

Marcellus Shale Development in New York



**MID-ATLANTIC CONFERENCE OF
REGULATORY UTILITIES COMMISSIONERS**

15TH ANNUAL EDUCATION CONFERENCE

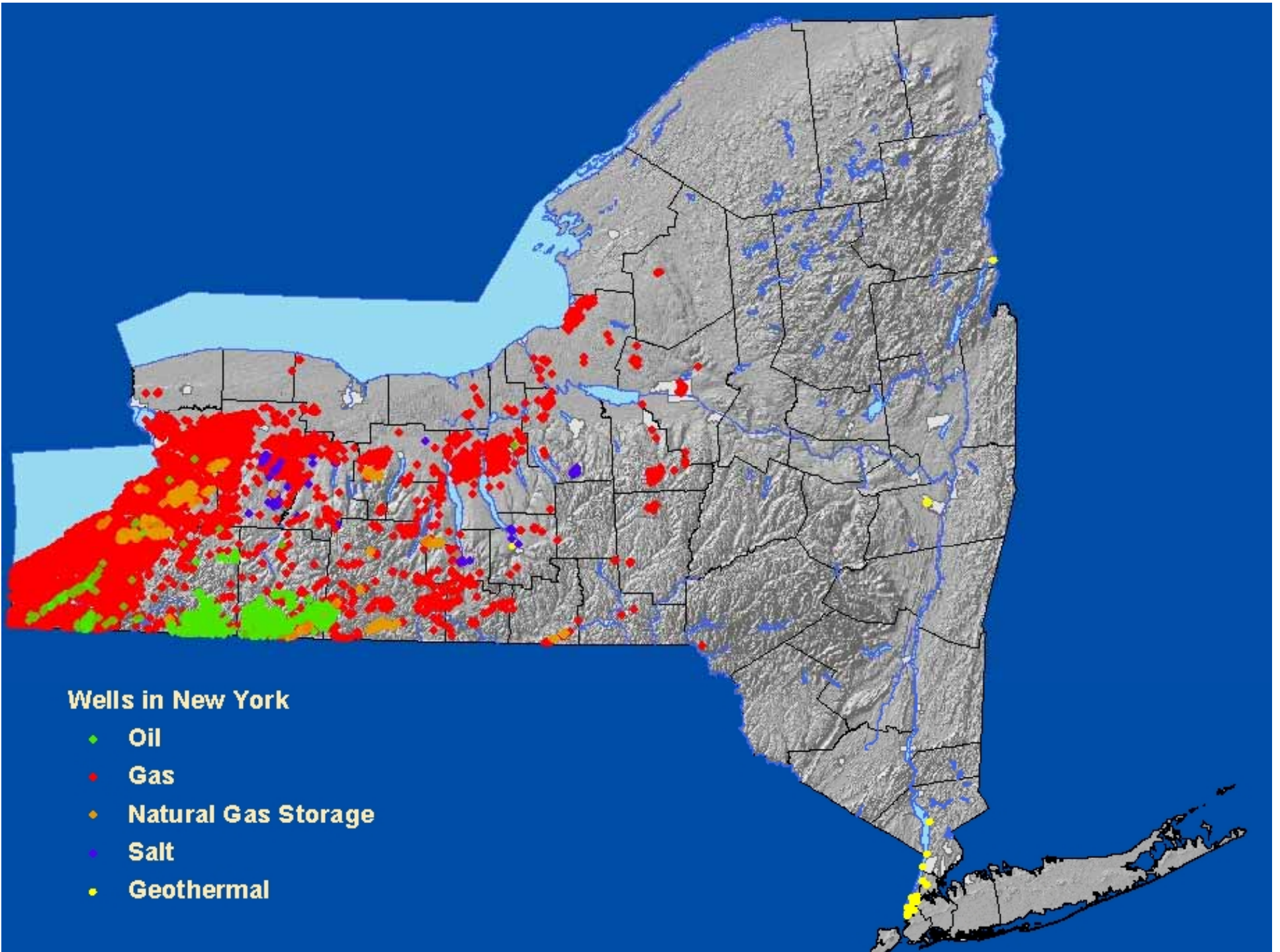
**HOTEL HERSHEY
JUNE 29, 2010**

**JACK DAHL
DIRECTOR, BUREAU OF OIL AND GAS REGULATION
DIVISION OF MINERAL RESOURCES
NYSDEC**

Today's Presentation



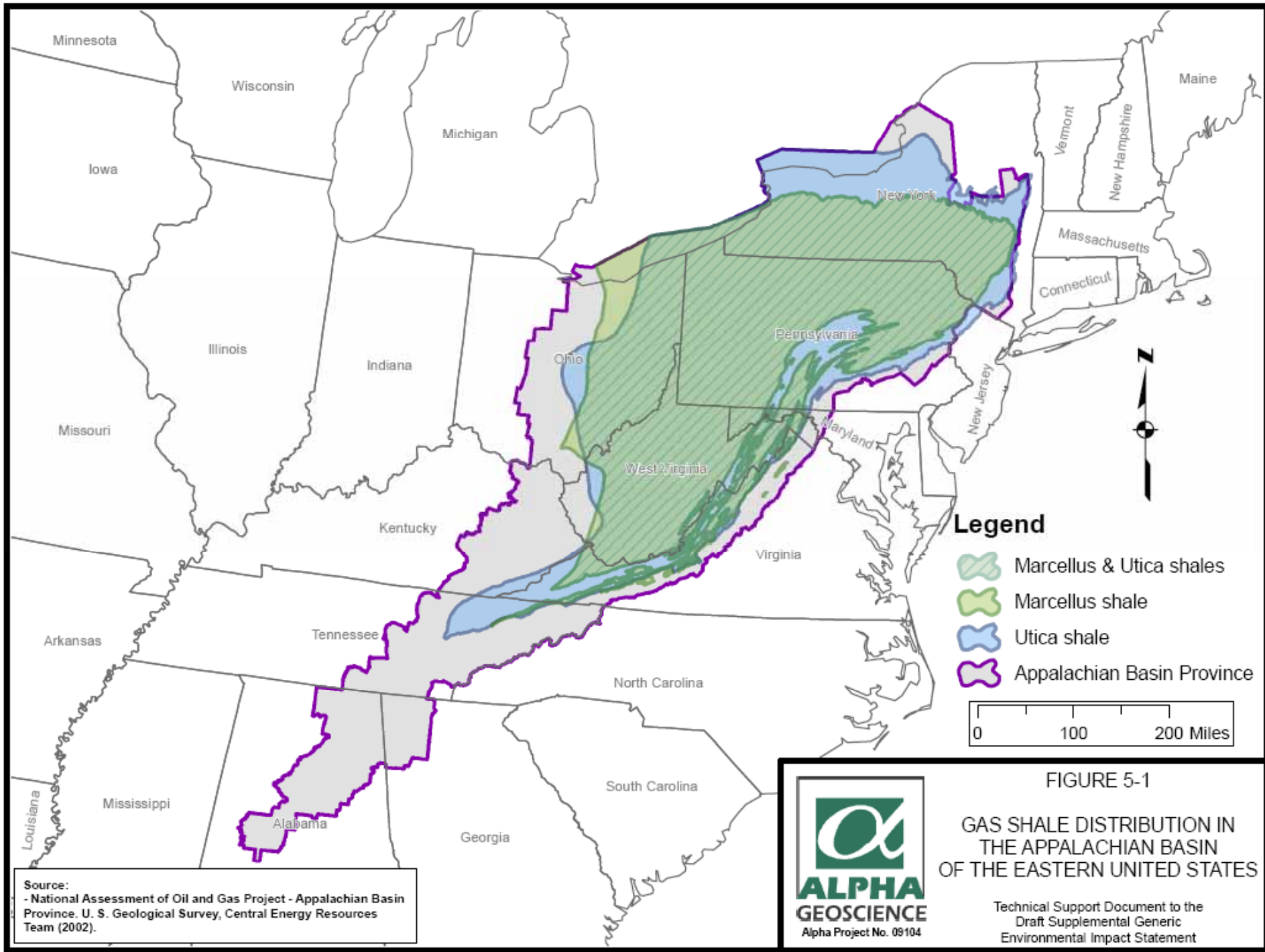
- **Shale Development - Overview of Environmental Issues**
- **Draft Supplemental GEIS for Marcellus**
- **Experience With the Moratorium**
- **The Future of Shale Development in NY**



2008 Oil and Gas Activity in New York



- **50.3 bcf gas produced**
 - 5% of NYS gas consumption
 - 729,000 homes heated
- **397,000 bbl oil produced**
- **\$488 million wellhead market value (95% gas)**
- **\$61 million landowner royalties**
- **\$14.6 million in local taxes**
- **744 well permits issued in 2008**
- **544 well permits issued in 2009**
- **\$24.7 million in financial security held by DEC**

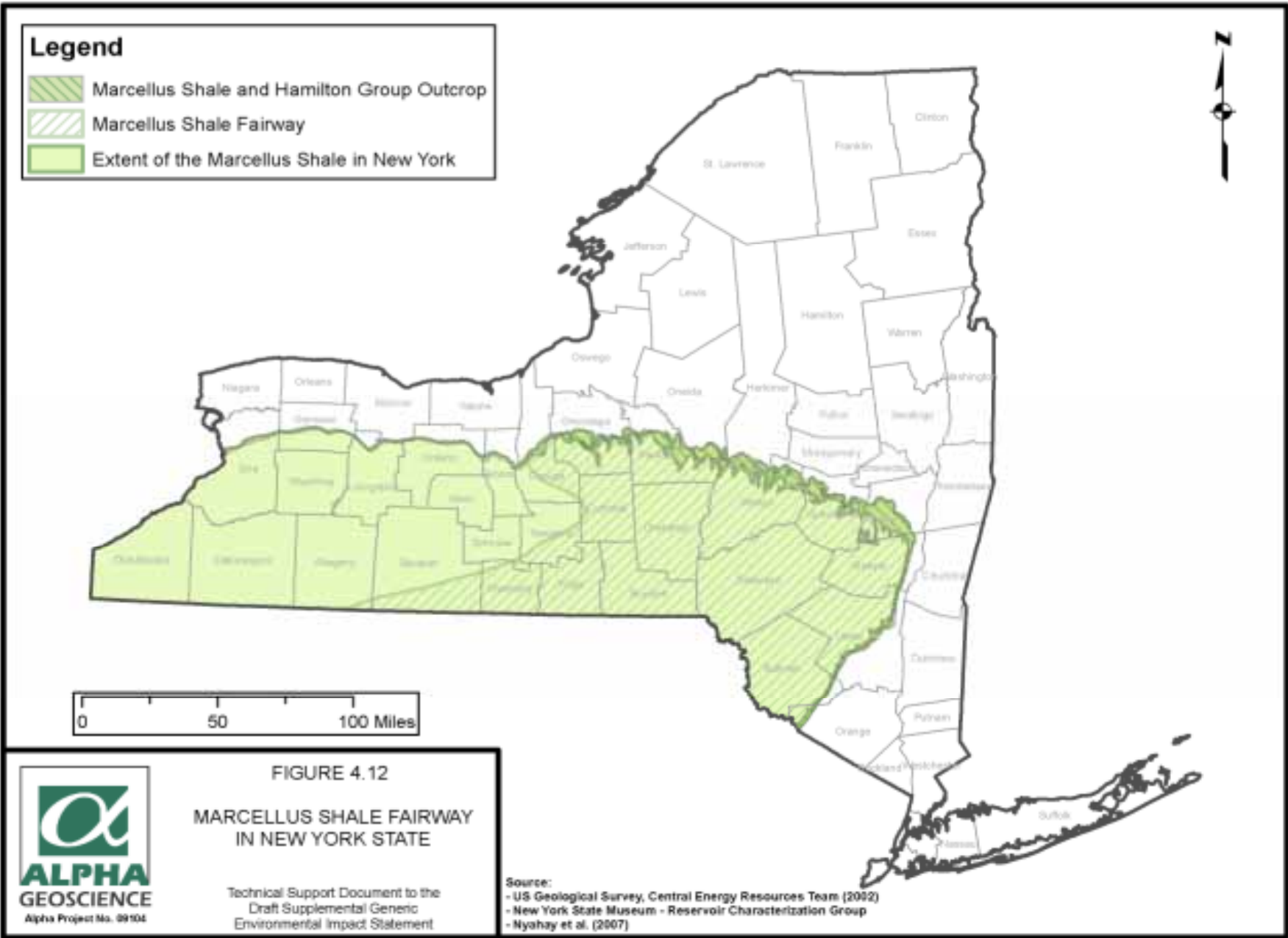


Source:
 - National Assessment of Oil and Gas Project - Appalachian Basin Province. U. S. Geological Survey, Central Energy Resources Team (2002).



FIGURE 5-1
 GAS SHALE DISTRIBUTION IN THE APPALACHIAN BASIN OF THE EASTERN UNITED STATES

Technical Support Document to the Draft Supplemental Generic Environmental Impact Statement



Marcellus Environmental Issues



- **High volume hydraulic fracturing**
 - Water consumption and transportation
 - Chemical additives
 - Fluid handling, disposal, treatment
- **Local impacts to infrastructure**
- **Horizontal drilling from multi-well pads**
 - Duration of impacts

Regulatory Authority



- **New York State Environmental Conservation Law Article 23**
 - Oil, Gas & Solution Mining Law
- **Regulations 6NYCRR Parts 550-559**
- **State Environmental Quality Review Act**
- **Guidance and special permit conditions**
- **Other DEC jurisdictions**
 - Air Resources
 - Water
 - Solid and Hazardous Materials

Use of a GEIS to Fulfill SEQRA



- Evaluates separate actions having common impacts
- Individual EIS not needed if GEIS adequately addresses all potential impacts
- Gas well drilling in NYS was reviewed in a 1992 GEIS
- <http://www.dec.ny.gov/energy/45912.html>

1992 GEIS: Common Potential Impacts



- **Surface waters** - siltation and turbidity, spills
- **Ground water** - turbidity, methane release, spills
- **Agriculture** – land disturbance, topsoil, spills
- **Historical sites** – destruction, visual, noise
- **Archeological sites** - destruction
- **Significant habitats** – disturbance, species loss, habitat damage or loss
- **Floodplains** – floodway, erosion, spills
- **Freshwater wetlands** – physical damage, flow interruption, spills, access/overuse
- **State lands** – interference with designated use or damage
- **Coastal zone** – interference with use, damage to resources
- **Streams** – streambed/bank integrity, siltation, spills
- **General habitat loss** – topsoil loss, erosion and sedimentation, vegetation loss

GEIS: Common Mitigation Measures



- **Site review using plat, drilling EAF, GIS, inspections**
 - Environmental sensitivity of proposed location
 - Proximity to environmental and cultural features
 - Site-specific permit conditions
 - Other Department permits
- **Required casing and cementing practices**
 - Permit-specific review and approval
- **Supplementary permit conditions for wells in primary and principal aquifers**
 - Enhanced casing and cementing requirements
 - Rapid fluid removal requirements

Potential impacts not addressed by GEIS



- **High-volume fluid management**
 - Water withdrawals and consumption
 - Transportation of water to the site
 - Additives
 - On-site facilities and handling
 - Flowback and ultimate disposition
- **Multiple wells at single site, longer duration of impacts**

SGEIS Process



- **Governor Paterson calls for SGEIS July 23, 2008**
 - “Moratorium”
- **Draft Scope released Oct. 6, 2008**
- **Comment period closed Dec. 15, 2008**
 - 188 verbal statements at six scoping meetings statewide
 - 3,770 written comments
- **Final Scope issued February 6, 2009**
- **Draft SGEIS published September 30, 2009**
- **Comment period closed 12/31/2009**
- **Evaluate 14,000 comments received**
 - Additional research underway
- **Final SGEIS, including responsiveness summary**
- **SEQRA Findings, at least 10 days after final SGEIS**

The Draft SGEIS



- **Chapters**
 - 1: Introduction
 - 2: Proposed action, public need and benefit, environmental setting
 - 3: SEQRA review process, proposed EAF addendum
 - 4: Geology – Marcellus & Utica Shales
 - 5: Natural gas development and high-volume hydraulic fracturing
 - 6: Potential impacts
 - 7: Mitigation
 - 8: Permit process and regulatory coordination
 - 9: Alternatives
- **Glossary**
- **26 Appendices**
- **Bibliography: 114 refs cited by DEC staff, 473 refs cited by NYSERDA consultants**

Energized about Energy

- Advocacy groups on both sides
- The internet influence
 - Blogs, electronic media
 - You Tube
 - Facebook, etc.
- Poems, plays, movies and folk songs
- Demonstrations
- The public is motivated and mobilized



Public Policy Debate



- **Driven by stakeholders:**
 - **Environmental Absolutists** – no drilling ever
 - **Environmental Pragmatists** – recognize energy and economic benefits, but want assurance technology is safe
 - **“Responsible Drilling” Advocates** – landowners and local officials in favor of drilling provided environmental safeguards are in place
 - **Economic Development Activists** – we’ve already missed the boat and should start drilling immediately
 - **Industry** – need to make business decisions involving billions of dollars based upon regulatory climate

DEC's Perspective



- **Paramount obligation to protect the environment**
 - SGEIS must be objective, science-based and meet all legal requirements
 - Statutory obligation to permit this activity – gas drilling is legal and consistent with New York State policy
 - Environmental Conservation Law
 - NYS Energy Plan
- **Not a popularity contest**
- **Not a choice between profit and long-term ecological disaster**

Swirling About



- **Federal legislation**
 - FRAC Act
 - American Power Act
- **EPA's hydraulic fracturing study**
- **Legislation and rulemaking in other states**
 - Hydraulic fracturing, chemical disclosure
 - Wellbore construction, casing and cementing, impoundments
- **Legislative proposals in NY**
 - Bans, short and long term
 - Statutory re-write
 - Liability
- **The "Next Gulf"**

Post – SGEIS Marcellus Development in NY



- **58 permit applications on file**
 - Will require amendments and additional information
- **No clarity on industry's development rate**
- **Severe staff and budget limitations in NY will limit permitting**
 - Budget deficit \$9.2 billion FY 2010-11
 - Early retirement incentives
 - Potential layoffs
 - FY 2011-12 expected to be worse