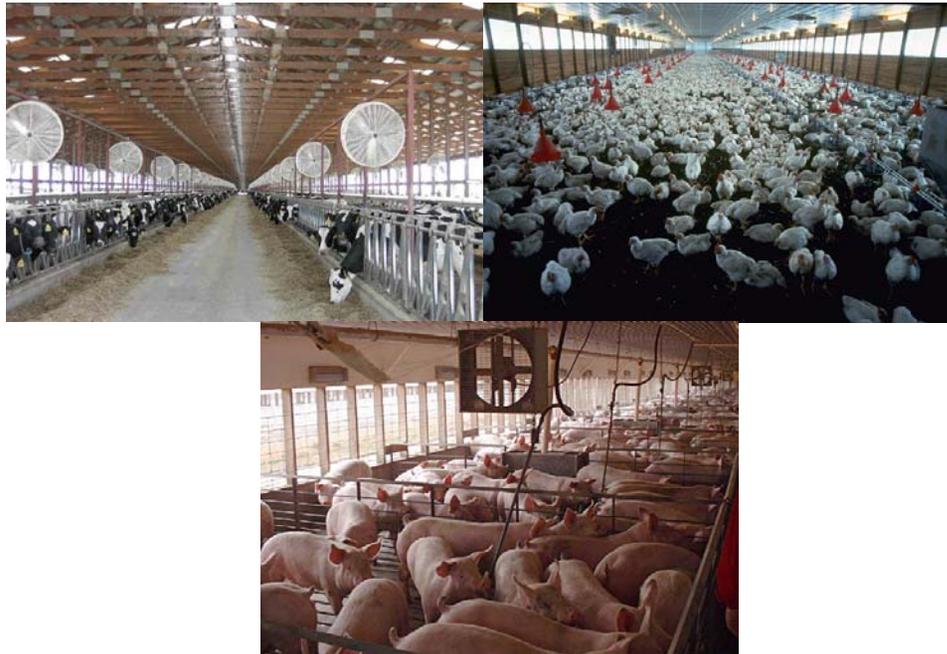


Update on the Animal Feeding Operations Consent Agreement and Final Order - Monitoring Study

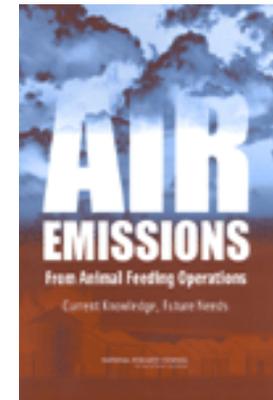


Sally Shaver
United States Environmental Protection Agency
Office of Air and Radiation

Presentation at the Agricultural Air Quality Task Force Meeting
Washington, DC
November 29, 2006

Agreement Overview

- EPA & USDA asked National Academy of Science (NAS) to conduct the AFO air emissions study
- NAS study conclusions:
 - No reliable emission factors for AFO exist
 - Additional data needed to develop estimating methodologies
 - Current methods for estimating emissions not appropriate
 - Use process-based approach
- Consent agreement developed in response to:
 - Public concerns
 - NAS report
- Consent agreement developed by:
 - EPA
 - Industry representatives
- Proposed agreement coordinated with:
 - Agricultural industry representatives
 - State & local government officials
 - Environmental organizations
 - Citizen groups



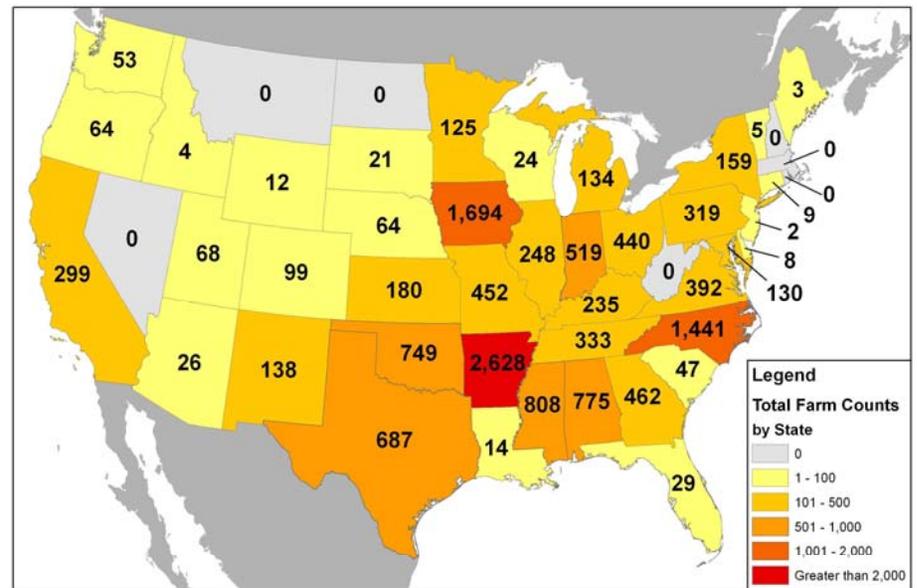
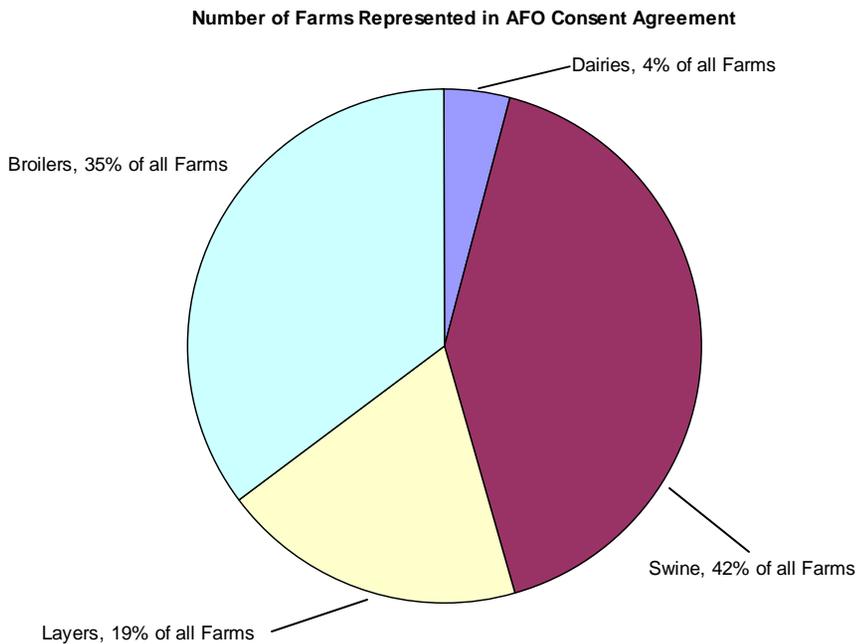
Agreement Overview (cont)

- What is the Agreement? Voluntary consent agreement open to contract growers and integrators. Industry agrees to pay to conduct emissions testing in exchange for a limited covenant not to sue from EPA. Targeted AFO sectors:
 - Swine
 - Poultry
 - Layers
 - Broilers
 - Turkey
 - Dairy
- Federal Register Notices:
 - Signed on Jan. 21, 2005
 - Published on Jan. 31, 2005 (70 FR 4958)
 - “Initial” public comment period closed on March 2, 2005
 - Re-opening comment period from April 1 through May 2, 2005
 - Extending signup period to July 1, 2005
- Information available at:
 - www.epa.gov/fedrgstr
 - www.epa.gov/airlinks/airlinks3.html
 - www.epa.gov/compliance/resources/agreements/caa/cafo-agr-0501.html



Monitoring Study - Signups

- EPA received approximately 2,700 agreements representing over 13,000 farms.



Monitoring Study - Overview

- Purpose: gather data for developing emission estimating methodologies
- Funding provided by participating AFO
- Monitor for:
 - Particulate matter
 - Hydrogen sulfide
 - Volatile organic compounds
 - Ammonia
- Monitoring anticipated to begin in early 2007 and continue for 2 years
- Data made available to the public

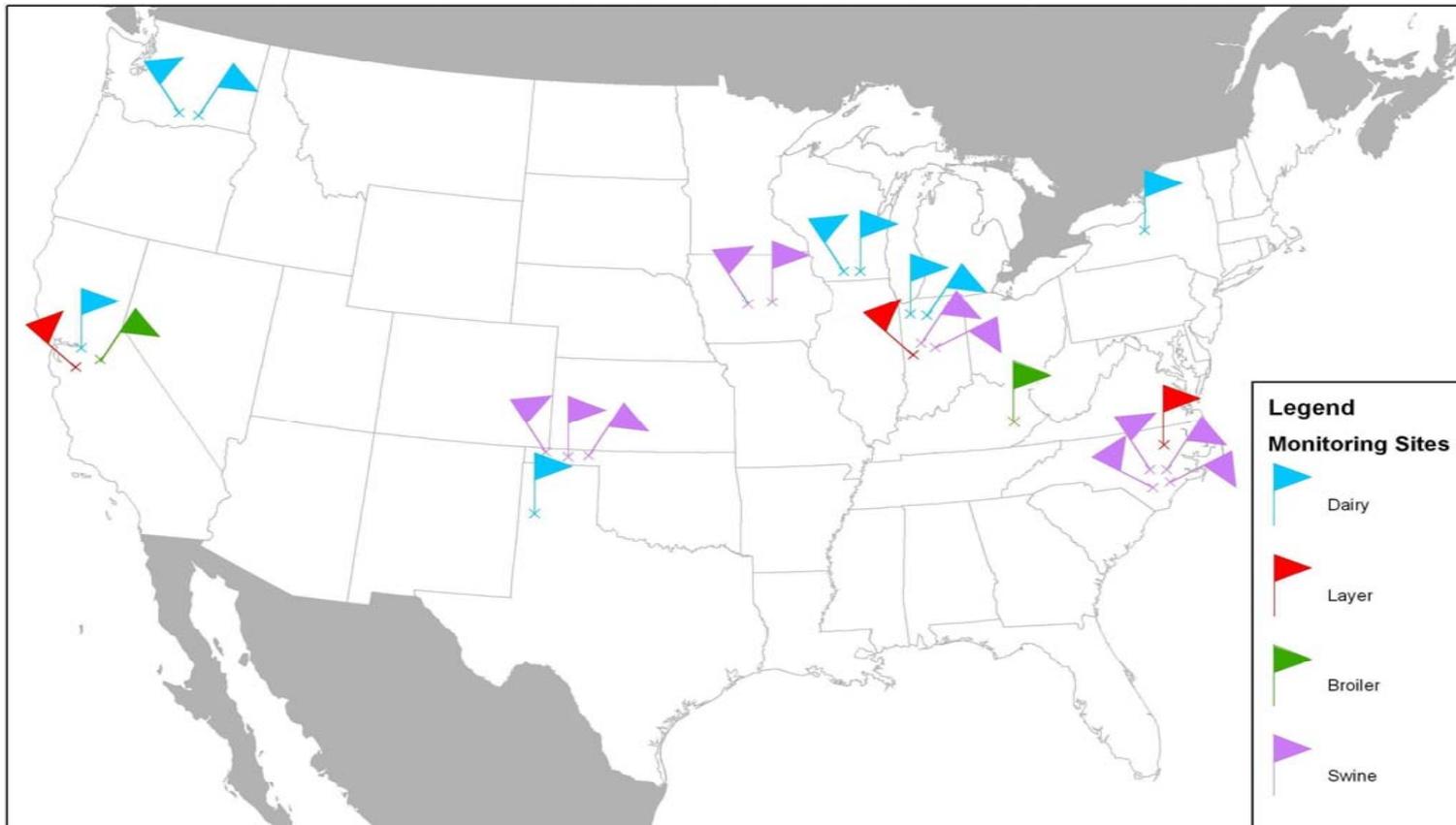


Monitoring Study – Site Selection

- Focuses on three AFO sectors
 - Swine
 - Poultry
 - Dairy
- Types of operations
 - Sow, nursery, finisher (swine)
 - layers, broilers, hatchery, pullet (poultry)
 - Dairy
- Manure Management Techniques
 - Liquid system
 - Solid system
- Regional representation
- Proximity to potential principal investigators



Monitoring Study – Site Selection



Proposed Monitoring Sites for AFO Consent Agreement

October 24, 2006

Monitoring Study – Work Plan Development

- Contractor is responsible for site selection and preparing all plans:
 - Drafted Quality Assurance Project Plans (1 each for lagoons and barns)
 - Drafted Standard Operating Procedures (76 unique SOP's drafted)
 - Drafted Site Monitoring Plans (24 SMP's drafted)
 - Recommended 24 sites for monitoring
- EPA has oversight responsibility for all plans and site selections:
 - Reviewed and commented on both Quality Assurance Project Plans
 - Reviewed and approved 75 of 76 SOP's
 - Reviewed and commented on 24 SMP's.
 - Visited 23 of the 24 sites recommended for monitoring.



Monitoring Study – The Challenges

Changing Climatic Conditions



Partially Enclosed and Naturally Ventilated



Animal Movements



Large Open Sources



Changing Feed Rations



Monitoring Study – Overcoming The Challenges

- Changing Climatic Conditions
 - Regional Representation
 - Continuous Monitoring
 - Heated Sampling Lines
- Partially Enclosed and Naturally Ventilated Structures
 - Numerous Emission Sampling Points
 - Multiple meteorological sampling points
 - Monitor Mostly Mechanically Ventilated Buildings
- Large Open Sources
 - Use Open-Path Measurement Techniques (\$\$\$)
 - Monitor on a quarterly basis to keep cost down
- Changing Feed Rations
 - Sample Feed
 - Continuous Monitoring
- Animal Movements
 - Attempt to track animals electronically
 - Continuous Monitoring