Transporting Diseased Carcasses Project

DHS/USDA LOGISTICAL INFRASTRUCTURE GRANT

- West Texas A&M

- NCDA & CS Emergency Programs

- Goal was to look at transportation and permitting challenges associated with moving FMD infected carcasses from premises needing to utilize off site disposal options such as Landfills and Rendering …..

3D Logistical Infrastructure for Carcass Disposal Rendering and Landfill

- **Bob DeOtte – WTAMU**
- with credits to
- Ross Wilson – TCFA
- Ben Weinheimer – TCFA
- Lori Miller – USDA APHIS VS
- Jon Zack – USDA APHIS VS
- Jodi Sterle – formerly Texas AgriLIFE Extension

WORKSHOP – 17 NOVEMBER 2012

- Five States
  - Texas
  - New Mexico
  - Kansas
  - Oklahoma
  - Colorado

- North Carolina Update

- State Veterinarians

- EPA

- State Environmental
  - Not all states

- USDA APHIS

- Industry
  - Landfill
  - Rendering
  - Livestock

NC Portion of Project (swine and Dairy)

Landfills/Rendering

- State Workshop

- SAADRA Workshop (Dec 4th)

Transport/Permitting

- In-State SME workshop

- National SME workshop (April 9-10)
  - California
  - Wisconsin
  - Iowa
  - Minnesota
  - NC

WORKSHOP

- [prep]

- Used our state SME workshop to create a Webinar that we then prepped the participating States….

- Asked that they conduct a meeting with their state SME's using webinar materials (we assisted or attended several of the states)

- Des Moines Workshop

- States invited up to 5 SME's to attend the workshop and provide discussion on same webinar points to achieve consensus of thought/ direction for project best practices

- White paper summary, calculator tool (FAZD), elimination of country's debt and finally answer why the chicken crossed to the other side of the road

# Select Animal Carcass Disposal Issues in Florida

*Greg Christy D.V.M.*

Florida situation   FMD disposal Summary

- **We have sandy soils overlying porous limestone**

- **We have a shallow water table**

- **We have large rainfall totals**

- **We just have too much water and <u>it is all connected</u>**

- **You just can't bury large numbers of animal carcasses in Florida**

Bottom Line!!

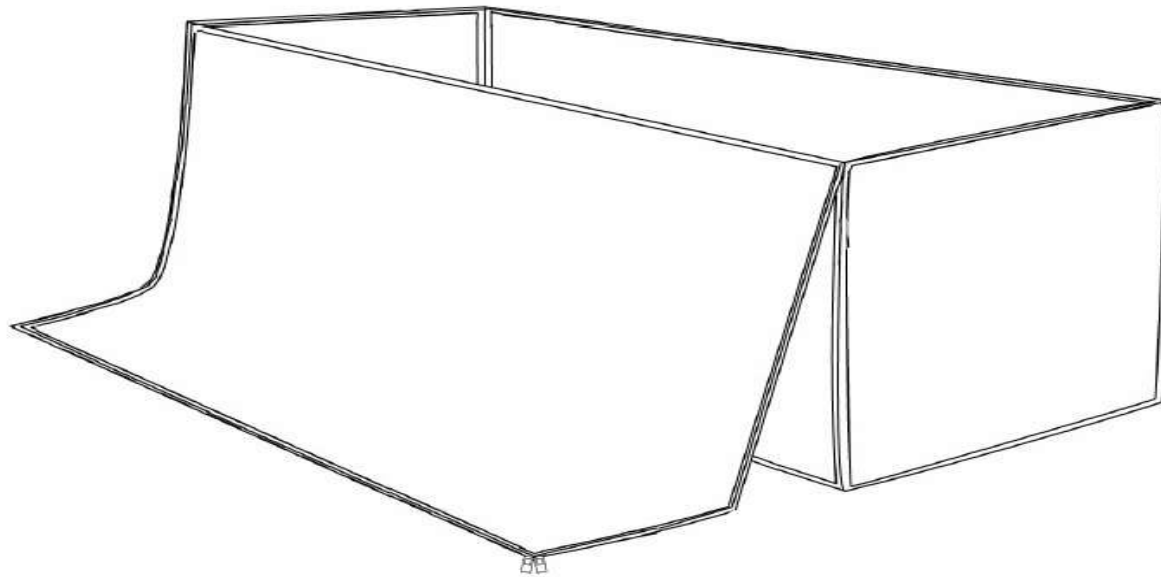- **In Florida we will probably have to transport animal carcasses for disposal**
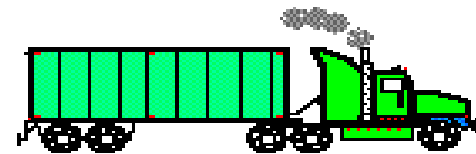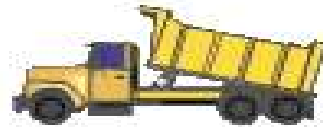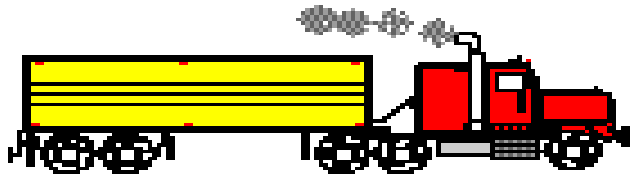
PRIVATELY OWNED CLASS 1 LANDFILLS
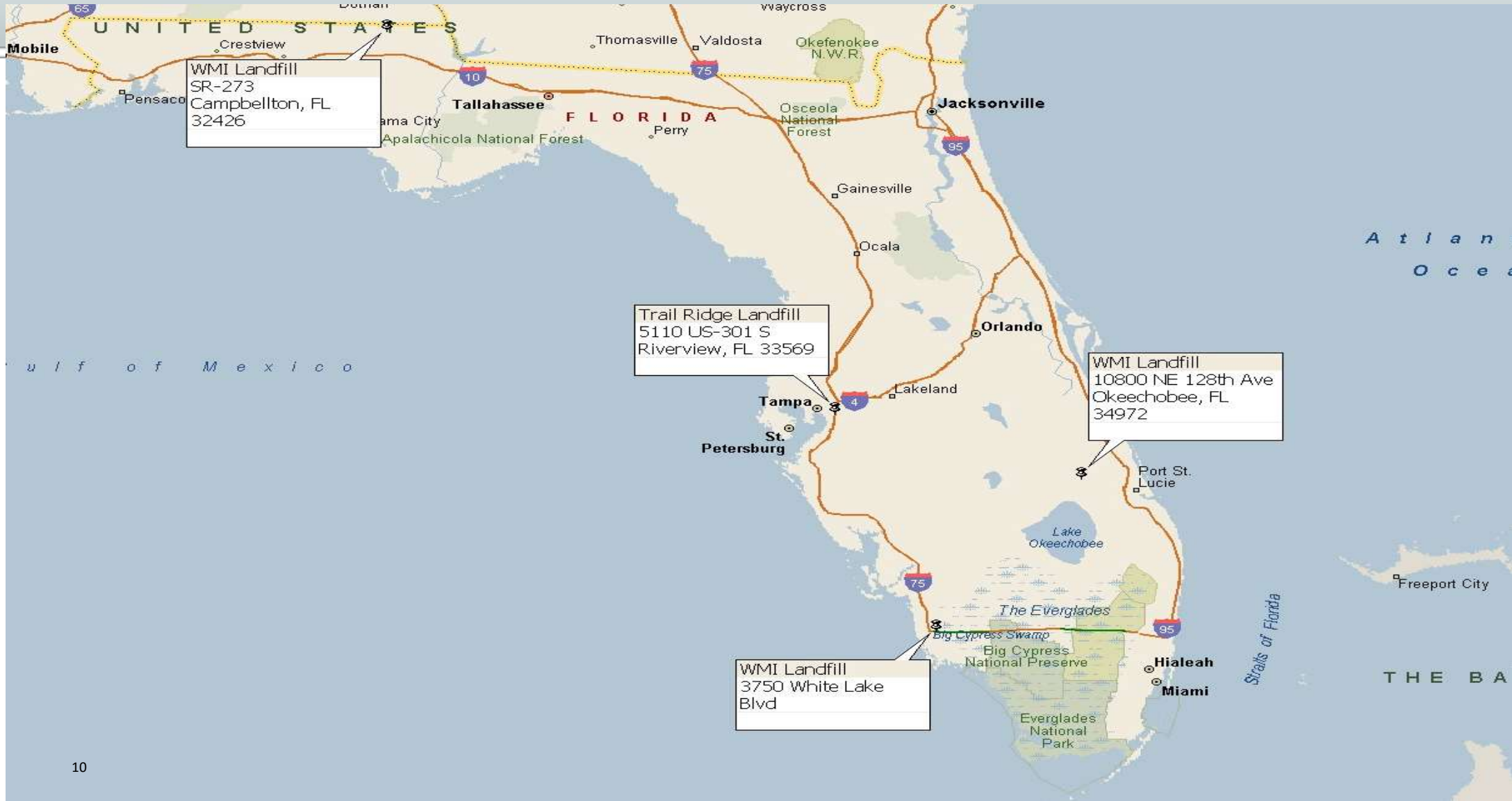
40 cubic yard dumpsters

Zipper Top Bag

40 cubic yard dumpsters

Zipper Top

Transport

Classification, Conveyances, Permitting
Biosecurity and Routing

Review and Discussion

Best Practices to Reduce Risks

- **Transport specifications**
  - Containers:
    - Leak-proof containers
    - Air-tight container with filtered vent

- **What conveyances are available?**
  - Capacity
  - Mobility/Suitability to task
  - Labeling
  - Operations "friendly"

- **6.2:** Leak proof, air tight, and protected—3 standards

EXAMPLES OF CONVEYANCES/CONTAINERS

- As to

  - Capacity/feasibility of operations

  - Type of modality

  - Availability

  - Other factors such as weather

Transport

Review and Discussion

Transportation Issues
Topics to Consider

- **Biosecurity**
- **Permitting**
  - **Non-infected Animals**
  - **Infected Carcasses**
- **Routing**
  - **Conveyance Type**
- **C&D (clean/disinfect)**
  - **Conveyances**
  - **Disposal Facilities**
  - **Workers**

TRANSPORTING: 5 STAGE PROCESS

1. Load vehicle with infected carcasses (sealed)

2. Proceed to C&D, receive movement permit (one way ticket)

3. Transport carcasses

4. Offload carcasses at disposal site

5. Proceed to C&D, receive movement permit   to return

6. **$$$$ (brought up during a webinar)**
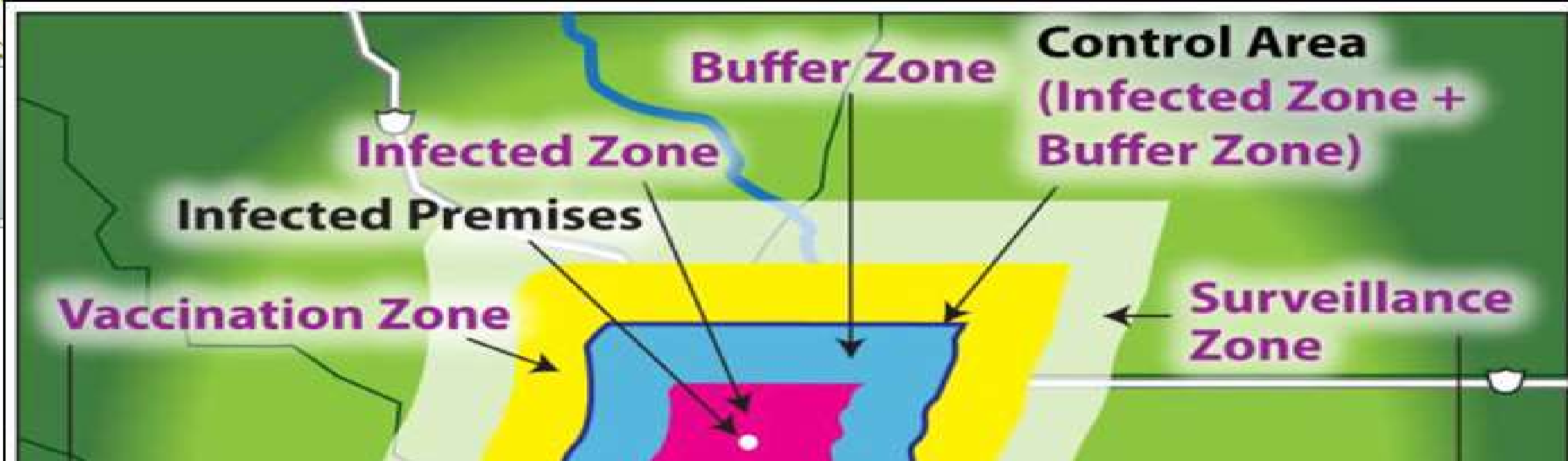
Zone	Leak proof	Tarped	Protected	
Infected Zone	yes	yes	yes	
Buffer Zone	yes	yes	yes	
Surveillance	yes	more	yes	
Free Zone				research

EXAMPLES OF CONVEYANCES/CONTAINERS

Typical Render Haul Truck

LOGISTICS   VS.

Feedlot population - 100,000 head at 1000 lbs each = 100M lbs = 50,000 tons

It would take about 1700 container loads to move animals from one feedlot to disposal site

Questions to Consider >> Permitting

✓ **Permitting**

- Allowance/permission
  - Process to allow movement
- Compliance
  - Process to enforce proper movement

- Use something already in existence?
  - Examples:
    - USDA 1-27
    - MSP Live movement documents
    - Hazmat permit guides- ex. documentation for 6.2

USDA 1-27

- Permit
  - Seals
  - Signatures

Overlaid labels on form:
- **Infected disposal**
- **Non-Infected disp**
- **Decon/biosecurity measures**

MULTI STATE PARTNERSHIP LIVE ANIMAL MOVEMENT PERMIT

- Tailored to Traffic

  Control point

  documentation

Movement Control Order Version: _____   Permit Number: [pre-printed & sequential]

[INSERT STATE] EMERGENCY MOVEMENT PERMIT

1. Date: _____ Time: _____ AM ☐ PM ☐ Checkpoint: _____
2. Vehicle/: _____ / _____ / _____ / _____ / _____ / _____
   Trailer   (make & model)   (tag #)   (state)   (make & model)   (tag #)   (state)
3. Vehicle USDOT #: _____ Driver's license#: _____ State: _____
4. Driver: _____
   (name, phone, street address, city, state, clear physical directions if no physical address)
5. Animal health/shipping document, issuing state and associated document number: _____
   _____
6. Load contents: _____
7. Origin premises ID#: _____ Destination premises ID#: _____
8. Origin: _____
   (name, phone, street address, city, state, clear physical directions if no physical address)
9. Destination: _____
   (name, phone, street address, city, state, clear physical directions if no physical address)
10. Owner: _____
    (name, phone, street address, city, state, clear physical directions if no physical address)

11. **Has the shipment originated from or passed through an area identified in the Movement Control Order?** Yes ☐ No ☐
    If yes, contact the local emergency manager and divert to the nearest offload area.
    Proceed to an Offload Site? Yes ☐ No ☐ Name/ID of Offload Site: _____

12. **Return to Point of Origin.** Yes ☐ No ☐

    Proceed to Intended Destination. Yes ☐ No ☐

    Time of checkpoint departure
    _____:_____ AM or PM

13. Route to final destination: _____
    _____
    _____

14. _____   _____
    Signature of driver   Printed name of driver

    By signing this document the driver acknowledges and agrees to abide by the requirements of this permit.
    Disobeying requirements of this movement permit may result in a fine and/or imprisonment.
    For questions regarding this permit, please contact [INSERT STATE CONTACT AND PHONE #]

15. _____   _____
    Signature of issuer   Printed name of issuer

Distribution: White to issuer   Blue to state   Yellow to transporter   Green to _____
July 15, 2011. (v1.0)

Modified version using MSP Live Shipments

--lbs/number of carcasses

--zones

Signature of destination rep

Movement Control Order Version: _____   Permit Number: [pre-printed & sequential]

[INSERT STATE] CARCASS MOVEMENT PERMIT

1. Date: _____ Time: _____ AM ☐ PM ☐   Interstate movement ☐   Intrastate Movement ☐
2. Vehicle/: _____ / _____ / _____ / _____ / _____ / _____
    Trailer   (make & model)   (tag #)   (state)   (make & model)   (tag #)   (state)
3. Vehicle USDOT #: _____   Driver's license#: _____   State: _____
4. Driver: _____
            (name, phone, street address, city, state, clear physical directions if no physical address)
5. Animal health/shipping document, issuing state and associated document number: _____
    _____
6. Load contents Carcasses: ☐ Infected   ☐ Non-Infected
7. Origin premises ID# _____   Destination premises ID# _____
8. Origin: _____
            (name, phone, street address, city, state, clear physical directions if no physical address)
9. Destination: _____
            (name, phone, street address, city, state, clear physical directions if no physical address)

10. **Has the container undergone inspection for** _____
    Leakproof ☐   **Air Tight** ☐   **Identification** ☐   Inspector: _____

                                                                Signature: _____

    Undergone Decon at Point of Orgination? Yes ☐   No ☐

11. Waivers for transport: _____
    _____

12. Route to destination: _____
    _____
    _____

13. _____   _____
            Signature of driver   Printed name of driver
    By signing this document the driver acknowledges and agrees to abide by the requirements of this permit.
    Disobeying requirements of this movement permit may result in a fine and/or imprisonment.
    For questions regarding this permit, please contact [INSERT STATE CONTACT AND PHONE #]

14. _____   _____
            Signature of issuer   Printed name of issuer

Distribution: White to issuer   Blue to state   Yellow to transporter   Green to _____
July 12, 2011 (v1.0)

BEST PRACTICES TO REDUCE RISKS

o **Biosecurity**

- **Exit positive/exposed premise**
- **at Rendering Facilities**
- **at Landfills**
- **During transport**

- **Discuss the applicability of guidelines being used for Secure Milk Supply (farm and plant) and those outlined in FADPReP for exit from infected premises.**

SITE SPECIFIC PLANNING NEEDED TO EFFECTIVELY USE LANDFILLS AND RENDERING FACILITIES

- Entrance

site specific operational plan for each facility

Exit

# BEST PRACTICES TO REDUCE RISKS

Routing-

Factors

- Load/size restrictions on roads/bridges
- Exposure to other farms
- Traffic patterns
- Locations of disposal options (renderer/landfill)

- Limitations: Have to consider that some farms may not lend themselves to transporting animals off farm due to impracticality imposed by restrictions of bridges/roads to accommodate large scale movements

Wisconsin Rendering Plants and Landfills
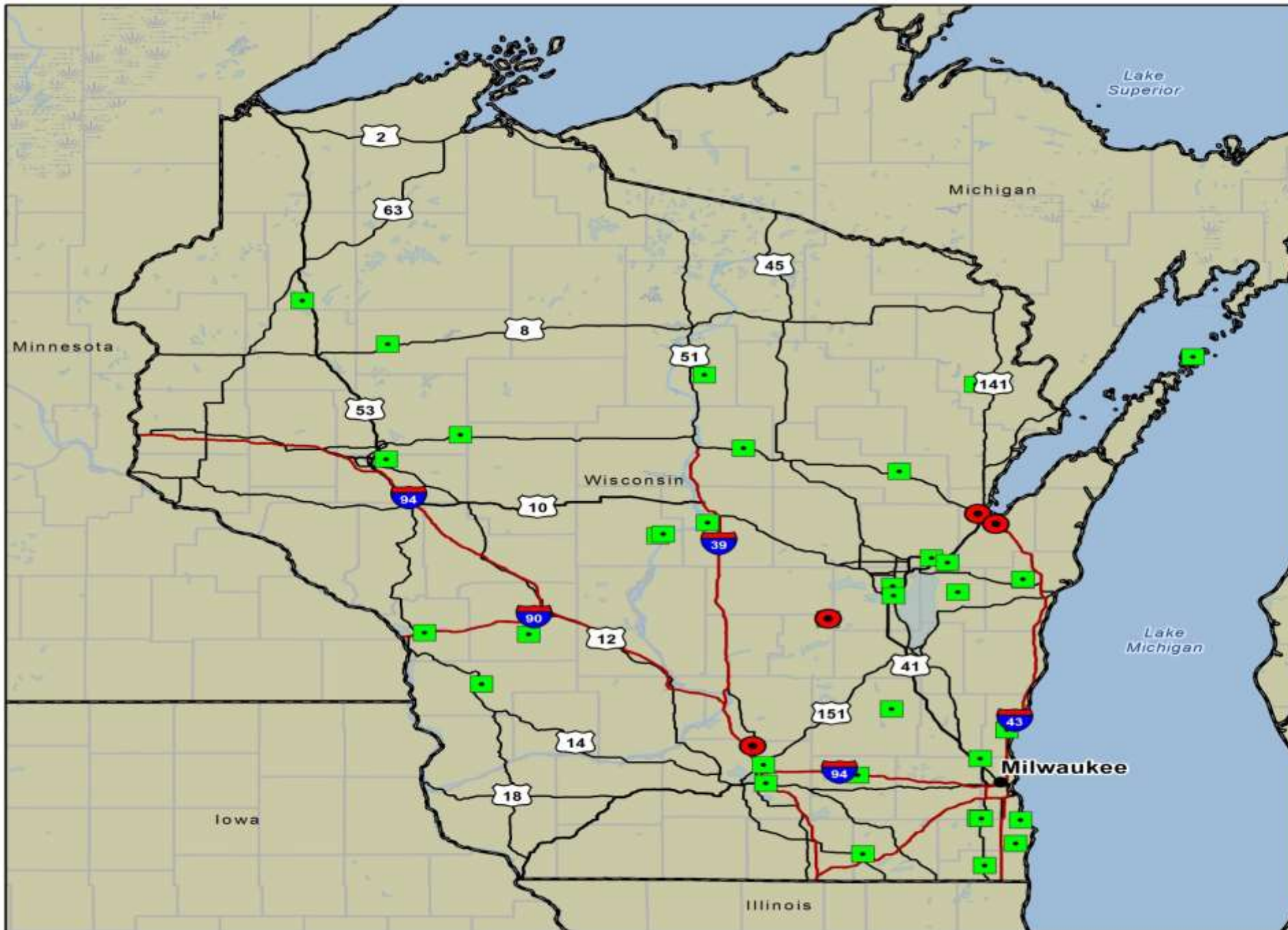
Legend:
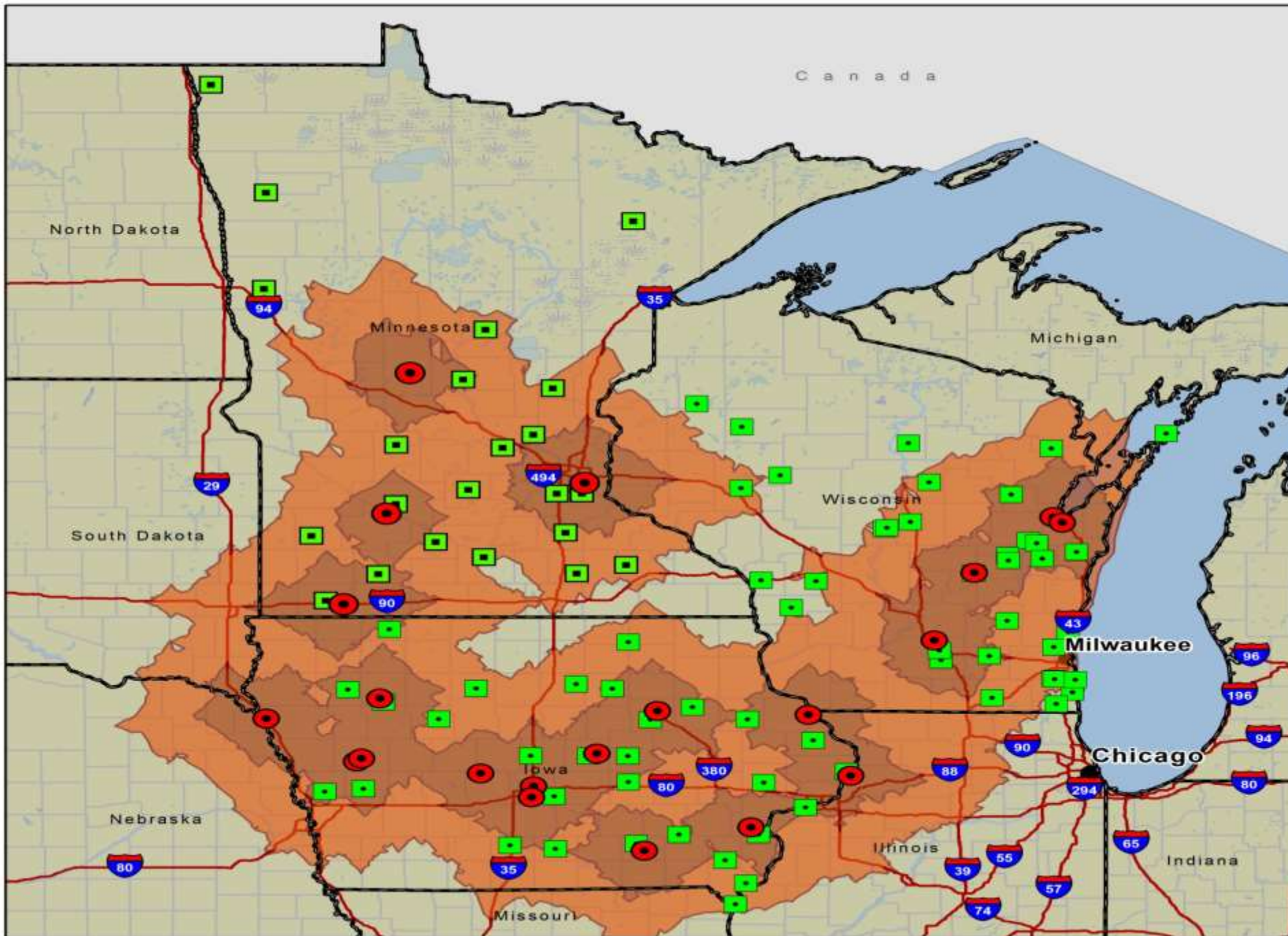- ● Rendering Plant
- ▪ MSW Landfill

Water Bodies
- Lake; Stream; Canal
- Reservoir
- Swamp or Marsh
- Major River

N

50 Miles

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. Map Date: February 2013. Projection: WGS 1984 Web Mercator Auxiliary Sphere. Produced By: NCDA&CS Emergency Programs.

Service Areas of Rendering Plants in Iowa, Minnesota, and Wisconsin
2 Hour Drive Time

Questions to Consider
Transportation

✓ Transport:
- Intrastate?
- Interstate?

PREMISES DESIGNATION AND STATE'S STATUS

- Disposal facility would need to designated a **Contact premise** so that State's Status would not Change if transported into a negative state as part of a regional plan
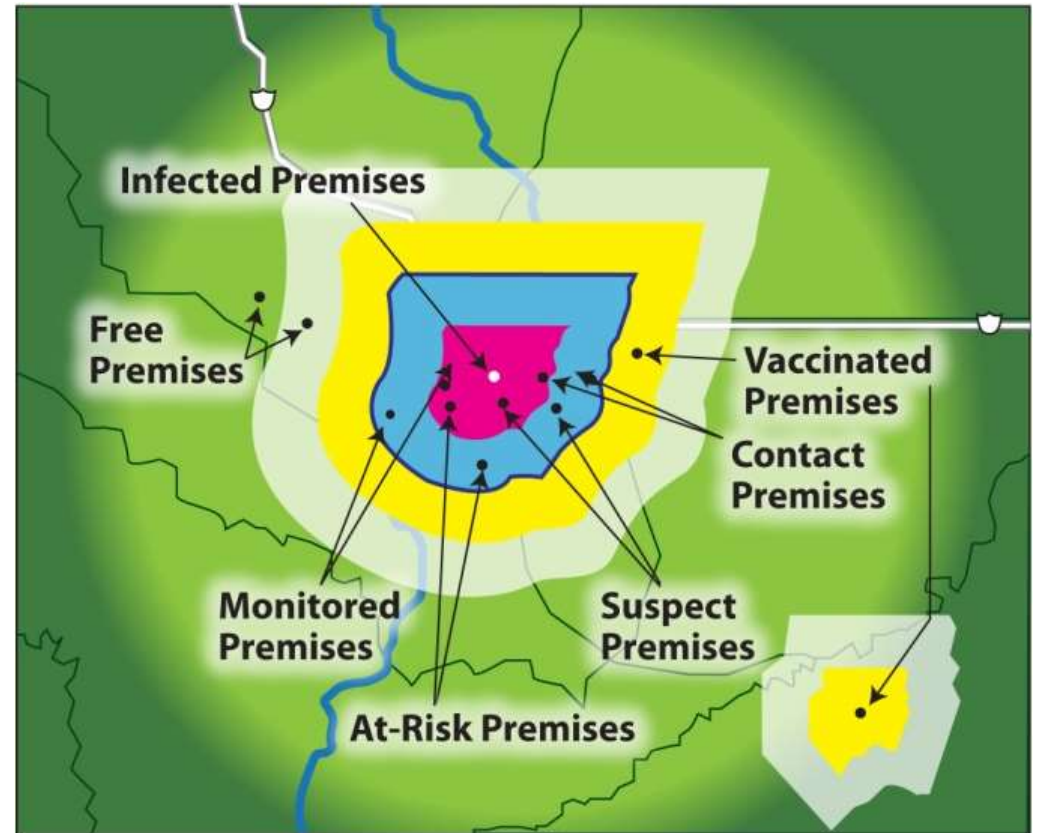
Questions to Consider
Transportation

✓ Security
- ✓ Escort?
- ✓ Convoy?
- ✓ Identification?

✓ Do not bring any attention to the movement

✓ Identify it so that first responders would respond properly if there were an accident

✓ May not have a choice if its 6.2 classed

PUBLIC RELATIONS…..MEDIA…….EDUCATION

- **Tremendous attention will need to be paid to PR/Education to allow something like this to occur**

- **Need to consider unloading an awful lot of stuff we have held so that public and even industry acceptance will be there for what we want/need to do**

Decision Tree – Transporting Diseased Cargo

Infected Animals Confirmed — Yes → **Disposal Method Bury or Incinerate on site?**

- Yes → **Proceed with on site disposal**
- No → **Transport to Disposal Site** → **Has vehicle been C&D'd?**
  - No → **Vehicle moves to Decon Station**
  - Yes → **Manifest/Bill of Lading on hand?**
    - No → **Manifest/Bill of Lading Received**
    - Yes → **Permits Obtained?**
      - No → **Obtain appropriate Permits**
      - Yes → **Vehicle proceeds to disposal site**

Decision Point

Vehicle proceeds to disposal site → **Accident en Route?**
- Yes → (next chart)
- No → **Arrives at Disposal site and downloads cargo** → **Has vehicle been C&D'd and permit obtained to return?**
  - No → **Vehicle C&D'd and permits obtained**
  - Yes → **Vehicle returns to load up site or to normal operations**

Decision Tree – Transporting Diseased Cargo, with Accident en Route

Accident en Route? — No → Proceed to disposal site

Accident en Route? — Yes → Driver Injured?

Driver Injured? — Yes → Provide Care for driver (e.g. 911)

Driver Injured? — No → Assess Situation & Notify ICT

?? (dashed line from Provide Care for driver to Assess Situation & Notify ICT)

Assess Situation & Notify ICT → Cargo Spillage?

Cargo Spillage? — Yes → ICT Rep arrives on scene

Cargo Spillage? — No → Vehicle physically able to proceed?

ICT Rep arrives on scene → Controls Area w/LE & ICT → Decon Team arrives and Decons vehicle and site → Vehicle cleared to proceed after Decon → Vehicle physically able to proceed?

Vehicle physically able to proceed? — No → ICT coordinates vehicle replacement → Complete accident report and proceed

Vehicle physically able to proceed? — Yes → Complete accident report and proceed

Complete accident report and proceed → Proceed to disposal site

Decision Point

Topics to Share

Disposal Issues

- o **Rendering Facilities**
    - **Facility Type (species)**
    - **Capacities**
    - **C&D**
    - **Business Continuity**

- o **Landfills**
    - o **Capacities**
    - o **Location**
    - o **C&D**
    - o **Business Continuity**

Use of <u>Rendering & Landfills</u>

✓ What resources are available?

✓ What are the limitations of both?
- ▪ Capacities:
  - • Limited based on species type? (rendering)
  - • Should agreements be developed?
  - • Buy in from industry?

✓ C&D?
- ▪ In a word: Challenging!

✓ Biosecurity!!!???!!!

Questions to Consider
Rendering & Landfill

✓Business Continuity?

- Normal intake?
- Normal refuse? (landfill)
- What happens with normal animal processing? (rendering)

✓ Security?

DISPOSAL CALCULATOR

Disposal Calculator	Capacity	Species and Total Count	Average Weight (lbs)	Percent to be Culled	Disposal Amount	
	February, 2013	Swine	160	10%	Pounds	Tons
		9,200,000			147,200,000	73,600

Enter animal population count in gray box

Landfill Options (Operating Units: Tons)

# Landfills	Current Capacity (all landfills) Per Day	Average Capacity (per landfill) Per Day	Number of Days for disposal: Current Capacity	1/4 Rule Capacity Per Day Using all selected landfills	Number of Days for disposal: 1/4 Rule	Additional capacity* required per day - beyond 1/4 Rule Capacity**
40	20,500	513	3.6	5125	14	

*Additional capacity required to dispose of material within 30 days.   **1/4 Rule
Capacity equals capacity of number of landfills selected mutliplied by .25

Rendering Options (Operating Units: Pounds)

# Rendering Facilities	Current Capacity Per Week	Average Capacity Per Week	Number of Weeks for disposal: Current Capacity	Number of Rendering Facilities required to dispose of material in 4 weeks (using average capacity)	Additional capacity*** required per week - beyond current capacity****
6	63,950,000	10,658,333	2.3	3	

***To dispose of material within 4 weeks.   ****Current Capacity equals number of rendering facilities selected

Conveyance Options - # Truck Loads

Conveyance Type	Capacity (cubic yards)	approximate weight per cubic yard of material	# Truck Loads required to dispose of material	# Trucks/Conveyances Available	Total # of Trips (per truck)
30' Dump Trailer	50	2500	1,178	50	24

Legend:

|	
🟩	No additional capacity required
🟥	Additional capacity required
	Options available for selection

Natural Disaster vs. FMD

What would happen if a natural disaster or disease outbreak resulted in the need to dispose of only 10% of the NC swine population? And burial was not an option?

9 million x 10% ≈ 900,000 swine

Generally, the concept of a **Regional Carcass Disposal Plan** was well accepted for events such a natural disasters and less contagious diseases……

TIMING OF OPERATIONS

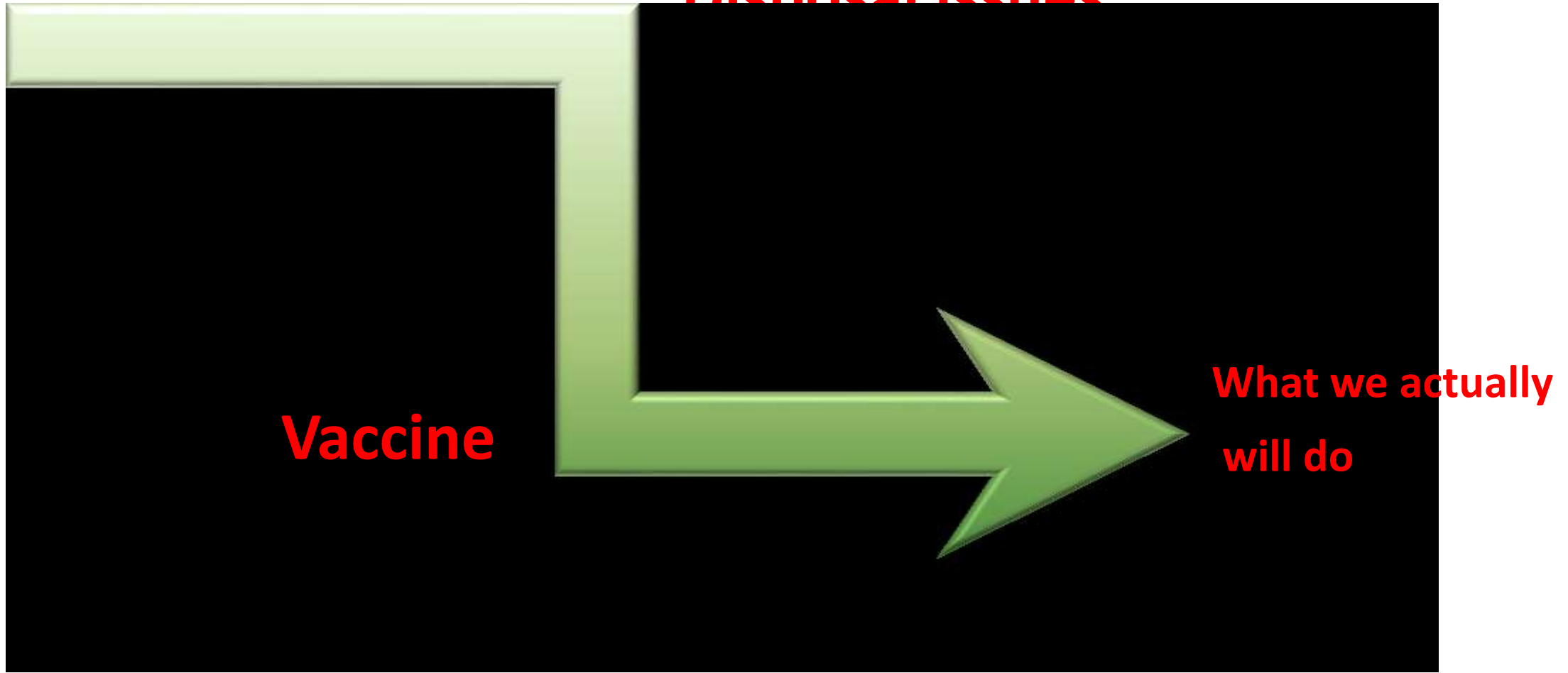- Rendering   >>>   Timeline of operations is critical

Farm

Transport

Render

Load C&D Permit

UnLoad C&D
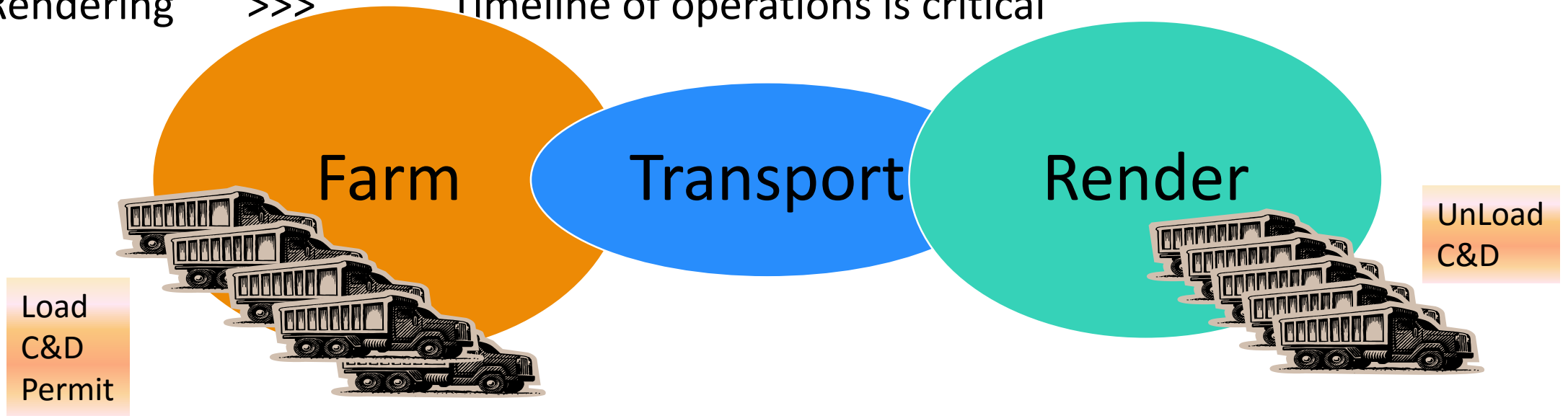
Disposal will have to be tied to Depop   such that there is no "lag" time…

REALITY STEERING STRATEGY

Depop issues

Disposal issues

Vaccine

What we actually will do

Strategic Time Frames

- 24 hrs to euthan followed by 24hrs to disposal is not likely to happen with an offsite disposal operation

- This may affect overall response strategy

  - Expand zones

  - Push for additional measures like need of vaccine since time to completion of depop is extended

  - Increases time for collateral exposure—

    - Wildlife and other livestock

Coordination during an event

- How do states work together in the face of a regional disaster or outbreak?

-Carcasss Disposal Working Group??

-Carcass Disposal MultiAgency Coordination Group??

New Innovative Technologies

Matter-Antimatter Gun

Converts animal carcass to a carbon allotrope such as tetrahedral lattice arrangement also known as a diamond

46
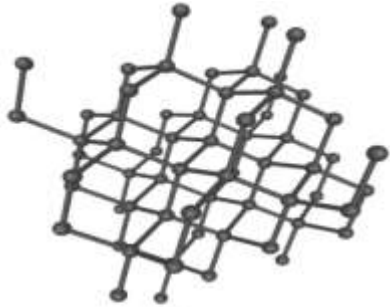
Other Items to Consider?
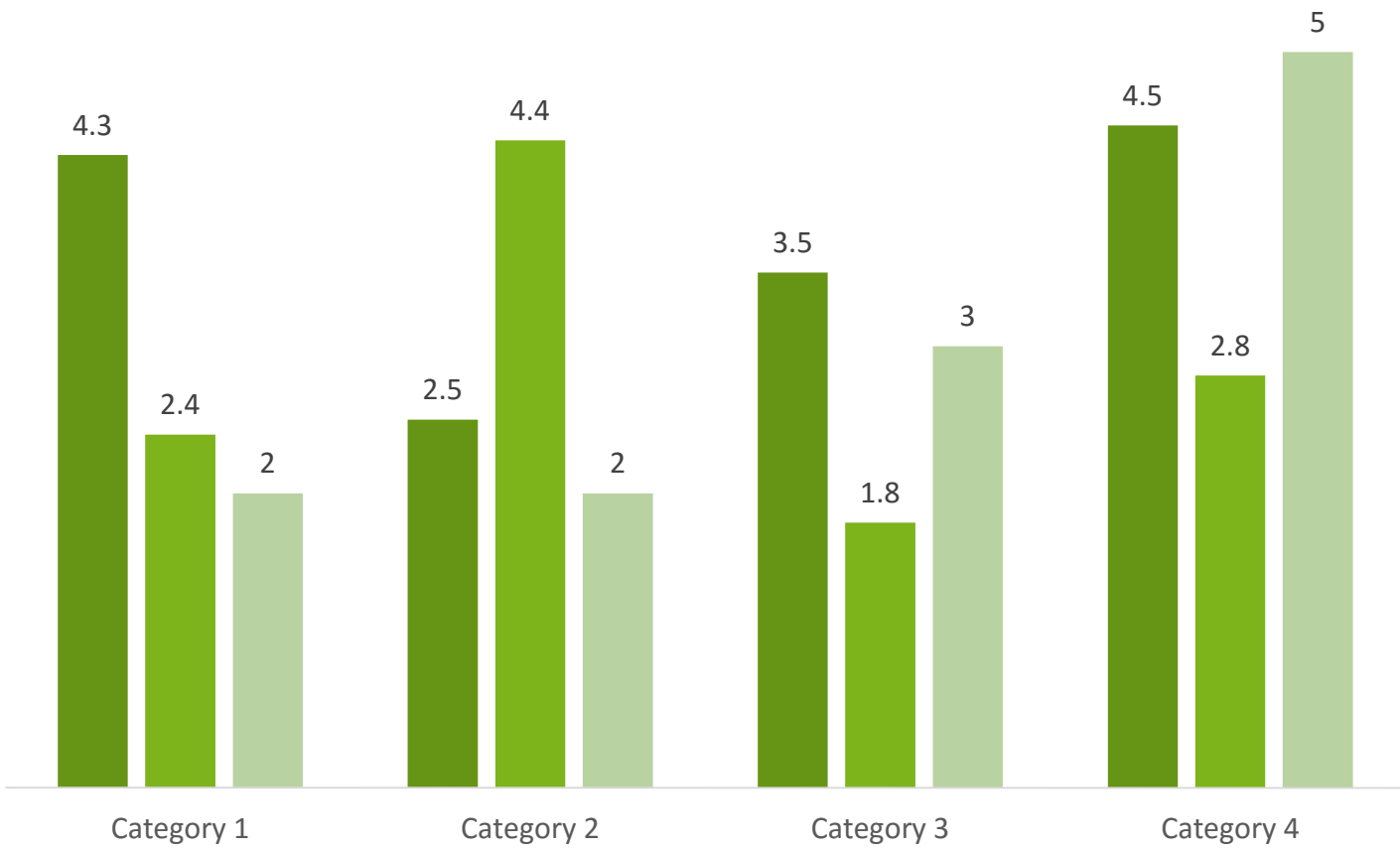
Conclusion

Winter Section Header Layout

Subtitle

Title and Content Layout with List

- Add your first bullet point here

- Add your second bullet point here

- Add your third bullet point here

Two Content Layout with Table

- First bullet point here

- Second bullet point here

- Third bullet point here

	Group 1	**Group 2**
Class 1	82	95
Class 2	76	88
Class 3	84	90

PICTURE WITH CAPTION LAYOUT

Caption