

## 1.0 INTRODUCTION

The Powder River Basin (PRB) of Wyoming is a major energy development area with diverse environmental values. The PRB is the largest coal-producing region in the United States (U.S.); PRB coal is used to generate electricity within and outside of the region. The PRB also has produced large amounts of oil and gas resources. Within the last decade, this region has experienced nationally significant development of natural gas from coal seams.

Energy development in the PRB has been one of the primary factors affecting social and economic conditions within the basin, although the types and magnitude of effects have varied by county, community, and time frame. PRB energy resources are a major component of the Wyoming economy and a major contributor of state and local tax revenues for the last quarter century.

The pace of energy resource development in the PRB has been volatile, driven by commodity price fluctuations associated with international and domestic energy demand and policies, environmental regulation and litigation, changing technologies, and product transportation constraints and improvements.

Energy development has resulted in economic and population growth in those PRB communities near the energy resources and along transportation routes. Population growth in certain areas of the PRB has been rapid. Energy development is front loaded, in that the size of the work force needed to develop the resource and supporting infrastructure typically is greater than that needed to produce the commodity. The public service demands of the construction work force typically lead the generation of production-related tax revenues, resulting in a tax-lag time problem, wherein local governments are required to provide services to workers in advance of corresponding increases in revenue to fund those services. The tax-lag disparity diminishes as capital facilities are completed and become operational or mineral resource production increases over time. Energy development has produced periodic surges in population in some PRB communities, occasionally followed by periods of population loss. However, the nationwide growth in energy consumption, coupled with the vast and relatively diverse PRB energy resource base (coal, oil, natural gas, uranium), has resulted in a 50-year growth trend in Campbell County and other parts of the basin, without the absolute busts and resultant ghost towns that characterize many other western U.S. resource booms.

This period of sustained energy development in the PRB has yielded substantial economic and community development benefits, including economic growth, employment opportunity, tax revenue growth, and infrastructure development for most local governments and for the State of Wyoming as a whole. At the same time, periods of rapid growth have stressed communities and their social structures, housing resources, and public infrastructure and service systems.

Energy development has been occurring in the PRB for well over a century. The first coal mine in the basin was developed near Glenrock, in Converse County, in 1883 (Foulke et al. 2002). While coal can be found in several areas of Wyoming, the extensive surface-accessible coal resource is what sets the PRB apart from other energy-producing areas of the state and country.

During the 1970s and early 1980s, the PRB emerged as a major coal production region. Federal coal leasing was a high profile activity as over 90 percent of the PRB's coal is federally owned.

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Between 1974 and 1982, the Bureau of Land Management (BLM) issued three and started a fourth separate regional coal environmental impact statement (EIS), all addressing federal coal leasing and development, as well as other regional development.

In 1982, the BLM temporarily halted further coal leasing. However, mining continued on existing leases. When leasing resumed in 1990, the existing mines were mature operations, and there was no need for regional leasing to open new mines. However, many of the mines were depleting their original reserves, so there was a need for maintenance leasing to provide reserves to enable existing mines to meet the expanding demand. The Powder River Regional Coal Team (PRRCT) decertified the region, allowing BLM to use the lease by application (LBA) process to meet this need. Each LBA required an EIS or environmental assessment (EA) as part of the leasing process.

Starting with the first LBAs, the BLM met the need for cumulative analysis in each EIS or EA with a discrete chapter addressing cumulative impacts. This approach served to highlight and focus cumulative impacts as distinct from site-specific impacts. With each subsequent EIS, the cumulative analysis was updated and new information added. In the mid-1990s, the BLM conducted a study called the PRB Coal Development Status Check (BLM 1996) to evaluate how actual development levels compared to the levels predicted in the earlier regional EISs. The results of this study were presented to the PRRCT in 1996. In the late 1990s, annual coal production and associated impacts drew closer to the maximum projections in the regional EISs. Furthermore, the large scale oil and gas development associated with coal bed natural gas (CBNG) development had not been foreseen in those EISs.

For the most recent LBAs, the BLM used the cumulative analysis from the Wyodak EIS (BLM 1999) and PRB Oil and Gas Final EIS (BLM 2003), particularly for air and water resources. Both EISs projected regional development including CBNG activity, using market demand projections to estimate future levels of coal development.

In early 2003, BLM completed a PRB coal demand study through 2020. The study projected production to increase at a steady pace with current mines able to meet the demand as long as these existing mines continue to have access to additional coal reserves; therefore, the need for leasing using LBAs will continue into the foreseeable future. As part of processing these LBAs, BLM will need to maintain a current cumulative impact analysis. An initial step in that direction is this Task 1 Report for the PRB Coal Review, which includes the identification of current conditions in the PRB.

This report contributes to that objective, presenting data on coal production and other development in the PRB and associated employment, population, and fiscal indicators. The information presented parallels and expands on information presented in the 1996 Coal Development Status Check (BLM 1996). In general, based on data availability, 2002 is the base year for the data presentation for current conditions. More current data are presented where readily available and critical to the analysis.<sup>1</sup>

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<sup>1</sup> Additional economic and demographic baseline data are available for states, counties, communities, county subdivisions, and Indian Reservations throughout the west via the Economic Profile System (EPS). Developed by the Sonoran Institute, a non-profit organization, under an agreement with the BLM, the EPS produces standard economic and demographic profiles using data from various government agencies. EPS is not an impact model: it cannot quantify the economic effects of the BLM's proposed policies and plans. Additional information and EPS software and database downloads are available on the internet at: [http://www.sonoran.org/programs/si\\_se\\_program\\_tools.html](http://www.sonoran.org/programs/si_se_program_tools.html).

The geographic focus of the PRB Coal Review study area for social and economic conditions is on activities and conditions in Campbell County, reflecting the geographic concentration of the active coal mines, mining service firms, and production in that county. However, the coal resource and the associated mining industry is the economic dynamo for the entire Wyoming PRB. Consequently, it is necessary to examine changes and trends in the nearby counties affected most directly by coal mining. Although coal mining in the PRB indirectly affects the entire state and areas far outside Wyoming, this analysis focuses on those immediately adjacent counties in Wyoming that are affected primarily by work force commuting to and from the coal mines. Included are Converse, Crook, Johnson, Sheridan, and Weston counties (**Figure 1-1**).<sup>2</sup>

Niobrara and Natrona counties also are experiencing economic, social, or demographic effects due to coal mining in the PRB. However, it generally has been accepted that the impacts in these counties are limited in scale, either in absolute magnitude or relative to the size of the underlying economy, or they are secondary or tertiary level effects arising not from mining per se, but from a related industry or indirect economic linkages.

### 1.1 Objectives

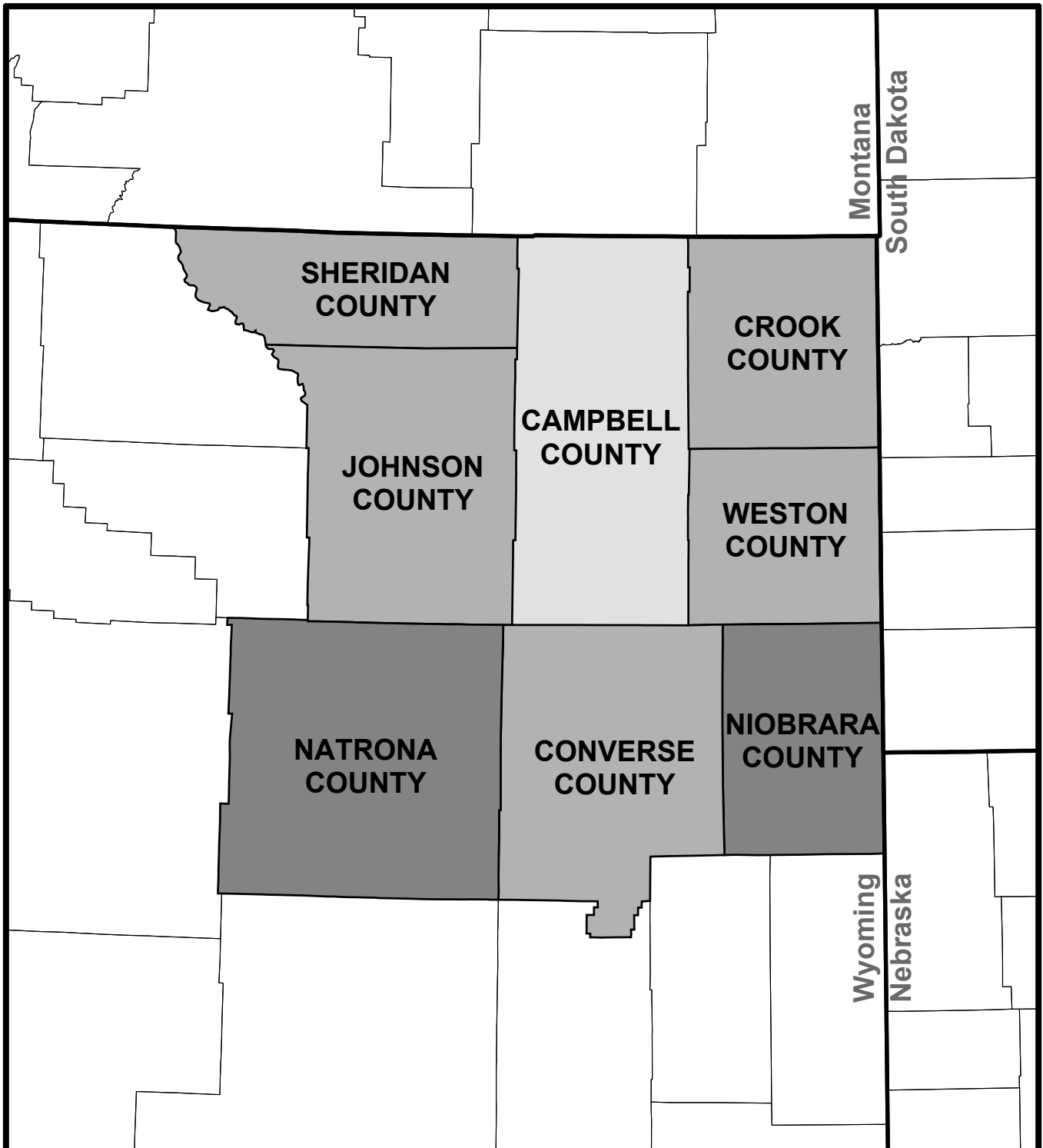
This PRB Coal Review is a regional technical study to assess cumulative impacts associated with past, present, and reasonably foreseeable development in the PRB. The PRB Coal Review:

- Describes past and present (through 2002) development activities in the PRB that have affected the environmental conditions in the study area;
- Describes the current (through 2002) social and economic conditions in the study area and compares these conditions to the conditions projected in the BLM Coal Development Status Check (BLM 1996);
- Estimates reasonably foreseeable development in the study area through the year 2020, based on available information; and
- Estimates the environmental impacts associated with reasonably foreseeable future development through the year 2020.






The PRB Coal Review will provide data, models, and projections to facilitate cumulative analyses for future agency land use planning efforts and for future project-specific impact assessments for project development in compliance with the National Environmental Policy Act (NEPA). It should be noted that the PRB Coal Review itself is not a NEPA document. It is not a policy study, nor is it an analysis of regulatory actions or the impacts of project-specific development.

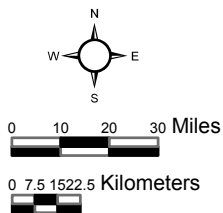
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<sup>2</sup> The Antelope Mine, the southernmost active coal mine in the Wyoming PRB, is in neighboring Converse County. While the mine's location differentiates Converse County from the other adjacent counties, the county remains more similar to those other counties than to Campbell County in most other social and economic linkages to PRB coal production. Thus, for this report it is considered part of the directly affected area, but not part of the primary study area.



**Legend**

-  Primary Study Area
-  Directly affected area
-  Indirectly affected area
-  State boundaries
-  County boundaries



**Powder River Basin  
Coal Review**

Figure 1-1

Social and Economic  
Study Area

### 1.2 Key Issues

Campbell County and nearby areas of the PRB have experienced a series of economic expansions and contractions associated with energy resource development. The recent wave of activity associated with CBNG development in the region, and the prospect of expanded coal production and expanded electric power generation in the future, raises several socioeconomic issues for the cumulative impact analysis as identified below:

- What is the character of the local labor market, and how has it historically responded to changing conditions?
- What is the role of migration in terms of past and recent growth?
- To what extent does coal development in Campbell County affect socioeconomic conditions in neighboring counties?
- How has average labor productivity in the coal mining industry changed, are further changes expected, and what are the implications of future changes for local employment?
- Is community infrastructure and service capacity adequate for current and foreseeable needs?
- What are the fiscal linkages between resource development, particularly coal production, and local government finances?
- How have community social conditions changed in response to energy resource development, and what is the current social climate regarding future energy development?

### 1.3 Agency Outreach, Coordination, and Review

The BLM directed the preparation of this PRB Coal Review. In order to ensure the technical credibility of the data, projections, interpretations, and conclusions of the study and to ensure the study's usefulness for other agencies' needs, the BLM initiated contact with other federal and state agencies early in the study. This contact included meetings, periodic briefings, and written communications.

The BLM conducted an agency outreach program to solicit input from other agencies relative to their:

- Interested role and level of involvement in the study;
- Available data for use in the study;
- Input to the technical approach for resource evaluations; and
- Review of project deliverables.

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As part of this agency outreach and technical oversight, the BLM organized technical advisory groups. These groups were composed of agency representatives with technical expertise in the applicable resources.

Relative to the social and economic component of the PRB Coal Review, other federal and state agencies were informed of the study by the BLM at the outset of the project. Several agencies subsequently forwarded references to documents that might serve as information resources for the baseline portion of the study (Task 1). For the impact analysis portion of the study (Task 3), a Socioeconomic Coordination Group composed of individuals representing community, academic, and government interests will be assembled to serve in a technical review capacity.