinary Division
- NCDA&CS Emergency Programs
- NCDA&CS Division of Soil and Water Conservation
- NCDENR Division of Waste Management
- NCDENR Division of Water Resources
- NCDENR Division of Air Quality
- USDA- Animal & Plant Health Inspection Service (APHIS)
- Midwestern/Central States

# Mortality Management Guidance

Best Option : Composting

- Disposal of litter, feed, and poultry, either in the house or outside of the house for layer operations

- Composting has been demonstrated to be the most effective manner:
  - to dispose of birds,
  - to destroy the virus,
  - and to eliminate spread of virus associated with the movement of dead poultry and/or house litter.

- Composting end-products are also readily and routinely managed in environmentally appropriate ways throughout the state.

Compost “windrows” can be built within the poultry house

Compost does not have to be covered if placed outside of the house.

# DAYS IN PROCESS- PERFECT WORLD

- 1-2 DAYS INITIAL CASE – Confirmation and Depop
- DAYS 2-3 DISPOSAL- Composting Starts

  28 DAYS COOKING COMPOST PILE
- DAY 32-33 REMOVE COMPOST TO OUTSIDE
- DAY 35 + CLEANING AND DISINFECTION OF HOUSE – can take several days
- 21 DAY DOWN TIME AND NEGATIVE ENVIRONMENTAL TESTING
- 120 Day lay fallow plan for houses that cannot be C&D
- REPOPULATE – DEPENDS ON CONTROL ZONE AN C&D PROCESS

# How can SWCD and NRCS help?

Assist with development of waste management plans when necessary for application of compost material.

# Management Considerations

- If land applied, compost must be at agronomic rates.
- Technical Specialist are NOT required to write a plan for compost.
- If compost is applied on land that is currently in a waste plan for a permitted operation then:
  - New waste management plan must be completed by a technical specialist.
  - Additional nutrients must be calculated and recorded for the plan.

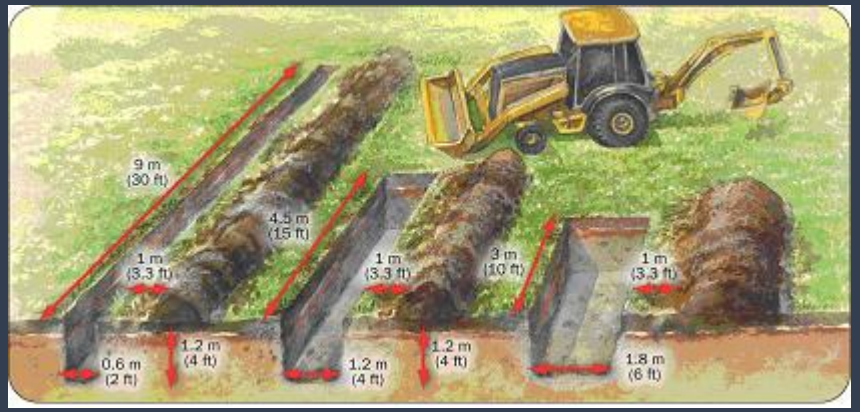
# Mortality Management Guidance

Burial is an option under certain conditions

The overall goal of the burial measures and procedures is to eliminate, in a ***timely and biosecure manner***, that is ***aesthetically acceptable***, and ***environmentally responsible***, all poultry carcasses that result from death or depopulation of poultry associated with a highly pathogenic avian influenza (HPAI) disease outbreak if burial on farm is being considered as a method for disposal.

# Burial General Measures and Procedures

- Litter and feed cannot be buried.
- A pre-incident site selection assessment, performed by a qualified individual, must be conducted to determine suitable disposal of carcasses by burial.
- Adequate assessments for on-site burial should initially consider County Soil Surveys for suitable areas by soil map unit confirmed by on site assessments from *qualified individuals*.



# Burial General Measures and Procedures

- In the case where the burial site is in a waste disposal spray field, the burial site is not available for subsequent waste spraying until a new viable crop is established on the site.

- The burial site shall be located so as to minimize the effect of storm water runoff.

- Burial is not permitted in the tiled area of an under-drained field.

# Burial Site Setbacks

- 50 feet—property boundary, unless the owner of the adjacent property is the same person or entity.
- 300 feet—any existing stream or public body of water, and at no time within the regulated floodway of any waters of the State of NC.
- 300 feet—any existing public water supply well.
- 100 feet—any other type of existing well.
- The burial site cannot include any portion of a waste lagoon or lagoon wall.

# Burial and Separation of SHWT

Burial sites should be 3 feet above the seasonal high water table (SHWT) whenever possible.

SHWT is determined by direct observation of soil mottles or matrix with a color of chroma 2 or less, using the Munsell color chart.

If a 3-foot separation is not possible, then the following minimal separations should be used:

Soil Group I – 36 inches

Soil Group I – Sandy Texture Soils: sand and loamy sand textural class.

Soil Group II – 24 inches

Soil Group II – Coarse-loamy and Fine-loamy Texture Soils: sandy loam, silt, silt loam, sandy clay loam, clay loam, and silty clay loam textural class.

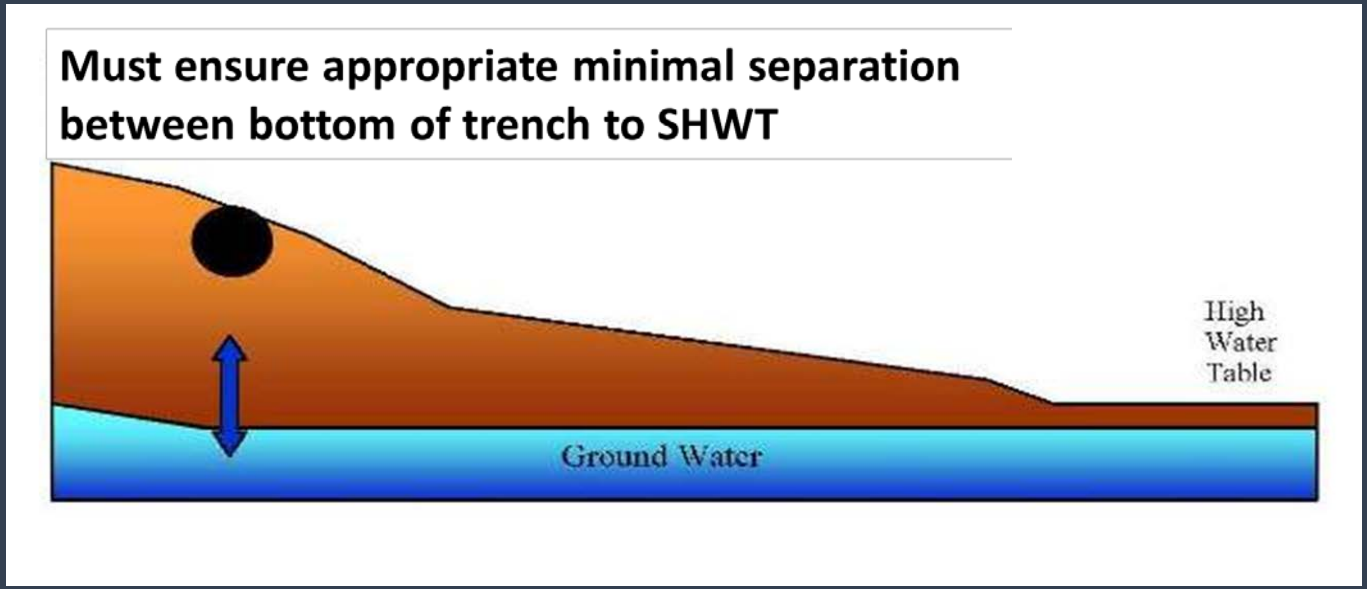
Soil Group III – 18 inches

Soil Group III – Clayey Texture Soils: sandy clay, silty clay, and clay textural class.

(Based on Solid Waste Rules, Septage Management—15A NCAC 13B .0837)

# Burial Buffers

- Depth to rock:  in soils without a SHWT but with a lithic (R horizon) or paralithic (Cr horizon) contact, the separation between the dead animals and lithic/paralithic contact should be 2 feet.
- There must be at least 3 feet of soil covering any buried animal.  This can be interpreted to mean soil mounded over the animals lying on the soil surface.



# Recordkeeping Post Burial

Landowner must keep a record of:

- Location of the approved burial site (GPS latitude and longitude coordinates if available)
- Burial history of each burial site to include the date, species, head count and age
- Information must be reported to the Commissioner of Agriculture, the Secretary of the Department of Environment and Natural Resources, the State Veterinarian and the Local Health Director.
- Post-disposal environmental assessment should be considered for on-site burial or mounding of more than 250,000 birds (to include a minimum of three monitoring wells with one well located up-gradient of groundwater flow). Surface water sampling may also be considered.

# Collective Burial Site

- A collective burial site may be designated to serve multiple farms in the event of a large-scale emergency whereby individual farm sites are not available.
- In addition to the siting criteria above, in order to establish a collective burial site, it should be constructed with, at a minimum, a 1.25 x 10-6 clay liner at least 18 inches in thickness.
- In addition, post disposal assessment as noted above would be recommended for any collective burial site.
- Due to the potential generation of gases from the decomposition of mortality, DENR recommends monitoring of enclosed buildings, spaces, etc. within 500 feet of the disposal area.

# What can SWCD and NRCS do to help?

- Provide initial review of soil survey to determine if burial would be an option for a particular site.
- Conduct site visit to verify SHWT, determine approved site location and size.
- Contact DSWC Technical Assistance staff and/or private soil scientist to assist with in field determinations.
- License Soil Scientist Directory - http://www.ncblss.org/lss-directory.pdf

| Field Boring Data | Owner: | | | | | Date: | | |
|---|---|---|---|---|---|---|---|---|
| Farm | Site ID | Boring | SHWT | Soil Group | Estimated Mortality Volume | Estimated Pit Volume | Estimated Dimensions | Notes |
| | | | | | | | | |
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# *Template for Field Notes*

# Mortality Volume Calculator for Burial

| | | |
|---|---|---|
| Animal Type: | Turkeys | |
| Farm Capacity: | 30000 | # of birds |
| Average Weight of Bird: | 40 | lbs |
| Estimated Mortality Volume: | **19231** | **cu ft** |
| Estimated Volume of Excavation: | **38462** | **cu ft** |

**Estimating Trench Burial Area**

| | | |
|---|---|---|
| Estimated Volume of Mortality: | **19231** | **cu ft** |
| Estimated Volume of Excavation: | **38462** | **cu ft** |
| Width of Trench Bottom: | 10 | ft |
| Depth of SHWT | 4 | ft |
| Minimal Seperation between SHWT: | 1.5 | ft |
| Depth of Trench: | 2.5 | ft |
| Slope of Trench Sides: | assumes sides and ends are vertical | |
| Length of Trench Bottom: | **1538** | **ln ft** |
| Soil Excavated Available for Cover | **46154** | **cu ft** |
| Additional Soil Needed for 3' of Cover: | **-7692** | **cu ft** |

Assumes Soil Group III Clayey Texture Soils

Minimum Separation is 18 inches from SHWT.

# Mortality Volume Calculator for Burial

| | | |
|---|---|---|
| Animal Type: | | |
| Farm Capacity: | 30000 | # of birds |
| Average Weight of Bird: | 40 | lbs |
| Estimated Mortality Volume: | **19231** | **cu ft** |
| Estimated Volume of Excavation: | **38462** | **cu ft** |

Assumes Soil Group II Coarse-loamy and Fine-loamy Texture Soils

**Estimating Trench Burial Area**

| | | |
|---|---|---|
| Estimated Volume of Mortality: | **19231** | **cu ft** |
| Estimated Volume of Excavation: | **38462** | **cu ft** |
| Width of Trench Bottom: | 10 | ft |
| Depth of SHWT | 2.5 | ft |
| Minimal Seperation between SHWT: | 2 | ft |
| Depth of Trench: | 0.5 | ft |
| Slope of Trench Sides: | assumes sides and ends are vertical | |
| Length of Trench Bottom: | **7692** | **ln ft** |
| Soil Excavated Available for Cover | **230769** | **cu ft** |
| Additional Soil Needed for 3' of Cover: | **-192308** | **cu ft** |

Minimum Separation is 24 inches from SHWT.

| Estimating Area for Surface Burial<br>* Not recommended, consider composting instead | | |
|---|---|---|
| Estimating Volume of Mortality: | **19231** | **cu ft** |
| Depth of SHWT | 2.5 | ft |
| Minimal Seperation between SHWT: | 2 | ft |
| Height: | 3 | ft |
| Top Width: | 30 | ft |
| Side Slope: | 2 | |
| End Slope: | 2 | |
| Area of Cross Section: | **108** | **sq ft** |
| Top Length: | **178** | **ft** |
| Base Width: | **42** | **ft** |
| Base Length: | **190** | **ft** |
| Area of Base: | **7983** | **sq ft** |
| Estimated Soil Needed for 3' of Cover: | **56466** | **cu ft** |

# Conservation Considerations

- Burial plans should be planned for maximum birds on farm at max grow-out weight.
- If you do not feel comfortable making a field determination, contact DSWC or other qualified individual.
- Recommend seeding and mulching to prevent erosion of soil cover.
- Consider slope of field when determining burial site; especially if utilizing surface burial.
- Consider movement of surface waters when determining burial site.

# *Draft* Template Letter for Burial Siting

To Whom It May Concern:

According to sampling completed in (Date), the **Seasonal High Water Table (SHWT) for the indicated area of this farm is approximately (fill in) inches, with (fill in) soil type present**. According to emergency burial guidelines (attached) issued by the NCDA&CS State Veterinarian Division, any emergency burial pit bottom should be 3 feet above the SHWT. If a 3 feet separation is not possible, then the following minimal separation should be used:

a. Soil Group I – 36 inches
    i. Soil Group I – Sandy Texture Soils: sand and loamy sand textural class.
b. Soil Group II – 24 inches
    i. Soil Group II – Coarse-loamy and Fine-loamy Texture Soils: sandy loam, silt, silt loam, sandy clay loam, clay loam, and silty clay loam textural class.
c. Soil Group III – 18 inches
    i. Soil Group III – Clayey Texture Soils: sandy clay, silty clay, and clay textural class.

There must be at least 3 feet of soil covering any buried animal. On the site map (attached) you will see a possible burial site delineated by yellow bold lines. In order to bury on this site, you may (or may not) dig to only (fill in) inches in depth, and would be required to have three feet of dirt coverage.

**NCDA&CS continues to recommend composting for disposal of litter, feed, and poultry, either in the house or outside of the house for layer operations; in fact, composting has been demonstrated to be the most effective manner to dispose of birds, to destroy the virus, and to eliminate spread of virus associated with the movement of dead poultry and/or house litter. However, burial as stated in the paragraph above and as depicted on the attached map, would meet the buffer and setback guidance provided by NCDA&CS.**


# For more information:
# http://www.ncagr.gov/avianflu