

# Perspectives from a State Regulator

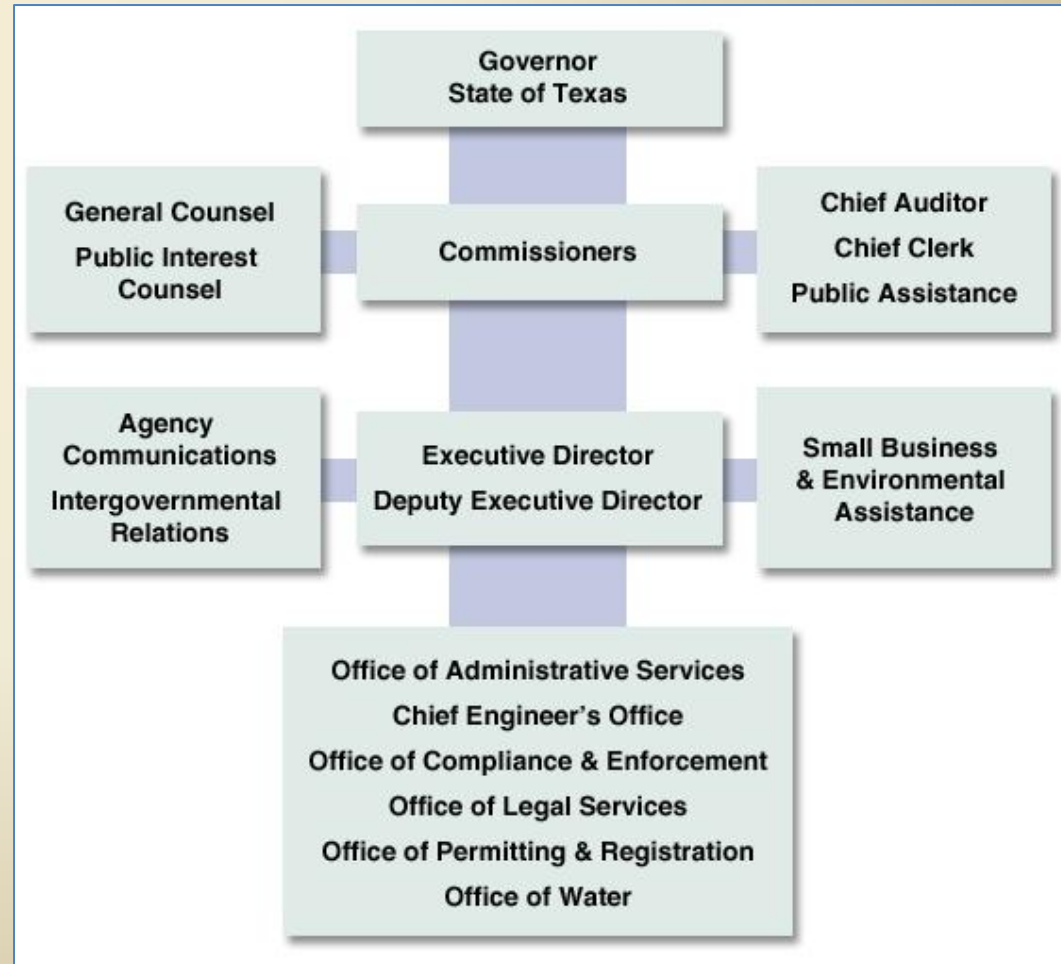
Lindsey Jones, MS

Toxicology Division

Texas Commission on Environmental Quality

# Environmental Regulation in Texas

- The Texas Commission on Environmental Quality strives to protect our state's human and natural resources consistent with sustainable economic development
- Our goal is clean air, clean water, and the safe management of waste

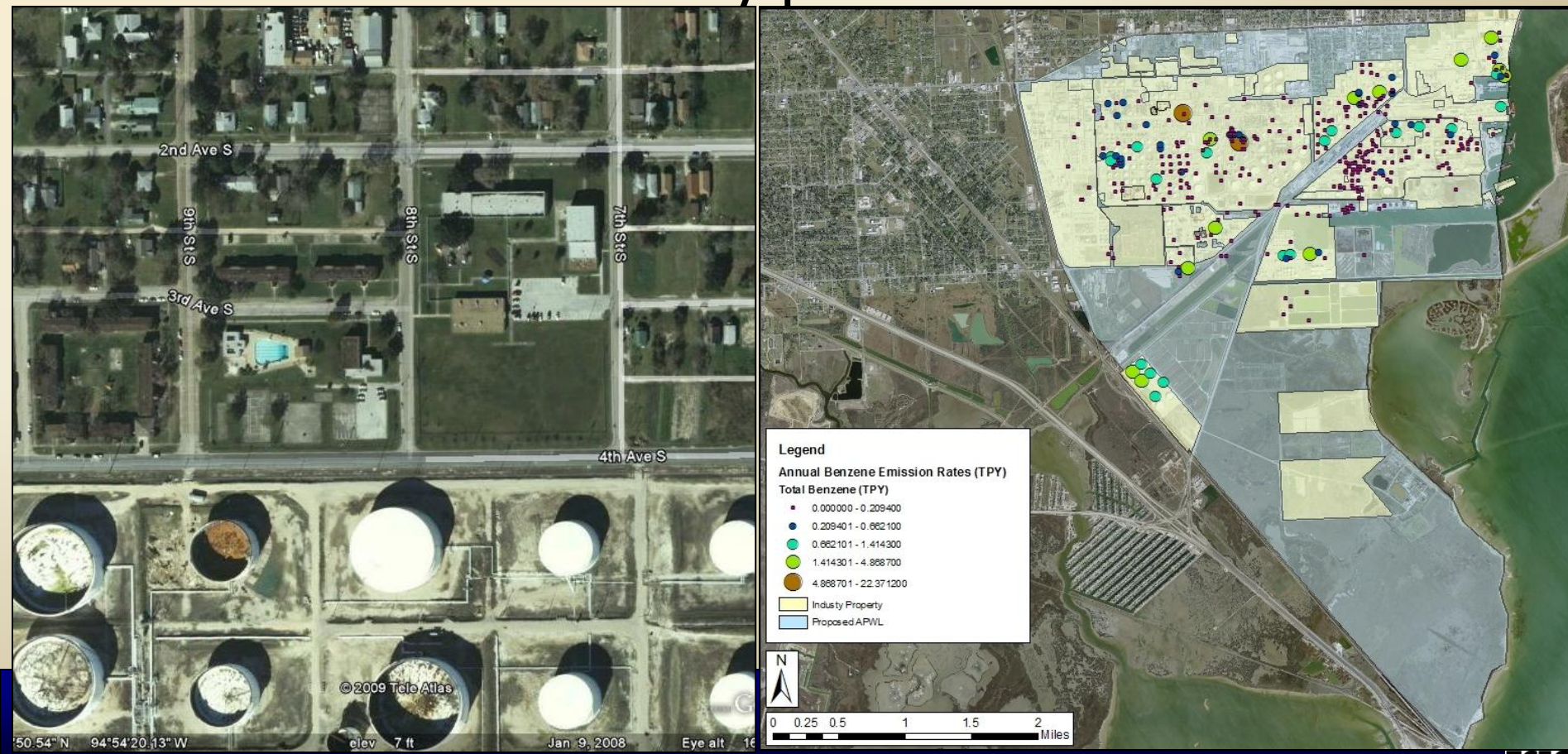


# Toxicology Division

- Provide scientifically-sound support for various parts of the agency
  - Develop Effects Screening Levels (ESLs) and Air Monitoring Comparison Values (AMCVs)
  - Perform health effects review of air permit applications
  - Provide risk assessments of environmental data (air, drinking water, surface water, soil, waste)
  - Stay abreast of emerging issues
    - Comment on EPA toxicity values (arsenic, formaldehyde, ozone)
  - Characterize and communicate risk

# Challenges

- Develop guidelines for the over 5,000 chemicals emitted by permitted facilities

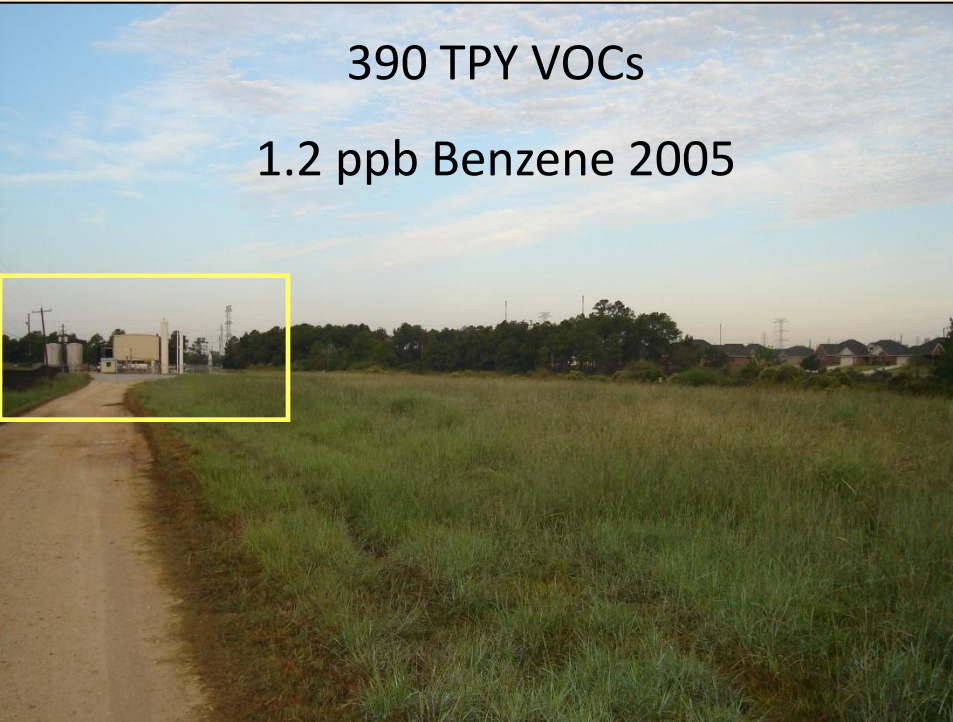


# Challenges

- Appreciating the difference between actual and perceived risk

390 TPY VOCs

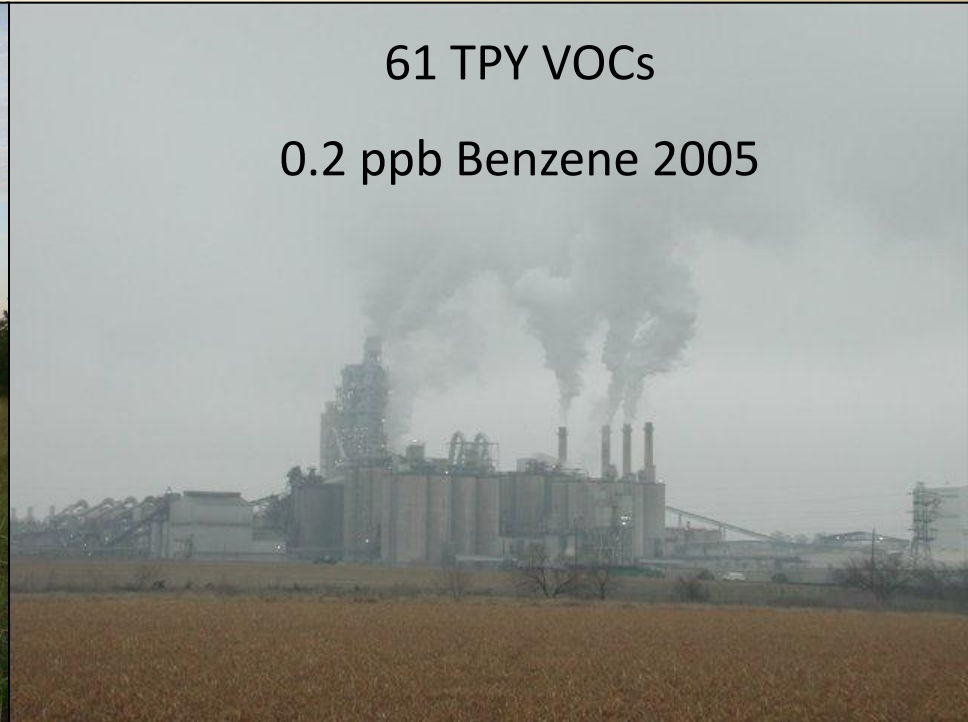
1.2 ppb Benzene 2005



Davis Petroleum, Shoreacres

61 TPY VOCs

0.2 ppb Benzene 2005



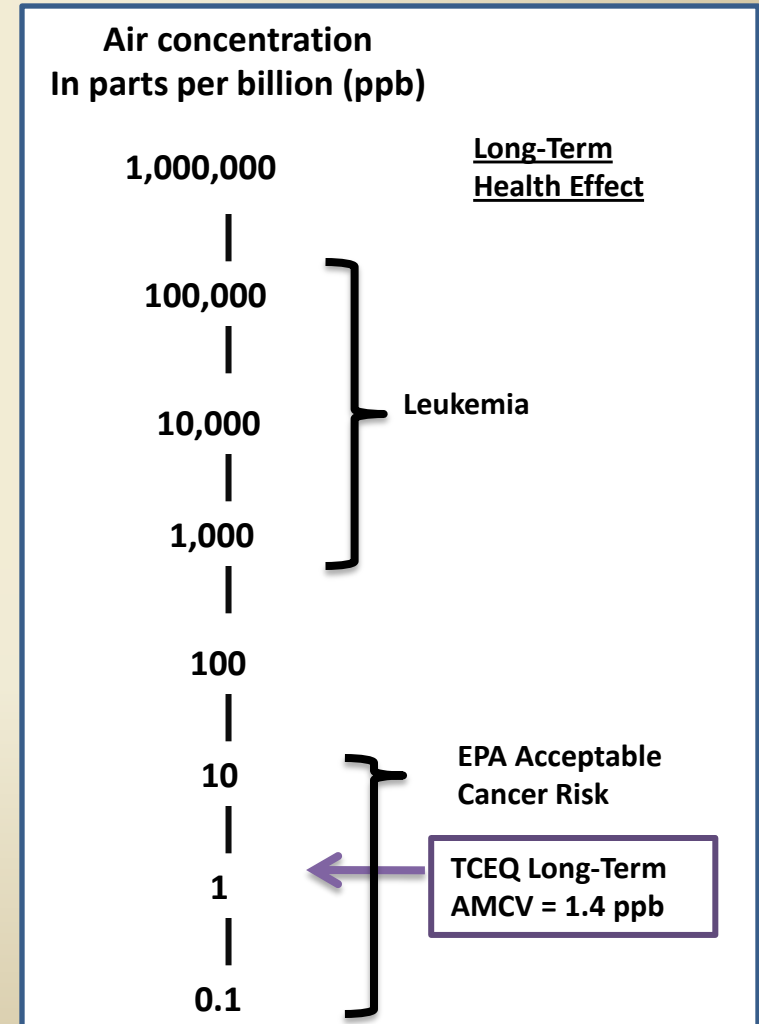
TXI Operations, Midlothian

# Sound Science

- Protection of human health is the highest priority
- High quality information to risk managers to make better-informed decisions
- Imperfect data → uncertainty factors

# Guideline Levels

- Guidelines to establish screening levels (November 2006)
  - External scientific peer review
  - 2 rounds public comment
  - 36 chemicals completed to date
    - Public comment
    - Peer review for some
- Values are conservative



# Guideline Implementation

- Regardless of how conservative guidelines are set, they become definitive lines to the media and public
  - Carbon disulfide
- Concern rises when there is conflicting information
  - Methyl mercury



# Importance of Risk Assessment

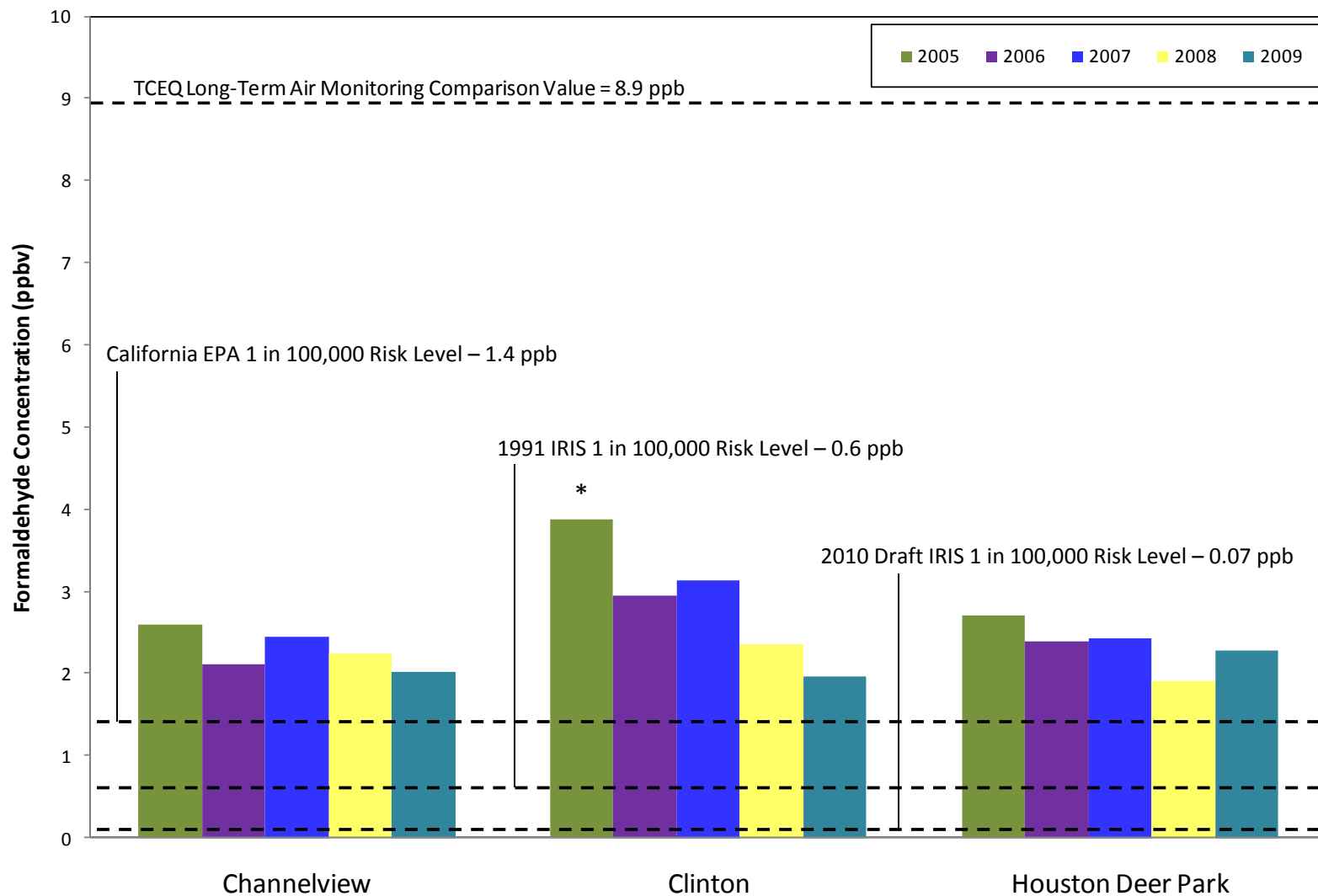
Worst-Case Scenario + Uncertainty Factors  
≠ Reality

- Policy decisions come with a price
  - Money, resources, opportunities
- Realism is a key component of risk assessment
- Ripple effects can be staggering

# Formaldehyde

- 2008 TCEQ nonlinear carcinogenic assessment set the Long-Term AMCV at 8.9 ppb
- 2010 draft EPA linear carcinogenic assessment sets its level at 0.08 ppb
  - Leukemia and Hodgkin lymphoma
  - Nasopharyngeal cancer
- TCEQ provided comments on the EPA draft

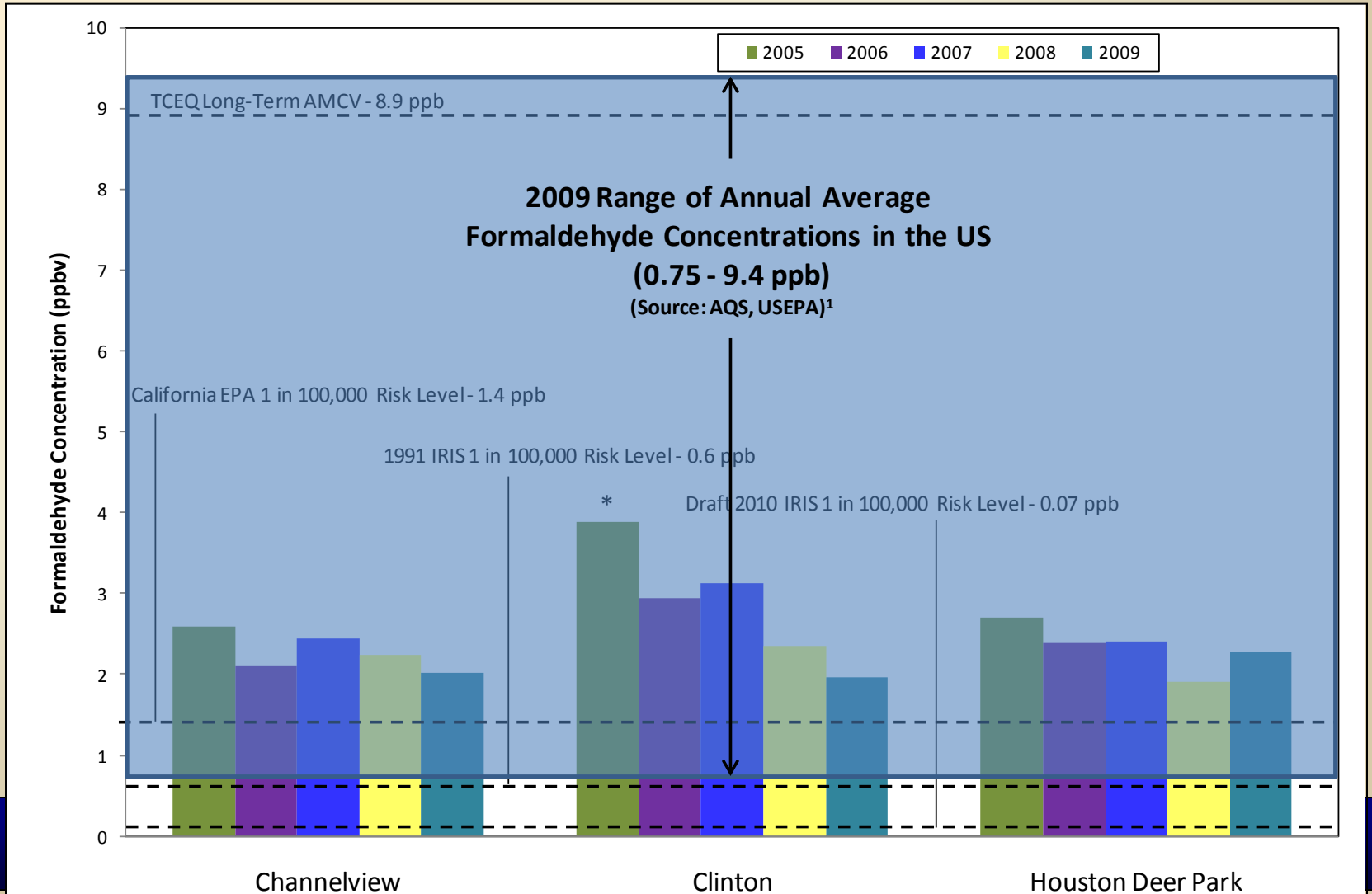
# Annual Average Formaldehyde Concentrations in the Houston Region



\* Incomplete sampling year



# Typical Formaldehyde Concentrations

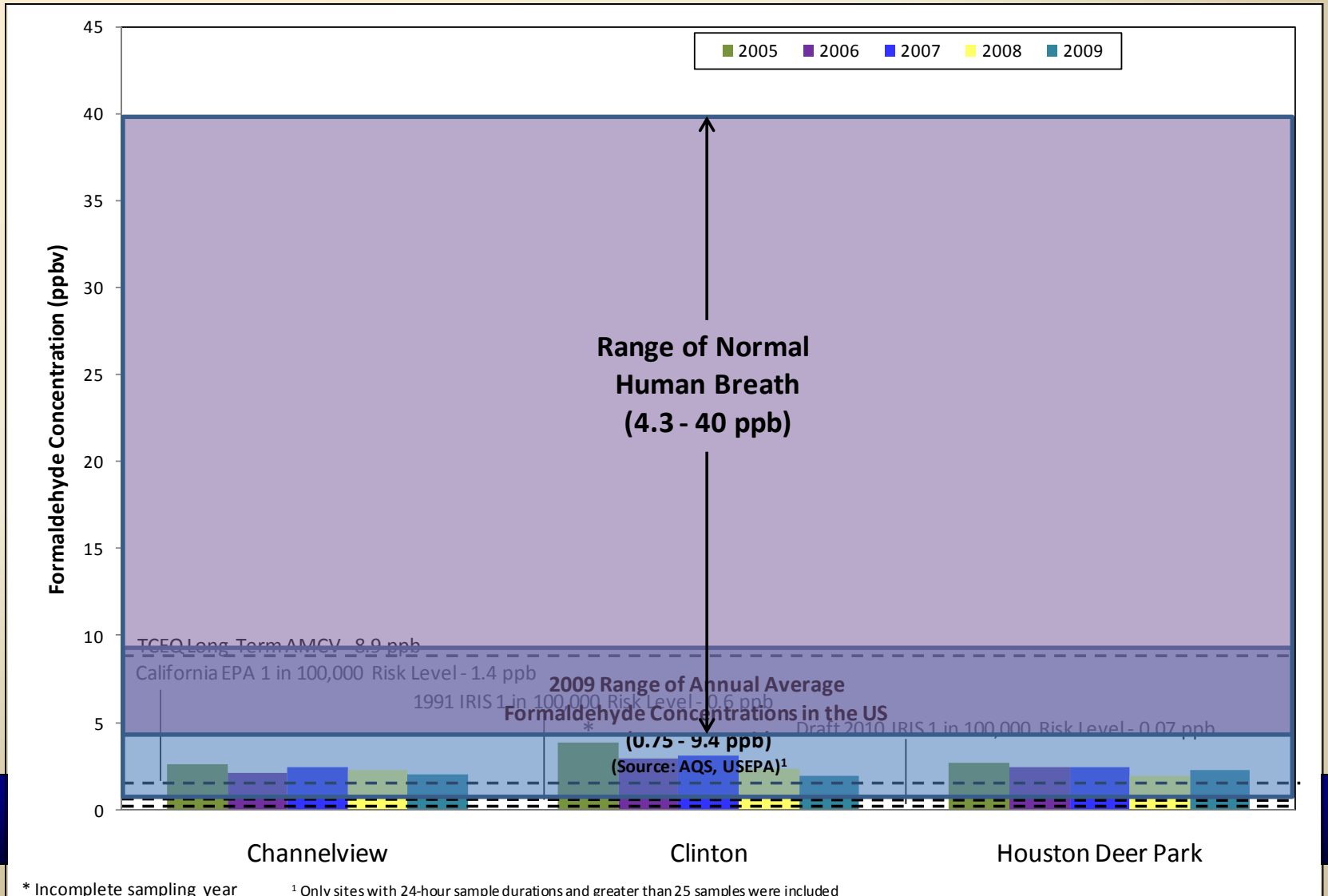


\* Incomplete sampling year

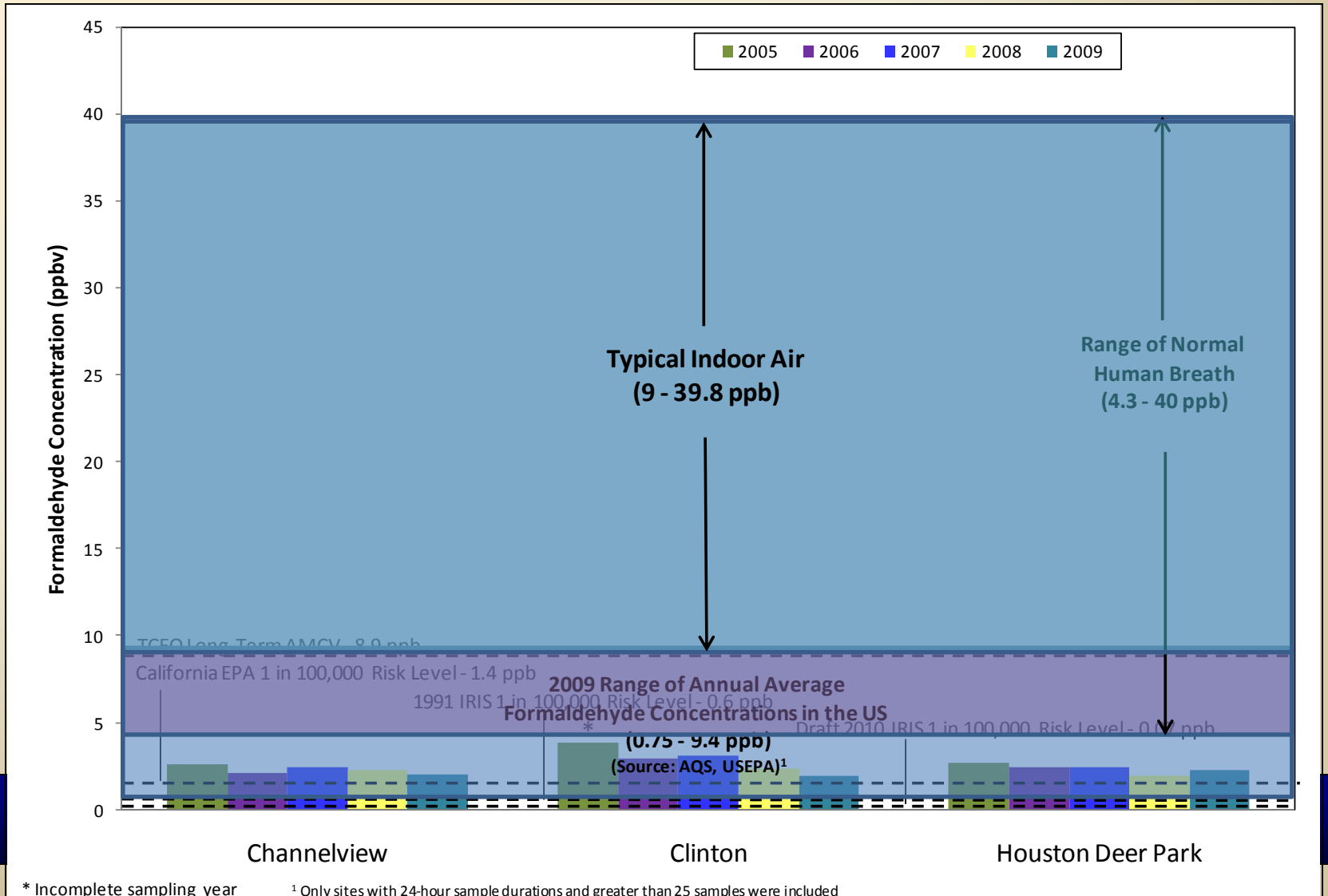
<sup>1</sup> Only sites with 24-hour sample durations and greater than 25 samples were included



# Typical Formaldehyde Concentrations

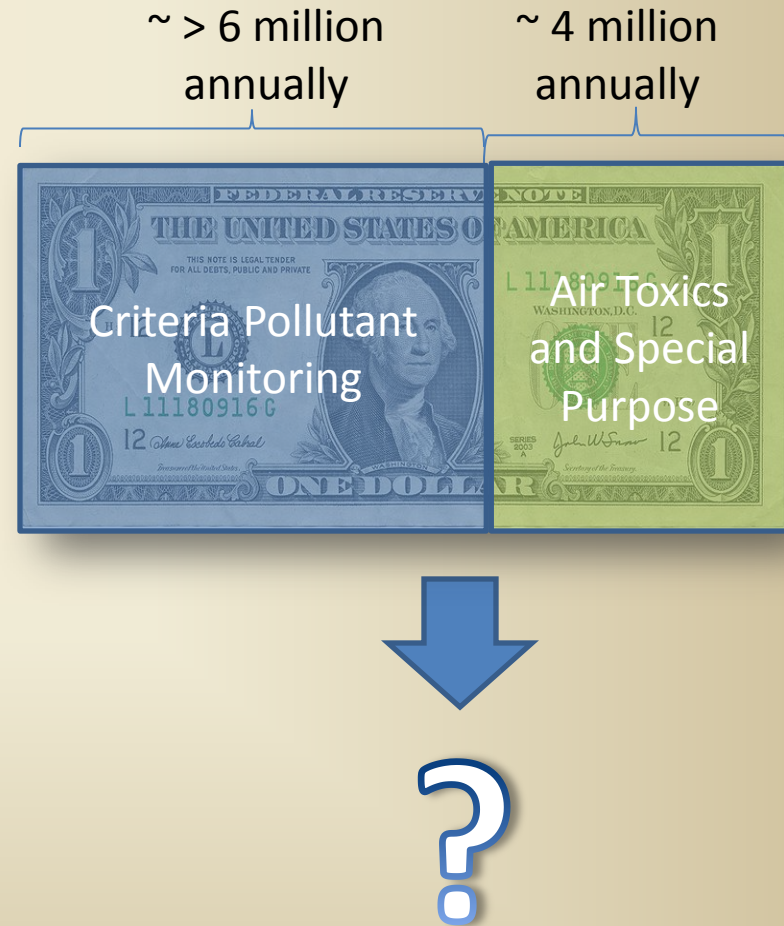


# Typical Formaldehyde Concentrations



# Resource Impacts

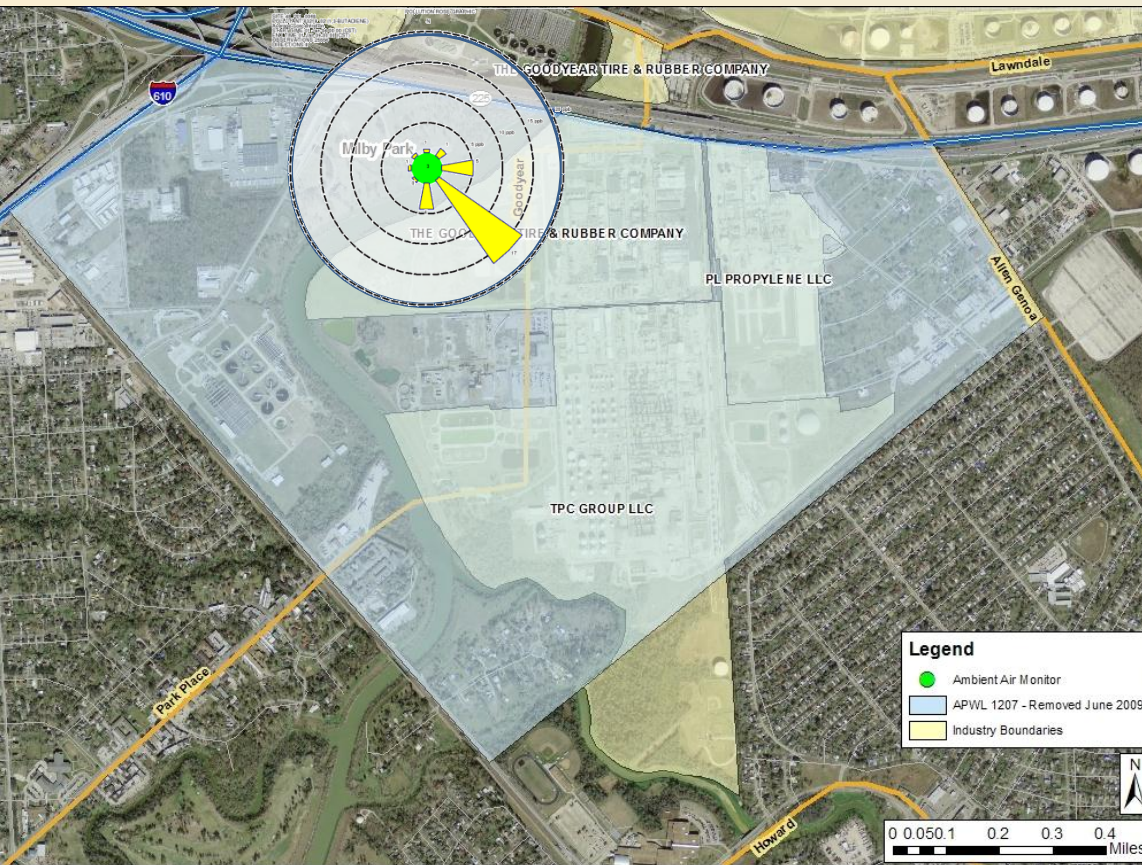
- Monitoring
  - > 60% of the state's monitoring budget is spent on monitoring for criteria pollutants
  - Federally-required monitoring under new NAAQS will cost > \$3.5 million over the next 4 yrs



# TARGETED REDUCTIONS



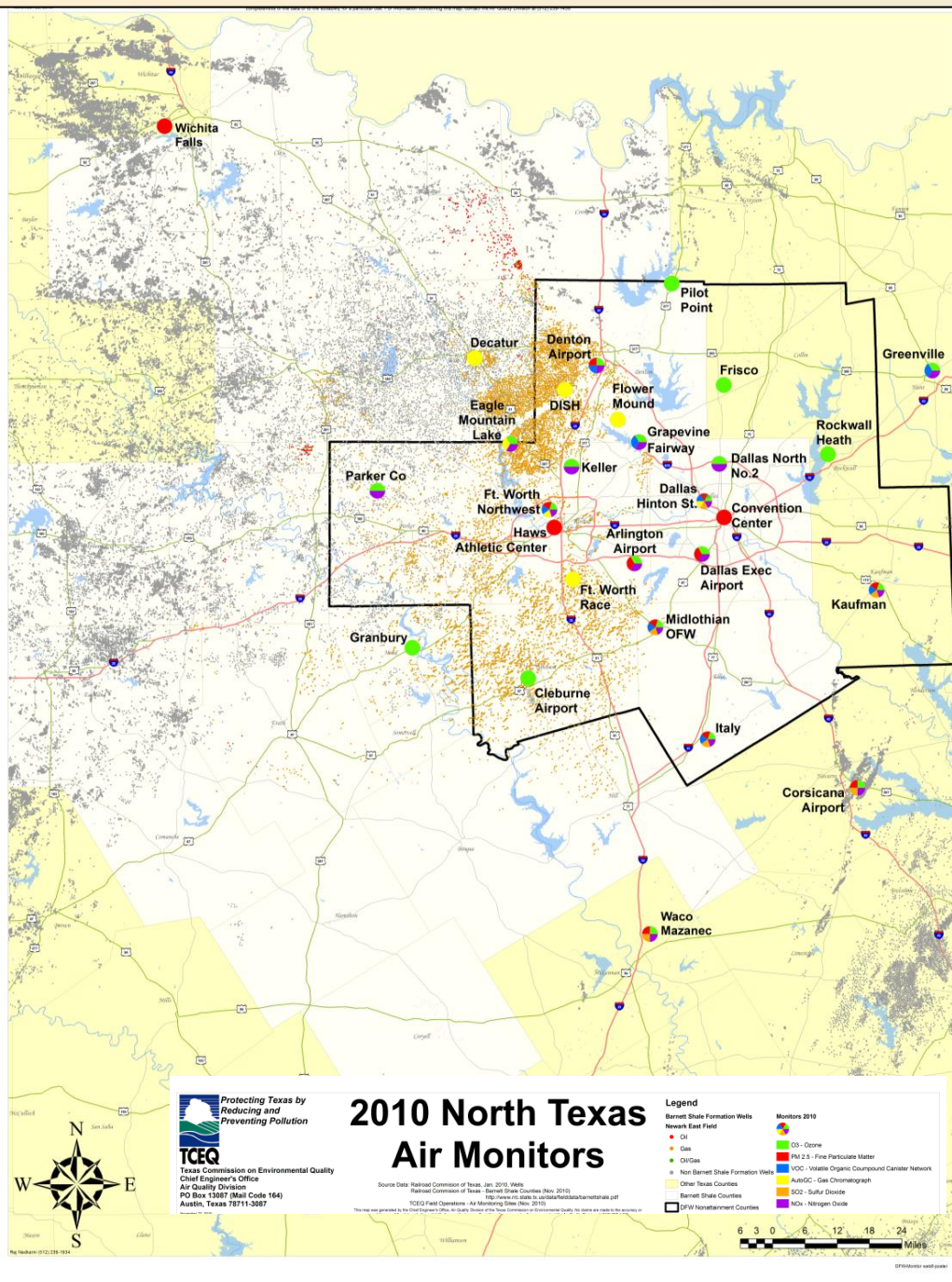
# 1,3-Butadiene in Milby Park



- > \$20 million invested by just TPC Group
- Fenceline monitoring and notification system
- Flare reduction strategies
- 87% reduction in annual average concentrations

# Barnett Shale Formation

- 2005 HAWK Flyover
- 6 mobile monitoring projects since 2009
- From August 2009-August 2010
  - GasFindIR – 600 sites
  - 450 sites with hand-held monitor
  - 360 canister samples
- 5 autoGC sites installed
- 8 more autoGC sites proposed



# Conclusion

- Dose-response assessments are important
  - Translate to environmental concentrations
  - If everything is bad, then nothing will be fixed

# Contact Information

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