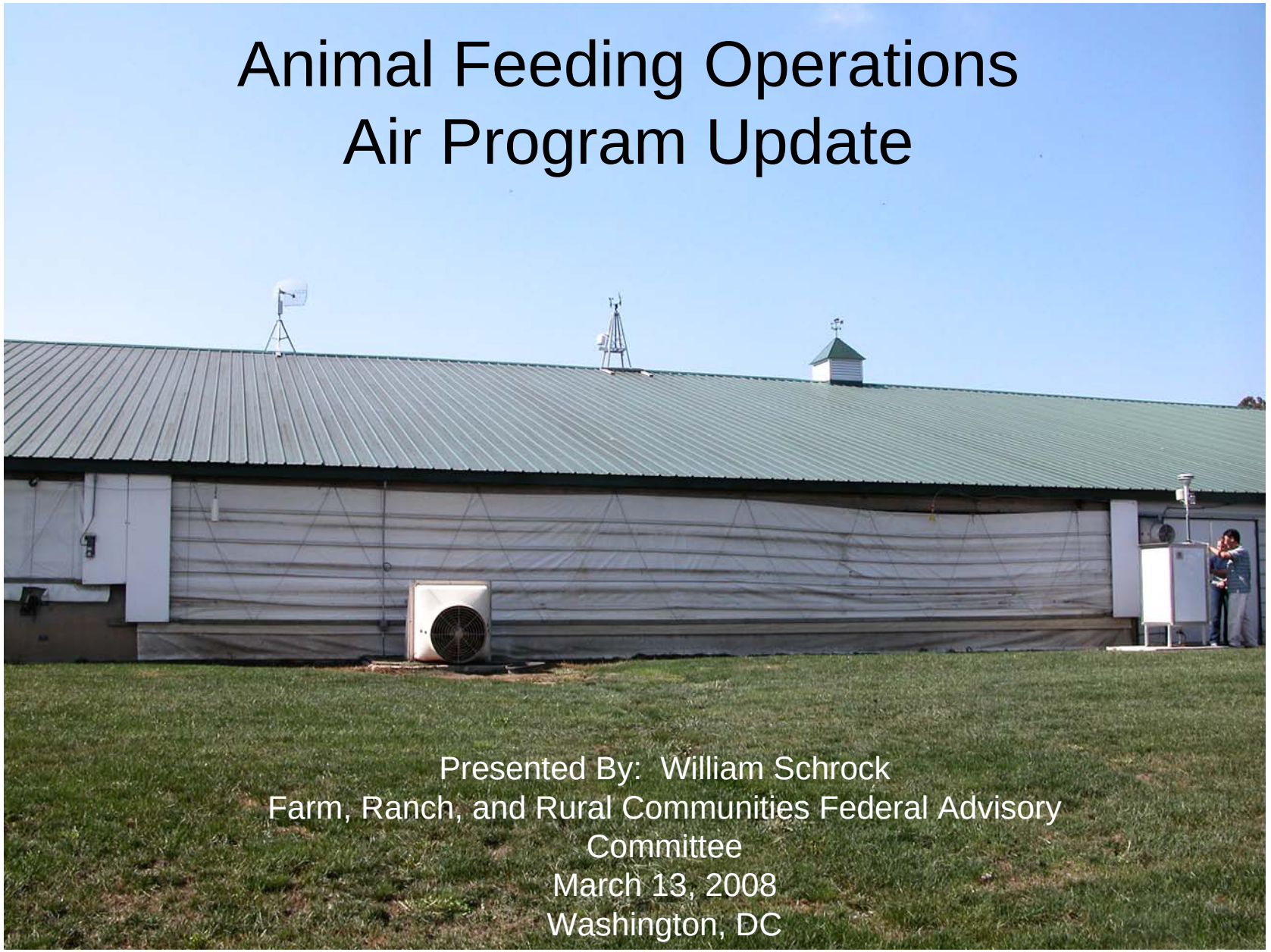
EPA United States Environmental Protection Agency

Animal Feeding Operations Air Program Update



Presented By: William Schrock

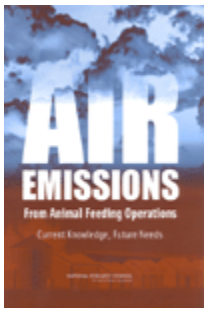
Farm, Ranch, and Rural Communities Federal Advisory Committee

March 13, 2008

Washington, DC

Background Information

- 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



Goals for Next 2-3 Years

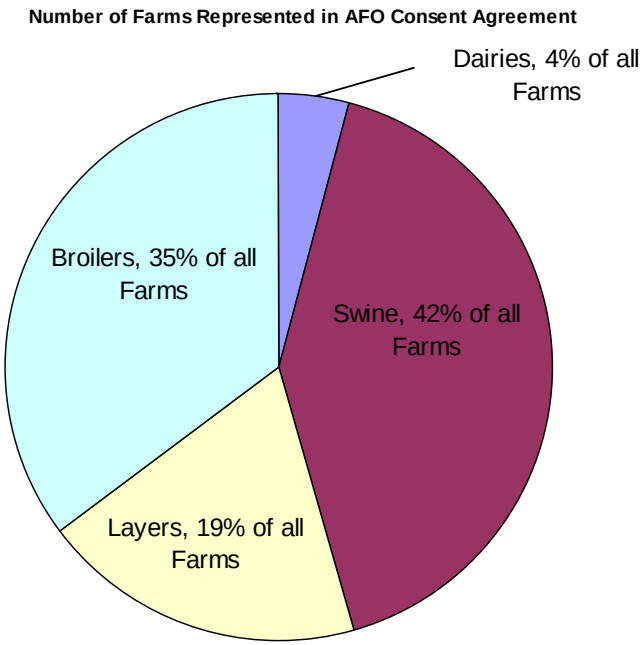
- Address issues of CAA requirements
  - Emission estimation (e.g., emission factors, potential to emit)
  - Source definition
  - Applicability cutoff (i.e., size cutoff)
  - Fugitive/non-fugitive
  - Control technology effectiveness
  - Monitoring, reporting and recordkeeping

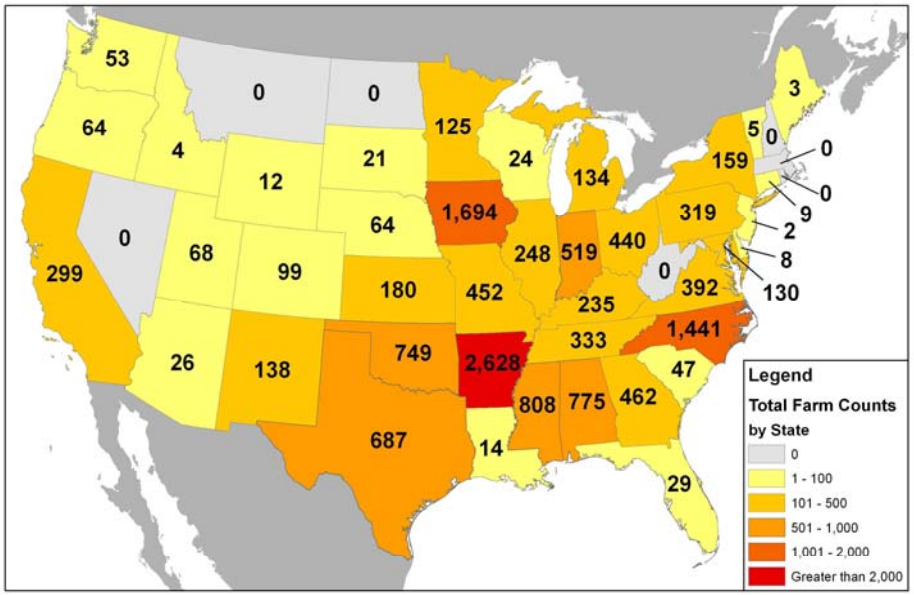
Agreement Overview

- 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

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 AFOs - $14.8M
- Monitor for:
  - Particulate matter
  - Hydrogen sulfide
  - Volatile organic compounds
  - Ammonia
- Data made available to the public

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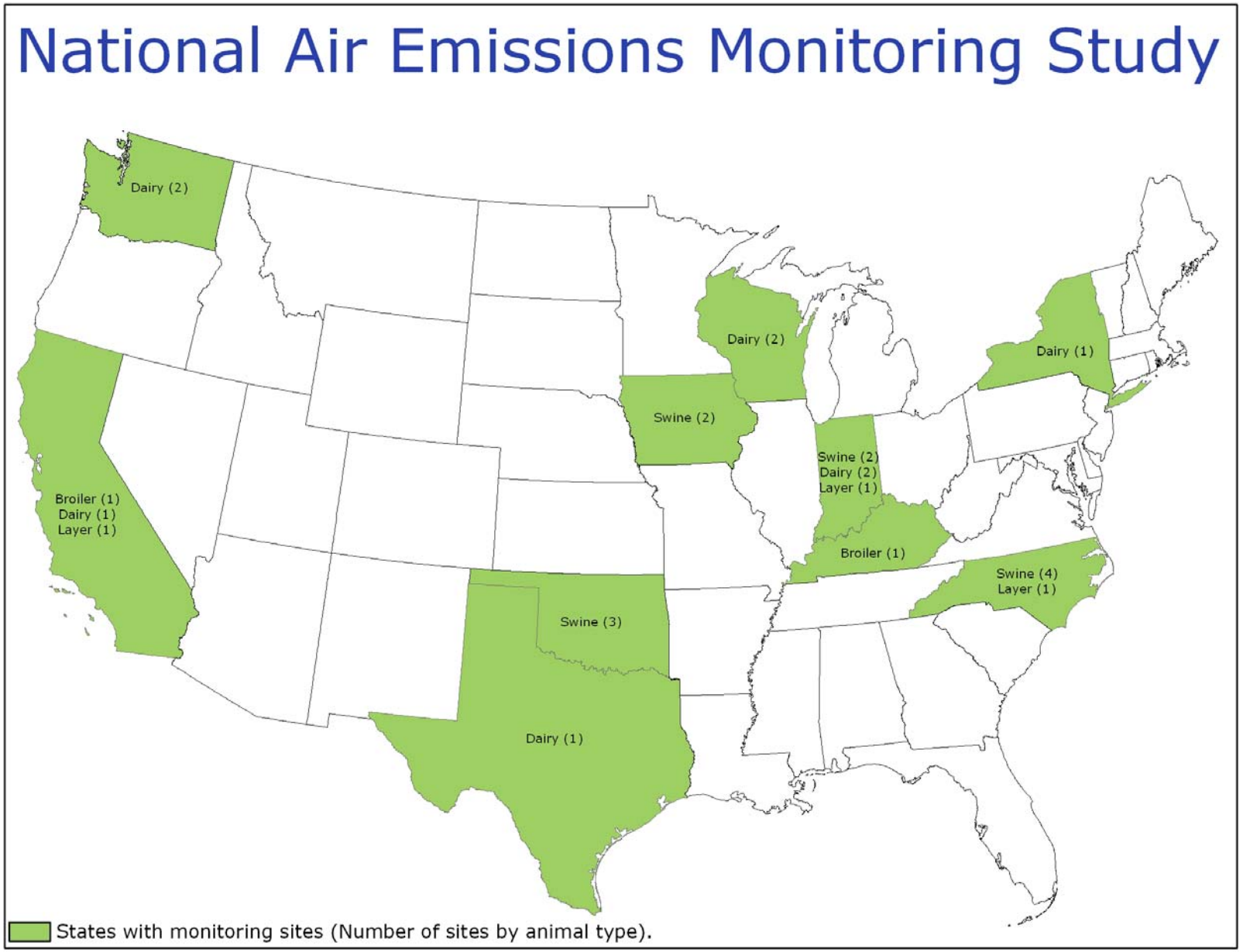
National Air Emissions Monitoring Study



Monitoring Study – The Challenges

Changing Climatic Conditions

Partially Enclosed and Naturally Ventilated

Large Open Sources

Animal Movements

Changing Feed Rations

What's Next?

- Continue Data collection – Spring/Summer/Fall 07 + 2 years
- Complete data analysis and publish Emission Estimating Methodologies – 18 months after completion of data collection
- Participants must comply with any applicable requirements – 120 days after publication of Emission Estimating Methodology

Add-on Studies

Principal Investigator	*Topic/Sponsor*	*Site(s)*
Jacobson	Odor Emissions/USDA NRI	IA4A, OK4A, IN5B, & WI5B
Mitloehner	VOCs & GHGs/CA Dept Food & Ag, Dairy	CA5B
Lim	Downwind Dairy Odor Survey/Purdue	IN5B
Ni	Air Emissions/USDA NRI	IN2B
Koziel	GHG/ISU	IA4B
Jacobson	GHG emissions (University of Minnesota)	WI5B
Zhang	GHG emissions (CARB)	CA1B, CA2B
Wang	PM size distribution (USDA-NRI)	NC2B
Ndegwa	Bioaerosols (PNASH)	WA5B

Future Outlook for AFO Strategy

- National Academy of Sciences developed recommendations to characterize all AFO processes.
- Consent Agreement/Monitoring Study is just one piece of overall strategy.
- Modifications to one area of an AFO can have impacts on another area and another media.
- Air Office still needs to consider the following:
  - Regulations and/or guidance
  - Conservation practices (conservation systems and activities, technologies)
  - Emission estimating methodologies – short term
  - Process based emission model – long term