THE NATURAL GAS REFORM CAMPAIGN

Deborah Nardone, Director
State College, PA
Sierra Club Natural Gas Reform Campaign

The Sierra Club won't stand for reckless drilling

- Local and state regulatory reform
- Federal reform and closure of exemptions
- Protection of sensitive areas
64% of PA is underlain by Marcellus Shale
2010 1,368 Marcellus wells drilled
1544 violations cited by DEP in 2010
Potential Areas for Problems

- Leaks in casing or pipe
- Leaks in the pits and from liners in ponds
- Spills from transportation of water to and from well site
- Storm water overflow from pits and ponds
- Site erosion into streams and wetlands
- Fuel spills from operations
Marcellus Shale Drillers in Pennsylvania Amass 1614 Violations since 2008
1056 Identified as Most Likely to Harm the Environment

1 Pennsylvania Department of Environmental Protection News Release (6/23/2010) For information on methodology, contact Elana Richman at 717.230.8560 or email erichman@conserveand.org.
Key Environmental Issues

- Water Withdrawals
- Waste Water Treatment and Disposal
- Ground and Surface Drinking Water Contamination
- Protecting our HQ and EV streams
- Forest fragmentation
- Roads, Pipelines and Compressors
- Long Term Consequences / cumulative impacts
- Air quality impacts
- Lack of monitoring, enforcement and inspection
- Federal exemptions
Key Environmental Issues

- Water Withdrawals
- Waste Water Treatment and Disposal
- Ground and Surface Drinking Water Contamination
- Protecting our HQ and EV streams
- Forest fragmentation
- Roads, Pipelines and Compressors
- Long Term Consequences / cumulative impacts
- Air quality impacts
- Lack of monitoring, enforcement and inspection
- Federal exemptions
Water Withdrawals

- 2-5 million gallons consumed each well frac
- Hydrologic regime may be disrupted
- Best protective low flow for aquatic species and habitat?
- Inconsistent water withdrawal regs across Pennsylvania
- Assessment prior to withdrawal permit?
- Inconsistent tracking and enforcement
Wastewater

- **Frac Fluids**
  - Contains chemicals such as: demulsifiers, corrosion inhibitors, friction reducers, clay stabilizers, scale inhibitors, biocides, breaker aids, mutual solvents, alcohols, surfactants, anti-foam agents, defoamers, viscosity stabilizers, iron control agents, diverters, emulsifiers, foamers, oxygen scavengers, pH control agents, and buffers.

- **Produced water or brine from shale**
  - Contains high total dissolved solids, chlorides, sulfates, heavy metals, and some radioactive material
Currently, no easy technological method to treat volume of wastewater from fracked wells

- DEP allows municipal sewage treatment plants to accept wastewater untreated
- DEP states that new Total Dissolved Solids standards will be implemented in two years

Some companies state that they can recycle almost all frac water
Ground & Drinking Water Contamination

- Water contamination reported in several PA counties (chemical contaminants and methane gas)
- Poor gas well casings, leaking pits, spills
Special Protection Watersheds

- Fast tracked permitting
- Drilling in EV and HQ watersheds, WTS
- Potential degradation of the best streams and rivers in the State
- Cumulative Impacts
Earth Disturbance and Stormwater

- Fast-track permitting and no onsite review prior to issuance
- Post-construction storm water and anti-deg?
- Stripped permit review from CCD’s
- GP-1 < 5 acres
Inspection, Enforcement and Monitoring

- Lack of enforcement & inspection
- No baseline data in some watersheds
- No required monitoring prior, during and after
Federal Exemptions

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Resource Conservation and Recovery Act (RCRA)
- Safe Drinking Water Act
- Clean Water Act
- Clean Air Act
- National Environmental Policy Act (NEPA)
- Toxic Release Inventory under the Emergency Planning and Community Right-to-Know Act
Questions?

Deb Nardone, Director
Natural Gas Reform Campaign
deb.nardone@sierraclub.org
(814) 308-9767