

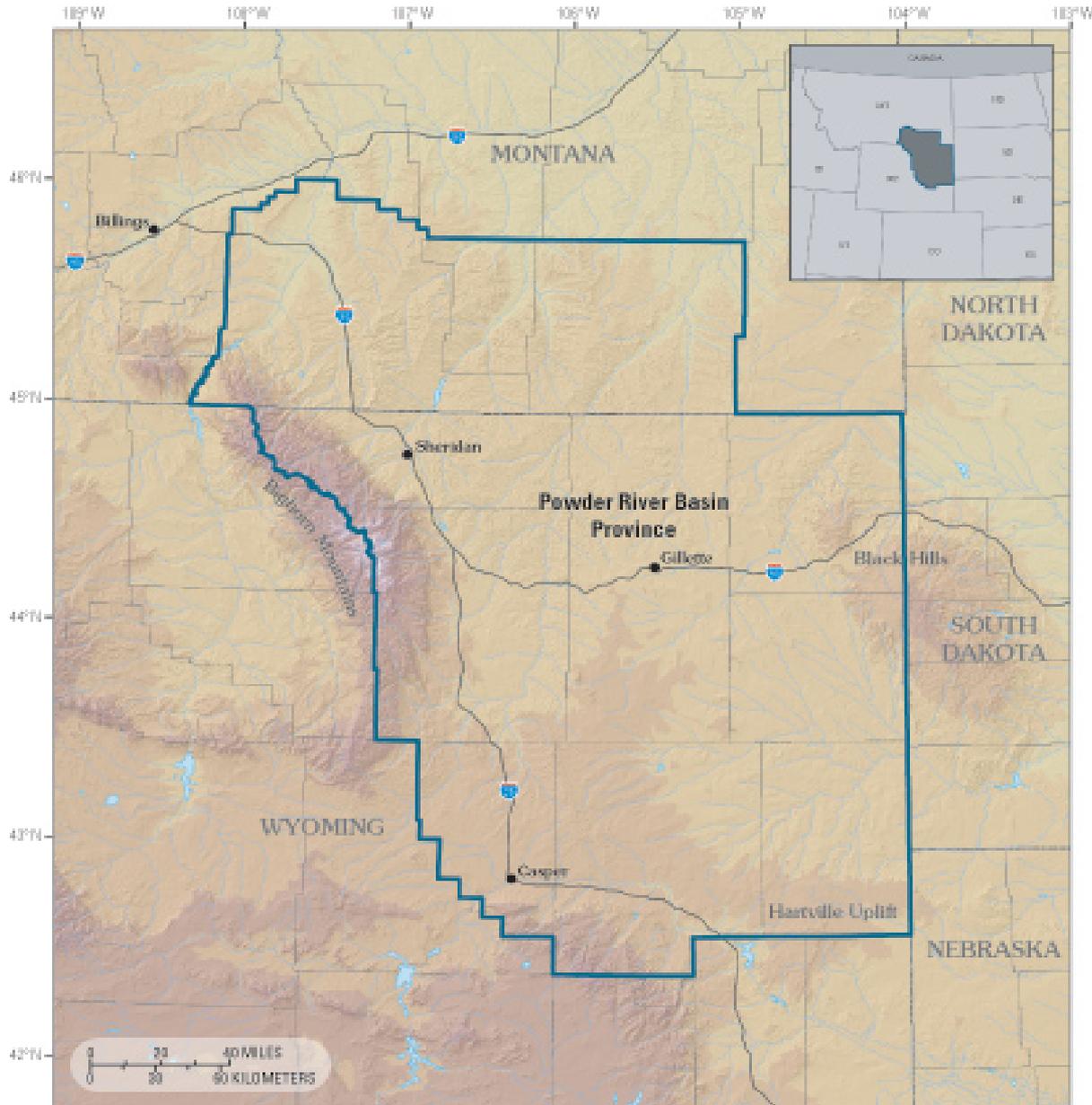
# Powder River Basin Restoration

*A Cooperative Approach to Restoring  
Sage-grouse Habitat within the  
Powder River Basin*

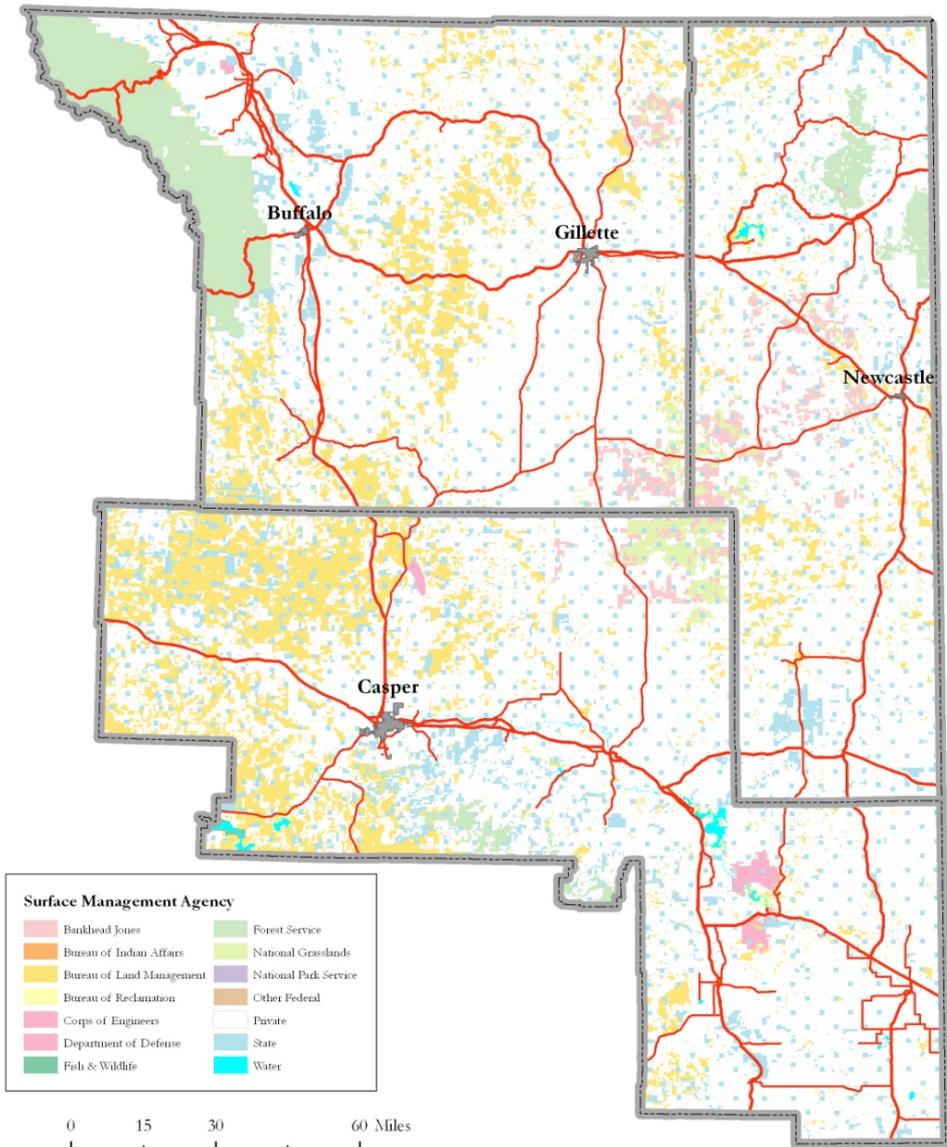
March 2015



# Powder River Basin Focal Area



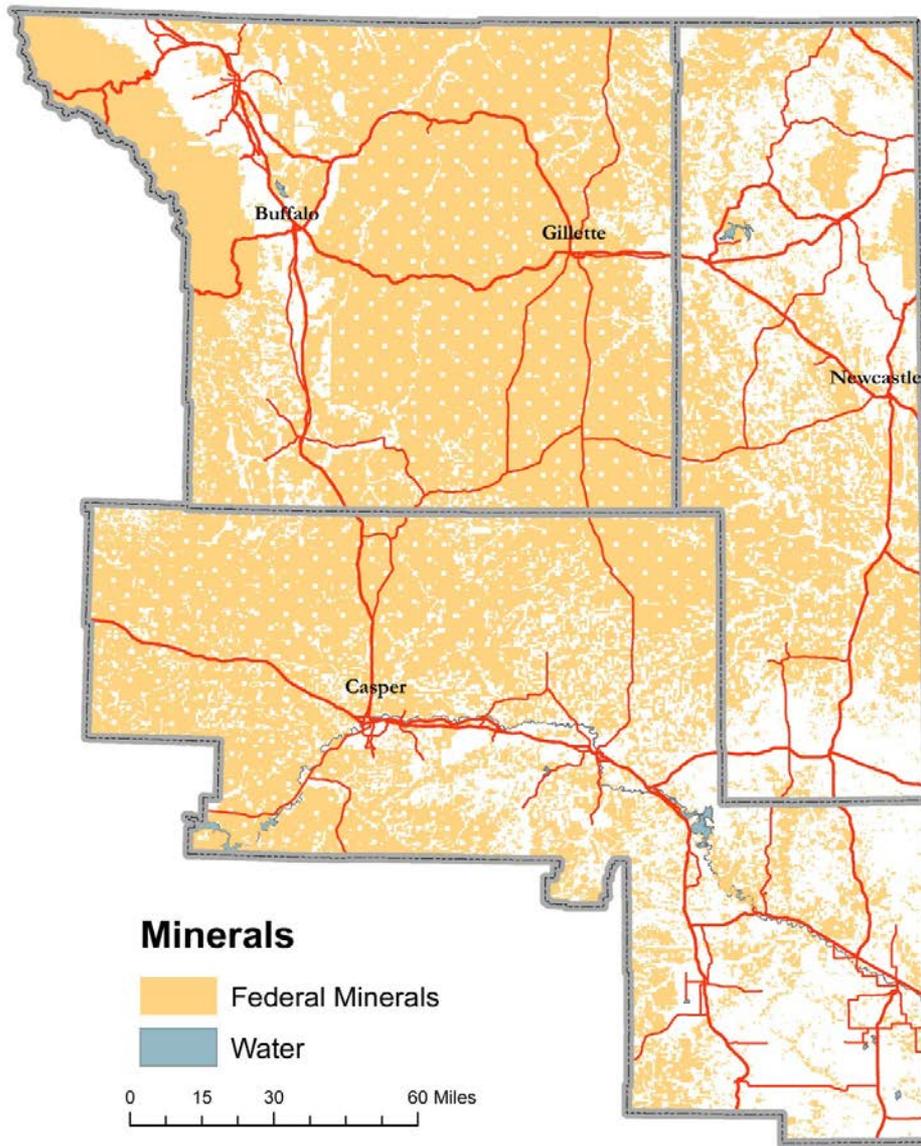
# High Plains District



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources. This information was developed through digital means and may be updated without notification.



# High Plains District



## Minerals

- Federal Minerals
- Water

0 15 30 60 Miles



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# Coalbed Natural Gas Development

- About 21,000 CBNG wells drilled between 2002-2010. The Buffalo Field Office (BFO) permitted an average of 2200 wells annually.
- About 3000 water impoundments constructed
- Thousands of miles of power lines - mostly overhead power
- Pipelines, roads, compressor stations



# Reclamation Activities

<b>BLM Reclamation Associated with Federal Minerals 2010- January 2015</b>	
<b>2,860</b>	wells plugged or applied (application received) to be plugged out of 17,692 wells that were drilled and produced
<b>327</b>	wells plugged and reclaimed and released from operator liability
<b>2</b>	wells reclaimed in Preliminary Priority Greater sage-grouse habitat
<b>14</b>	impoundments encompassing 36 reclaimed acres
<b>21</b>	impoundments applied to be reclaimed
<b>2</b>	impoundments reclaimed in Preliminary Priority Greater sage-grouse habitat
<b>86</b>	miles of roads
<b>957</b>	acres of reclaimed roads and wells (soils stabilized and vegetation established)
<b>199</b>	miles of CBNG associated overhead power lines



# Powder River Basin Restoration

- Restoring habitats in conjunction with reclamation on lands affected by **energy development** 
- Restoration of habitats effected by **wildland fires** 
- **Enhancing existing habitats to meet lifecycle needs-**

Level 1 habitats - prime habitats

Level 2 habitats – need additional improvements to raise Level 1

Level 3 habitats– need long term projects /investments to raise these to a Level 2



# Habitat Needs



# Improvements in Sage-grouse Core Habitat

- Acres of cheatgrass treated – 23,700 acres
- Acres of conifer removal - 1000 acres/3700 trees
- Acres of historic wildfires inventoried – 840 acres
- Removal of 2 unpermitted impoundments
- Seeds of Success
- Welch Ranch – University of Wyoming



# Cheatgrass in Petrified Tree Allotment

before treatment



after treatment



# Conifer Expansion Treatments









# Historic Wildfire Inventory

Initiated Summer 2014

## General Information-

- Acreage of the fire? Surface ownership? Evidence of active soil erosion?

## Flora

- What native plants are growing? – grasses, forbs, shrubs
- Are invasive plants present? Location & size of infestation(s)?
- Is sagebrush present? thriving? Is there natural recruitment?

## Fauna

- Evidence of use by Greater sage-grouse? Sagebrush obligates? Mule deer?
- Are prairie dogs present? Location & size of town(s)?
- What type of treatments are needed to improve habitats?
- Are adjacent landowners interested?



# Impoundment Reclamation



Before



After

# Welch Ranch Seed Propagation



University of Wyoming personnel till the seed bed and prepare the planting beds with a specialized plow, creating 30 beds with weed fabric mulch and drip tape.







# Issues and Challenges

- ❖ Orphaned wells and ancillary facilities
- ❖ West Nile virus
- ❖ Land status
- ❖ Cheatgrass
- ❖ Grazing Practices
- ❖ BLM reclamation vs. permitting
- ❖ New development utilizing fracking and horizontal drilling – long-term life expectancy of wells is ?? Years

# Questions



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