



Concentrated Animal Feeding Operations (CAFOs) and the NPDES permitting program



9/21/2015



Presentation Overview

- Regulation
- Common best management practices to address noncompliance issues at swine operations
- Nonregulatory tools
- State examples

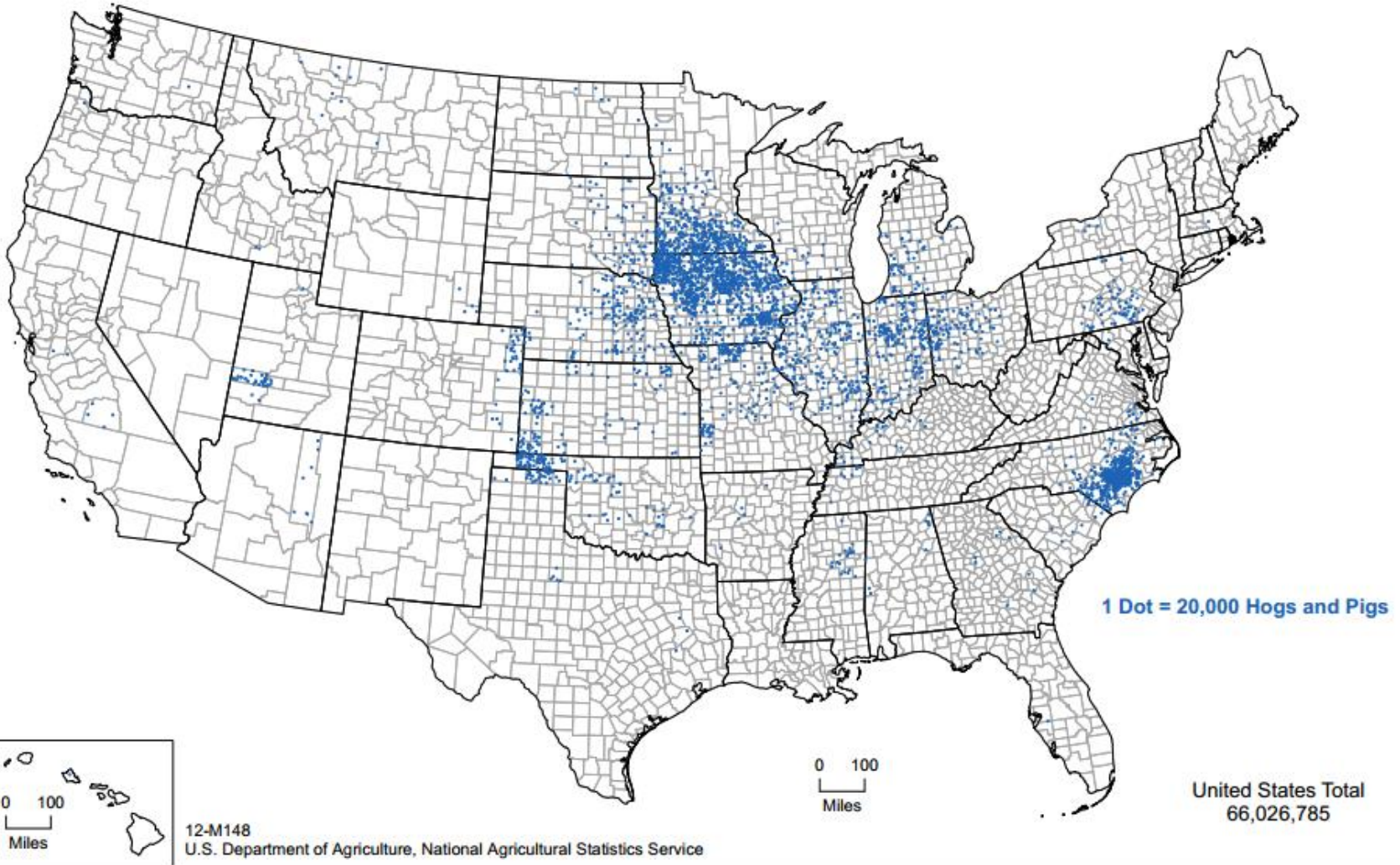




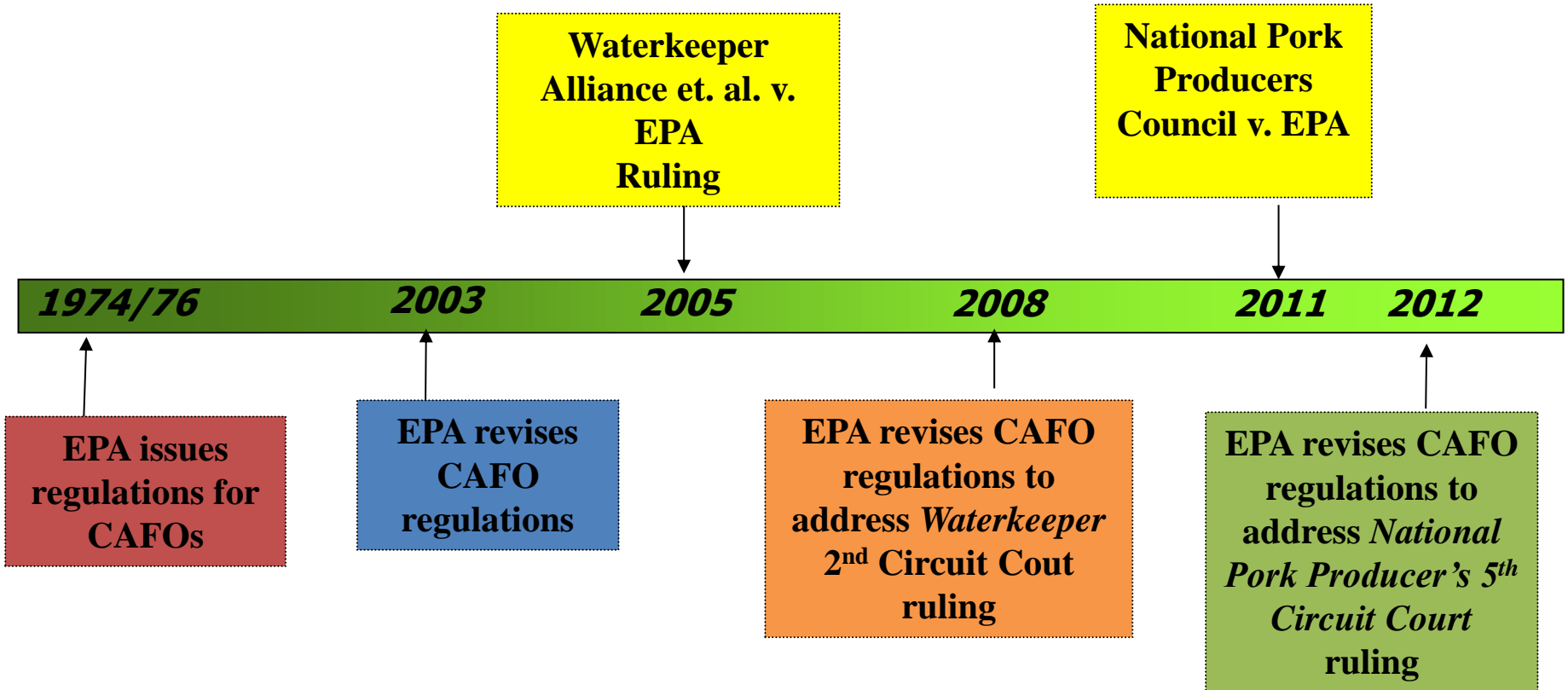
0 200
Miles



Hogs and Pigs - Inventory: 2012



CAFO Regulations: History



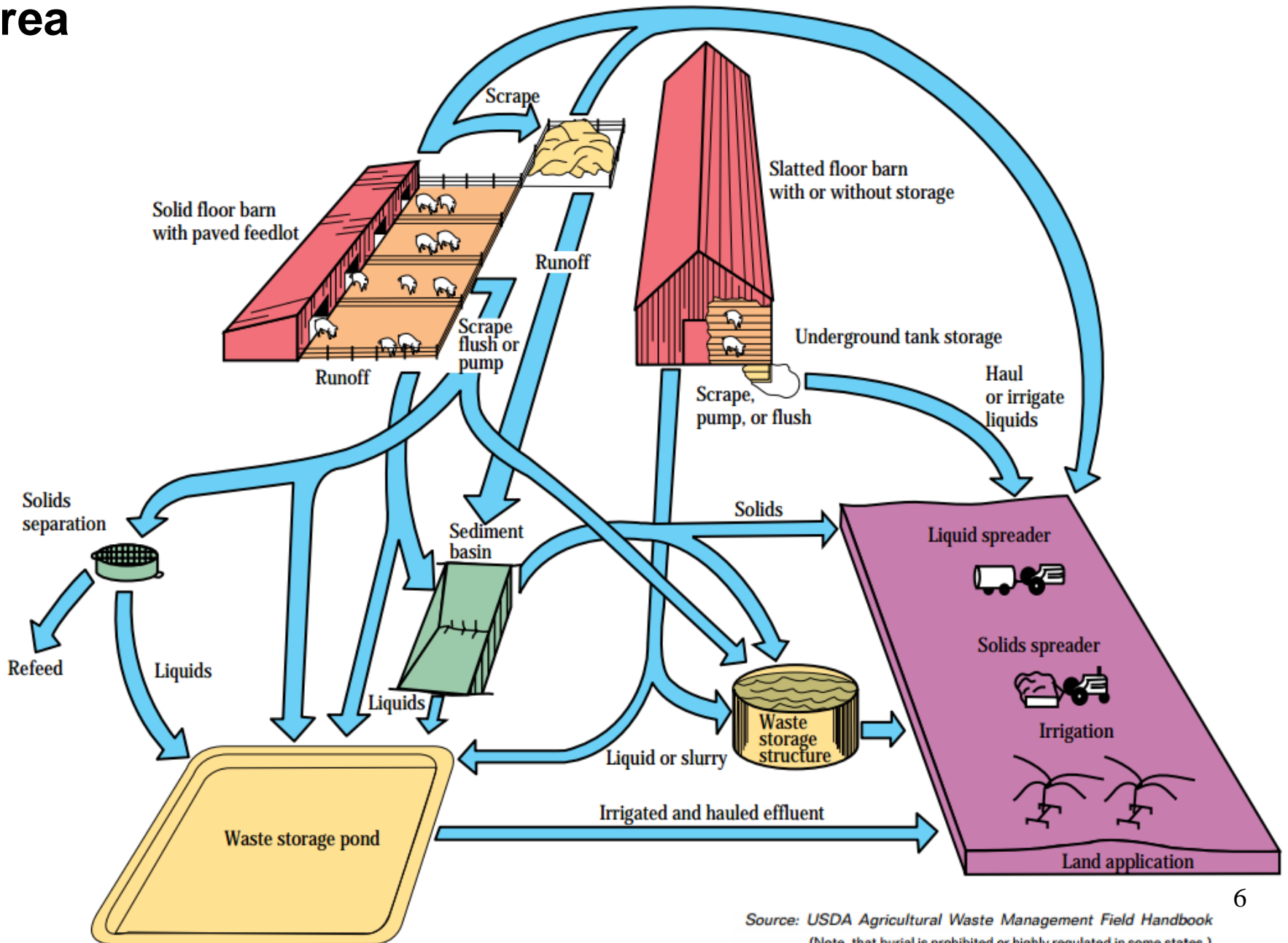
Regulations: CAFOs

- CAFOs defined as a point source in the Act:
 - CAFOs that **discharge** pollutants need an NPDES permit
 - CAFOs that **don't discharge** do not need an NPDES permit
- EPA defines certain facilities as CAFOs:
 - Animals have been, are, or will be stabled or confined, and fed or maintained, for a total of 45 days or more in any 12-month period;
 - Crops or vegetation not grown in the area where the animals are confined; and
 - Number of animals

Regulations: Size of Facility

Animal Sector	Large CAFOs	Medium CAFOs
Beef Cattle	1,000 or more	300-900
Dairy	700 or more	200-699
Swine (>55lbs)	2,500 or more	750-2,499
Swine (<55lbs)	10,000 or more	3,000-9,999
Laying Hens	82,000 or more	25,000-81,199
Broilers	125,000 or more	37,500-124,999

CAFO: Swine profile of production and land application area



Source: USDA Agricultural Waste Management Field Handbook
(Note, that burial is prohibited or highly regulated in some states.)

Ex: Feeder to Finisher Swine Facility with 2 lagoons



<http://portal.ncdenr.org/web/wq/animal-facility-map>

Components of a CAFO Permit



- Effluent limits for production and land application areas
- Monitoring and reporting requirements
- Special conditions
 - Nutrient management plan addressing nine minimum practices
- Standard conditions

NMP template - Permittee
Draft (09/26/05)

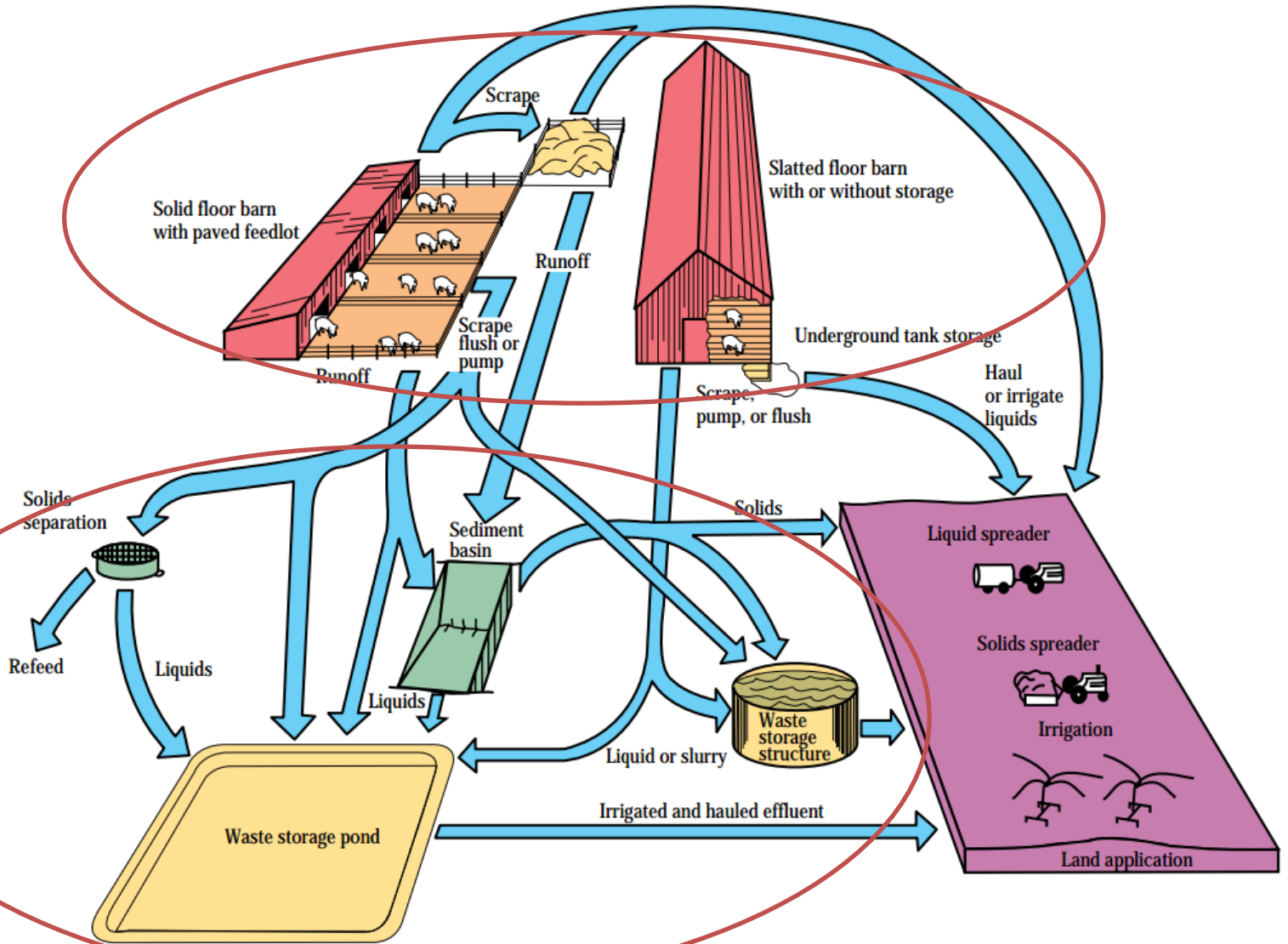
EPA NUTRIENT MANAGEMENT PLAN		
I. GENERAL INFORMATION Applying for: Individual Permit <input type="checkbox"/> Coverage Under General Permit <input type="checkbox"/>		
A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
<input type="checkbox"/> 1. Concentrated Animal Feeding Operation) <input type="checkbox"/> 2. Concentrated Aquatic Animal Production Facility	Owner/for Operator Name: _____ Telephone: (____) _____ Facsimile: (____) _____ Address: _____ City: _____ State: _____ Zip Code: _____	<input type="checkbox"/> 1. Existing Facility <input type="checkbox"/> 2. Proposed Facility
D. FACILITY INFORMATION		
Name: _____ Telephone: (____) _____ Address: _____ Facsimile: (____) _____ City: _____ State: _____ Zip Code: _____ County: _____ Latitude: _____ Longitude: _____		
If contract operation: Name of Integrator: _____ Address of Integrator: _____		
II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS		
A. NUTRIENT MANAGEMENT PLAN		
1. Is a nutrient management plan being implemented and kept on-site at this facility? <input type="checkbox"/> Yes <input type="checkbox"/> No - A nutrient management plan must be implemented at the time of permitting.		
2. The date of the last review or revision of the nutrient management plan. Date: _____		
B. TYPE AND NUMBER OF ANIMALS		
2. ANIMALS		
1. Type	a) No. In Open Confinement	b) No. Housed Under Roof
<input type="checkbox"/> Mature Dairy Cows		
<input type="checkbox"/> Dairy Heifers		
<input type="checkbox"/> Veal Calves		

Form Approved
OMB No. 2040-0250

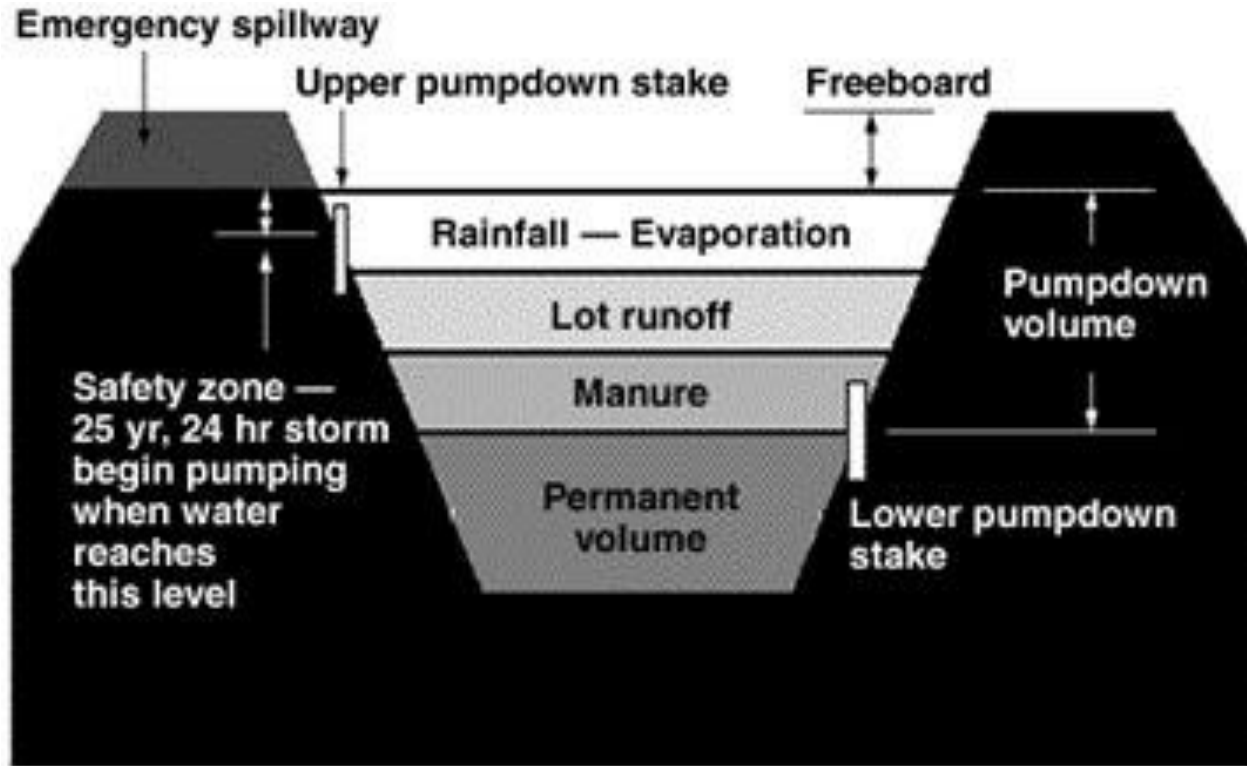
EPA I.D. NUMBER (copy from Item 1 of Form 1)

FORM 2B NPDES		EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES
I. GENERAL INFORMATION Applying for: Individual Permit <input type="checkbox"/> Coverage Under General Permit <input type="checkbox"/>			
A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS	
<input type="checkbox"/> 1. Concentrated Animal Feeding Operation (complete items B, C, D, and section II) <input type="checkbox"/> 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/for Operator Name: _____ Telephone: (____) _____ Address: _____ City: _____ State: _____ Zip Code: _____	<input type="checkbox"/> 1. Existing Facility <input type="checkbox"/> 2. Proposed Facility	
D. FACILITY INFORMATION			
Name: _____ Telephone: (____) _____ Address: _____ Facsimile: (____) _____ City: _____ State: _____ Zip Code: _____ County: _____ Latitude: _____ Longitude: _____			
If contract operation: Name of Integrator: _____ Address of Integrator: _____			
II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS			
A. TYPE AND NUMBER OF ANIMALS		B. MANURE, LITTER, AND/OR WASTEWATER PRODUCTION AND USE	
2. ANIMALS		1. How much manure, litter, and wastewater is generated	

Production Area Requirements



Production Area Requirements: Manure Storage



For allowable overflows, the design volume needs to account for:

- Storage period (time between emptying events)
- All “waste” accumulated during this period
- Precipitation, evaporation and runoff (for period as well as 25-year; 24-hr storm)
- Solids
- Freeboard
- Recordkeeping



Nutrient Management Plan

1. Storage capacity
2. Mortality management
3. Clean water diverted
4. Prevention of direct contact of animals with waters of the U.S.
5. Chemical handling
6. Conservation practices to control nutrient loss
7. Manure and soil testing
8. Land application of manure and process wastewater
9. Record keeping



Other Regulatory Requirements

- **Swine**

- Soil and manure testing
- Setbacks
- Record keeping
- Nutrient management plan (NMP) in accordance with technical standards

- **New Swine Facilities (after 2008)**

- No discharge from open surface storage structures based on technical evaluation – using 100 years of local weather data.

- **State Technical Standards**

Common Violations

- Inadequacy of storage capacity
 - Dewatering and solid build up
 - Agitation
 - Freeboard and weeds
- Pump down practices and hose breaks
- Discharges from the feed storage areas
- Man made conveyances (i.e. pipes and ditches)
- NMPs not being followed
- Poor recordkeeping



Key Question:

Is any manure/pollutants being discharged to surface water, or is there any sign of a recent discharge?





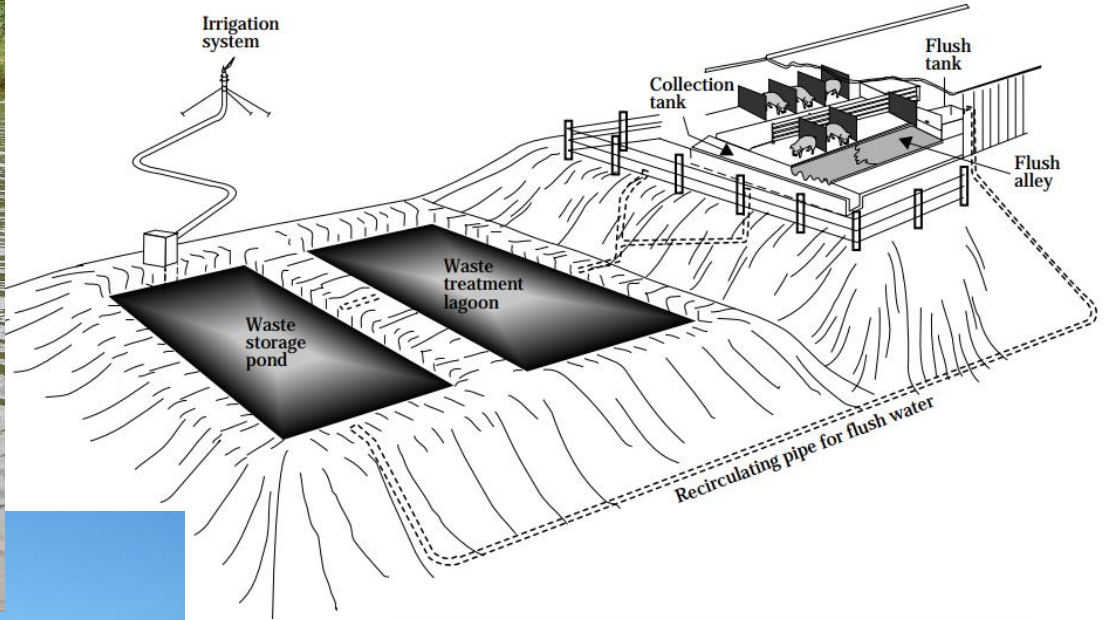
Best Management Practices - Examples



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Storage Capacity – Lagoons and Structures



Source: *USDA Agricultural Waste Management Field Handbook*
(Note, that burial is prohibited or highly regulated in some states.)



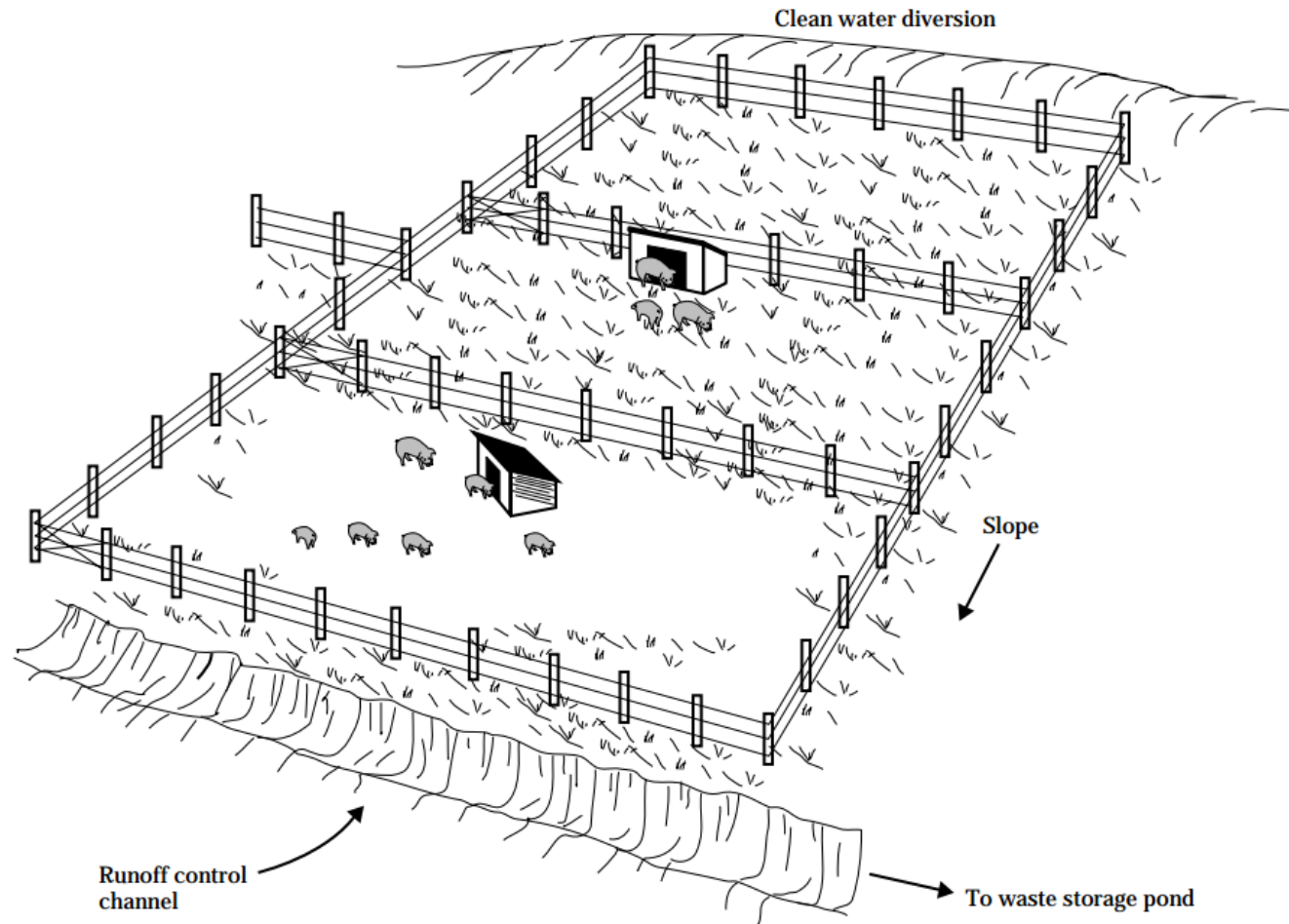
Photo Source: EPA R9
and HQ.



Nutrient Management Plan

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BMP: Clean Water Diversion



Source: *USDA Agricultural Waste Management Field Handbook*
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Land Application



Photos: EPA.





Nutrient Management Plan

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Other Considerations



Photos Source: EPA.

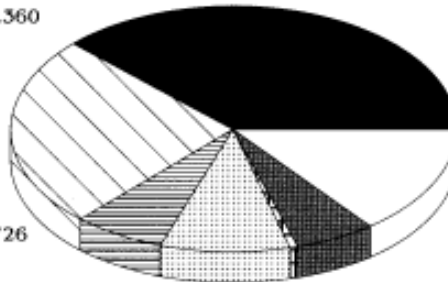
Nonregulatory Tools

- Nonpoint source pollution
 - Grants
 - Strategies
 - Technical assistance



319(h) Funding by Functional Categories for Fiscal Year 1996

- Cross Cutting NPS Category: \$585,360
- ▨ Agriculture: \$393,738
- ▨ Urban Runoff: \$104,515
- ▨ Silviculture: \$144,572
- ▨ Construction: \$0
- ▨ Resource Extraction: \$9,537
- ▨ Stowage and Land Disposal: \$90,726
- ▨ Hydrologic Modification: \$0
- Other: \$225,552



<http://water.epa.gov/pollwaste/nps/success319/SC.cfm>



State Examples

- North Carolina state swine permit
 - No application to fields with a very high phosphorous loss rating or high copper or zinc fields
 - Monitoring of ponds for bacteria, BOD, TSS, TKN, ammonia, nitrate, and total phosphorus
- Missouri state swine permit
 - Wet weather emergency management practices
 - Minimum buffer distances between the confinement building/lagoon and any public building or resident

More Information

- CAFO NPDES Website and Technical Guidance
 - Compliance manual:
<http://www.epa.gov/compliance/resources/publications/monitoring/cwa/inspections/npdesinspect/npdesinspect.pdf> (see Chapter 16 CAFOs)
 - Permitting manual:
<http://water.epa.gov/polwaste/npdes/afo/Implementation-Information.cfm>
- Contact Information
 - mitschele.becky@epa.gov
(415) 972-3492





Questions????

