

Carolina Recycling Association

Resilient Communities in a Changing Environment

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Overview

- Animal Agriculture in North Carolina
 - Current state of animal agriculture industries
 - Methods of Disposal
- Impacts of Natural Disasters
 - Potential Environmental and Public Health Issues
- Helping communities recover after a disaster

Animal Agriculture in NC

- Beef Cattle ~ 375,000 #27 in US
- Dairy Cattle ~ 45,000 #28 in US
- Hogs & Pigs ~ 9,000,000 #2 in US
- Poultry ~ 820,000,000 #2 in US

Animal Mortality Management

Methods of Disposal

Why disposal?

Example: 1 hog farm of 4800 hogs x .09

If avg weight is 140lbs.....

$4800 \times .09 = 432$ hogs.....or 60,480 lbs

Animal Mortality Management

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If avg weight is 140lbs.....

$4800 \times .09 = 432$ hogs.....or 60,480 lbs

Now do the math: ~9,000,000 x normal mortality rate

500k – 800k

Animal Mortality Management

Methods of Disposal

Why disposal?

The better question is:

Are we prepared for disposal in an ever changing climate?

Animal Mortality Management

Methods of Disposal

- Composting
- Rendering
- Landfill
- Incineration
- Burial / Alkaline Hydrolysis

Methods of Disposal

Composting

- What is composting?

From an agricultural perspective,
composting is...

AI Outbreak of 2015

Methods of Disposal

Rendering

- What is rendering?

Rendering is a process....

Methods of Disposal

Landfill

- Why are landfills a method of disposal?

Methods of Disposal

Incineration

- What is incineration?

Incineration is not a primary method....

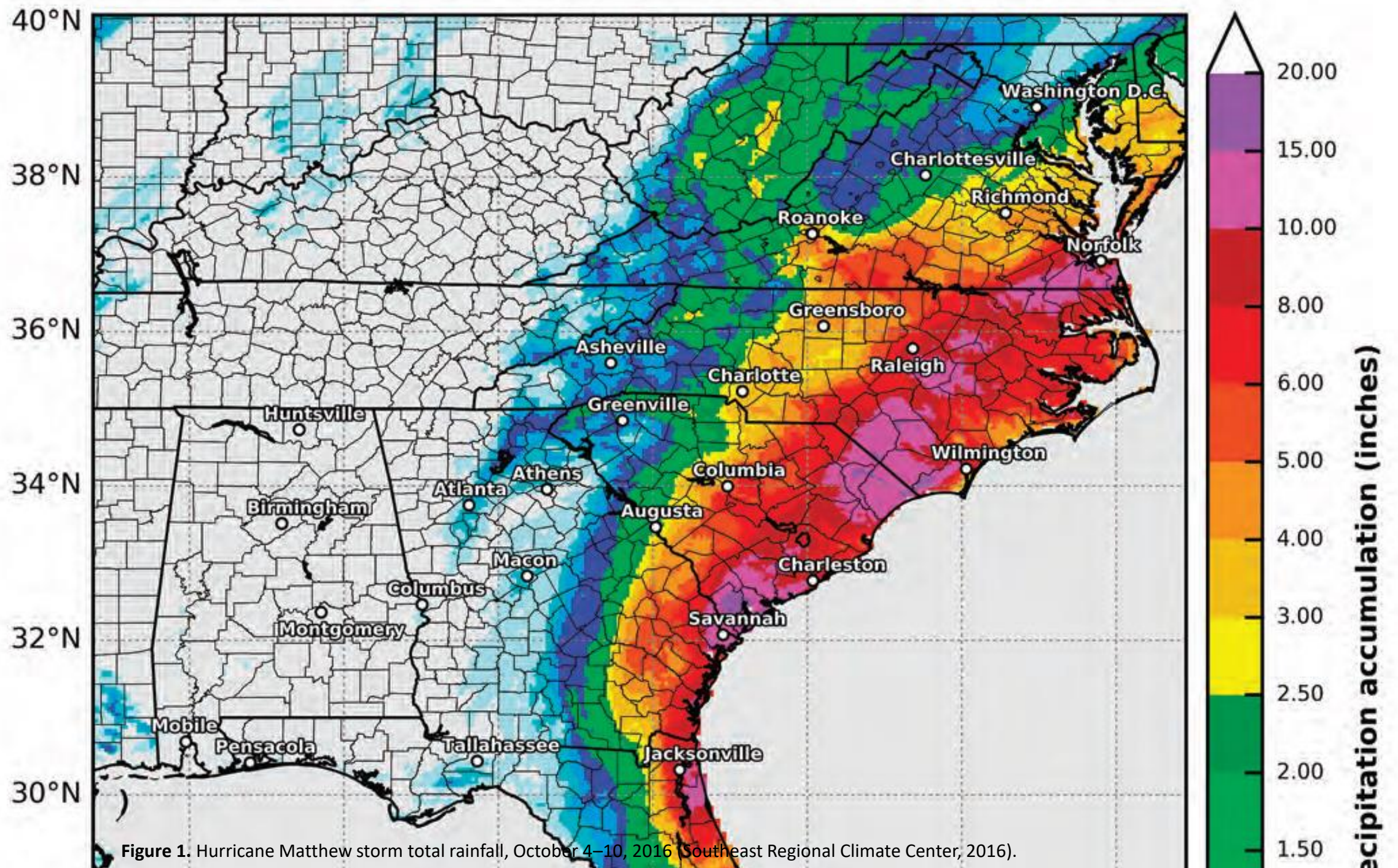
Methods of Disposal

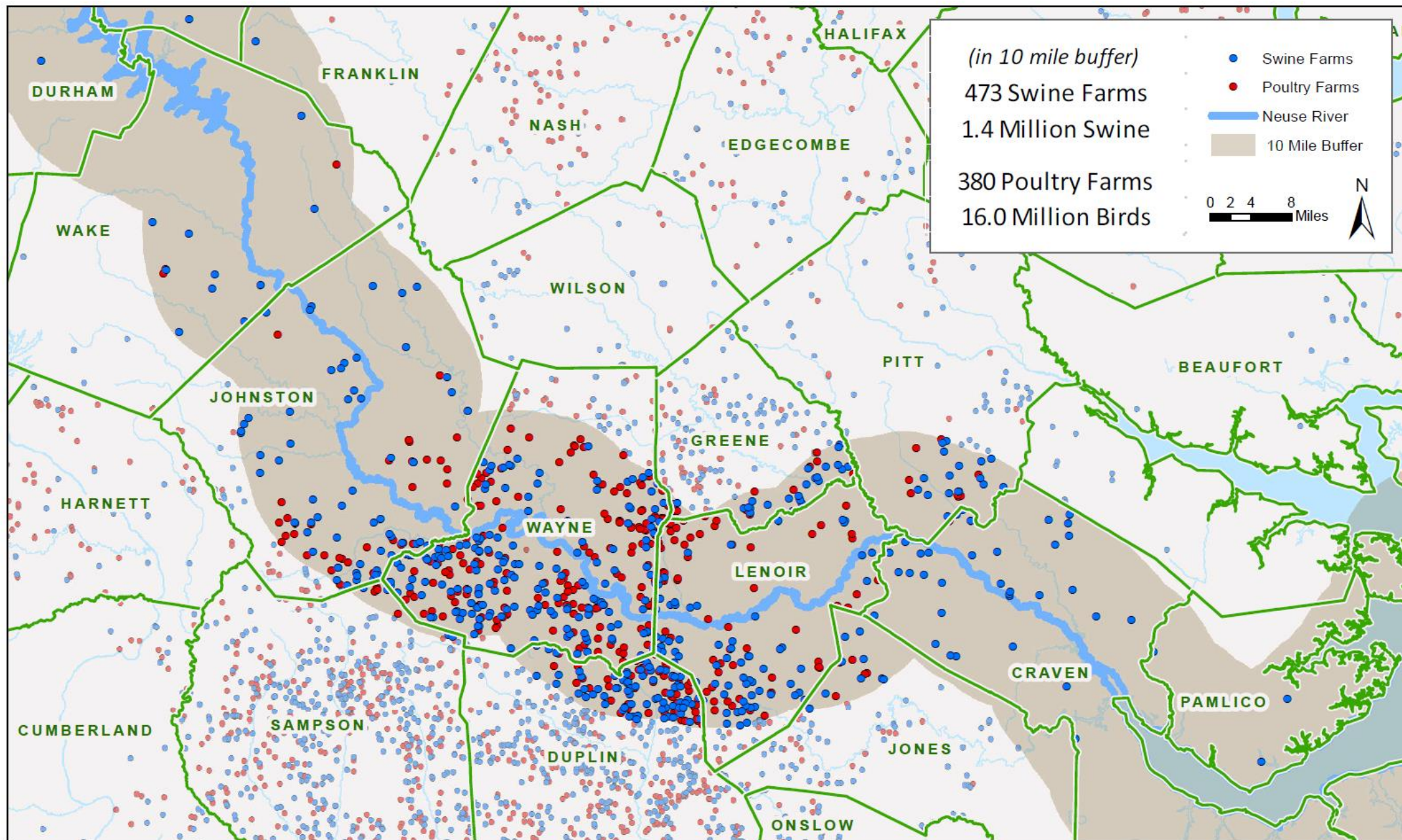
Burial / Alkaline Hydrolysis

- Why is this even here?

Impacts of Natural Disasters

- Hurricanes / Floods
- Snow / Ice Storms
- Tornadoes / Extreme Thunderstorms

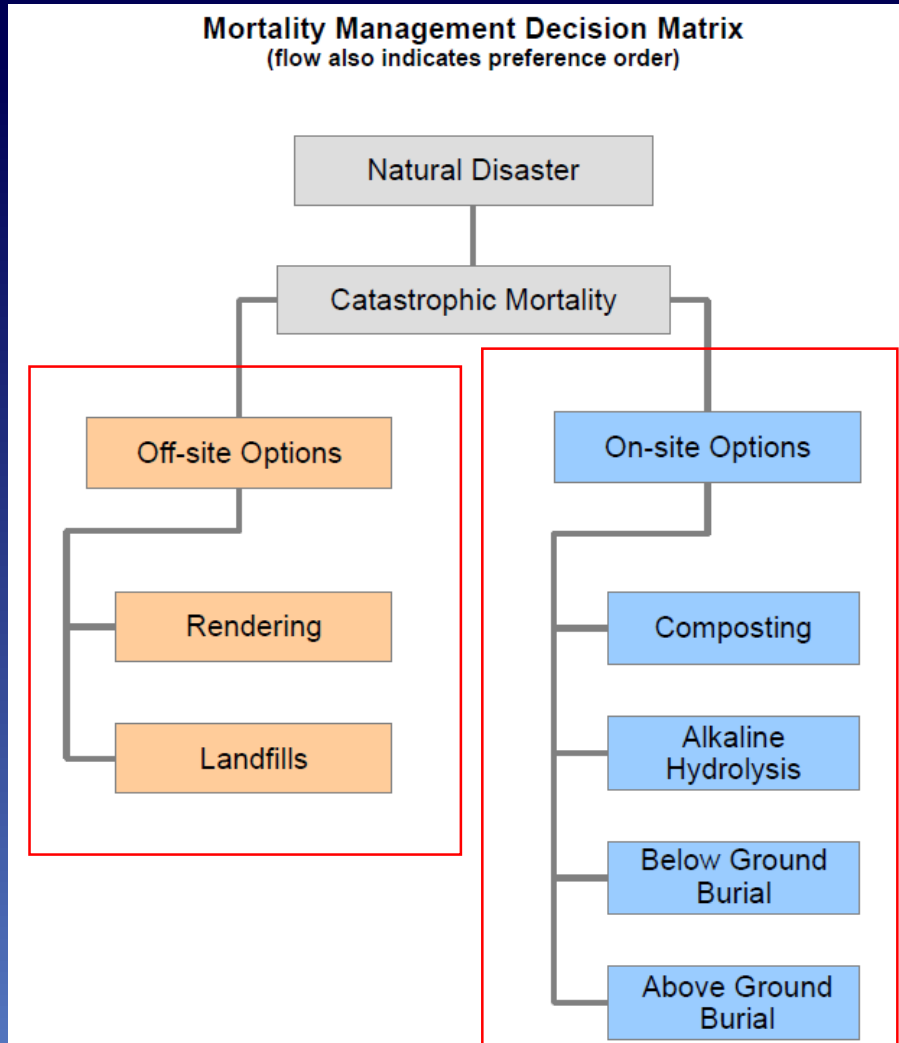






Flooding impacts to a commercial poultry farm.

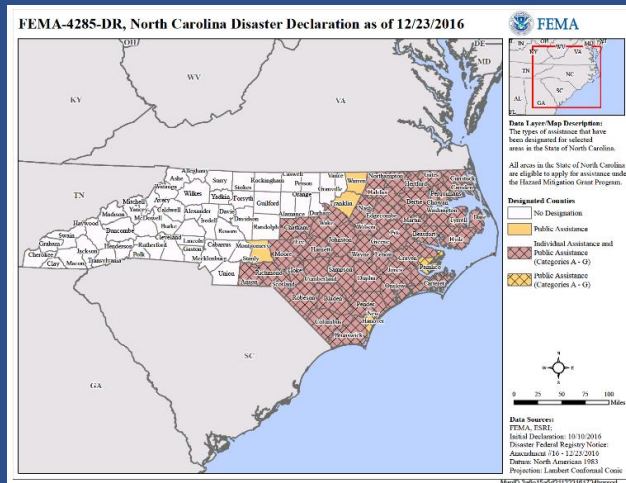
The Plan



The Event

- Composting – cost of carbon materials, trucking and crews with equipment
- Landfill – proximity and trucking costs important; rules
- Rendering – very time-limited
- Burial – not recommended in the coastal plain

FEMA Ag Disaster Recovery Assistance



Carbon

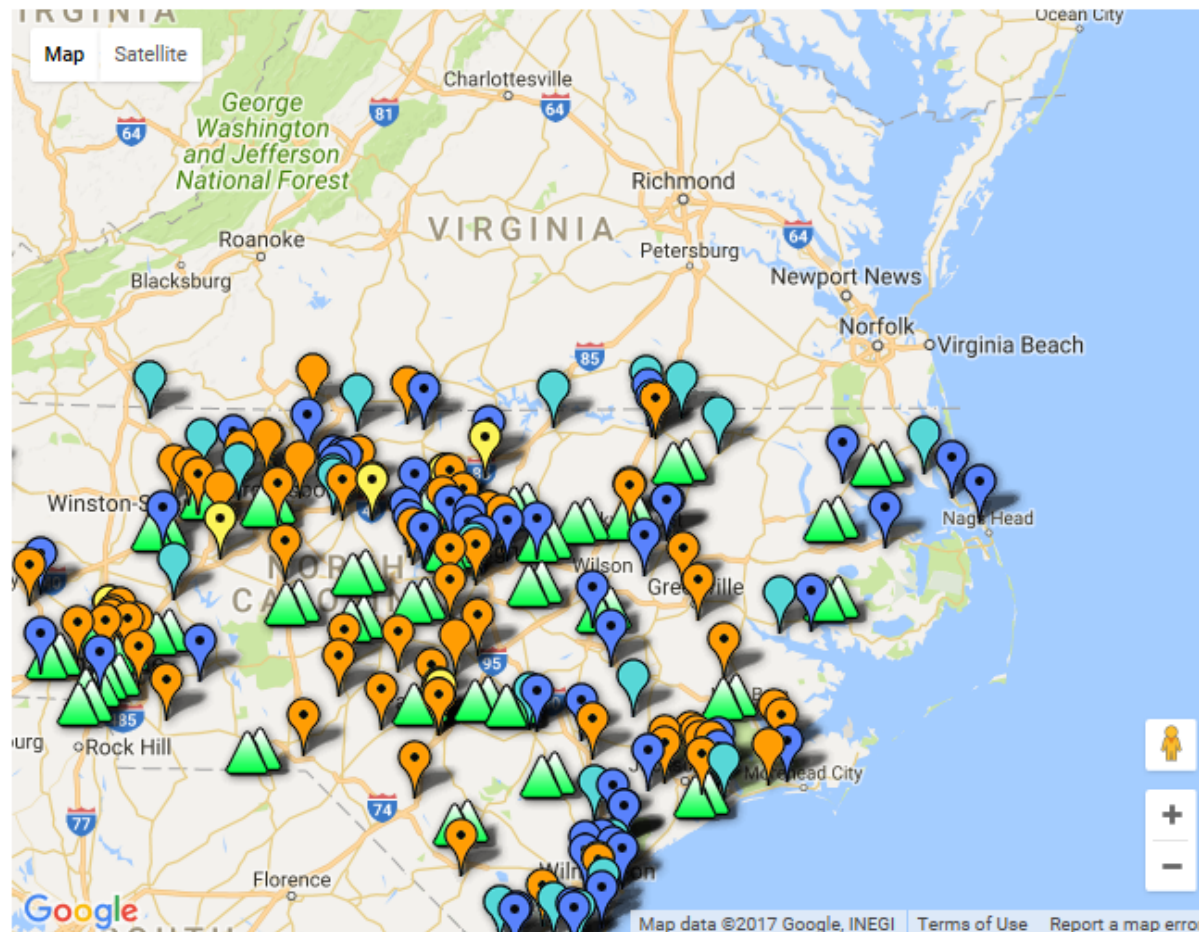


Compost



Carbon/Woody Material (Map)

This map shows some of the sites that may have available woody material (carbon) that could potentially be used to aid in the composting process.



MAP: Composters & Potentially Available Carbon Sources

[Map: Data Source Link](#)

[List: Data Source Link](#)

Legend

Yard Waste Notification Sites (YWN)

- YWN handling less than 1,000 cubic yards (CY) per year of yard waste/woody material
- YWN sites handling more than 1,000 CY of yard waste/woody material per year

Land Clearing and Inert Debris (LCID) Landfills

- LCID landfills handling less than 1,000 CY of yard waste/woody material per year
- LCID Landfills handling more than 1,000 CY of yard waste/woody material per year

Treatment & Processing Sites (T&P)

- T&P Sites typically grind wood waste and yard waste.

Composting Facilities

- Type 2, 3, and 4 Permitted Composting Facilities

Map sources: NCDENR Division of Waste Management and Division of Water Resources.



Protecting the environment by intercepting any leachate with dry, absorbent carbon material.



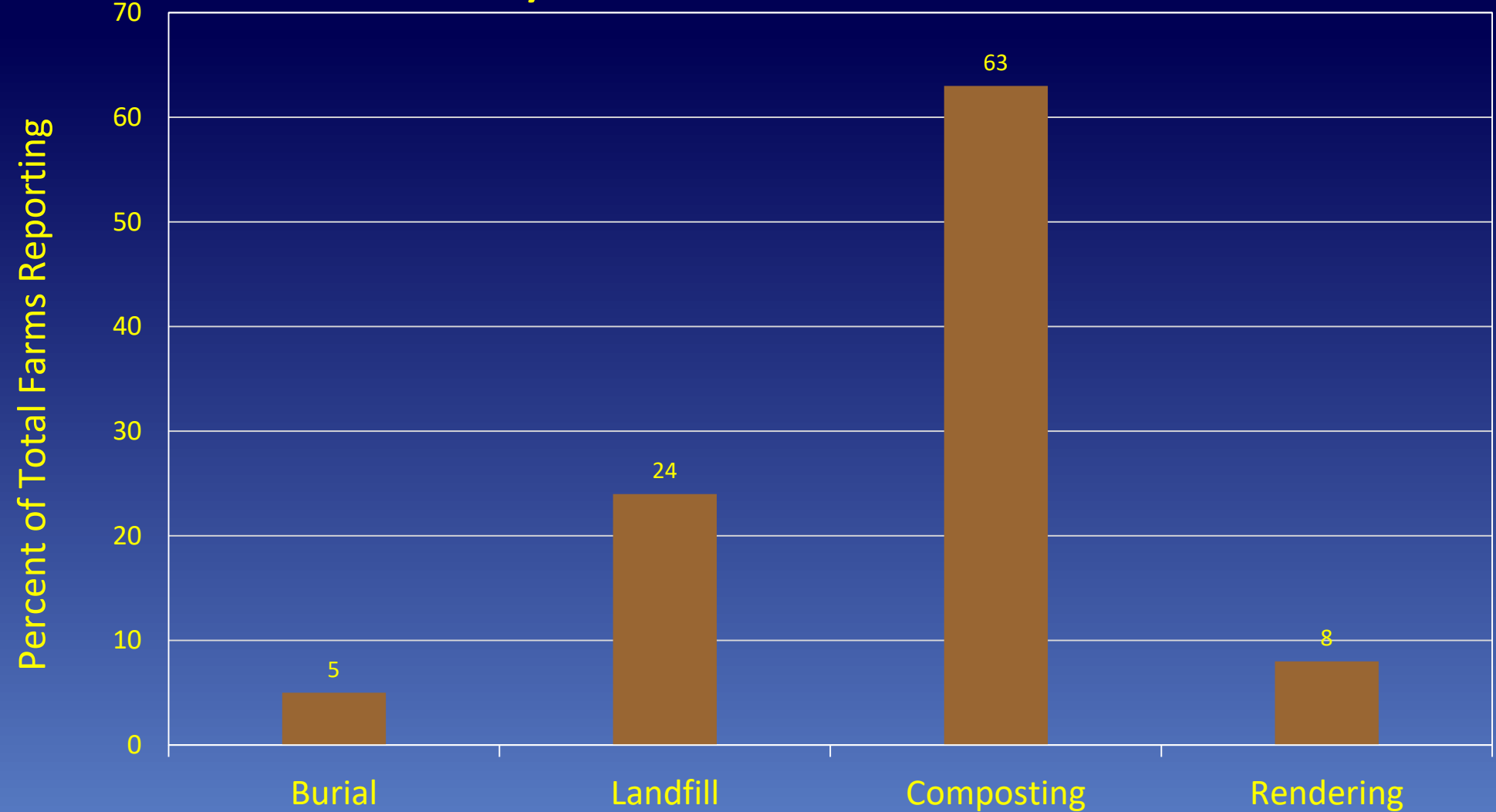
Capping Windrows



Capped and actively composting



Disposal Choices of Poultry Farms Reporting Mortality from Hurricane Matthew



Composting disposal response:

- Carbon materials/Compost SME assistance to 49 poultry farms
- 16 carbon material vendors
- 999 loads delivered (load \approx 72-100yd³)
>86,897 yd³ of carbon material delivered
- 14 Compost 'SMEs'



Main Take-Aways

- Continue to focus efforts that advance the commissioner's point to maintain the environment
- Continue to work to develop the best disposal methods for mass mortality
- Hurricane Matthew had an impact on animal agriculture, it could have been a lot worse
- Thank you for our partnerships with other state, county, and local agencies proved invaluable



North Carolina Department of Agriculture & Consumer Services

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