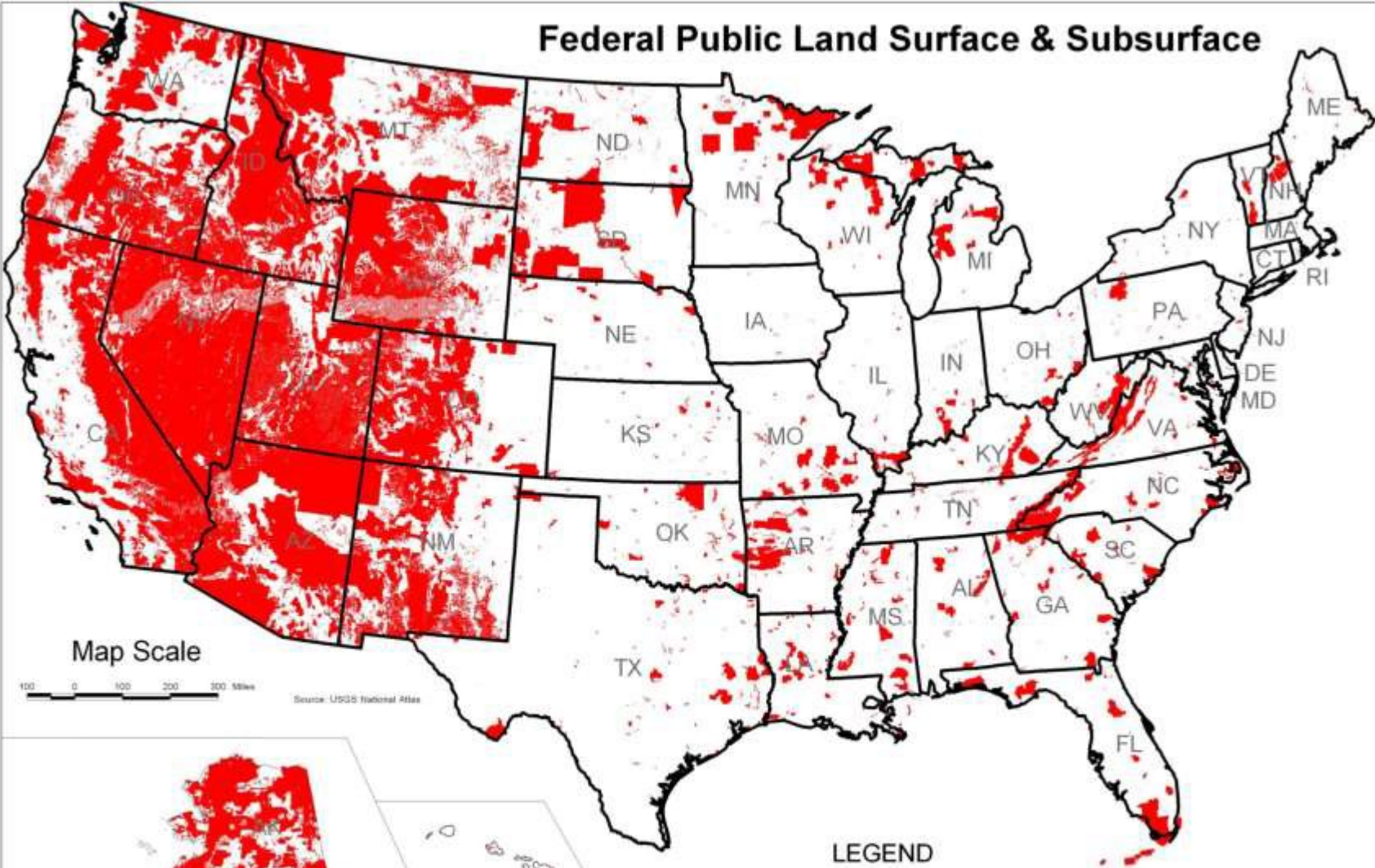


# Oil and Gas Development and BLM NEPA Analysis



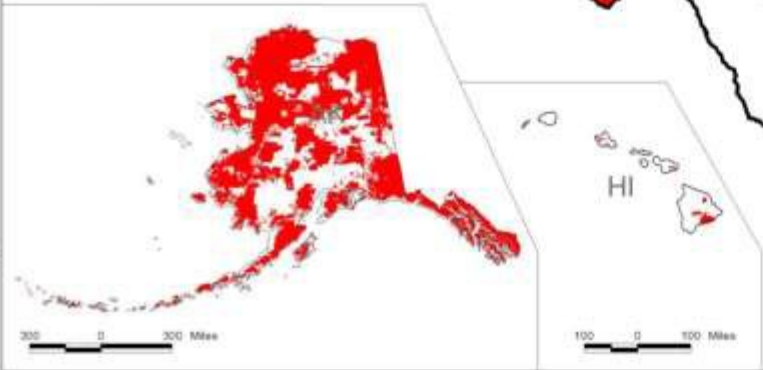
# Federal Public Land Surface & Subsurface



### Map Scale

100 0 100 200 300 Miles

Source: USGS National Atlas



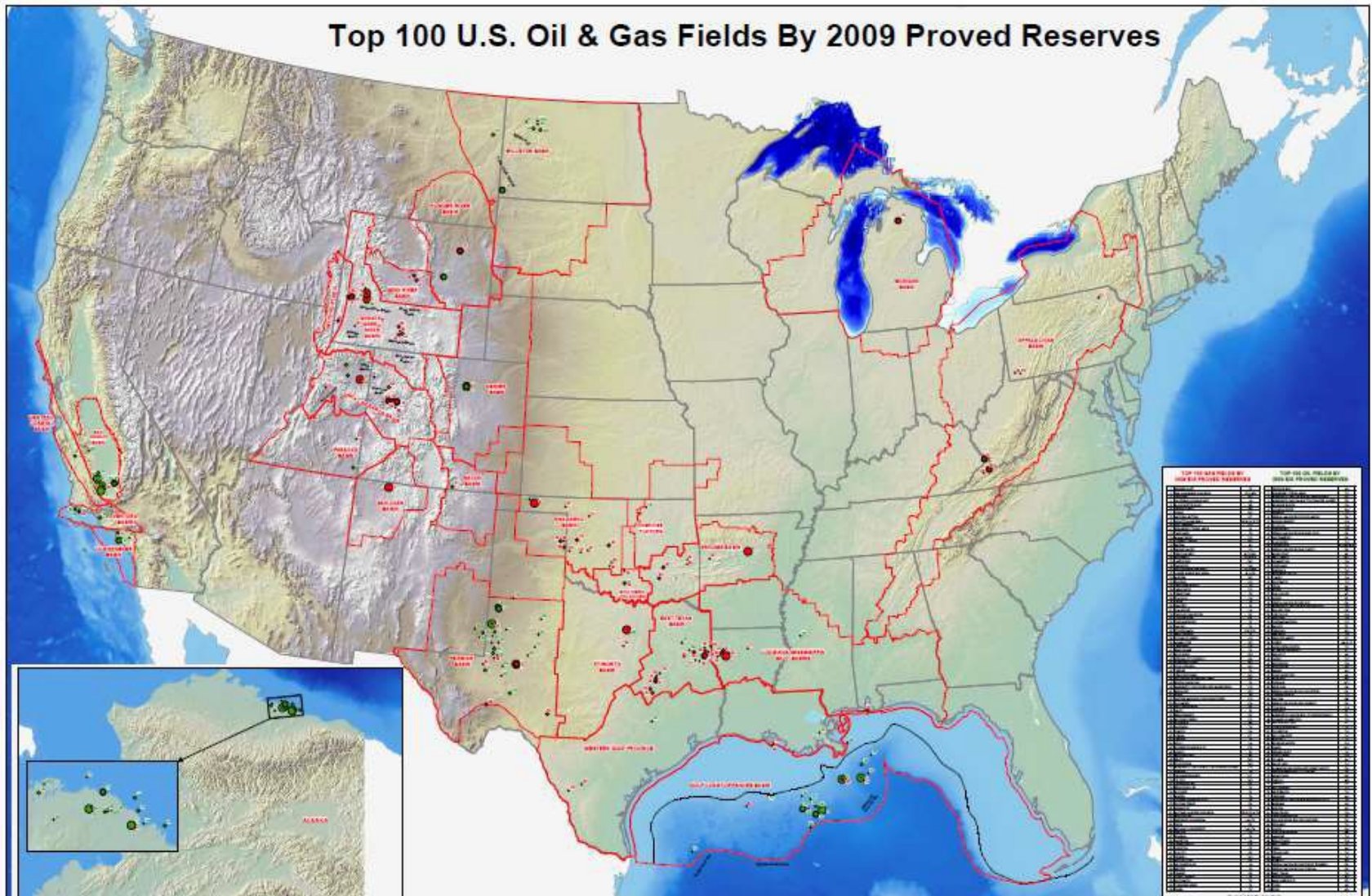
### LEGEND

- States
- Surface & Subsurface Federal Ownership
- All Federal Lands



Produced By:  
Bureau of Land Management  
Washington, DC, 990-210  
(202) 452-5110

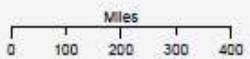
# Top 100 U.S. Oil & Gas Fields By 2009 Proved Reserves



TOP 100 OIL FIELDS BY 2009 PROVED RESERVES		TOP 100 GAS FIELDS BY 2009 PROVED RESERVES	
Rank	Field Name	Rank	Field Name
1	Alaska North Slope	1	Permian Basin
2	Alaska North Slope	2	Permian Basin
3	Alaska North Slope	3	Permian Basin
4	Alaska North Slope	4	Permian Basin
5	Alaska North Slope	5	Permian Basin
6	Alaska North Slope	6	Permian Basin
7	Alaska North Slope	7	Permian Basin
8	Alaska North Slope	8	Permian Basin
9	Alaska North Slope	9	Permian Basin
10	Alaska North Slope	10	Permian Basin
11	Alaska North Slope	11	Permian Basin
12	Alaska North Slope	12	Permian Basin
13	Alaska North Slope	13	Permian Basin
14	Alaska North Slope	14	Permian Basin
15	Alaska North Slope	15	Permian Basin
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18	Alaska North Slope	18	Permian Basin
19	Alaska North Slope	19	Permian Basin
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26	Alaska North Slope	26	Permian Basin
27	Alaska North Slope	27	Permian Basin
28	Alaska North Slope	28	Permian Basin
29	Alaska North Slope	29	Permian Basin
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95	Alaska North Slope	95	Permian Basin
96	Alaska North Slope	96	Permian Basin
97	Alaska North Slope	97	Permian Basin
98	Alaska North Slope	98	Permian Basin
99	Alaska North Slope	99	Permian Basin
100	Alaska North Slope	100	Permian Basin

Top 100 Oil and Gas Fields by 2009 Proved Reserves Rank

- Oil
  - 1-10
  - 11-20
  - 21-50
  - 51-100
- Gas
  - 1-10
  - 11-20
  - 21-50
  - 51-100
- Province Outlines
- 200 Meter isobath (BOEMRE "Deep Water" Boundary)

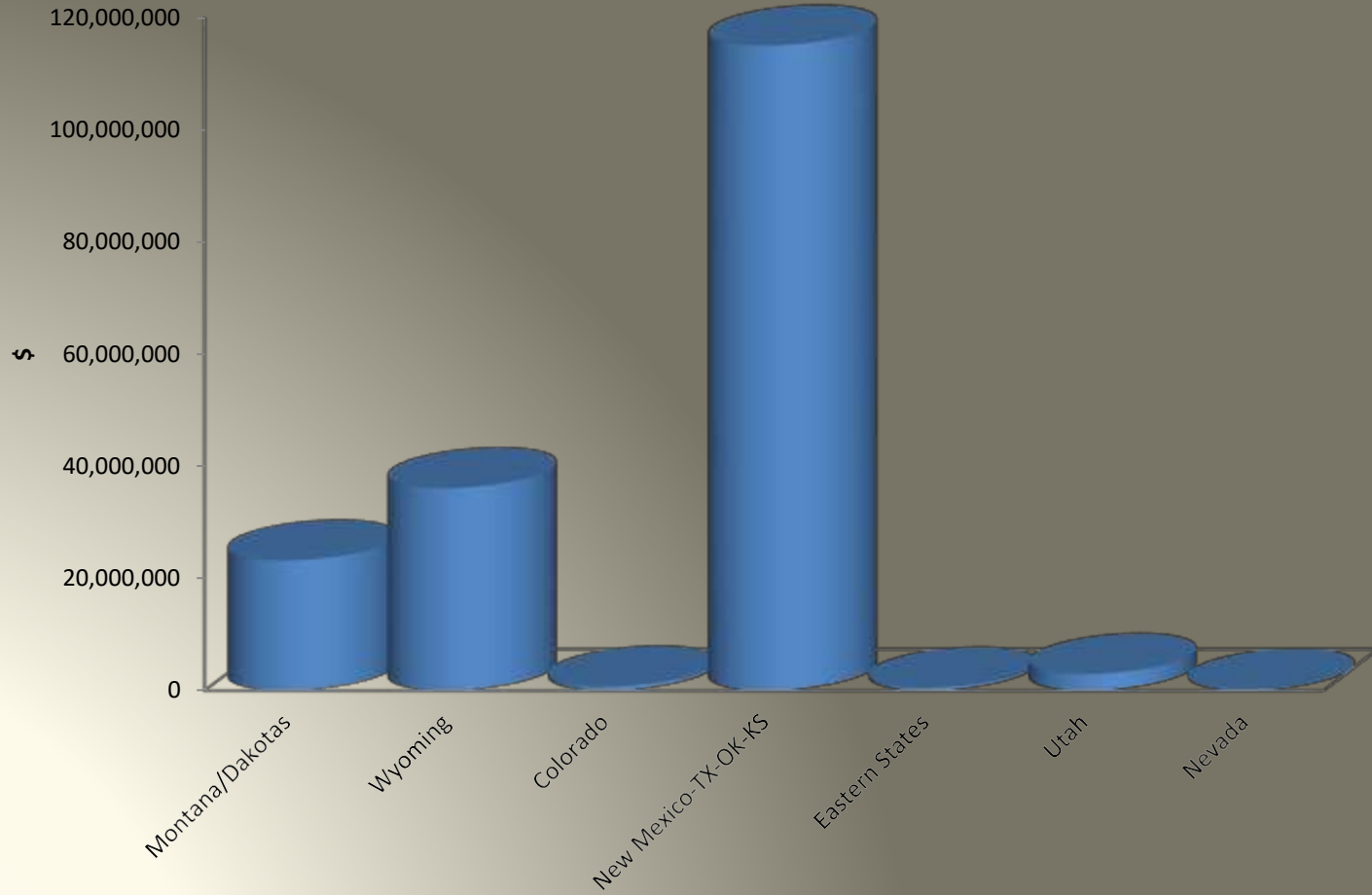


Data Source: U.S. Energy Information Administration, Proved Reserves, 2009  
 Data Date: 2009  
 Data Period: 2009  
 Data Type: Proved Reserves  
 Data Units: Billion Barrels of Oil Equivalent  
 Data Frequency: Annual  
 Data Availability: Public  
 Data Access: Web, CD-ROM, Microfilm  
 Data Contact: U.S. Energy Information Administration, Washington, DC  
 Data URL: www.eia.doe.gov  
 Data File: Proved Reserves, 2009  
 Data File Format: CSV  
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 Data File Fields Data Format: ,  
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 Data File Fields Data Enclosure: " "

# BLM management of lands for energy development

- Public lands managed for renewable energy development, oil and gas, and coal operations
- Companies pay royalties, rents and bonus payments
- Half of revenue goes to states, half to U.S. Treasury for oil and gas
- BLM determines best management practices for energy projects to minimize environmental impacts

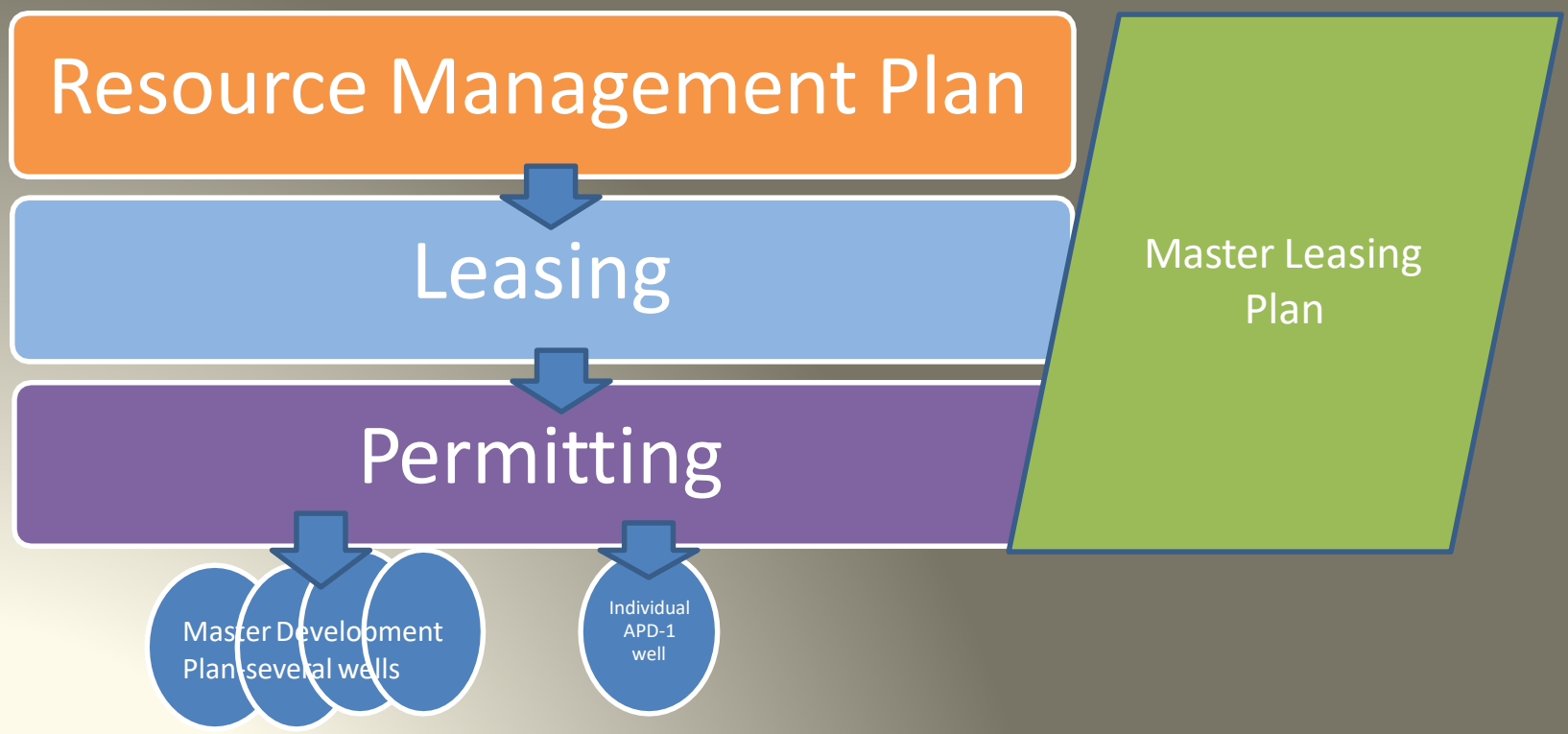
# Calendar Year 2014 BLM Oil and Gas Lease Sales



# BLM Onshore Oil and Gas- By The Numbers-FY13

- **47,427** leases in effect
- **36,092,482** acres leased
- **12,617,743** acres in production
- **99,975** producible and service completions
- **123,029,214** bbls of oil
- **2,636,277,484** mcf gas

# NEPA Analysis-When does it occur?



# Air Analysis completed for NEPA

- Detailed oil and gas emissions inventories specific to the basin for current and future year inventories (criteria pollutants, HAP, GHG)
- Photochemical Grid Modeling
- Near-field air modeling
- Long range transport modeling

# BLM projects and BLM contributions to Oil and Gas Air Analysis in the West

- Major funder of WestJumpAQMS
- Major funder to 3 State Air Quality Study
- CARRMS in Colorado/NW New Mexico
- Several PGM studies in Wyoming
- Utah PGM and Uintah Basin ozone analysis
- 1-hour NO<sub>2</sub> drill rig study
- Montana/Dakotas inventory improvements and PGM study

# Reducing Emissions

- BLM has identified state-of-the-art best management practices to control air pollution from oil and gas production sites
- Through Resource Management Plans, stipulations and notices, BLM requires site-specific air pollution control for oil and gas production
- Required emissions reductions (state, EPA and BLM) are reflected in current and future year inventories for the wells and equipment associated with Record of Decision for that project

# Challenges

- Technologies and E&P practices changing / advancing at a rapid pace
- Historic inventories and equipment configurations are not necessarily good predictors of future inventories after RoD
- Significant difficulty / uncertainty in predicting future year inventories
- Emerging technologies may address one environmental issue at the expense of another
- Differences within in-basin geology and new technologies developing new formations may result in large differences in air emissions
- Lack of national air requirements for oil production like NSPS OOOO
- Record of decision cannot impact activities occurring on state or private land
- Lack of consistency between inventories and modeling

# Opportunities

- BLM NEPA analysis drives the acquisition of detailed emissions information about oil and gas development in the west
- Linkage of basin-specific information has been achieved in the past for regional analyses (WestJumpAQMS)
- 3 States Air Quality Study demonstrating usefulness of data sharing, development of modeling platform

# Questions?

[Mary Uhl](#)

[Forest Cook](#)