Productive Natural Gas Wells in the Marcellus Shale

7490 well permits with 1632 wells in production up to June 30, 2011

Source: PA Department of Environmental Protection Well Production Report

Natural gas yields in productive wells (1000’s of cubic feet (Mcf))
- Permitted but not in production: 50,001 - 300,000 (585 wells)
- 1 - 50,000 (527 wells)
- 300,001 - 3,000,000 (520 wells)

Center for Health Research, Geisinger Health System
Scientific Framework for a Comprehensive Study of Mining-Related Activities

**Proximal Impacts**
- Environment
  - Drilling
  - Waste disposal
  - Leaks

**Environmental Effects/Exposures**
- Water quality
  - Hydrocarbons
  - Heavy metals
- Air quality
  - Particulates
  - Methane
  - Radiation

**Health and Quality of Life Effects**
- Cancer
- Metabolic disease
- Renal disease
- Other
- Asthma
- COPD
- CVD
- Other

**Community**
- Economy
- Infrastructure
- Social structures

**Marcellus Shale Mining**

**Effects/Exposures**
- Jobs/income
- Population growth
- Tax base
- Traffic/noise
- Congestion
- Criminal justice

**Health**
- Standard of living
- Lifestyle
- Health care access
- Schools
- ?
- MV accidents
- Trauma
- Behavioral health