

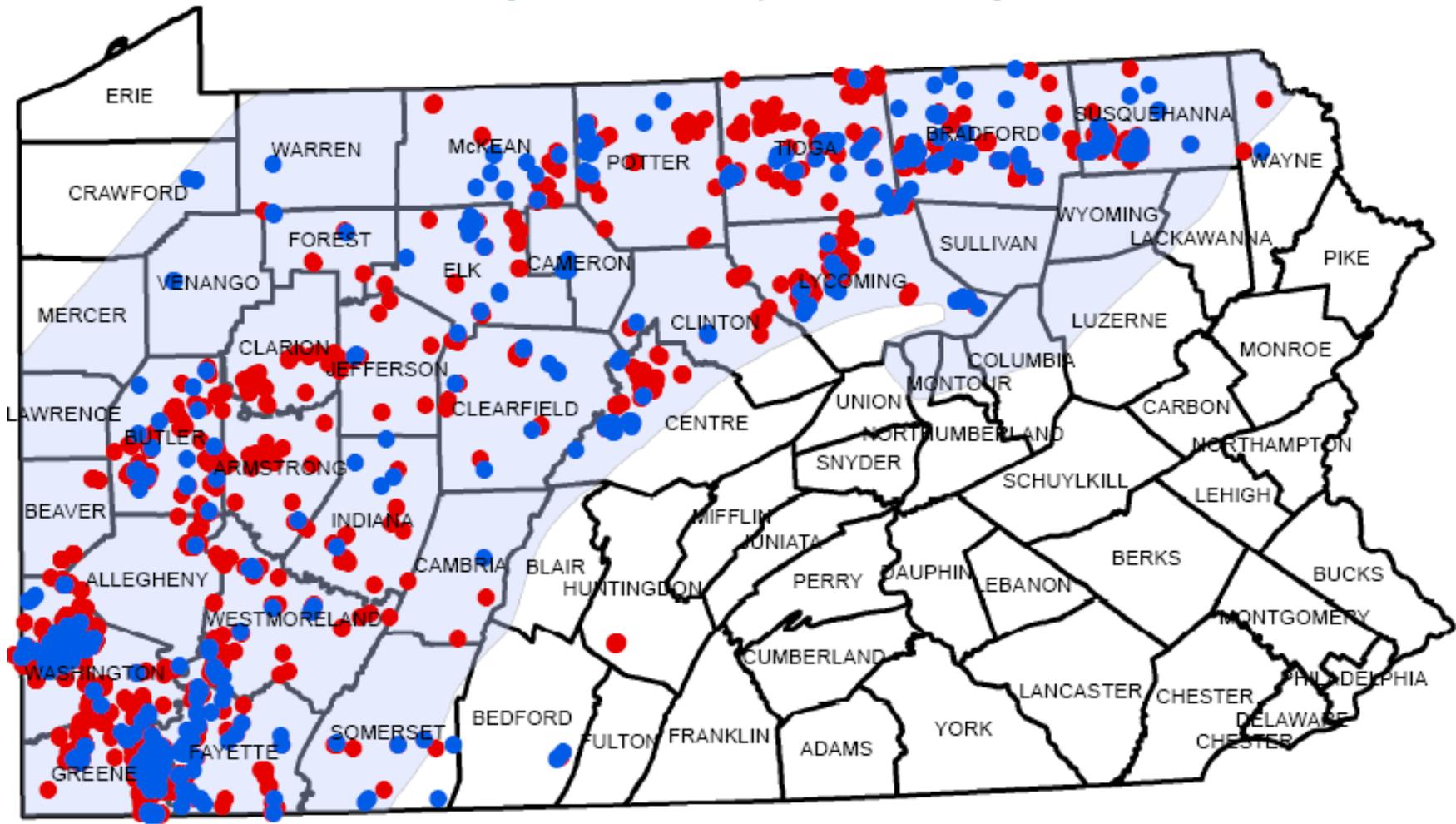
Unique Challenges In Southwestern Pa.

PSU Gas Summit

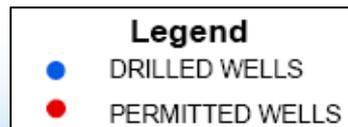


RANGE RESOURCES

Marcellus Drilling Activity through June, 2009



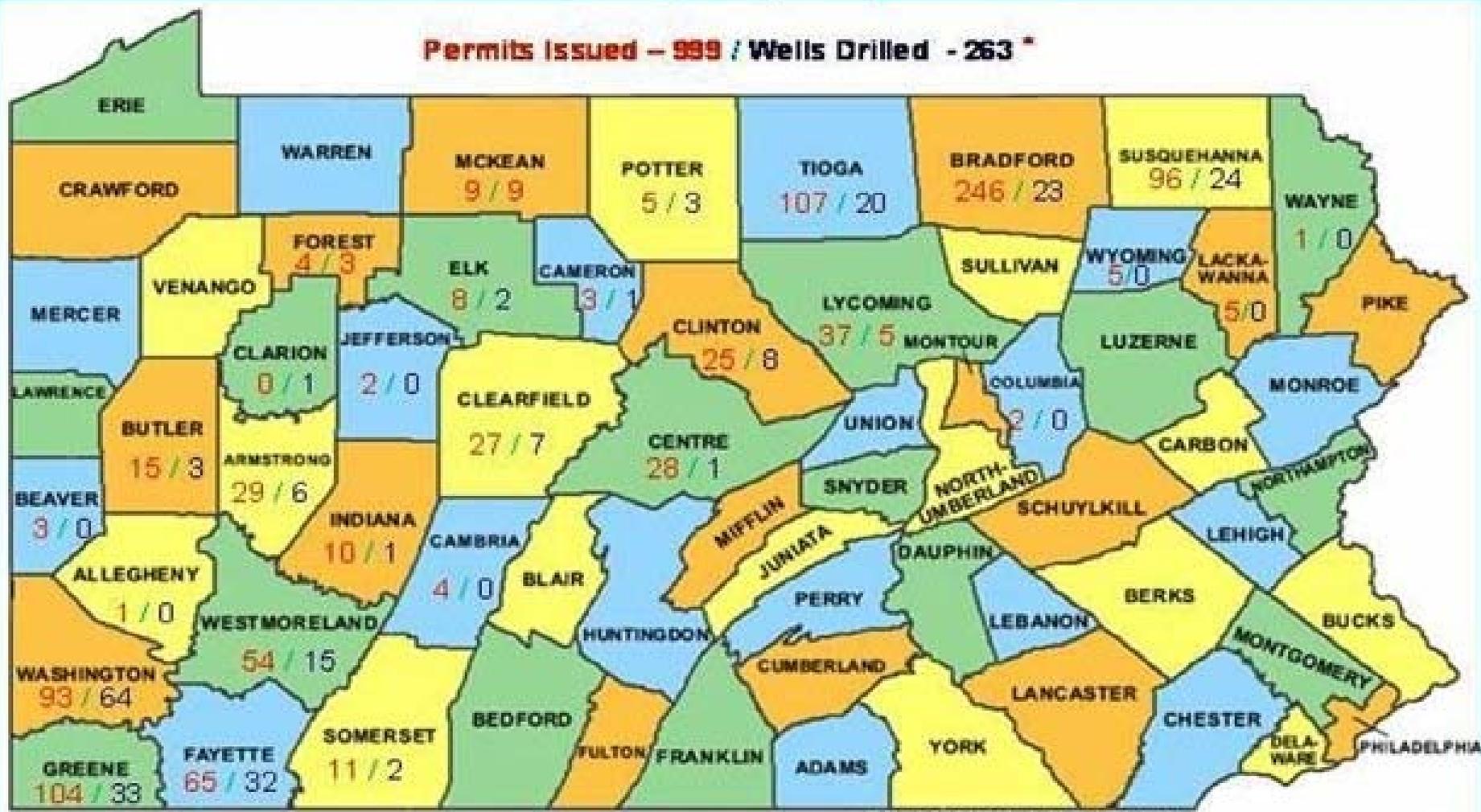
General representation as of July 2009



Marcellus Permits Issued & Wells Drilled - 2009

(January – July 2009)

Permits Issued – 999 / Wells Drilled - 263 *



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Updated 08/03/2009

* As reported by Operators

Source: PA DEP

Water



- There is no shortage of water—only available **SOURCES**
- Recycling frac water is a good first step
- Heightened public awareness and concern



Water Transfer



Water Impoundment

Water Disposal Solution

There won't be a "silver bullet" or single technology, the solution will consist of a portfolio of disposal options, many of which are already being utilized including:

- deep well injection
- recycling of flow back water
- zero liquid evaporation, crystallization, and land filling



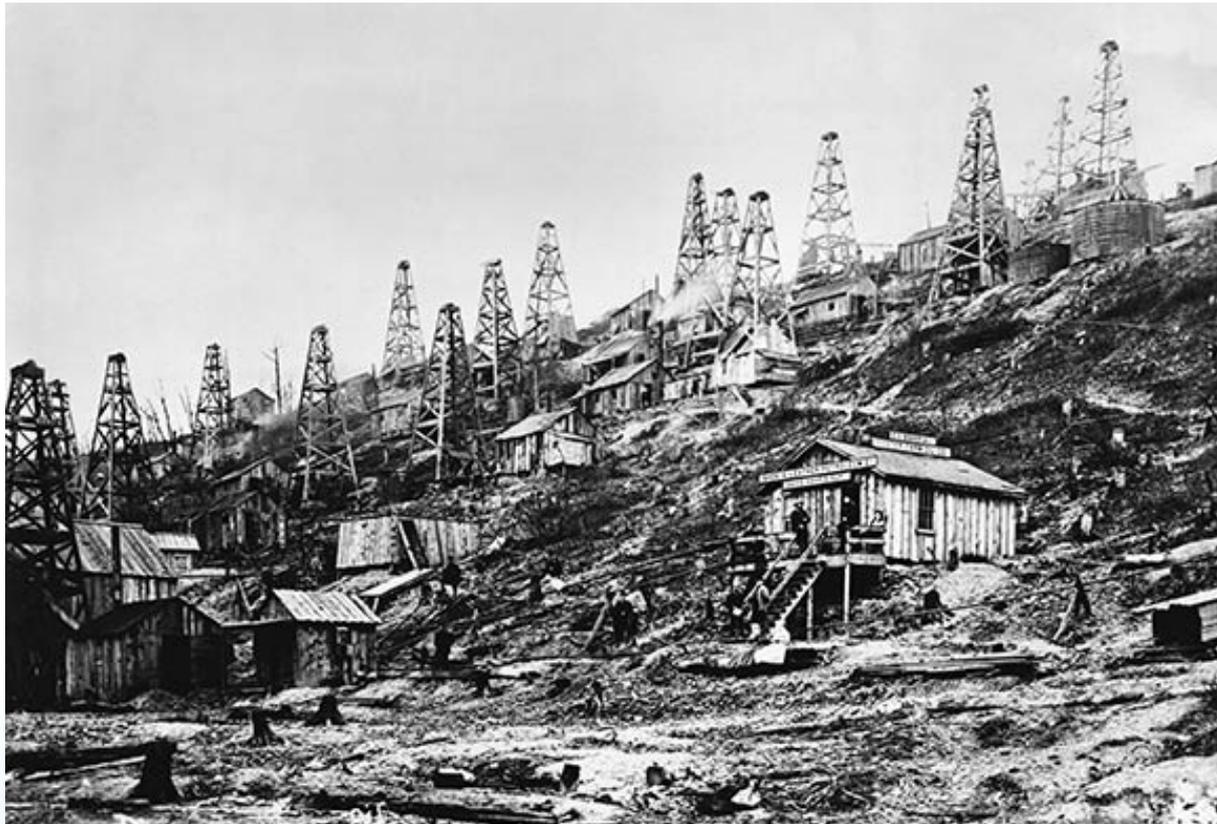


Industry Legacy

- Area has history of heavy industry, including steel, mining and coal.
- Legacy issues abound
- Good:
 - Populace is accustomed to construction/operations
- Bad:
 - Memory of industry being here today, gone tomorrow

Drilling History

- Nothing new to western Pennsylvania
- Hundreds of thousands of wells drilled since 1800s



Other Issues:

- Gas quality is different—requires more treatment
- Population density in SWPA—tougher drilling environment

Misinformation

- All major media outlets readily available/accessible in the area (network affiliates, large dailies, radio)
- **Large audience**
- Internet being utilized more often
- Groups organizing; incorrect information being circulated





Outreach/ Education

Bulk of Our Efforts

- Grassroots
- In-class school presentations
- Attempt to counter misinformation
- SWPA media outlets vast and easily accessible