Task 1C Report for the Powder River Basin Coal Review Current Social and Economic Conditions

Prepared for

Bureau of Land Management
Casper Field Office and
Wyoming State Office

Submitted by

ENSR Corporation
Fort Collins, Colorado

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Executive Summary

Social and Economic Conditions

Energy development in the Wyoming portion of the Powder River Basin (PRB)[1] has been a primary factor affecting social and economic conditions within the basin, although the types and magnitude of effects have varied by county, community, and time frame. 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). Oil, natural gas, and uranium also are part of the PRB's abundant and diverse energy resource base. Although coal and other energy resources can be found in several areas of Wyoming, the enormous surface-accessible coal resource located in the PRB sets it apart from other energy-producing areas of the state and country.

Historically, energy resource development has been volatile, driven by commodity price fluctuations associated with international and domestic energy demand and policies, environmental regulation and litigation, changing technologies, and transportation constraints and improvements. That volatility has resulted in surges and contractions in local population, employment, income, needs for public services and infrastructure, and other dimensions of social and economic conditions in the affected communities. Such volatility characterized Campbell County and much of the PRB prior to the emergence of coal production as the dominant regional economic activity.

During the 1970s and early 1980s, the PRB emerged as a major coal producing region. Federal coal leasing was a high profile activity since over 90 percent of the coal resources in the PRB are federally owned. The surface coal mines that developed during that period are now mature operations, providing a stable economic and social foundation for the region. While energy development has produced periodic surges in population, followed occasionally by population loss in some communities, the growth in domestic energy consumption, coupled with the PRB's vast energy resource base, has resulted in a 50-year growth trend in the region without the absolute economic busts that characterize many other western U.S. resource booms. This period of extended energy development has been accompanied by substantial benefits, including economic growth, employment opportunity, tax revenue growth, and infrastructure development for local governments in the region and across Wyoming as tax revenues generated by coal and other energy resource production have funded infrastructure development programs statewide. At the same time, periods of rapid growth have stressed communities, and their social structures, housing resources, and public infrastructure and service systems.

The emergence of the coal and other energy resource development industries in the PRB has had a long-term cumulative influence on social and economic conditions in the region. In general, Campbell County and the entire PRB region have a greater capacity to respond to and accommodate growth. The regional coal industry also provides a measure of insulation from dramatic economic and social dislocations. Key current cumulative social and economic conditions are described below.

[1] For this discussion the PRB is defined as Campbell, Converse, Crook, Johnson, Sheridan, and Weston counties.

Population and Demographics

Population Change. Population growth is perhaps the single best indicator of cumulative social and economic changes in the PRB. Campbell County was not among the original 13 counties when Wyoming was admitted to statehood, but it was carved from Weston and Crook counties in 1911. Campbell County's population of 5,233 in the 1920 census ranked it seventeenth among Wyoming's counties. Forty years later and prior to the onset of coal development in the region, Campbell County, with a population of 5,861, ranked eighteenth among Wyoming's counties in terms of population, with neighboring Converse, Sheridan, and Weston counties each having a larger population.

By 1980, Campbell County's population had increased by more than 300 percent, to 24,367, seventh among Wyoming's counties. Energy development also contributed to population growth in Sheridan, Converse, Johnson, and Crook counties during that period. Weston County recorded a population decline during the period; however, the combined population of the PRB climbed from 49,311 in 1960 to 82,598 in 1980.

Annual coal production in the PRB has increased by nearly 500 percent since 1980, accompanied by expanded mine service and rail transportation capacity, stimulating further growth. The impetus for growth was tempered by substantial productivity increases in the mining industry, coupled with declining production of other energy resources. Consequently, the region's population gained a relatively modest 11 percent, 9,318 residents, between 1980 and 2000, reaching 91,916. Campbell County registered a net gain of 9,331 residents during that period, raising its total population to 33,698 in 2000, fourth highest in the state. Across the rest of the PRB, the loss of about 2,000 residents in Converse County was offset by modest gains in the other four counties (U.S. Census Bureau 2001).

More recently, the PRB has seen renewed population growth, primarily linked to coal bed natural gas (CBNG) development. Population estimates for 2003 indicate a total regional population of 95,811, a 4.2 percent increase over the 2000 census population. Gains were reported for all six counties, ranging from 15 persons in Weston County to 2,542 persons in Campbell County (see **Table 1**).

Table 1
Recent PRB Population

Location	Census 1990	Census 2000	Estimate 2003	Change from 2000 to 2003	
				Number	Percentage
Campbell County	29,370	33,698	36,240	2,542	7.5
Converse County	11,128	12,052	12,330	278	2.3
Crook County	5,294	5,887	5,928	41	0.7
Johnson County	6,145	7,075	7,543	468	6.6
Sheridan County	23,562	26,560	27,111	551	2.1
Weston County	6,518	6,644	6,659	15	0.2
Study Area	82,017	91,916	95,811	3,895	4.2
Wyoming	453,588	493,782	501,242	7,460	1.5

Source: U.S. Census Bureau, various years.

As in many rural areas of the West, population in the PRB tends to be concentrated in a small number of communities. The largest communities and their respective estimated 2003 populations include: Campbell County – Gillette (21,840) and Wright (1,414); Converse County – Douglas (5,398) and Glenrock (2,274); Crook County – Sundance (1,160) and Moorcroft (819); Johnson County – Buffalo (4,220); Sheridan County – Sheridan (16,016); and, Weston County – Newcastle (3,234). Most of these communities are the county seats and also are the trade and service centers for the surrounding area.

Demographic Characteristics. Demographic characteristics from the 2000 Census reveal many similarities to the statewide population, but also many minor differences across the PRB. First, the region's population is predominately white and has a lower percentage of minority residents when compared to Wyoming. Whites accounted for 94.7 percent to 97.0 percent of residents in the PRB counties, compared to 92.1 percent statewide. When compared to the state, fewer residents of the PRB indicated they were Hispanic or Latino.

The median age of Campbell County residents was 32.2 years, compared to 36.2 years statewide. The median ages of residents in the remaining five PRB counties all were higher than the statewide average, with the eldest being 43.0 years in Johnson County.

Campbell County also had the largest percentage of residents less than 18 years of age, at 31 percent, compared to 26.1 percent statewide. The corresponding percentages for the other PRB counties ranged from 24.1 percent in Sheridan and Weston counties to 28.5 percent in Converse County.

Comparative average household size was 2.73 persons in Campbell County, 2.48 persons statewide, and between 2.31 (Sheridan) and 2.55 (Converse) in the remaining PRB counties.

Economic Conditions

Employment and the Economic Base. Energy resource development since 1970 has resulted in substantial economic expansion across the PRB. Total employment expanded by 156 percent as 38,948 net new jobs were added between 1970 and 2002. The most rapid expansion occurred between 1975 and 1980. More modest growth and even some declines occurred into the mid-1990s due to the curtailment of a number of coal enhancement, uranium, and other anticipated projects. Employment growth resumed in the late 1990s, led by increases in coal mine employment, including subcontractors, and CBNG development. Across the six-county area, total employment was 63,871 in 2002.

Nearly half of the net job gain occurred in Campbell County, where total employment increased from 6,026 jobs in 1970 to 25,453 jobs in 2002. Strong gains also were posted in Sheridan County (9,052 jobs) and Converse County (4,323 jobs).

The economic stimulus associated with the gains in mining and CBNG employment and the long-term population growth triggered secondary job gains in construction, trade, services, and government. The latter gains reflect responses to the gains in basic industrial activity and consumer household expenditures, and also underlying structural changes in the broader domestic economy where trade and services have been among the strongest growth sectors. As a consequence, the region's economic composition is substantially different today than when

large-scale coal development first began. In 2002, business and consumer services accounted for 55.5 percent of all jobs in the region, while mining and government accounted for 10.7 percent and 14.5 percent of all jobs, respectively. Farm employment in the region, as a share of total employment, declined from 14.3 percent in 1970 to 5.0 percent in 2002. However, that shift is primarily due to growth in non-farm employment rather than declines in farming, as total farm employment in the PRB recorded a net decline of only 333 jobs, from 3,571 to 3,238.

Labor Market Conditions. Labor market conditions in the PRB reflect a generally healthy economy, with average annual county unemployment rates between 3.2 percent and 4.8 percent in 2003. Johnson County recorded the lowest unemployment (3.2 percent) and Converse County registered the highest (4.8 percent). Statewide and national unemployment rates for the period were 4.4 percent and 6.0 percent, respectively.

Over time, local unemployment levels and rates have reflected the influences of the large, relatively stable employment base associated with the coal mining industry and the more transitory and variable influences of the natural gas and other industries. Prior to the beginning of CBNG development in 1999, unemployment in Campbell County fluctuated between 4.8 and 5.3 percent, slightly above the corresponding statewide averages. Labor demand associated with CBNG development contributed to a decline in unemployment to below 3.0 percent in the 2001. As the pace of CBNG development has stabilized, labor demand eased and unemployment rates climbed to 5.2 percent in 2003, before abating.

Dynamic labor market conditions not only are reflected in the unemployment rates, but also in the underlying supply of labor. Increasing labor opportunity entices additional individuals into the labor force, allows employers to increase work hours for part-time employees, overtime for full-time workers, or convert part-time to full-time jobs, and may trigger labor force inmigration. Weaker labor market conditions may result in the opposite responses.

Labor force commuting is another means of maintaining equilibrium in local labor markets. The presence of coal mining in the PRB and the well-paying long-term jobs it supports, permits workers to choose to live at some distance from the mines and commute to work. The 2000 census enumerated 1,713 workers who commute to jobs in Campbell County from other Wyoming counties and another 786 workers in Campbell County who live outside Wyoming. In contrast, 597 Campbell County residents worked outside the county. Monetary flows related to wages and salaries are associated with such commuting, with implications for the local economies as well.

Personal Income. A benefit associated with energy resource development, whether it is mineral mining or oil and gas development, is wages and salaries that are among the highest in the state. Personal income registered gains across the region, but especially in Campbell County, during the late 1970s and early 1980s. In 1981, per capita personal income in Campbell County was $17,520, compared to the national average of $11,280 and the statewide average of $12,879. Per capita income declined in Campbell County following the completion of major construction projects, the transition from mine development to production, and weakness in other energy sectors. Per capita personal income in Campbell County resumed a positive growth trend in 1987 reaching $30,253 in 2002. Those gains notwithstanding, per capita income among Campbell County's residents was below statewide and national norms, as well as that for Sheridan ($32,563) and Weston ($31,388) counties. When measured on a median household or family

income basis in the 2000 census, Campbell County lead statewide, national, and other counties in the PRB by considerable margins.

In terms of total personal income, Campbell County leads the six-county region with $1.093 billion in 2002. Sheridan County residents recorded aggregate personal income of $878 million in 2002. Total personal income in the other counties was substantially lower, ranging from $177.8 million in Crook County to $347.8 million in Converse County.

Housing

While the population grew by 55 percent in the 1970s, the housing stock in the study area grew by almost 78 percent. Housing growth was especially rapid during the 1970s in Campbell County, where population grew by 88 percent and the housing stock grew by 140 percent. In 2000, the housing inventory in the PRB was 41,203 units (see **Table 2**).

Table 2
Total Housing Stock, 2000

Campbell	Converse	Crook	Johnson	Sheridan	Weston	Six-county PRB Region
13,288	5,669	2,935	3,503	12,577	3,231	41,203

Source: U.S. Census Bureau 2001.

This expansion in housing supply, combined with the slowdown in the rate of population growth, produced double-digit vacancy rates for rental housing in the late 1980s and early 1990s. At the same time, vacancy rates among ownership housing remained tight. After growth resumed in the mid-1990s, most county-level vacancy rates for ownership units were at or below the state levels in 2000. Vacancy rates for rental units declined even more sharply. By 2000, rental vacancy rates in Campbell County were below the state average and were well below the average in Johnson County and Sheridan County.

Monthly costs for rental housing in the PRB, measured in the fourth quarter of 2003, generally were highest in Campbell County (see **Table 3**). At the end of 2003, monthly rental costs in Campbell County averaged $707 per month for a house, $590 per month for a mobile home on a lot, $563 per month for an apartment, and $228 per month for a mobile home lot. Weston County had the lowest rental housing costs in the study area during the same period.

In 2002, the average sale price of homes in the study area varied from $70,674 in Weston County to $142,565 in Sheridan County. The average home price statewide in 2002 was $120,314. In addition to Sheridan County, Campbell ($133,482) and Johnson ($131,782) also had average home sale prices above the statewide average in 2002.

Table 3
Monthly Housing Rents in 2003, PRB Study Area

County	Apartments	Mobile Home Lots	Houses	Mobile Homes on a Lot
Campbell	$563	$228	$707	$590
Converse	$385	$150	$488	$374
Crook	$345	$120	-	-
Johnson	$443	$208	$606	$414
Sheridan	$465	$273	$667	$502
Weston	$333	$99	$380	$365
Wyoming	$466	$195	$658	$484

Notes: 2003 data are for the fourth quarter.
Source: Wyoming Department of Administration and Information, Division of Economic Analysis 2004.

With the exception of Weston, counties in the PRB have experienced substantial residential construction activity in recent years. A combined total of 1,242 new housing units were issued permits from 1998 through 2002 in the PRB, including permits for 400 housing units in Campbell County and 509 units in Sheridan County. Although not all local governments in the study area issue permits, these data are general indicators of residential construction activity.

Temporary housing resources are available in the PRB in the form of hotel-motel rooms, private and public campgrounds, two large special event facilities, and vacant spaces in mobile home parks. In all, there are an estimated 71 lodging establishments with a total of more than 2,500 rooms. Many of these housing resources, supplemented by pockets of persistently vacant apartments, townhouses, and mobile home spaces in Gillette and Wright, have accommodated temporary housing needs associated with natural resource and energy projects in the past.

Public Education

There are 10 school districts in the PRB ranging in size from Campbell County School District #1 (Campbell #1) with 7,368 students in the 2003 school year to Sheridan County School District #3 (based in Clearmont) with fewer than 100 students. Campbell #1, based in Gillette, serves the primary energy and resource development region.

Trends in public school enrollment generally mirrored population trends during the period of rapid population growth. District-wide enrollment in Campbell County grew by more than 4,600 students (131 percent) between 1975 and 1985. Enrollment increased in all districts in Converse and Sheridan counties as well. Enrollment in Campbell #1 subsequently peaked, but remained near the record high level for nearly a decade. In recent years, the district has experienced some declines as many Campbell County households that arrived or formed during the energy boom of the 1970s are now in life-stages where their children have or will soon complete their education. Elsewhere in the region, enrollments generally have declined, and the combined enrollments in the study area's other districts is now below 10,000, its lowest level since 1975. Recent CBNG development has tempered, but not reversed, the trend of declining school enrollments across the region.

In Wyoming, a statewide school finance system, the Wyoming School Foundation Program (WSFP) regulates operating revenues and expenditures for public educational services delivered

at the local level. The system is structured to achieve equalization in educational opportunities across the state, irrespective of an individual district's local revenue generating capacity. The northeastern part of the state plays an important role in the system because of its large energy- and minerals-related tax base. Revenues for school funding come from taxes on minerals production, real estate, and taxable personal property, and various other local, state, and federal program funds and grants.

Public education funding also functions under the rules and procedures of the Wyoming School Facilities Commission (WSFC). The WSFC was established in 2002 to oversee construction and maintenance of public school facilities and physical plant. Its mission is to provide adequate educational facilities for all children in Wyoming, mirroring the focus of the WSFP on operations. In light of recent enrollment trends, most of the school districts in the PRB have adequate capacity. However, many are facing needs to modernize or replace aging facilities. The WSFC has approved more than $72 million in capital improvements in these districts over the next 5 years.

Seventy-two percent of CCSD #1's revenue in the 2001 school year was locally derived, the highest among the school districts in northeastern Wyoming and twice the share of local taxes in school district revenues statewide. That local share represents the maximum requirement under the state's funding program. Furthermore, because of the total amount of revenue generated locally, Campbell #1 remits approximately $20 million annually to the state under the "recapture" provisions of the WSFP. Those funds are used to support public education in less affluent districts.

Energy resource development also has enlarged the tax base of other school districts in the study area as it has that of Campbell County. In Converse County School District #1, assessed valuation has grown because of coal production. Elsewhere in the PRB, school district assessed valuations have grown recently because of increasing CBNG production.

Facilities and Services

Energy development affects local government facilities and services in several ways. In some cases, such as law enforcement and road maintenance, local governments provide direct services to energy facilities. Local governments also provide facilities and services used by employees and population associated with energy development, and most local governments receive revenues from taxes on energy facilities and production and from taxes on company and employee spending.

The types and levels of facilities and services provided by local governments reflect service demand, revenue availability, and community values regarding appropriate services and service levels. As with most socioeconomic characteristics, the level and availability of local government facilities and services varies by county and community across the PRB. There are likely literally several hundred different service providers in the region. Although all local government facilities and services are affected by energy development, the critical facilities and services include municipal water and sewer systems, law enforcement at the county level, and hospitals. A comprehensive inventory and assessment of facilities and services is beyond the scope of this analysis. However, an initial screening revealed no critical needs or shortfalls and indicated that most providers are engaged in an ongoing long-term process to maintain and improve facilities and services to meet community needs and to comply with various regulations and standards.

Fiscal Conditions

Federal mineral royalties and state and local taxes levied on coal and other mineral production are major sources of public revenue in Wyoming. Taxes, fees, and charges levied on real estate improvements, retail trade, and other economic activity supported by energy development provide additional revenues to support public facilities and services. These revenues benefit not only those jurisdictions within which the production or activity occurs or is located, but also the federal treasury, state coffers, school districts, and local governments across the state through revenue-sharing and intergovernmental transfer mechanisms.

Assessed Valuation. Coal and other minerals produced in Wyoming, regardless of ownership, are subject to ad valorem taxation by local taxing entities and a statewide levy to support public education. Statewide total taxable value of coal has increased in response to production, but falling prices have dampened the increases. Taxable valuation on coal production climbed from $38.9 million in 1971 to $1,100.3 million in 1991. Even as production expanded by 94 percent between 1991 and 2003, falling market prices limited the subsequent increases in taxable value as the statewide total climbed to $1,760.3 million. Of that total, 91 percent was based on production in the PRB.

Although the inventory and value of non-mineral property has climbed over time, the valuation on minerals is the dominant component of Campbell County's ad valorem tax base. The total assessed valuation of Campbell County, boosted by recent increases in CBNG production, was $2,687 million in 2003. Valuations on aggregate mineral production accounted for 82 percent of that total.

With respect to assessed valuation on mineral and energy resource production, Campbell County has been the primary beneficiary of production gains over the past three decades and the recent gains tied to CBNG. The results include order of magnitude differences in the assessed valuation among the counties in the PRB: Campbell County's assessed valuation of $2,687 million in 2003 was nearly 35 times that of Weston County ($77.7 million) and 29 times that of Crook County ($92.1 million).

Severance Taxes. Wyoming levies a severance tax on coal and many other minerals produced in the state. The severance tax rate, levied on the value of production, has varied over time. Prior to the dramatic increase in production, the severance tax rate on coal stood at 1.0 percent in 1972. The rate was raised to 10.5 percent in 1977 to 1978, in part to fund long-term highway, education, and community infrastructure improvements. The rate has since ratcheted down, first to 8.5 percent between 1987 and 1992, and to 7.0 percent since 1992, as legislatively established permanent trust fund caps were reached.

Statewide severance tax receipts grew from $1.3 million in 1972 to a peak of $129.2 million in 1985. Receipts declined thereafter, to $73.7 million in 1995, reflecting falling market prices and reductions in the tax rate. Recent production increases yielded statewide proceeds of $86.5 million in 2001, $91.9 million in 2002, and $105.4 million in 2003.

Cumulative statewide severance tax proceeds total $2.22 billion since 1970. Severance tax revenues on coal produced in Campbell County total $1.42 billion. Severance tax revenues for

the corresponding period total $67.4 million from Converse County, $60.5 million from Sheridan County, and $675.9 million from the remainder of the state.

Distribution formulas for severance tax proceeds are set by the Wyoming legislature, with concurrence by the Governor. Over time, the basic allocation framework has remained relatively consistent, though some specific allocation shares have varied in response to changing fiscal needs.

Federal Mineral Royalties. Producers pay a 12.5 percent royalty to the federal treasury on the value of all surface coal production from federal leases. The size of the resource base, the rate of surface coal production in the PRB, and the predominance of federal ownership, combine to make federal mineral royalties (FMR) an important revenue source for Wyoming. Across the entire state, 90 to 95 percent of all coal production is from federal coal. FMR also are assessed on natural gas, oil, and other minerals produced on federal leases. One-half of the FMR receipts subsequently are disbursed to the state in which the production occurred.

FMR on coal have grown sharply. In 1975, FMR receipts totaled $2.2 million. They had increased more than 12-fold, to $27.7 million, in 1985, topping $100 million in 1989 and $200 million in 1999. Total FMR receipts in 2003 were $321.0 million. Cumulative FMR receipts on coal produced in Wyoming exceeded $2.76 billion between 1970 and 2003.

Social Setting

The past 30 years have seen sweeping social change in the United States (U.S.) and throughout much of the world. But in addition to the broad forces that have driven social change in the U.S. as a whole, social conditions in some PRB communities have been substantially influenced by energy development. Factors that have affected social conditions in the PRB include industrial and natural resource development, economic and demographic change, housing and public infrastructure development, and institutional change at the local and state government levels.

One of the key drivers of social change in the PRB has been energy-related population growth. When the first oil boom occurred in the late 1950s, Campbell County was a relatively stable, sparsely-populated rural county. Like many places in Wyoming and throughout the rural west, Campbell County was a small, relatively homogeneous ranching community (ROMCOE 1982). The oil booms of the 1950s and 1960s brought an influx of new people. Development of coal mines, continued oil and gas drilling, and power plant construction precipitated another round of growth. In all, Campbell County population grew by almost 600 percent between 1950 and 2000.

On the one hand, this population growth, combined with a robust economy, generated a variety of positive social effects. Financial and technical resources poured into the community as it mobilized to accommodate the new population. Job opportunities were created in the construction industry, as the community responded to demands for housing, public facilities, and retail goods and services. The large and rapid influx of new residents, eager to take advantage of the employment opportunities, created energy, vitality, and sense of economic optimism about the community. Where economic advancement had been limited before the boom, there was now opportunity (Gardiner 1985).

New residents brought new ideas, new ways of doing things, new preferences for goods and services, and new demands for government services. Some long-time residents, particularly those who were not directly participating in the economic benefits of energy development, viewed these changes as negative. Long-time residents who were used to knowing virtually everyone in the community and to being recognized by merchants, city and county personnel, doctors, and other community members, increasingly encountered strangers in their business and social interactions. It is likely that many residents had mixed feelings about these changes (Heineke 1985).

These changes were accompanied by some conflicts and stresses, both at an individual and at the community level. However, over time, a certain sense of community and normalcy has re-established itself as housing shortages abated, government facilities and services were expanded to meet the increased demands, and the operations of the coal mines promoted a higher degree of economic stability. Local and state governments, individually and in cooperation, have developed growth management capabilities and institutional mechanisms to assist communities in their efforts to respond to energy development and related population growth.

As a result of previous booms and the magnitude and duration of population growth, newcomers are now able to more easily integrate into local communities. Today, almost any organization, committee or government body is made up of a cross-section of energy employees, ranchers, and other community members whose tenure in the community may be long or short (Bigelow 2004; Spencer 2004). Moreover, because of the turnover in the energy companies, the community has become accustomed to newcomers.

There is potential for conflict between new or expanded energy development and certain segments of the community, however. During the recent CBNG boom, split estate conflicts between CBNG developers and ranchers gained national attention and resulted in continuing attempts to change mineral entry laws.

Acronyms and Abbreviations

ADM	average daily membership
BLM	Bureau of Land Management
CAGR	compounded annual growth rate
Campbell #1	Campbell County School District #1
CBNG	coal bed natural gas
Converse #1	Converse County School District #1
Converse #2	Converse County School District #2
Crook #2	Crook County School District #1
EA	Environmental Assessment
EIS	Environmental Impact Statement
FMR	federal mineral royalties
GCCDPD	Gillette/Campbell County Department of Planning and Development
GUSA	Gillette Urban Service Area
IAPs	Impact Assistance Payments
Johnson #1	Johnson County School District #1
LBA	lease by application
mmgpd	million gallons per day
MW	megawatts
NEPA	National Environmental Policy Act
PILT	payments in lieu of taxes
PRB	Powder River Basin
PRRCT	Powder River Regional Coal Team
PWMTF	Permanent Wyoming Mineral Trust Fund
RV	recreational vehicle
Sheridan #1	Sheridan County School District #1
Sheridan #2	Sheridan County School District #2
Sheridan #3	Sheridan County School District #3
SLIB	State Land Investment Board
U.S.	United States
USDOE-EIA	U.S. Department of Energy, Energy Information Administration
USFS	U.S. Forest Service
WDAI	Wyoming Department of Administration and Information
WDEQ	Wyoming Department of Environmental Quality
Weston #1	Weston County School District #1
Weston #7	Weston County School District #7
WIISA	Wyoming Industrial Information and Siting Act
WMA	Wyoming Mining Association
WOGCC	Wyoming Oil and Gas Conservation Commission
WSFC	Wyoming School Facilities Commission
WSFP	Wyoming School Foundation Program
WTA	Wyoming Taxpayers Association

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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.

1.0 Introduction

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.[1]

[1] 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.

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 country. 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**).[2]

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.

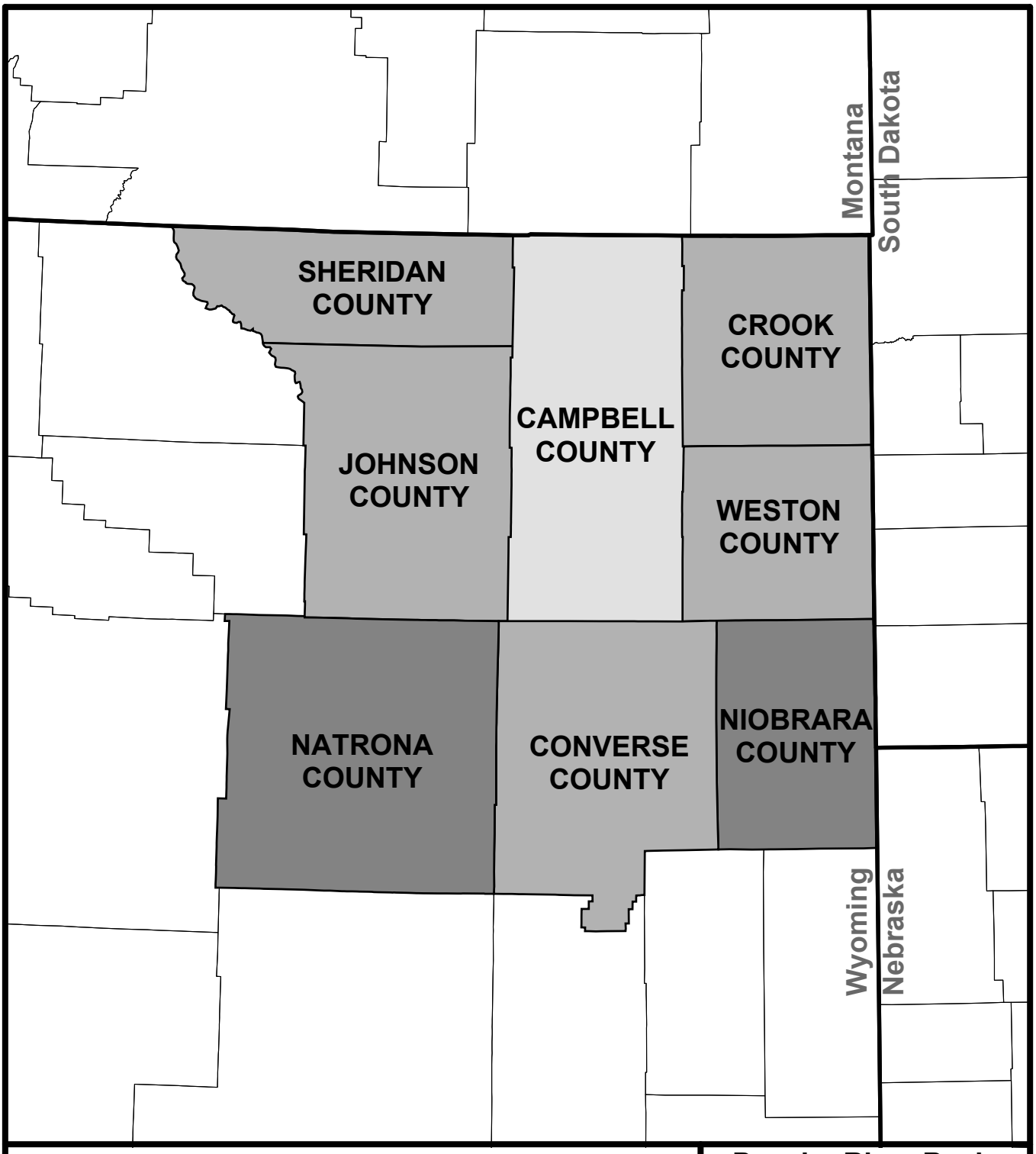
1.1 Objectives

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.

[2] 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.



Powder River Basin Coal Review

Figure 1-1

Social and Economic Study Area

01/26/05

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.

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.

2.0 TECHNICAL APPROACH

2.1 Data Collection

Data sources used to define the baseline social and economic conditions in the PRB included local, state, and federal government publications, internet data searches and downloads, interviews with state and local officials, and information gleaned from newspaper clippings and other historical archives housed at the Campbell County Public Library and Gillette Community Development Department.

Key sources of published information presented in this report include the following.

- BLM
- Campbell County
- Campbell County School District #1
- City of Gillette
- Sonoran Institute
- U.S. Bureau of Economic Analysis
- U.S. Census Bureau
- U.S. Department of the Treasury, Internal Revenue Service
- U.S. Minerals Management Service
- Wyoming Department of Administration and Information, Economic Analysis Division
- Wyoming Department of Education
- Wyoming Department of Employment
- Wyoming Department of Revenue
- Wyoming Department of State Lands and Investments
- Wyoming Mining Association
- Wyoming Office of the State Inspector of Mines
- Wyoming Oil and Gas Conservation Commission
- Wyoming School Facilities Commission
- Wyoming Taxpayers Association

2.2 Modeling Assumptions and Methods

Detailed economic, demographic, and fiscal modeling was not completed as part of this (Task 1) report, as the report focuses on reviews of major historical trends and data describing current conditions in the PRB. Detailed modeling will be conducted as part of the impact analysis for the Task 3 report. The key inputs for that modeling effort will be derived from the reasonably foreseeable development scenario(s) developed for the Task 2 report, and assumptions developed from contacts with industry, local government officials, and reviews of other studies.

2.3 Analysis

Data collection, compilation, and analysis efforts reflect the geographic location and concentration of coal mining in the study area, with the primary focus on Campbell County and a lesser emphasis on the surrounding counties. Quantitative techniques used to analyze historical trends and current conditions in this report include basic descriptive and comparative statistics (e.g., means, percent change, and compounded annual growth rates). Important time series and comparative data at selected intervals are portrayed graphically to help illustrate differences among the PRB counties or to highlight changes over time. The time periods analyzed in this report vary by topic, reflecting the availability of data (e.g., detailed demographic data available only from the decennial censuses of population but annual employment and income data from the U.S. Bureau of Economic Analysis). Annual data are reported for the past 3 to 5 years for selected critical variables that are responsive to changes in economic conditions. Qualitative analysis, reflecting a combination of content analysis and the integration and synthesis of information gained through direct observation, key interviews, and literature review, was used where appropriate. Monetary and fiscal data, personal income, and annual severance taxes on coal production, for instance, generally are reported in nominal terms. In other words, the monetary data are presented in amounts corresponding to those at the time the sale, expenditure, tax event, or income accrual occurred. Data for some monetary and fiscal parameters also are reported in inflation adjusted terms, using a 2003 base year. Inflation adjusted dollars, sometimes also referred to as "real" dollars, can facilitate the analysis of changing trends and patterns that are not as readily apparent when expressed in nominal terms. Unless otherwise noted, monetarily-denominated data in this report are presented in nominal terms. Inflation adjusted data are presented in "real" terms or as 2003 constant dollars. Conversions from nominal to 2003 constant dollars are based on the annual consumer price index for urban wage earners from the U.S. Bureau of Labor Statistics. The index values for that series are shown in **Table 2-1**.

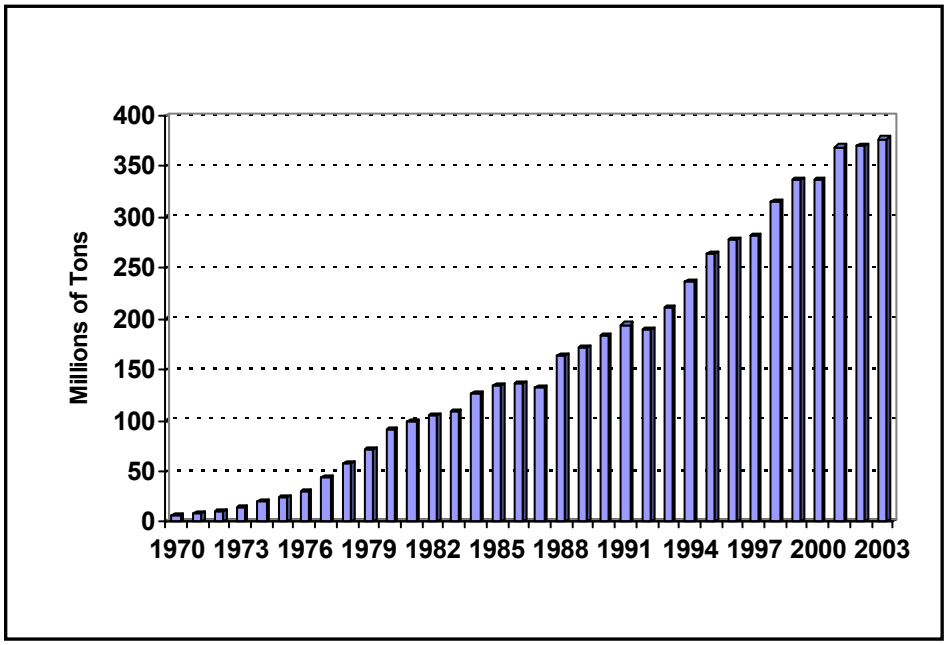
Table 2-1
Price Adjustment Index, Nominal to 2003 Constant Dollars

Year	Value	Year	Value	Year	Value	Year	Value
1969	4.8780	1978	2.7424	1987	1.5988	1996	1.1666
1970	4.6053	1979	2.4603	1988	1.5373	1997	1.1413
1971	4.4155	1980	2.1680	1989	1.4666	1998	1.1262
1972	4.2745	1981	1.9669	1990	1.3933	1999	1.1016
1973	4.0240	1982	1.8559	1991	1.3393	2000	1.0646
1974	3.6263	1983	1.8009	1992	1.3016	2001	1.0364
1975	3.3226	1984	1.7412	1993	1.2659	2002	1.0223
1976	3.1413	1985	1.6816	1994	1.2347	2003	1.0000
1977	2.9510	1986	1.6562	1995	1.2006	2004	0.9790

3.0 DESCRIPTION OF CURRENT SOCIAL AND ECONOMIC CONDITIONS

3.1 PRB Coal Production and Productivity Trends

In 1974, as the BLM was conducting a series of regional coal leasing efforts in Wyoming, Utah, and other states, 20.7 million tons of coal was produced in Wyoming. By 1981, the total annual output exceeded 100 million tons. Statewide production was 184 million tons in 1990, with the 200 million-ton threshold topped in 1993. Just 5 years later, the total annual tonnage had expanded by 50 percent, as 315 million tons of coal was produced in 1998. Total statewide coal output in 2003, produced by 18 operating mines, was 376.6 million tons (**Figure 3-1**). The PRB produces over 95 percent of all coal mined in Wyoming. As a result, the state leads the nation in coal production, accounting for approximately one third of all coal produced nationwide in 2003 (U.S. Department of Energy, Energy Information Administration [USDOE-EIA 2004a]).

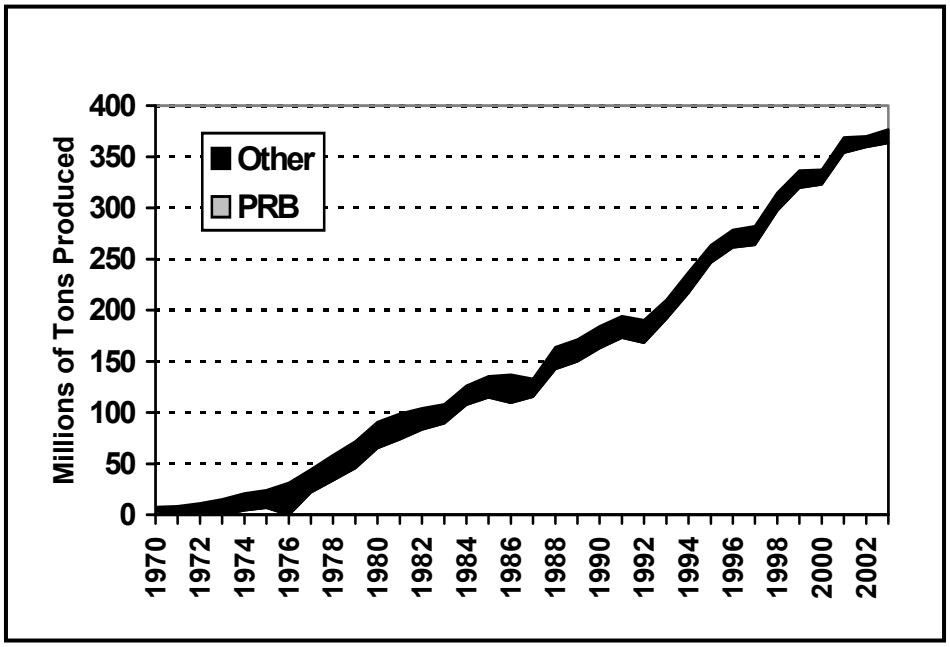


Source: Wyoming State Inspector of Mines 1975 - 2003.

Figure 3-1 Statewide Coal Production (1970 - 2003)

To some extent, the increase in production was anticipated. The Eastern Powder River Basin Final EIS (BLM 1979) projected production of 174 million tons of coal by 1990. At the same time, the Southcentral Wyoming regional coal EIS projected an annual output of 17.8 million tons, while the Southwestern Wyoming regional coal EIS projected an annual output of 31.2 million tons. However, while the aggregate annual production of up to 223 million tons in 1990 was ambitious when compared to actual production, the potential for Wyoming coal to become a major source of the domestic supply was clearly foreseen.

What was not fully foreseen was the extent to which economic, market, and regulatory forces would alter the economic landscape of Wyoming's coal mining industry, the result of which was industrial concentration in the PRB. In 1977, a gross coal production of 22.0 million tons in the PRB represented 50 percent of the total statewide production (**Figure 3-2**).



Source: Wyoming State Inspector of Mines 1975 - 2003.

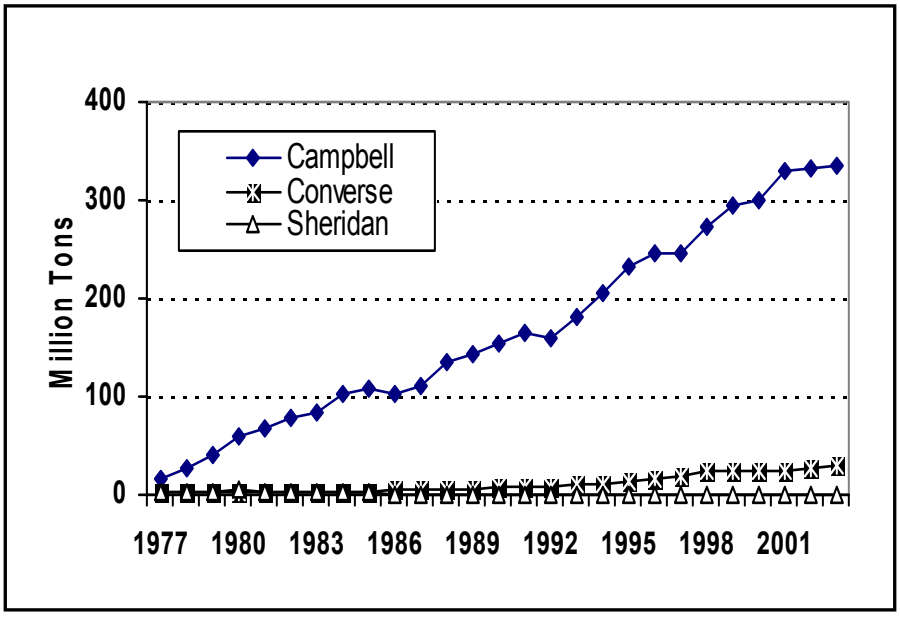
Figure 3-2 Annual Coal Production, PRB and the Rest of Wyoming (1970 – 2003)

By 1981, production in the PRB had increased by 52 million tons, raising its share of the statewide total to 75 percent as the remainder of the state added only about 2.5 million tons. Annual production in the remainder of the state peaked at about 26 million tons per year in 1979. Since that time, coal production in the remainder of the state has declined steadily. In 2003, the total output of Wyoming coal from outside the PRB was 12.9 million tons, just 3.4 percent of the statewide total. Production from the PRB totaled 363.7 million tons, of which 334.1 million tons came from Campbell County. (Also see **Table S-1** in the Appendix of this report.)

As shown in **Figure 3-3**, Campbell and Converse are the coal-producing counties in the PRB, with Campbell producing the majority of the coal. Following the cessation of production at the Dave Johnston Mine near Glenrock, the Antelope Mine is currently the only producing mine in Converse County. The Big Horn Mine in Sheridan County ceased production in 2000 and entered the reclamation phase.

Reviewing the implications of three decades of changes in Wyoming's coal industry on regional population and employment quickly highlights several important and interrelated factors. These include the abundant quantity, desired quality, and accessibility of coal reserves in the PRB, which provided the prospect of long-term economic viability necessary to support the capital investment and ongoing mining operations. They also include improved rail transportation of coal from Wyoming to national markets and enhancements in coal production technology that yielded

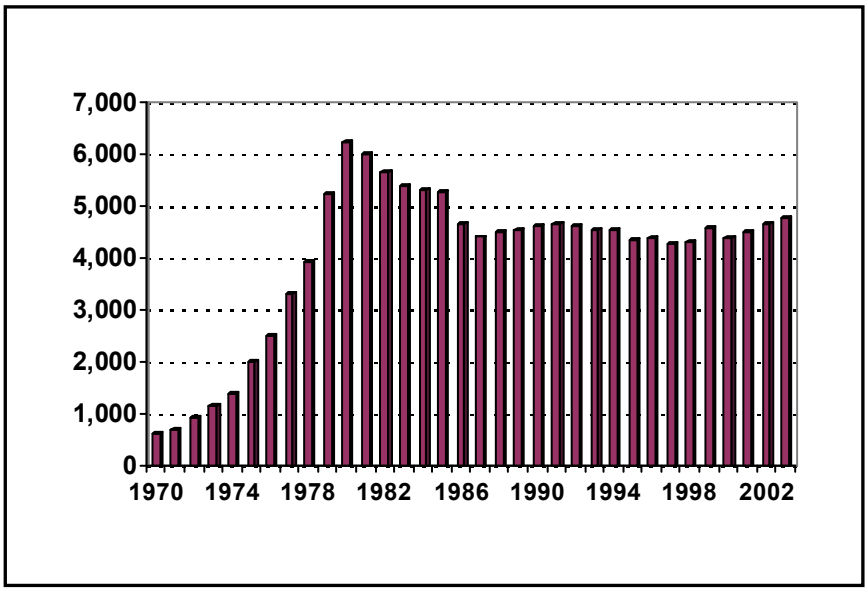
substantial productivity increases in mining. Other contributing factors include constraints limiting expansion of the electrical transmission system access and the increased reliance on electrical energy to meet industrial and residential consumer demands. Collectively, these factors not only increased the demands, but also positioned Wyoming coal, and especially PRB coal, to meet an increasing share of market demand.



Source: Wyoming Taxpayers Association (WTA) 1977 – 2004.

Figure 3-3 Annual Coal Production in the PRB by County (1970 – 2003)

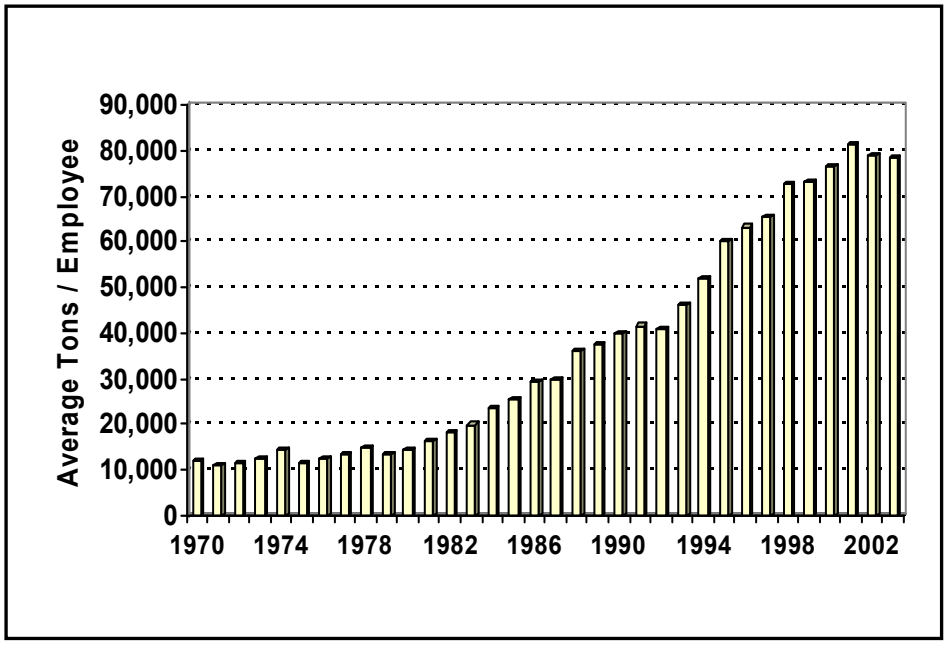
The increase in average labor productivity in the PRB mines is important to an understanding of the cumulative economic, demographic, and social effects in the region. Initially, expansion of the state's coal output was mirrored by increases in mining employment (**Figure 3-4**).



Source: Wyoming State Inspector of Mines 1975 - 2003.

Figure 3-4 Direct Employment in Wyoming's Coal Mining Industry

Between 1970 and 1980, statewide coal mining employment increased ten-fold, from 621 to 6,231 employees, paralleling the increase in output from 7.4 to 95 million tons. In part, this reflected the lags between startup and full production linked to activities such as facility construction and overburden stripping. During that period, average annual output was relatively steady between 11,000 and 15,000 tons per employee (**Figure 3-5**).



Source: Wyoming State Inspector of Mines 1975 – 2003.

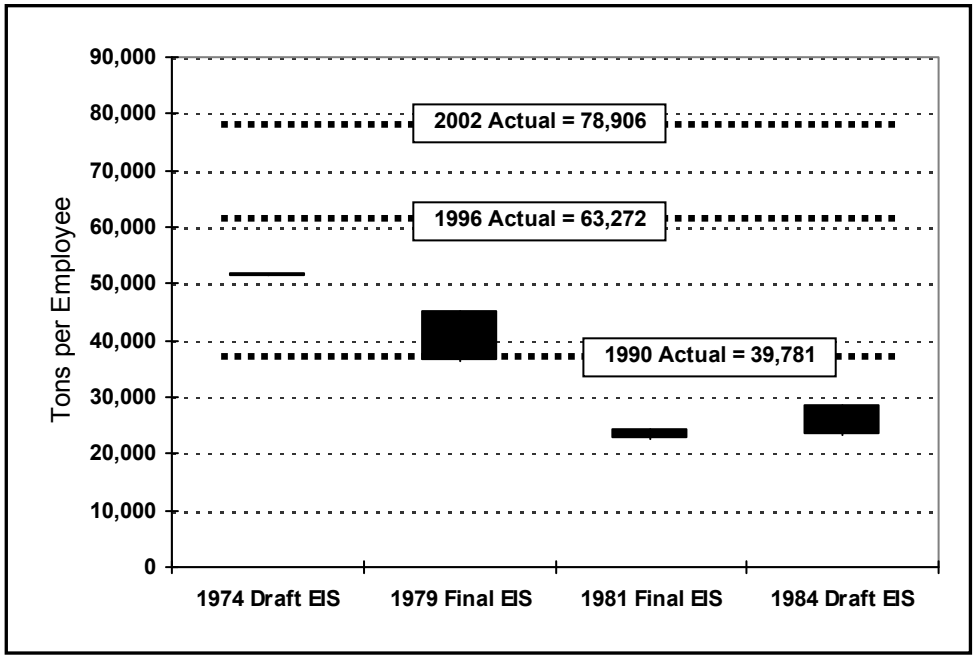
Figure 3-5 Average Productivity in Wyoming's Coal Industry (1970 - 2003)

Thereafter, productivity started increasing dramatically. The increases were such that total employment declined, even as total output climbed. By 1985, average productivity reached 25,612 tons per year, with subsequent gains raising the average to 39,781 tons per year by 1990 as 4,623 employees produced a total of 184 million tons. The trends in productivity gains continued through the 1990s and into the new decade. Average annual productivity peaked at 81,363 tons per employee in 2001, before declining below 79,000 tons per year in 2002 and 2003.

Total annual projected coal output is the critical variable driving the projections of future coal mining employment, which in turn underlie the overall economic and population projections associated with coal development. The assumptions regarding future productivity are what link these two factors together and are consequently critical to the overall analysis. As shown above, average productivity has increased dramatically in the PRB.

Comparing actual productivity to the productivity assumptions in the previous cumulative analyses reveals variances that have important implications for the long-term cumulative projections contained in the various regional coal EISs for the PRB. During the preparation of the early regional impact analyses, the assumed average annual productivity per mining employee ranged from about 22,700 (BLM 1979) to 51,250 tons of coal per miner (BLM 1974). Generally, the productivity assumption held constant over the entire projection horizon. The major exception to that protocol being the "High Development Scenario" in the Eastern Powder River Coal Final EIS (BLM 1979),

which assumed nearly a 20 percent decline in average productivity associated with bringing new mines on line to achieve a much higher production target. The Powder River Coal Draft EIS (BLM and U.S. Forest Service [USFS] 1984), the most recent regional analysis, assumed an average annual productivity of about 25,300 tons of coal per employee (**Figure 3-6**). Actual productivity through the early 1990s generally was consistent with the productivity assumptions contained in the regional EISs. Thereafter, productivity climbed dramatically, nearly doubling between 1990 and 2002 and quickly outpacing the most optimistic assumptions in the Draft EIS Development of Coal Resources in the Eastern Powder River Coal Basin of Wyoming (BLM 1974). The increasing productivity has direct implications for the size of work force required for any given level of production.



Sources: BLM 1974, 1996; Wyoming State Inspector of Mines 1991, 1997, and 2003.

Figure 3-6 Projected and Actual Productivity of Coal Mining in the PRB

The decline in direct mining employment and increasing productivity obscures a countervailing trend that also factors into productivity, that being the increased use of contractors to perform equipment repair, maintenance, stripping, blasting, and other activities historically performed by mine employees. The full extent of such contracting is not known, but the Wyoming State Inspector of Mines reports the number of contract employees tallied in a survey of mining contractors more than doubled from 576 in 1998 to 1,288 in 2003 (an increase of 712 employees or 124 percent). Taking subcontracting into account would reduce the overall average productivity; however, it still would reflect a dramatic increase compared to productivity in the late 1970s.

Development of the PRB coal resource resulted in substantial ancillary development. Since the 1970s, rail lines into the PRB have been expanded and improved to keep pace with coal production, resulting in a substantial rail construction, operation, and maintenance industry in the PRB. Transporting PRB coal to utilities and manufactures across the nation is now a vital source of traffic for the railroads.

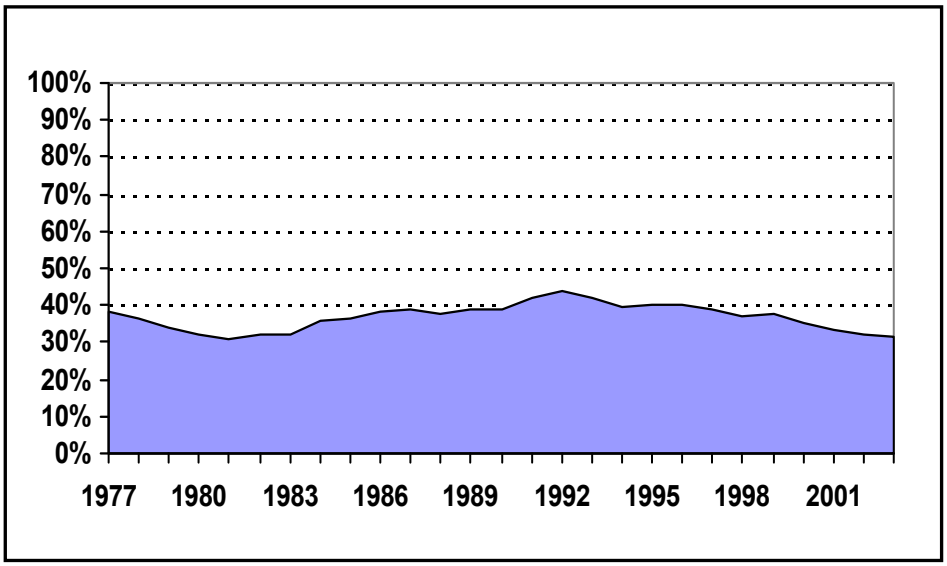
3.1 PRB Coal Production and Productivity Trends

Five coal–fired electric power plants (several with multiple units) have been constructed in the PRB to take advantage of the relatively low cost/low sulfur coal resource and to avoid coal transportation costs (USDOE-EIA 1004b). A number of coal beneficiation and coal gasification plants have been proposed over the last 30 years in an effort to add value to the coal resource, but these technologies have yet to be implemented on a commercial scale. A coal slurry pipeline was proposed during the 1980s to provide an alternative for transporting coal to markets, but was abandoned because of environmental hurdles and opposition from the railroads.

3.2 Production of Other Energy Resources

3.2.1 Petroleum Crude Oil

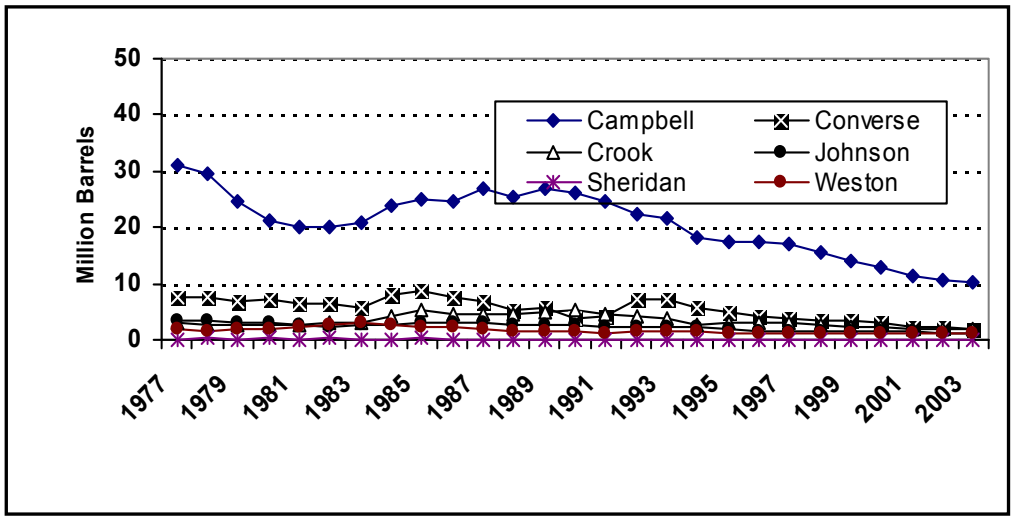
Petroleum crude oil also has been a major driver of development in the PRB. Over the last 25 years, the PRB has produced between 30 and 40 percent of the total oil produced in Wyoming (**Figure 3-7**).



Source: WTA 1977 – 2004; Wyoming Oil and Gas Conservation Commission (WOGCC) 2003.

Figure 3-7 PRB Oil Production as a Share of Statewide Production (1977 – 2002)

Campbell County has produced most of the PRB oil. From a high of 20 to 30 million barrels per year in the 1970s, production in the county had fallen to about 10 million barrels per year in 2002, as shown in **Figure 3-8**.

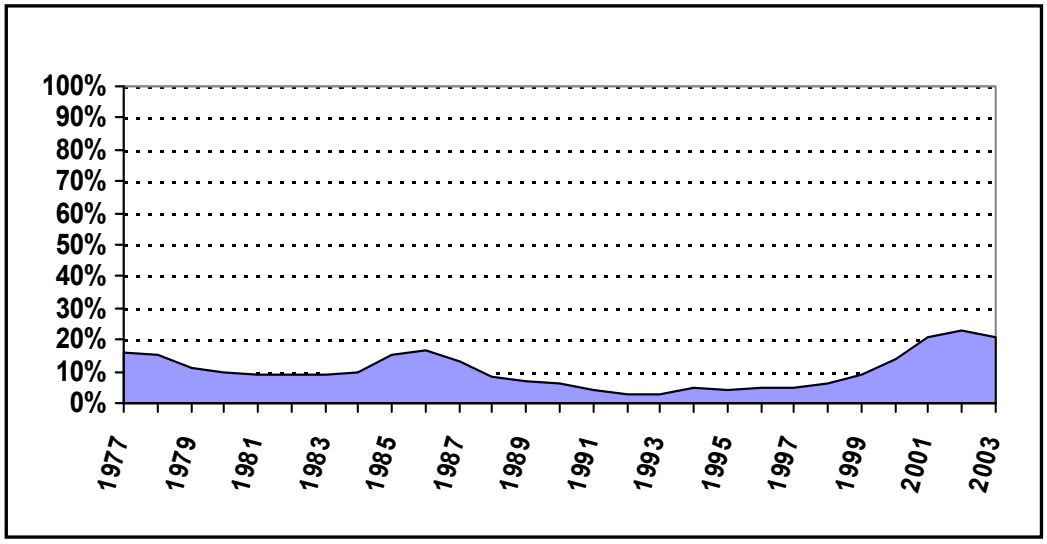


Sources: WTA 1977 – 2004; WOGCC 2003.

Figure 3-8 Oil Production by County (1977 – 2003)

3.2.2 Natural Gas

Although substantial, the PRB's share of statewide natural gas production has been less dramatic than its share of coal and oil. As shown in **Figure 3-9**, the PRB's share of total Wyoming gas production had been below 10 percent from the mid-1980s until recently, when the CBNG boom drove the basin's share above 20 percent.

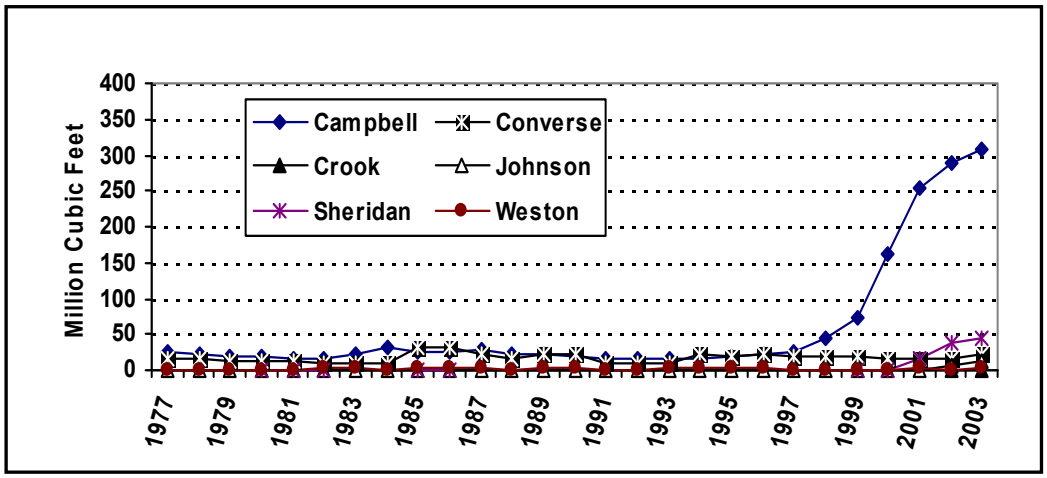


Sources: WTA 1977 – 2004; WOGCC 2003.

Figure 3-9 PRB Gas Production as a Share of Statewide Production (1977 - 2003)

From 1977 through 1997, most gas produced in the PRB was from conventional sources. During that period, the PRB produced on average approximately 7 percent of the total natural gas produced in the state (**Figure 3-9**). Since 1998, when CBNG gas production in the PRB increased dramatically, the PRB has averaged approximately 17 percent of statewide gas production.

As shown in **Figure 3-10**, Campbell and Converse counties produced most of the natural gas in the PRB between 1977 and 1997. In 1998, CBNG production in Campbell County began to increase dramatically, followed by less dramatic increases in Sheridan County in 2000 and Johnson County in 2002.

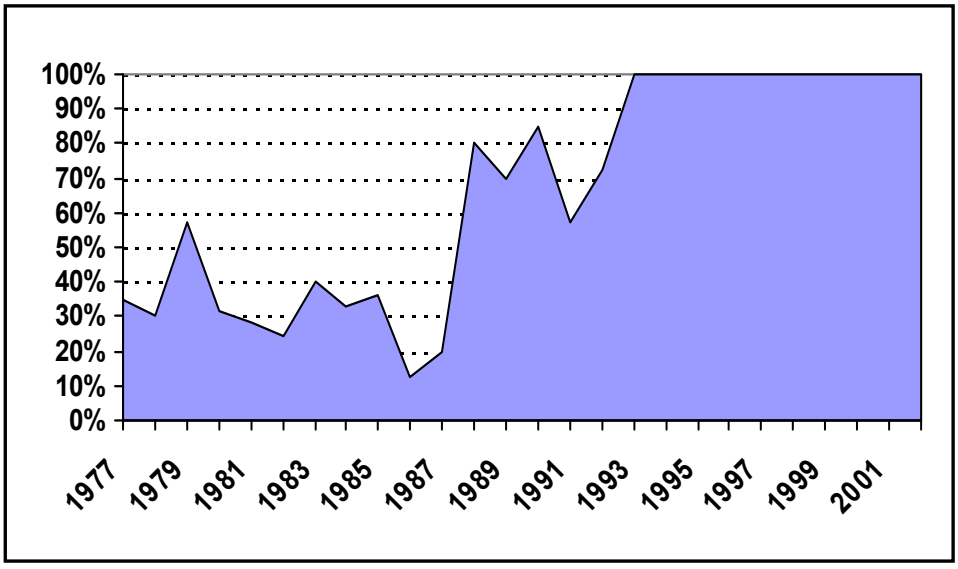


Sources: WTA 1977 – 2004; WOGCC 2003.

Figure 3-10 Annual Gas Production by County (1977 - 2003)

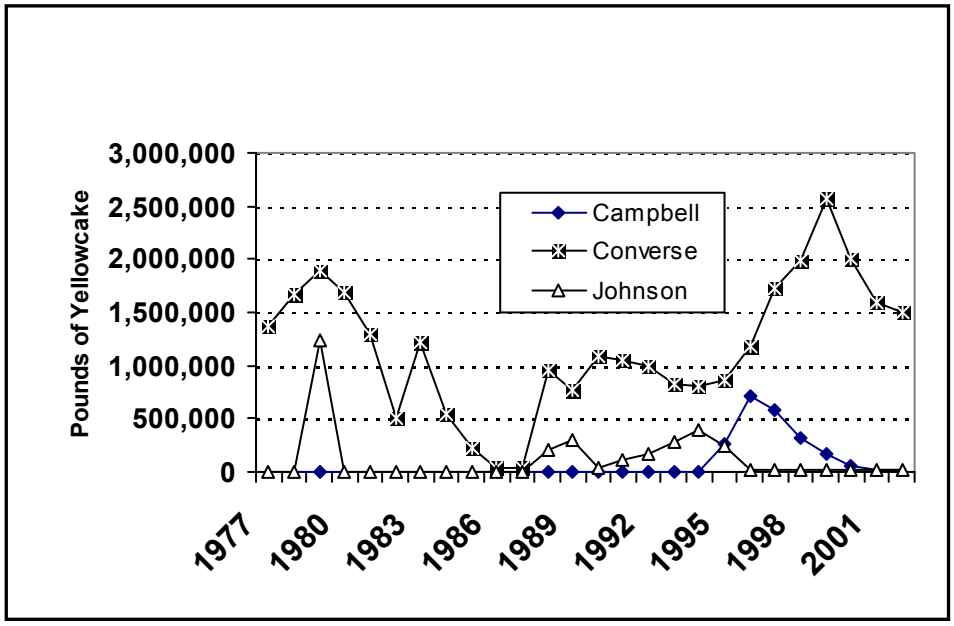
3.2.3 Uranium

Uranium at one time was an important part of the state's economy and seen as a vital component of the nation's energy future. Demand for uranium has, however, declined sharply in the wake of the Three Mile Island accident, the post-Cold War environment and environmental concerns regarding the long-term disposal of spent fuel from nuclear reactors. Today, uranium is a smaller contributor to Wyoming's energy economy, but production from Wyoming is now centered in the PRB (**Figure 3-11**). Most of the uranium in the state currently is produced in Converse County (**Figure 3-12**). All of the existing production comes from in situ operations, which is a process to extract the uranium without excavation of the ore bodies (Wyoming Mining Association [WMA] 2003).



Source: WTA 1977 – 2004.

Figure 3-11 PRB Uranium Production as a Share of Statewide Production (1977 – 2002)

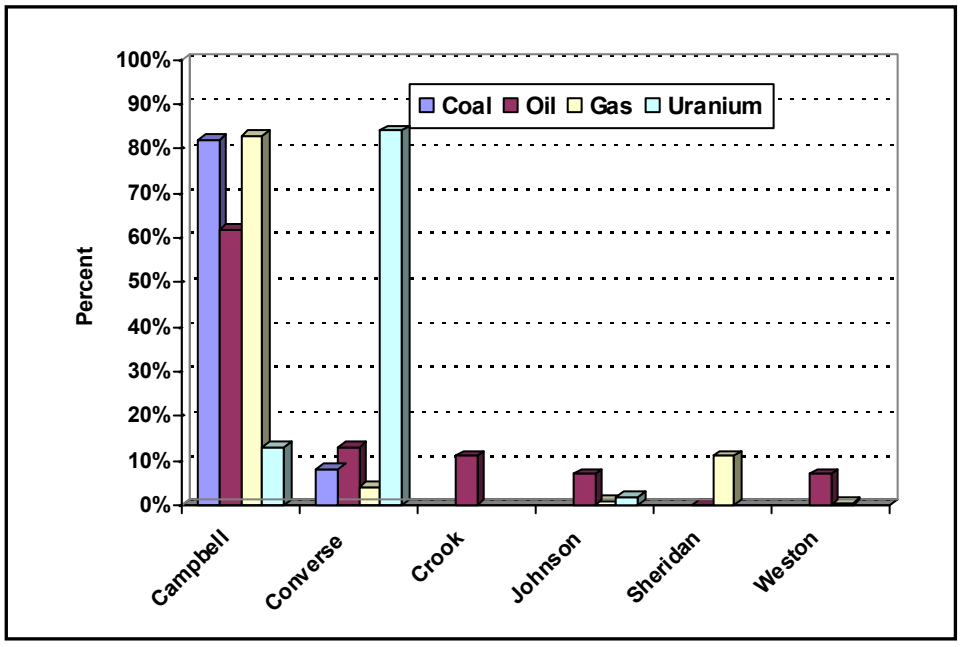


Source: WTA 1977 – 2004.

Figure 3-12 Annual Uranium Production by County (1977 – 2002)

3.2.3.1 Energy Resources by County

Energy commodity production varies across the counties in the PRB (Campbell, Converse, Johnson, and Sheridan), both in volume and energy commodity produced (**Figure 3-13**).



Source: WTA 2004.

Figure 3-13 Share of PRB Energy Production by Commodity Type and County

Campbell County

Campbell County and the City of Gillette have been at the center of PRB energy development. The county has been the center of successive energy booms for almost 50 years, since the first major oil strike at the Belle Creek field during the mid 1950s. A major oil strike at the Hilite Field in 1967, development of 9 large-scale coal mines during the 1970s and 6 additional coal mines in the 1980s, construction of multiple electric power generating units east of Gillette beginning in the 1960s, and a CBNG boom beginning in the late 1990s have resulted in long-term growth for the county. In 2003, Campbell County accounted for 92 percent of the coal produced in the PRB, 62 percent of the oil, and 79 percent of the natural gas (including CBNG). In 2002, in situ production by COGEMA Mining from ores located in Campbell County accounted for 1 percent of the uranium produced in the PRB and the state; the county averaged about 13 percent of the uranium produced in the state between 1995 and 2002[3]. Campbell County also hosts the Wygen, Wyodak, and Neil Simpson Nos. 1 and 2 coal-fired power plants (totaling 599.7 megawatts [MW] nameplate capacity) and two Neil Simpson gas turbine power plants (totaling 80 MW nameplate capacity), with a combined total of 679 MW (USDOE-EIA 2004b).

The period of energy development between 1950 and the present generated a corresponding level of ancillary development in Campbell County and the PRB. The Burlington Northern and Santa Fe and Union Pacific railroads expanded their rail facilities and added employees, rolling stock, and maintenance facilities. Heavy equipment companies and other mine and oilfield vendors have developed large regional facilities in the county. Housing and commercial infrastructure was developed to accommodate the work force and population growth associated with energy development. In addition, public facilities such as schools, water and sewer systems, streets, an airport, a regional hospital, recreation centers, and numerous other public facilities were constructed, improved, and expanded during the last 50 years to keep pace with population growth.

This economic activity has resulted in jobs for Campbell County residents, residents of surrounding counties, and people living in Casper, Cheyenne, and elsewhere throughout the state.

Converse County

Energy resources in Converse County include the Antelope and Dave Johnston (now in reclamation) coal mines, Dave Johnston electric power generating station (four coal-fired units totaling 816.7 MW nameplate capacity), and oil and gas development. In 2003, the Antelope Mine accounted for 8 percent of the coal produced in the PRB. Converse County accounted for 12 percent of the oil and 5 percent of the natural gas production. The vast majority of uranium produced in Wyoming has come from Converse County, which accounted for about 97 percent of total statewide uranium production in 2002 and averaged about 84 percent between 1995 and 2002.

Converse County and its communities also are affected by energy resources located outside of the county. A number of workers employed at coal mines in southern Campbell County live in Douglas and Glenrock and commute daily to work. Recently, several natural gas pipelines have been

[3] This production was part of the total output reported for COGEMA's Irrigay and Christensen mines, the surface facilities of which were located in Johnson County.

constructed across the county, and a number of natural gas pipeline construction workers established temporary residences in Douglas, living primarily in recreational vehicles at local campgrounds and at the state fairgrounds. Glenrock and Rolling Hills serve as bedroom communities for some Casper-based oil and gas workers. Converse County and its municipalities have been actively pursuing coal–based industrial development in recent years.

Crook County

Energy production in Crook County includes oil and natural gas. In 2003, about 11 percent of the oil produced in the PRB came from Crook County, but less than 1 percent of the natural gas. Those percentages are similar to the county's share of oil and gas production since 1977. Crook County serves as a bedroom community for Campbell County, and a substantial number of workers at Gillette area coal mines, power plants, and oil and gas industry service firms live in Crook County communities.

Johnson County

Johnson County produces oil, natural gas, and uranium. Johnson County produced about 7 percent of the total oil produced in the PRB in 2003 and about 3 percent of the total natural gas. In recent years, CBNG production has been increasing in Johnson County, which may increase the county's share of PRB natural gas production in the future. Since 1995, Johnson County has produced about 2 percent of the total uranium produced in the state.

Sheridan County

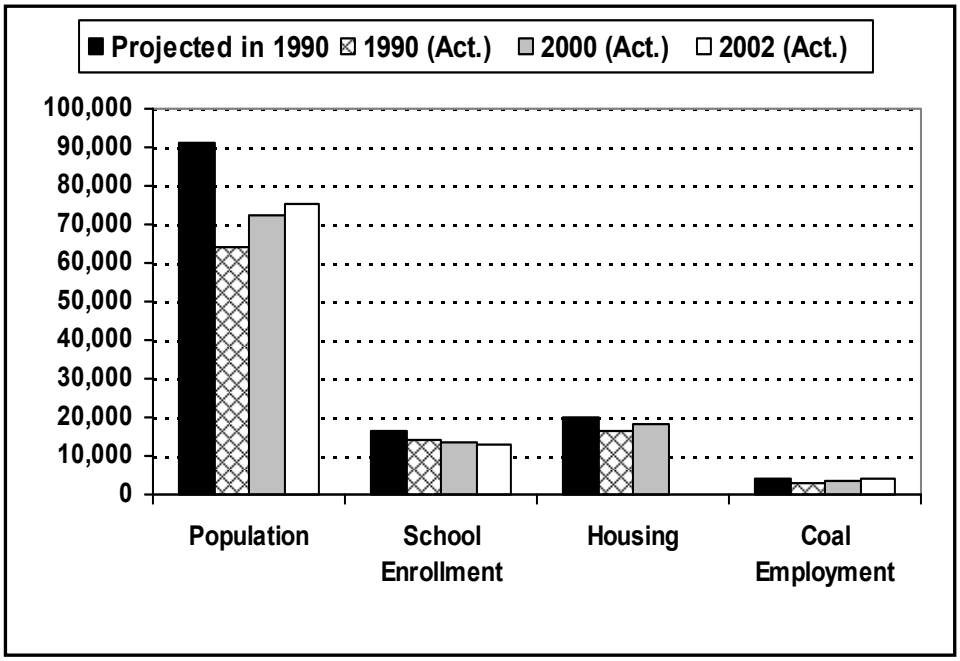
Although a major producer of coal in the 1970s and 1980s, the Big Horn Coal Company ceased production in 2000. Currently, no coal is produced in Sheridan County, but many of the workers at the Decker and Spring Creek coal mines in Montana live in the county, primarily in the Town of Dayton. Sheridan County has produced less than 1 percent of the oil produced in the PRB since 1977 and, until 2001, substantially less than 1 percent of the natural gas. The recent development of CBNG resources in the county has increased natural gas production to 12 percent of all gas produced in the PRB in 2003. Sheridan County also hosts the Arvada electric power generating plant, which has four natural gas-fired units totaling 22.5 MW nameplate capacity.

Weston County

Energy development in Weston County has included about 5 percent of all PRB oil since 1977 and about 3 percent of all PRB natural gas. In 2003, the county's share of PRB oil production increased to 7 percent, but the share of natural gas production decreased to 1 percent. Many employees of southern Campbell County coal mines live in the Weston County communities of Newcastle and Upton, as do some oil, gas, and CBNG service company employees. The Wyoming Refining Company employs about 66 people at its Newcastle refinery. The Osage power plant is located in Weston County, which has three coal-fired units totaling 34.5 MW nameplate capacity.

3.3 Changes in Population and Other Key Indicators

The protocol underlying the 1996 Coal Development Status Check (BLM 1996) process was to compare the projected levels of key variables considered in the regional EISs with actual levels. The key variables for economic and social conditions include population, school enrollment, total housing units, and direct coal mine employment. **Figure 3-14** and **Table 3-1** summarize projected and actual levels of these key variables.



Sources: BLM 1996; U.S. Census Bureau 1990, 2000, 2004a; Wyoming Department of Education 1975-2003c; Wyoming Department of Employment 2004.

Figure 3-14 Population and Other Selected Economic and Social Indicators

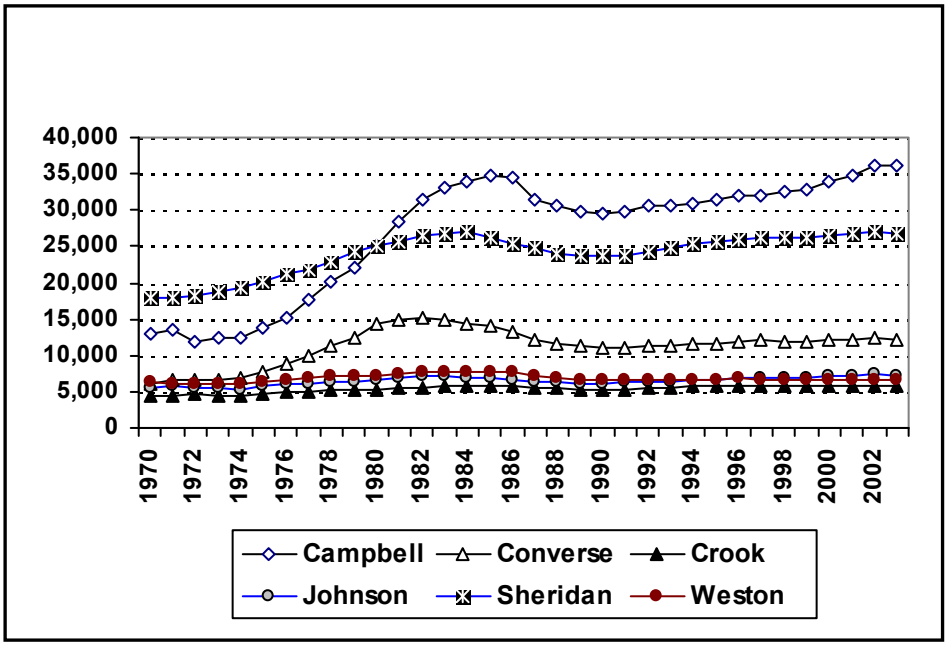
Population increases in Campbell, Converse, and Sheridan counties have been substantially below projected levels, even when comparing actual 2002 population to the levels projected for 1990 and the fact that total annual coal production was more than double that projected in the 1979 analysis and 13 percent higher than projected in the 1981 analysis. In fact, population in the PRB had peaked in 1985-1986 as construction activities at several of the mines were completed. Even at the peak, the combined population of the three counties was about 75,000 residents, nearly 18 percent below the 1979 projection for 1990. In addition to the impact of higher than anticipated productivity on employment in the coal industry, lower than anticipated activity in the uranium and coal enhancement sectors and declining oil and gas employment also contributed to declining population (**Figure 3-15**). **Table S-2** in the Appendix presents population estimates for the period 1977 to 2003, on a county-by-county basis.

Population declined across the region in the late 1980s. Since then, population growth has been relatively steady at a moderate rate. Between 1990 and 2003, the largest gains occurred in Sheridan (3,128) and Campbell (6,718) counties. Not until 2001 did the population of Campbell County, driven by CBNG activity, again exceed the previous peak of 1984.

Table 3-1
Changes in Population and Other Key Socioeconomic Variables
Campbell, Converse, and Sheridan Counties, Wyoming

	1979 Prediction for 1990	1981 Prediction for 1990	Actual 1990	Actual 1994	Actual 2000	Actual 2002
Annual Coal Production (Tons)						
Campbell and Converse Counties	174,300,000	318,400,000	162,586,000	216,874,000	323,181,235	359,638,965
Population						
Campbell County	39,583	47,400	29,370	30,835	33,698	36,240
Converse County	19,811	21,600	11,128	11,492	12,052	12,361
Sheridan County	31,666	34,000	23,562	25,256	26,560	26,964
Total	**91,060**	**103,000**	**64,060**	**67,583**	**72,310**	**75,565**
School District Enrollment						
Campbell County District #1	6,711	N/A	7,759	8,029	7,488	7,368
Converse County District #1	3,376	N/A	1,785	1,809	1,660	1,688
Sheridan County District #1	742	N/A	783	923	895	871
Sheridan County District #2	5,930	N/A	3,768	3,622	3,247	3,172
Total	**16,759**	**N/A**	**14,095**	**14,383**	**13,290**	**13,099**
Housing Units						
Gillette	7,938	9,460	7,078	8,391	7,931	N/A
Douglas	4,097	3,635	2,267	1,950	2,385	N/A
Wright	-	-	527	466	544	N/A
Sheridan	7,937	8,900	6,475	N/A	7,413	N/A
Ranchester	N/A	N/A	N/A	N/A	240	N/A
Direct Coal Mine Employment						
Campbell and Converse Counties	3,889	11,900	2,862	3,126	3,477	3,895
Sheridan County	N/A	1,400	27	18	11	0

Sources: BLM 1996; U.S. Census Bureau 1990, 2000, and 2004a,b; Wyoming Department of Education 1975-2003c; Wyoming Department of Employment 2004.

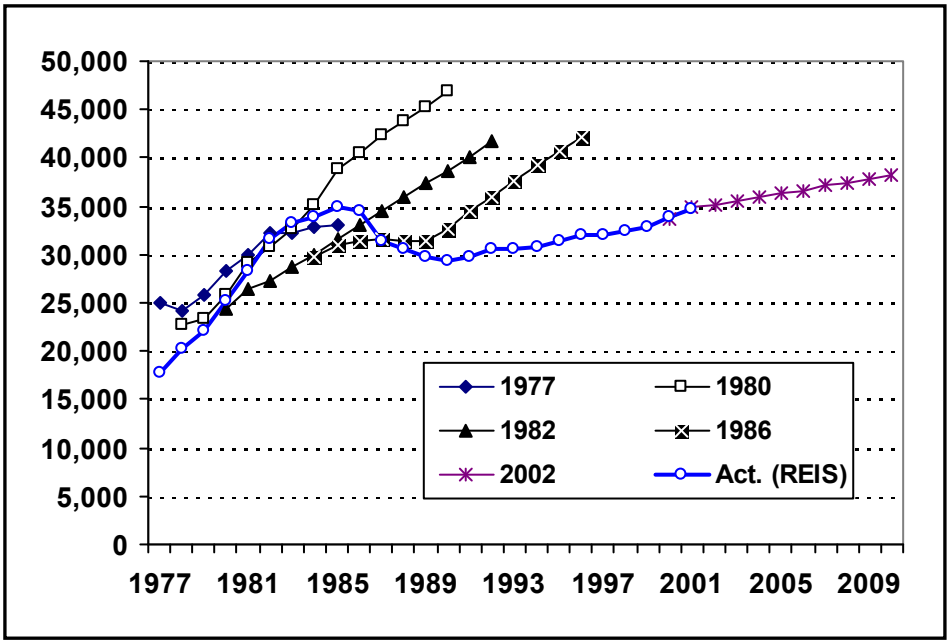


Source: U.S. Bureau of Economic Analysis 2004.

Figure 3-15 Population by County (1970 to 2003)

Comparing actual to projected population growth in Campbell County over time provides an interesting perspective on the cumulative impacts of past and present actions as well as the existing conditions in the Campbell County and to some extent the entire PRB. Beginning early in the 1970s, recognition of the pending economic, fiscal, and social implications associated with development of the region's vast coal reserves resulted in a series of planning efforts intended to help prepare for and mitigate major adverse impacts. Underlying those efforts were population forecasts prepared by various local, state, and federal agencies. Those forecasts embodied available data regarding future coal production and labor productivity, other projects, the relationships between direct and secondary employment, demographic factors, and expected residency distribution.

One such series of forecasts were prepared by the Division of Research and Statistics, now the Economic Analysis Division in the Wyoming Department of Administration and Information (WDAI) (WDAI, various years). The forecasts, which typically had a 10-year projection horizon, were updated over time to reflect changing expectations and information and remain part of the division's current portfolio of research. Reviewing those forecasts sheds some insights as to the challenges and uncertainties associated with the initial development and expansion of the PRB. **Figure 3-16** below illustrates the population forecasts during those early years, as well as more recent forecasts to 2010 and estimated population.



Source: U.S. Bureau of Economic Analysis 2004; WDAI, various years.

Figure 3-16 Campbell County Population Forecasts (1977 – 2002)

As shown, the earliest forecasts extended to 1985, but were relatively accurate when compared to the actual population 8 years later (33,098 projected versus 34,864 actual). Subsequent forecasts, which began to reflect additional uranium development, as well as coal enhancement projects, anticipated strong continued growth. As time passed, subsequent population growth forecasts were dampened, either reducing the peak population achieved within the 10-year time horizon, or deferring the growth such that defined population levels occurred later in the time horizon. For

example, the forecasts prepared in 1986 called for a population of 40,678 in 1995, whereas forecasts prepared in 1982 had Campbell County's population reaching that level in 1991. While actual growth did not achieve the anticipated peak levels, the forecasts fed into expectations and planning efforts regarding future facility requirements and potential service demands that underlie some conditions found today in the PRB.

Current forecasts, prepared following the early years of CBNG development, project population rising to 38,240 in 2010, a net increase of 4,256 from the 2000 census population and a compounded annual growth rate of 1.2 percent. However, that forecast is approximately 9,000 residents lower (19 percent) than the 47,000 peak population once forecast for Campbell County.

The actual number of housing units in 1990 fell below the needs projected in regional coal EISs, particularly in Sheridan and Douglas counties, again mirroring lower than anticipated population growth. The 1990 census identified a total of 16,337 dwelling units in five selected communities addressed in the regional analyses, 3,625 fewer than the 19,962 units projected in the 1979 analysis and 5,658 fewer units than projected in 1981. The total included 527 dwelling units in the town of Wright, founded in 1976 and incorporated in 1985, not included in those EISs. The demand met by units in Wright had most likely been assigned to Gillette.

Housing development has continued across the region at a pace above the rate of population growth. Between the 1990 and 2000 decennial censuses, the total number of housing units increased by 1,750 units in Campbell County, 435 units in Converse County, and 1,423 units in Sheridan County. Across the six-county study area, the total housing stock more than doubled, from 19,199 in 1970 to 41,203 in 2000, an increase of 22,004 units or 115 percent (U.S. Census Bureau, various years).

Two underlying trends of note with respect to housing are the large amount of residential development in unincorporated areas of the region and the shifts in the mix of housing. With regard to the former, most housing was to be found in the major communities at the time of the 1970 census; for example, 2,228 of 3,951 units in Campbell County were in Gillette, and 4,438 of 6,893 units in Sheridan County were in Sheridan. Of the new residential construction since 1970, 25.9 percent is in Gillette; 32.9 percent is in Sheridan, Douglas, Buffalo, Newcastle, and other selected communities; and 41.2 percent is located in unincorporated areas or smaller communities.

Construction over the past three decades has substantially altered the mix of housing in the region. The effects, however, have been different in Campbell County than in the other counties. In Campbell County, most of the expanded housing stock is single-family homes. Consequently, the housing mix in 2000 was 56 percent single family, 17 percent multi-family, and 27 percent mobile homes. In 1970, mobile homes comprised 42 percent of the housing in the county. In contrast, the combined number and share of the housing stock accounted for by mobile homes in the other five counties in the study area increased dramatically from 1,308 units (8.7 percent) in 1970 to 4,866 units (17.4 percent) in 2000. The differences in the housing stock between Campbell County and the other counties likely reflects the well-paying and stable jobs associated with the coal mining and related utility and transportation industries, long-term population growth, and housing demand sufficient to support a local residential construction industry, and the positive effects of a far-reaching and multi-faceted community development program in Gillette.

Historical trends in direct coal mining employment were discussed above. Relative to projected employment, direct coal mine employment in Campbell and Converse counties only recently achieved the levels projected to be reached by 1990 in the 1979 study, 3,895 in 2002 compared to 3,889, even at annual production levels more than twice those that were the basis for those projections. At the same time, direct coal mine employment is only 29 percent of the projected 1990 levels in the 1981 analysis, 3,895 compared to 11,900, again even though actual production exceeds the projected volume; 359.6 million actual tons compared to 318.4 projected tons. As discussed previously, higher than anticipated productivity and increases in productivity over time are the major factors underlying the differences.

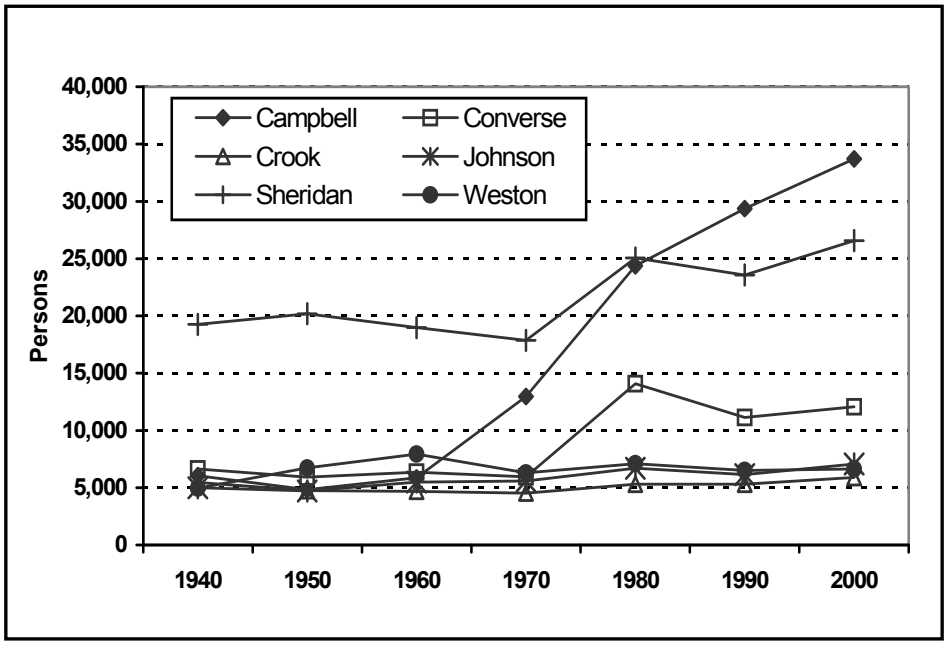
3.4 Population

This section presents current population data as well trends from the decennial censuses of 1940 through 2000. The data are presented for counties and for the main cities and towns. Totals for the State of Wyoming are included for comparison.

3.4.1 County Population Trends

All six counties in the PRB have experienced population effects from energy resource development. However, Campbell County's growth from around 6,000 in 1960 to more than 33,000 in 2000 is perhaps the most significant trend in the region. Anchored by the City of Gillette, Campbell County is recognized as the study area's economic and demographic hub.

Campbell County has grown in every decade since 1960, and the county experienced explosive growth between 1970 and 1980 (**Figure 3-17** and in **Table 3-2**). In 1960, Campbell County had a population of 5,861, and Sheridan County had a population of 18,989. By 1980, after growing 121 percent in the 1960s and 88 percent in the 1970s, Campbell County had a population of 24,367, only 3 percent lower than Sheridan County's population of 25,048.



Source: U.S. Census Bureau, various years.

Figure 3-17 County Population Trends (1940 - 2000)

In 1990, after continued growth in Campbell County and a loss of population in Sheridan County, Campbell County had a population of 29,370, about 25 percent higher than Sheridan County's population of 23,562. In 2000, Campbell County's population was 33,698, up another 15 percent, while Sheridan County's population rose 13 percent to 26,560.

Table 3-2
Population of the PRB (1940-2000)

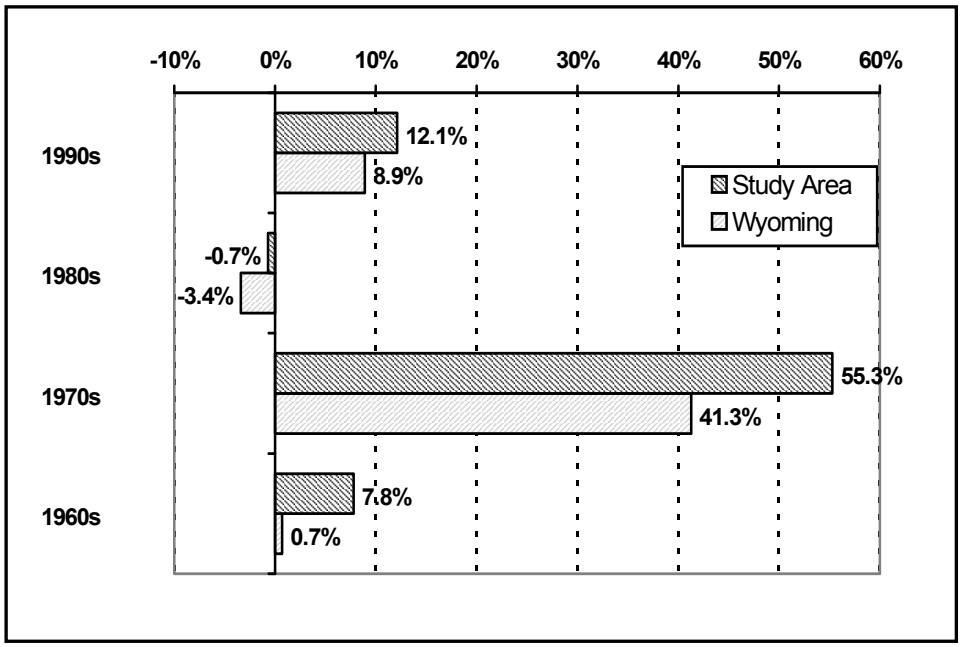
County/Location	1940	1950	1960	1970	1980	1990	2000
Campbell							
Gillette (city)	2,177	2,191	3,580	7,194	12,134	17,635	19,646
Wright (town)	-	-	-	-	1,117	1,236	1,347
Rest of county	3,871	2,648	2,281	5,763	11,116	10,499	12,705
Total	**6,048**	**4,839**	**5,861**	**12,957**	**24,367**	**29,370**	**33,698**
Converse							
Douglas (city)	2,205	2,544	2,822	2,677	6,030	5,076	5,288
Glenrock (town)	1,014	1,110	1,584	1,515	2,736	2,153	2,231
Rest of county	3,412	2,279	1,960	1,746	5,303	3,899	4,533
Total	**6,631**	**5,933**	**6,366**	**5,938**	**14,069**	**11,128**	**12,052**
Crook							
Moorcroft (town)	387	517	826	981	1,014	768	807
Sundance (town)	685	893	908	1,056	1,087	1,139	1,161
Rest of county	4,391	3,328	2,957	2,498	3,207	3,387	3,919
Total	**5,463**	**4,738**	**4,691**	**4,535**	**5,308**	**5,294**	**5,887**
Johnson							
Buffalo (city)	2,302	2,674	2,907	3,394	3,799	3,302	3,900
Rest of county	2,678	2,033	2,568	2,193	2,901	2,843	3,175
Total	**4,980**	**4,707**	**5,475**	**5,587**	**6,700**	**6,145**	**7,075**
Sheridan							
Sheridan (city)	10,529	11,500	11,651	10,856	15,146	13,900	15,804
Rest of county	8,726	8,685	7,338	6,996	9,902	9,662	10,756
Total	**19,255**	**20,185**	**18,989**	**17,852**	**25,048**	**23,562**	**26,560**
Weston							
Newcastle (city)	1,962	3,395	4,345	3,432	3,596	3,003	3,065
Upton town	545	951	1,224	987	1,193	980	872
Rest of county	2,451	2,387	2,360	1,888	2,317	2,535	2,707
Total	**4,958**	**6,733**	**7,929**	**6,307**	**7,106**	**6,518**	**6,644**
Six-county Area							
Selected places	21,806	25,775	29,847	32,092	47,852	49,192	54,121
Rest of area	25,529	21,360	19,464	21,084	34,746	32,825	37,795
Total	**47,335**	**47,135**	**49,311**	**53,176**	**82,598**	**82,017**	**91,916**
State of Wyoming	250,742	290,529	330,066	332,416	469,557	453,588	493,782

Source: U.S. Census Bureau, various years.

Other counties in the PRB have, like Sheridan County, experienced a cyclical pattern of relatively strong growth in the 1970s, stabilization or modest decline in the 1980s, and a resumption of growth in the 1990s. In Converse County, population more than doubled in the 1970s (137 percent growth) and then declined by 21 percent from 1980 to 1990. From 1990 to 2000, Converse County's population grew again by about 8 percent. In the 1990s, Crook County grew 11 percent, Johnson County grew 15 percent, Sheridan County grew 13 percent, and Weston County grew 2 percent.

3.4.2 Study Area in the State Context

Driven by Campbell County, total population in the PRB has grown more (or declined less) in every decade since 1960 than the State of Wyoming as a whole. **Figure 3-18** graphically compares growth by decade in the study area to growth in Wyoming.



Source: U.S. Census Bureau, various years.

Figure 3-18 Population Change in the PRB Study Area (1960s - 1990s)

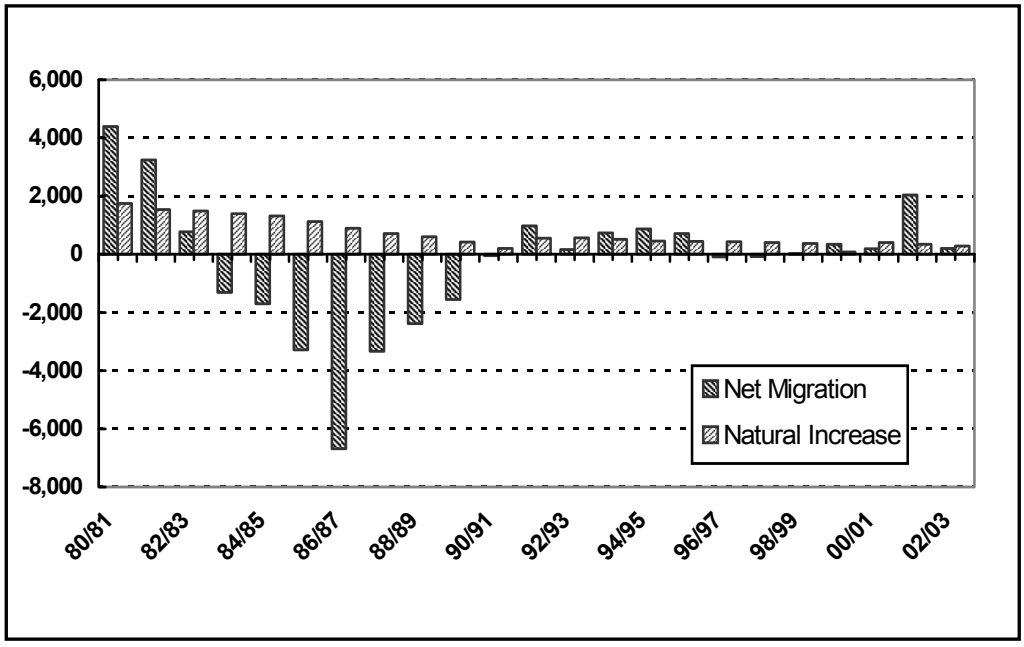
3.4.3 Components of Population Change

Migration is an important component of population change in the PRB. Migration data do not identify the motivation of the movers. However, age is known to be a key factor, with young adults and young households/families most likely to move. In addition, intrastate and interstate moves (but not local moves) are generally associated with job searches or transfers, contributing to the region's ability to balance its labor force with current levels of economic activity.

In the past 5 years, the county most affected by in-migration was Johnson County, where 31.8 percent of the population in 2000 lived elsewhere in the U.S. or abroad in 1995. This was 7 percentage points higher than the migration rate for the state as a whole. Sheridan County's migration rate of 25.1 percent also was higher than the state overall. Other counties in the area had lower 5-year migration rates than the state: Converse County's was 22.9 percent, Campbell County's was 22.4 percent, Crook County's was 21.9 percent, and Weston County's was 18.4 percent. In addition, Johnson, Crook, Campbell, and Sheridan counties all have more than twice the level of interstate migration as intrastate migration from within Wyoming. In Converse and Weston counties, the numbers of interstate and intrastate migrants were about comparable (U.S. Census Bureau, various years).

The census data also show that three regions contribute the overwhelming majority of net migration to the counties of the study area: the West, Midwest, and South. Internal Revenue Service data tracks year-to-year movement of individual households. For Campbell County, states that originate or receive large migration flows are South Dakota, Nevada, and North Dakota. Wyoming counties that typically send and receive large migration flows to Campbell County are Natrona, Sheridan, Converse, Weston, and Sweetwater. Geographic proximity and economic similarity may play a part in these linkages, while the relative population sizes of typical origins and destinations may be a secondary factor (U.S. Department of the Treasury, Internal Revenue Service 2003).

Census data measure migration over the 5-year interval preceding the decennial census, however, households may have moved more than once during that period. Annual data indicate the relative importance of migration for year-to-year population change. Census Bureau estimates of the components of population change indicate the relative importance of migration and natural increase. **Figure 3-19** presents these data for the PRB overall for the 1-year periods from July 1, 1980, through July 1, 2003.



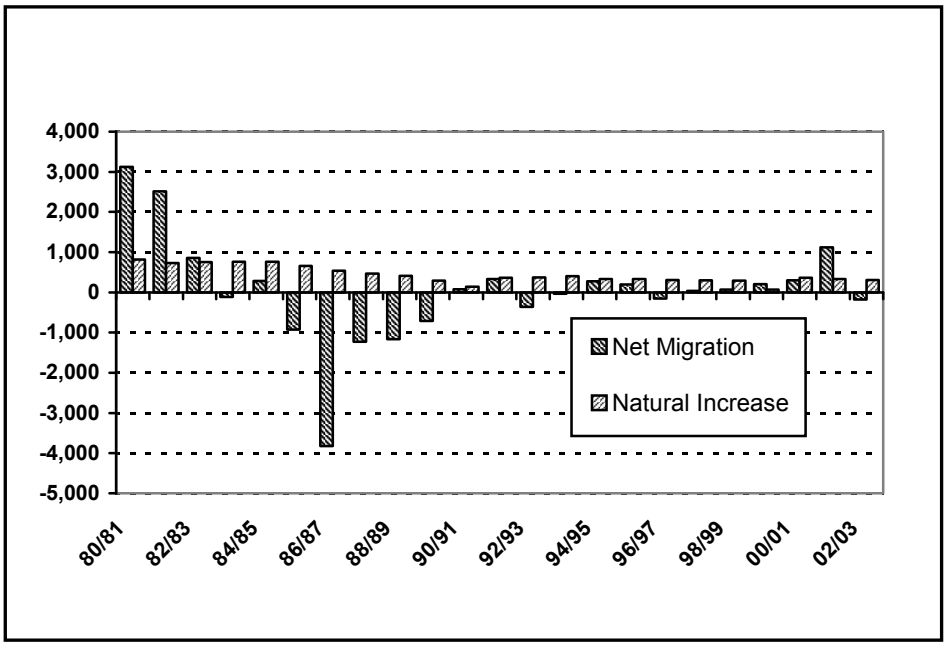
Note: The estimated components of population change are from July 1 of one year to July 1 of the following year with the labels for the horizontal axis indicating the beginning and ending year (e.g., 80/81 indicates the period from July 1, 1980, to July 1, 1981).

Source: U.S. Census Bureau, various years.

Figure 3-19 Components of Population Change in the PRB Study Area (1980 – 2003)

The data reflect the turning point in annual net migration to the study area that occurred in the early 1980s as the natural resources economy began to slow. Net in-migration decreased from 1981 through 1983 and turned to net out-migration beginning in 1984. The study area did not experience net in-migration again until 1993. Since then, net migration generally has been positive, but the net gains of population to the study area have been relatively small, compared to the levels of net in-migration experienced in the 1920s and early 1980s. Data for Campbell County follow the same

pattern, reflecting the county's relative importance in driving overall trends within the PRB (**Figure 3-20**).



Note: The estimated components of population change are from July 1 of one year to July 1 of the following year with the labels for the horizontal axis indicating the beginning and ending year (e.g., 80/81 indicates the period from July 1, 1980, to July 1, 1981).

Source: U.S. Census Bureau, various years.

Figure 3-20 Components of Population Change in Campbell County (1980 - 2003)

3.4.4 Demographics and Household Characteristics

Characteristics of the population and of households in Campbell County, as measured in the 2000 Census, indicate that a relatively young, family-oriented community has emerged from the energy-boom of the late 1970s and 1980s (see **Table 3-3**). The county's low median age and high percentage of family households reflect this perspective, despite the slightly higher percentage of men in the population—51.4 percent, compared to 50.3 percent for all of Wyoming, perhaps one continuing effect of the natural resource and energy labor force.

Table 3-3
Selected Demographic and Household Characteristics (2000)

County/State	Male (percent)	Female (percent)	Median Age (years)	Under 18 years (percent)	Average Household Size (persons)	Family Households (percent)
Campbell	51.4	48.6	32.2	31.0	2.73	73.8
Converse	49.8	50.2	37.5	28.5	2.55	72.6
Crook	50.6	49.4	40.2	27.9	2.51	71.3
Johnson	49.1	50.9	43.0	24.2	2.36	67.8
Sheridan	48.9	50.1	40.6	24.1	2.31	63.4
Weston	50.8	49.2	40.7	24.1	2.42	71.2
Wyoming	50.3	49.7	36.2	26.1	2.48	67.4

Source: U.S. Census Bureau 2001.

The population of Campbell County is also youthful compared both to Wyoming as a whole and to other counties in the PRB study area. The county median age is 32.2 years, compared to 36.2 for Wyoming overall and a range from 37.5 to 43.0 years in other study area counties. A relatively large percentage of persons under the age of 18, 31.0 percent compared to 26.1 percent statewide and 24.1 percent to 28.5 percent in other study area counties, also reflects Campbell County's younger population. The county's share of under-18-year-olds is 19 percent higher than the state and 29 percent higher than neighboring Sheridan County.

Families in Campbell County account for a larger share of all households and the typical household is larger than in surrounding counties or the state as a whole. Both characteristics are corollaries of the relatively large youth and adolescent population in Campbell County. Families in Campbell County account for 73.8 percent of all households, compared to a 67.4 percent share in Wyoming as a whole and 63.4 percent to 72.6 percent in other counties of the study area. Campbell County's household size of 2.73 persons per household is also 10 percent higher than the state's household size of 2.48 and those of other study area counties, which range from 2.31 to 2.55 persons per household. The local age and household characteristics reverberate in other local social and economic conditions especially public education.

Minority populations do reside in the PRB study area, though in relatively small numbers and generally represent smaller segments of the local population than they are across the state's entire population. As shown in the census data in **Table 3-4**, self-identified Hispanic or Latino persons are 3.5 percent of the total population of Campbell County, compared to between 0.9 and 5.5 percent in other study area counties, and 6.4 percent of Wyoming as a whole. Although not presented in the table, American Indians are the single largest group of non-white persons found within the categories of persons of "one race" or of "two or more races."

Table 3-4
Race and Hispanic or Latino Population (2002)

	Race			
County/State	**White Alone (percent)**	**One Race – All Other (percent)**	**Two or More Races (percent)**	**Hispanic or Latino – Any Race (percent)**
Campbell	96.1	2.6	1.3	3.5
Converse	94.7	3.8	1.5	5.5
Crook	97.9	1.4	0.7	0.9
Johnson	97.0	1.4	1.6	2.1
Sheridan	95.9	2.8	1.3	2.4
Weston	95.9	2.6	1.5	2.1
Wyoming	92.1	6.1	1.8	6.4

Source: U.S. Census Bureau 2001.

3.4.5 Urbanization of the Study Area

The PRB is a relatively urbanized area in the sense that the majority of the population resides in cities, towns or designated places, and a minority of the population resides in areas outside of recognized population concentrations. This characteristic began many years ago in the growth of the 1940s and peaked in the 1950s. The 1960 census reported that 60.5 percent of the study area population resided in cities, towns, and designated places.

Since then, the population distribution has fluctuated more or less around a 60 percent share of the study area population residing in the main cities, towns, and places. The 1980 census reported the urban share at 57.9 percent of the population, the 1990 census reported 60 percent, and the 2000 census reported a 58.9 percent urban share.

The general trend toward residency in urban areas in the PRB coincides with the decline in the importance of agriculture and the emergence of energy resource development as the region's principal economic driver. This has been reinforced by the policies of well-situated cities and towns. By annexing adjacent land, these municipalities, including and perhaps especially Gillette, first gained and then generally have maintained a majority share of population in the study area.

3.4.6 County Population Since the 2000 Census

The total population of the PRB has grown an estimated 4.2 percent since the 2000 census, with Campbell County accounting for most of the growth. Over the same period, the total population of Wyoming grew by an estimated 1.5 percent. **Table 3-5** presents county population estimates as of July 1, 2003, in comparison to the census counts as of April 1, 2000 (U.S. Census Bureau 2004a).

Growth in the study area has been especially strong in Campbell County, where the 2003 estimated population is up by 7.5 percent from the 2000 census. Johnson County population is also up 6.6 percent in 2003 from the 2000 census. Growth in Converse County and Sheridan County over the same period also has been above average at 2.3 percent and 2.1 percent, respectively.

Table 3-5
2003 Population Estimates and Change Since the 2000 Census

Location	Census	Estimate	Change from 2000 to 2003	
	April 1, 2000	July 1, 2003	Number	Percentage
Campbell County	33,698	36,240	2,542	7.5
Converse County	12,052	12,330	278	2.3
Crook County	5,887	5,928	41	0.7
Johnson County	7,075	7,543	468	6.6
Sheridan County	26,560	27,111	551	2.1
Weston County	6,644	6,659	15	0.2
Study Area	91,916	95,811	3,895	4.2
Wyoming	493,782	501,242	7,460	1.5

Source: U.S. Census Bureau 2004a.

3.5 Economic Base

3.5.1 Employment

Energy resource development since 1970 has resulted in substantial economic expansion across the PRB. Total employment has expanded by 156 percent as 38,948 net new jobs were added (**Table 3-6**). The most rapid expansion occurred between 1975 and 1980 through the addition of 16,420 new jobs. More modest growth and even some declines occurred through the 1980s and into the mid-1990s due to the curtailment of development plans and the shutdown of a number of coal enhancement, uranium, and other anticipated projects. Led by increases in coal mine employment, including subcontractors, and CBNG development, growth resumed in the late 1990s. Across the six-county area, total employment was 63,871 in 2002.

Table 3-6
Total Employment by County (1970 – 2022)

Year	County						Six-county Area[1]
	Campbell	Converse	Crook	Johnson	Sheridan	Weston	
1970	6,026	2,763	2,084	2,640	8,460	2,950	24,923
1975	8,661	4,392	2,383	3,101	9,806	3,466	31,809
1980	16,904	7,729	2,909	3,757	12,727	4,203	48,229
1985	21,563	6,799	3,145	3,626	12,760	4,222	52,115
1990	18,735	5,887	3,005	3,825	13,181	4,433	49,066
1995	20,207	6,568	3,482	4,299	15,351	4,531	54,538
2000	23,441	7,088	3,671	4,886	16,586	4,841	60,513
2002	25,453	7,086	3,756	5,133	17,512	4,931	63,871
Absolute Change							
1970 to 1985	15,537	4,036	1,061	986	4,300	1,272	27,192
1985 to 2002	3,890	287	611	1,507	4,752	709	11,756
Total 1970 to 2002	**19,427**	**4,323**	**1,672**	**2,493**	**9,052**	**1,981**	**38,948**
CAGR[2] 1970 to 2002 (percent)	4.6	3.0	1.9	2.1	2.3	1.6	3.0

[1]Includes Campbell, Converse, Crook, Johnson, Sheridan, and Weston counties.
[2]CAGR = Compounded Annual Growth Rate

Source: U.S. Bureau of Economic Analysis 2004.

Nearly half of the net job gain has occurred in Campbell County, where total employment increased from 6,026 jobs in 1970 to 25,453 jobs in 2002. Strong gains also were posted in Sheridan County (9,052 jobs) and Converse county (4,323 jobs). Unlike the other four counties, job gains in Johnson and Sheridan counties since 1985 were larger than those between 1970 and 1985.

Gains in mining, including conventional oil and gas, and construction were the forces driving employment growth in the late 1970s and early 1980s (**Figure 3-21**). The economic stimulus associated with those gains and the population gains that accompanied the growth triggered secondary job gains in trade, services, and government.

Employment in trade, services, and government continued to grow into the 1990s, despite sharp cutbacks in the mining (oil and gas) and construction industries. Those industries have experienced a resurgence since 1999, lead by CBNG development and expansion in the coal mining sector, and the indirect impacts on construction.

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Source: U.S. Bureau of Economic Analysis 2004.

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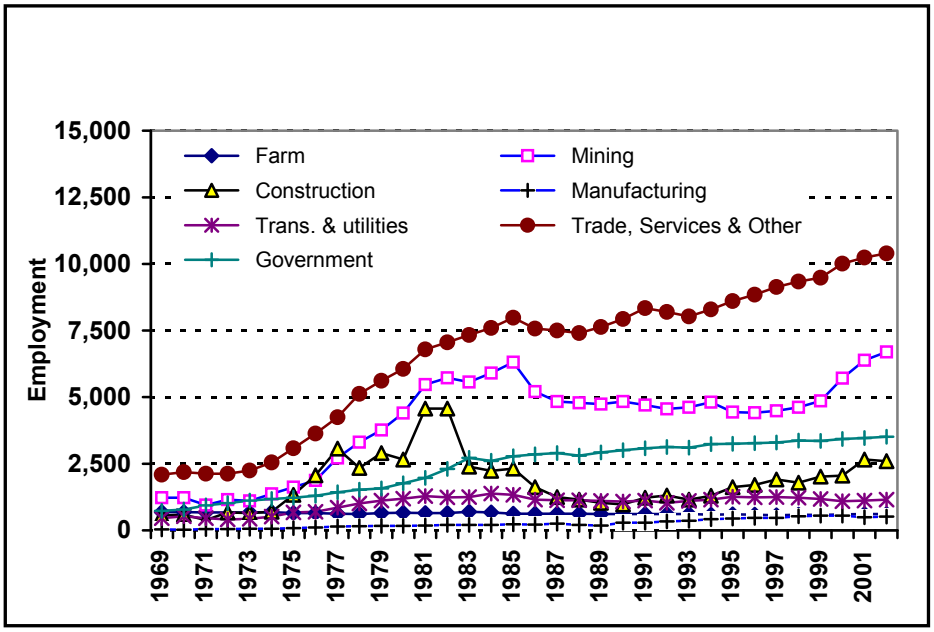


Source: U.S. Bureau of Economic Analysis 2004.

Figure 3-21 Employment by Major Industrial Sector in the PRB (1969 to 2002)

The gains in trade, services, and government reflect not only responses to the gains in basic industrial activity and consumer household expenditures, but also underlying structural changes in the broader domestic economy where trade and services have been among the strongest growth sectors. As a consequence, the region's economic composition is substantially different than was anticipated in 1979. Trade and services were collectively referred to as business and consumer services in the 1979 analysis. At that time, employment in such services was anticipated to account for 46.5 percent of the 1990 employment, followed by mining at 19.1 percent and government at 18.7 percent (**Table 3-7**). In actuality, by 1990, business and consumer services accounted for 50.8 percent of jobs, while mining and government accounted for 11.6 percent and 16.5 percent of all jobs, respectively. Additional information regarding employment by major industrial sector is presented in **Table S-3** in the Appendix of this report.

Business and consumer service employment growth has continued such that its relative share had increased to 55.5 percent in 2002, while the relative shares accounted for by mining and government had declined.

Another important difference between the projected and actual composition of employment is in transportation. The 1979 projections anticipated relatively modest employment in transportation and utilities. In actuality, total employment in these categories stood at 5,256 in 1990 and 5,416 in 2000.

Table 3-7
Employment by Industrial Sector in Eight-county Area[1]

Sector	1979 Prediction for 1990	Actual			
		1990	1995	2000	2002
Number of Employees					
Business/Consumer Services	31,319	45,147	51,101	56,311	61,937
Mining	12,882	10,281	9,317	10,740	11,949
Government	12,646	14,671	15,460	16,167	16,217
Construction	4,843	5,109	6,219	7,925	9,081
Manufacturing,	3,337	3,475	3,760	3,841	3,282
Agriculture	1,698	4,964	5,360	5,791	5,256
Transportation and Utilities	660	5,256	5,476	5,416	3,926
Total	**67,457**	**88,903**	**96,693**	**106,191**	**111,648**
Percent of Total					
Business/Consumer Services	46.5	50.8	52.8	53.0	55.5
Mining	19.1	11.6	9.6	10.1	10.7
Government	18.7	16.5	16.0	15.2	14.5
Construction	7.2	5.7	6.4	7.5	8.1
Manufacturing	4.9	3.9	3.9	3.6	2.9
Agricultural	2.5	5.6	5.5	5.5	4.7
Transportation and Utilities	1.0	5.9	5.7	5.1	3.5
Total	**100**	**100**	**100**	**100**	**100**

[1]Includes Campbell, Converse, Crook, Johnson, Niobrara, Natrona, Sheridan, and Weston counties, per SCTABLE6.WY of the 1996 Coal Development Status Check (BLM 1996).

Sources: BLM 1996; U.S. Bureau of Economic Analysis 2004; Wyoming Department of Employment 2004 (with estimates by Sammons/Dutton LLC).

Other economic parameters also can be used to describe economic conditions in the PRB (**Table 3-8**).

Table 3-8
Employment by Type and Type of Establishment (2002)

	County					
	Campbell	Converse	Crook	Johnson	Sheridan	Weston
Total Employment	25,453	7,086	3,756	5,133	17,512	4,931
Employment by Type						
Wage and Salary	22,978	5,104	2,297	3,251	12,821	2,612
Proprietors	2,475	1,982	1,459	1,882	4,691	2,319
Wage and Salary (percent)	90	72	61	63	73	53
Proprietors (percent)	10	28	39	37	27	47
Type of Establishment						
Farm	618	456	613	466	781	304
Non-farm Private	21,328	5,303	2,452	3,774	13,635	3,871
Government	3,507	1,327	691	893	3,096	756
Farm (percent)	2	6	16	9	4	6
Non-farm Private (percent)	84	75	65	74	78	79
Government (percent)	14	19	18	17	18	15

Source: U.S. Bureau of Economic Analysis 2004.

- The majority of all jobs in Campbell County are wage and salary positions, with proprietors accounting for 10 percent of the total reported jobs. In contrast, proprietors account for between 27 and 47 percent of all jobs in the other counties.

- Farms, ranches, and related agricultural industries, including landscaping and nurseries, still employ a sizeable number of individuals in all six counties, ranging from 304 jobs in Weston County to 781 jobs in Sheridan County.

- Broadly defined, farm employment accounts for about 2 percent of all jobs in Campbell County and 16 percent of all jobs in Crook County.

- Government accounts for between 14 and 18 percent of all jobs among the counties in the PRB.

3.5.2 Labor Force, Unemployment, and Commuting

Labor market conditions in the PRB generally reflect a healthy economy, with average annual unemployment rates ranging between 3.2 percent and 4.8 percent in 2003. Johnson County recorded the lowest unemployment rate at 3.2 percent and Converse County registered the higher rate at 4.8 percent (see **Table 3-9**). The statewide unemployment rate for the same period, buoyed by energy resource development in many different areas, was 4.4 percent. National unemployment for the year averaged 6.0 percent of the labor force.

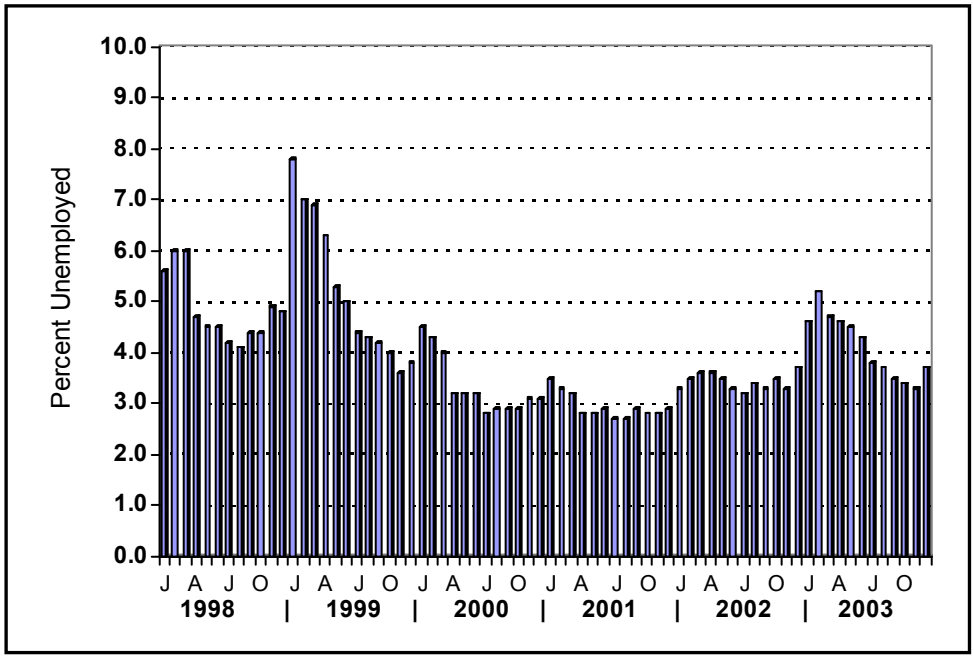
Table 3-9
Labor Market Conditions, 2003 Annual Averages

	County					
	Campbell	**Converse**	**Crook**	**Johnson**	**Sheridan**	**Weston**
Labor Force	22,820	6,582	2,901	4,121	14,820	3,194
Employed	21,888	6,265	3,032	3,988	14,189	3,069
Unemployed	932	317	131	133	631	125
Unemployment Rate (percent)	4.1	4.8	4.5	3.2	4.3	3.9

Source: Wyoming Department of Employment 2004.

Over time, both unemployment levels and unemployment rates have reflected the influences of a large, relatively stable employment base supported by the coal mining industry and the more transitory and variable influences of natural gas and other industries. Prior to the onset of CBNG development in 1999/2000, unemployment in Campbell County fluctuated between 4.8 and 5.3 percent (see **Figure 3-22**), slightly higher than the corresponding statewide averages.

The increased labor demand associated with CBNG development contributed to a decline in unemployment rates to below 3.0 in 2001. However, as the pace of development stabilized and more of the drilling and production shifted to more established energy firms, labor demand eased and the unemployment rates again climbed to a short-term peak of 5.2 percent in February 2003, before abating.



Source: Wyoming Department of Employment 2004.

Figure 3-22 Monthly Unemployment Rate in Campbell County (1998 – 2003)

Changing labor market conditions are not only reflected in the unemployment rates, but also the underlying supply of labor. Increasing labor opportunity can entice additional individuals into the labor force, allow employers to increase the hours worked for part-time employees, overtime hours for full-time workers or convert part-time to full-time jobs, and trigger immigration of additional workers. The responses may vary based on the specific skills and job requirements, and lead to differential effects on population, secondary job and income impacts, and demands on local services.

Demographic and work force data for Campbell County indicate that immigration and an increase in labor force participation have both occurred during the current economic expansion. As shown in **Table 3-10**, estimated resident population, labor force, and the number of jobs each increased by more than 4,000 between 1997 and 2003 (2002 in the case of job counts), with the number of jobs increasing more than either the labor force or population. These data suggest that while immigration occurred, with a very high percentage of working age individuals among the immigrants, additional workers were enticed to join the labor force. Such patterns have the effect of reducing the population impacts, particularly to relatively short-term economic stimuli. As labor demand slackens, the reverse patterns can be expected (i.e., higher unemployment, out-migration, and withdrawal from the labor force).

Table 3-10
Relationship of Labor Force to Total Population, Campbell County (1997 – 2003)

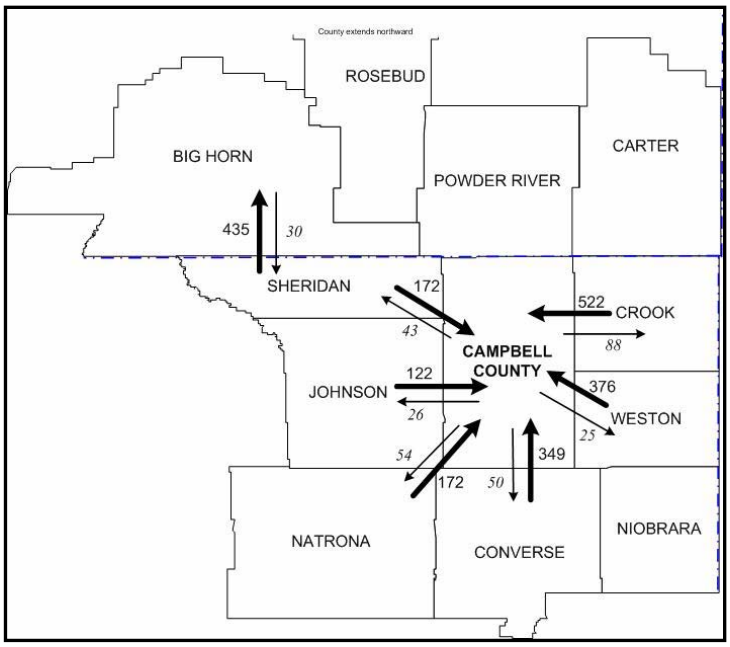
Variable	Absolute Values							
	1997	1998	1999	2000	2001	2002	2003	Change 1997-2003
Population	32,098	32,452	32,844	33,984	34,628	36,240	36,119	4,021
Employment	21,085	21,447	22,022	23,441	24,969	25,423	NA	4,368
Labor Force	18,535	19,072	19,638	20,704	22,355	22,806	22,820	4,285
Unemployment	979	922	1,020	693	654	780	932	(47)
Population Labor Force (percent)	57.7	58.8	59.8	60.9	64.6	62.9	63.2	106.6
	Year-to-Year Changes							
Variable	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	Change 1997-2003	
Population	354	392	1,140	644	1,612	(121)	4,021	
Employment	362	575	1,419	1,528	484	NA	4,368	
Labor Force	537	566	1,066	1,651	451	14	4,285	
Unemployment	-57	98	-327	-39	126	152	(47)	

Sources: U.S. Census Bureau 2004a; Wyoming Department of Employment 2004.

Labor force commuting is another means of maintaining equilibrium in the local labor market. The presence of coal mining in the PRB, the long-term, well-paying employment opportunities it supports, and extended shift work schedules permit some workers to choose to live at some distance from the mines and commute to work. Such decisions may be promoted by consideration of employment opportunities for a spouse, differences in the cost of living, social setting, availability of the desired type of housing, or other factors. Whatever the motivation, such commuting redistributes or shifts some secondary economic, population and social effects of mining from Campbell County to nearby communities. As shown in **Figure 3-23**, the 2000 census enumerated 1,713 workers who commute to work in Campbell County from other Wyoming counties. Another 786 workers who regularly work in Campbell County live elsewhere. In contrast, 597 Campbell County residents commute to work outside the county, 286 to surrounding counties and 321 elsewhere. Monetary flows related to wages and salaries are associated with such commuting, with implications for the local economies as well.

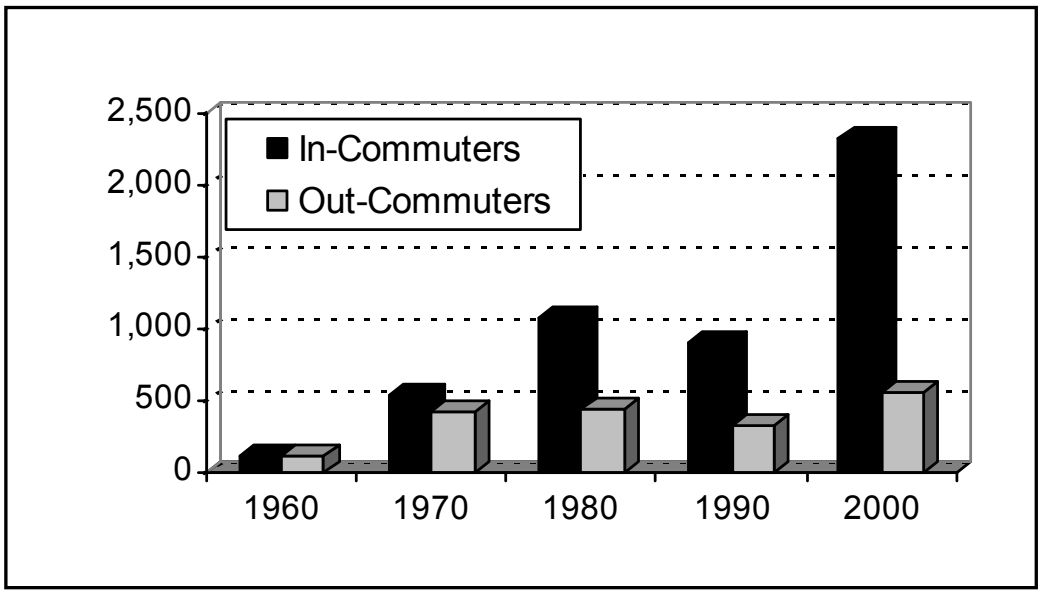
The largest inflow of workers is from Crook (522 workers), Weston (376 workers), and Converse (349 workers) counties. Sheridan County, in addition to supporting residents commuting to Campbell County, also supports a substantial outflow to Big Horn County, Montana, associated with coal mining in that region.

The level of work force commuting into Campbell County has grown substantially over time, from 529 in 1970 to 2,335 in 2000, while the level of out-commuting has fluctuated within the much narrower range of 381 to 583 since 1970 as shown in **Figure 3-24** and **Tables S-4** through **S-7** in the Appendix of this report.



Note: The arrows show the direction of flows from a worker's place of residence to the place of work. The numeric values indicate the number of workers corresponding to the arrows.
Source: U.S. Census Bureau 2001.

Figure 3-23 Work Force Commuting to/from Campbell County in 2000



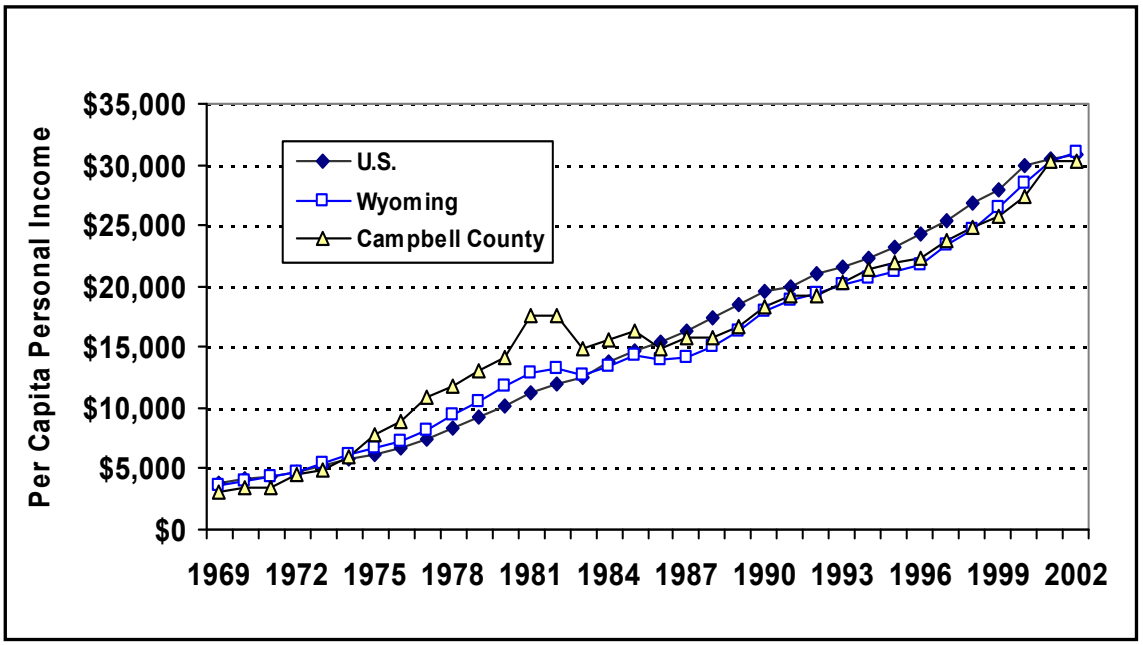
Source: U.S. Census Bureau, various years.

Figure 3-24 Work Force Commuting Flows to/from Campbell County (1960 – 2000)

3.5.3 Personal Income and Earnings

A benefit often associated with economic expansion or economic development of any sort is the increase in total and per capita personal income that results. Higher than average wages and salaries are a recognized characteristic of energy resource development, whether it is in mineral mining or oil and gas.

Per capita income trends in Campbell County display the rising income that has accompanied the onset and expansion of coal mining (**Figure 3-25**). Of particular note are the gains during the late 1970s and early 1980s, a time marked by strong construction activity, initial mine startup, and traditional oil and gas development in the region. Labor shortages, high wages, overtime pay, and relatively fewer family households all contributed to above-average income growth such that per capita incomes (in nominal terms), which had previously lagged both the statewide and national averages, now exceeded those norms. In 1981, per capita personal income in Campbell County was $17,520, 55 percent above the national average of $11,280, and 38 percent above the statewide average of $12,879.



Source: U.S. Bureau of Economic Analysis 2004.

Figure 3-25 Per Capita Income U.S., Wyoming, and Campbell County in Nominal Dollars

Following several years of decline and relative stagnation, per capita personal income (nominal) in Campbell County resumed a positive growth trend in 1987 until reaching $30,253 in 2002. Those gains notwithstanding, per capita income among the county's residents is slightly below the statewide and national norms. On a per capita basis, Campbell County also lags Sheridan ($32,563) and Weston ($31,388) counties in per capita income (**Table 3-11**).

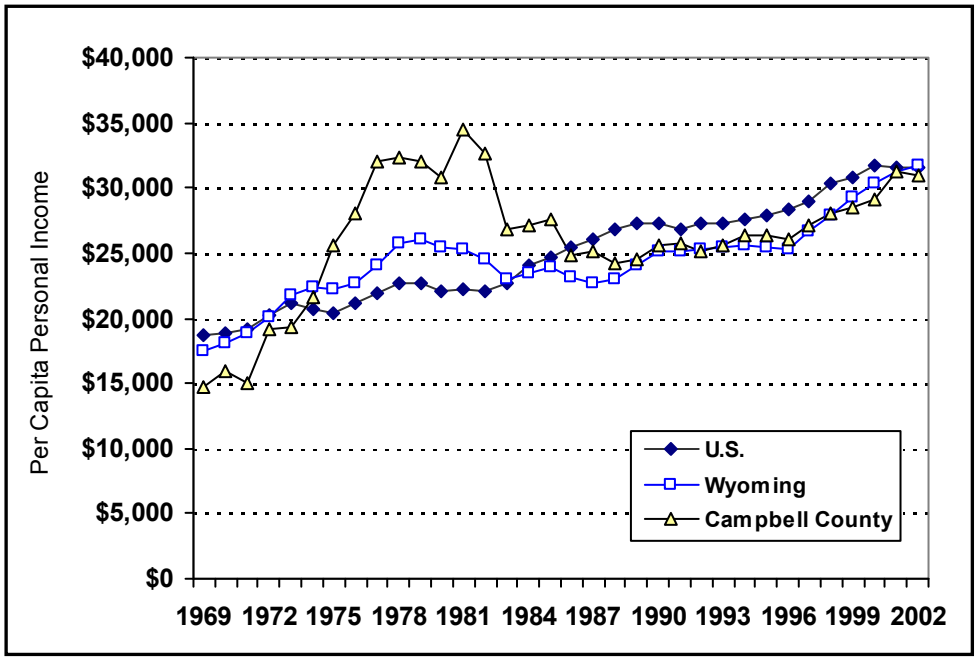
A slightly different perspective on the effects of the mining industry's expansion is provided if personal income trends are examined in 2003 constant dollars. Per capita incomes lagged both the statewide and national norms by as much as 22 percent prior to the expansion. Growth in per capita

income then averaged 10.4 percent in Campbell County, on a CAGR basis, between 1970 and 1977, such that real per capita income (2003 constant dollars) exceeded the national average by 46 percent. As the industry transitioned from construction and development to operations, reductions in labor demand triggered reductions in income. By 1986, local per capita income again had fallen below the national average but remained above the statewide average, after which it then entered a sustained period of limited growth (**Figure 3-26**). Real per capita income growth in Campbell County resumed in 1996, outpacing increases at the national level.

Table 3-11
Selected Characteristics of Personal Income (2002)

	County					
	Campbell	**Converse**	**Crook**	**Johnson**	**Sheridan**	**Weston**
Total Personal Income	$1,092,717	$347,794	$177,797	$205,352	$878,018	$208,103
Per Capita Personal Income	$30,253	$28,136	$30,284	$27,750	$32,563	$31,388
Earnings by Place of Work	$1,088,748	$219,556	$89,188	$111,325	$492,788	$130,390
Adjustment for Residence	$(113,666)	$41,087	$36,500	$7,330	$34,262	$23,757
Residency Adjustment/ Earnings, by Place of Work (percent)	-10.4	18.7	40.9	6.6	7.0	18.2
Mining/Total Earnings, by Place of Work (percent)	41.6	25.9	11.4	8.9	3.5	28.2

Source: U.S. Bureau of Economic Analysis 2004.



Source: U.S. Bureau of Economic Analysis 2004.

Figure 3-26 Per Capita Income U.S., Wyoming, and Campbell County in 2003 Constant Dollars

In terms of total personal income, Campbell County leads the six-county region with $1.093 billion in 2002. Sheridan county residents recorded aggregate personal income of $878 million in 2002. The other counties were substantially less affluent in terms of total personal income, ranging from $177.8 million in Crook County to $347.8 million in Converse County.

The earnings of individuals employed in Campbell County but who reside elsewhere play an important role in the regional economy. The total wages and salaries paid by employers in Campbell County exceed the combined total of employers in the other five counties. However, more than 10 percent of the total paid by employers in Campbell County is to residents of other counties. At the same time, the net inflow of earnings by residents employed outside their respective counties ranges from 6.6 percent ($7.3 million) in Johnson County to 40.9 percent ($36.5 million) in Crook County.

Earnings data also reveal the region's heavy economic dependence on the mining sector, including conventional oil and gas and CBNG oil and gas development. In 2002, wages and salaries paid in the mining sector accounted for 41.6 percent of total labor earnings in Campbell County. Converse and Weston counties also relied heavily on mining, as that sector accounted for 25.9 percent and 28.2 percent of the respective total earnings in 2002. In relative terms, net labor earnings accounted for between 52.0 percent (Johnson) and 77.5 percent (Campbell) of all income in the various county economies. Additional information on the composition of personal earnings is presented in **Table 3-12**.

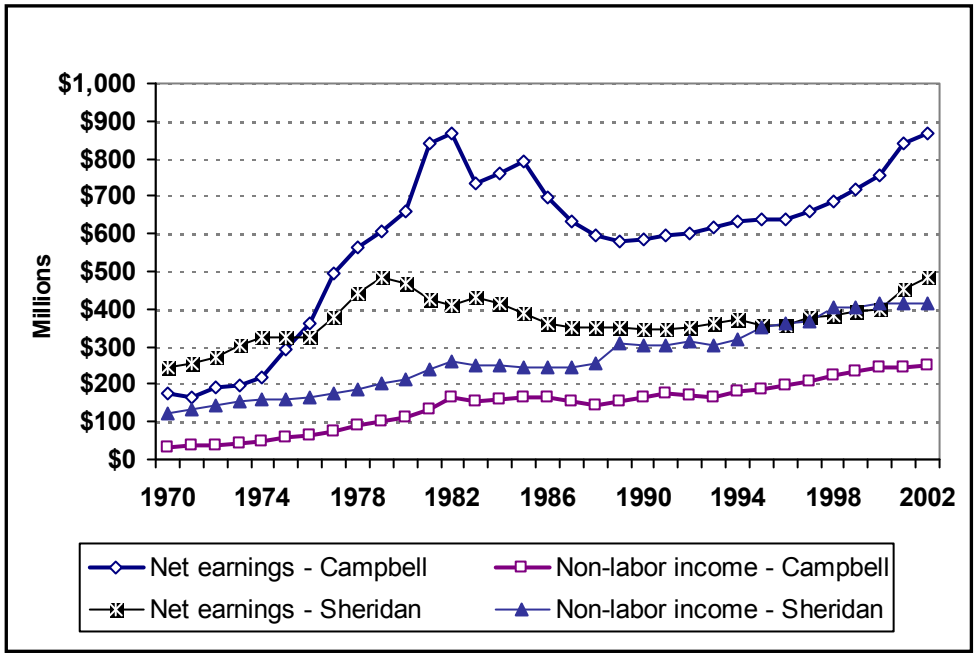
Non-labor earnings in the form of dividends, interest, and rents, and transfer payments such as unemployment, retirement, and social security, also play an important role in the local economy. In absolute terms, those sources of income contributed between $29.6 million in Niobrara County and $406.0 million in Sheridan County. The latter is the key factor underlying the high per capita income in Sheridan County and reflects a trend of retirement-related migration to Sheridan. Non-labor earnings, in 2003 constant dollars, exhibit less variability than net earnings. This is due in part to the fact that adjustments in social security and some other benefits are tied to inflation, and that some sources of such income are more generally a function of population and demographics, rather than employment. As shown in **Figure 3-27**, the contribution of net earnings to total income in Campbell County parallels local employment trends while non-labor income has trended steadily upward over time. Trends in Sheridan County exhibit a much different pattern, with little growth in net earnings (2003 constant dollars) through much of the 1990s while total non-labor earnings increased substantially.

Between 1998 and 2000, residents of Sheridan County derived more total income from non-labor sources than they did from net labor earnings. Since then, increases in local labor earnings in 2001 and 2002 have outpaced the gains in non-labor earnings in Sheridan County such that non-labor income accounted for about 46 percent of total personal income in 2002. Non-labor earnings also accounted for more than 45 percent of total income in Johnson and Niobrara counties in 2002.

Table 3-12
Summary of PRB Personal Income
(2002)

	County							
	Campbell	**Converse**	**Crook**	**Johnson**	**Natrona**	**Niobrara**	**Sheridan**	**Weston**
Total Personal Income	$1,092,717	$347,794	$177,797	$205,352	$2,294,463	$63,998	$878,018	$208,103
Per Capita Personal Income	$30,253	$28,136	$30,284	$27,750	$34,018	$28,205	$32,563	$31,388
Derivation of Income by Major Source								
Earnings by Place of Work	$1,088,748	$219,556	$89,188	$111,325	$1,670,730	$33,464	$492,788	$130,390
less: Contribution for government social insurance	$128,446	$26,273	$8,910	$11,826	$171,066	$3,695	$54,992	$12,846
plus: Adjustment for residence	$(113,666)	$41,087	$36,500	$7,330	$2,218	$4,585	$34,262	$23,757
equals: Net earnings by place of residence	$846,636	$234,370	$116,778	$106,829	$1,501,882	$34,354	$472,058	$141,301
plus: Dividends, interest, and rent	$157,105	$69,316	$39,492	$67,134	$500,280	$17,926	$288,033	$36,760
plus: Personal current transfer receipts	$88,976	$44,108	$21,527	$31,389	$292,301	$11,718	$117,927	$30,042
equals: Total Personal Income	$1,092,717	$347,794	$177,797	$205,352	$2,294,463	$63,998	$878,018	$208,103
Derivation of Earnings by Place of Work								
Wage and salary disbursements	$854,602	$148,872	$56,180	$71,613	$1,040,316	$21,065	$337,052	$69,369
Supplements to wages and salaries	$171,247	$33,805	$12,327	$15,449	$203,319	$4,922	$73,492	$16,517
Proprietors' income	$62,899	$36,879	$20,681	$24,263	$427,095	$7,477	$82,244	$44,504
Earnings By Type of Establishment								
Farm	$1,411	$2,012	$4,352	$(779)	$663	$3,154	$2,912	$3,942
Non-farm private	$956,932	$172,724	$61,985	$80,864	$1,443,852	$19,230	$356,258	$101,178
Government	$130,405	$44,820	$22,851	$31,240	$226,215	$11,080	$133,618	$25,270
Personal Income By Major Category (percent)								
Net earnings	77.5	67.4	65.7	52.0	65.5	53.7	53.8	67.9
Dividends, interest, and rent	14.4	19.9	22.2	32.7	21.8	28.0	32.8	17.7
Personal current transfer receipts	8.1	12.7	12.1	15.3	12.7	18.3	13.4	14.4
Residency Adjustment / Earnings by Placement of Work (percent)	-10.4	18.7	40.9	6.6	0.1	13.7	7.0	18.2
Mining/Total Earnings by Place of Work (percent)	41.6	25.9	11.4	8.9	18.4	na	3.5	28.2

Source: U.S. Bureau of Economic Analysis 2004.



Source: Based on U.S. Bureau of Economic Analysis 2004.

Figure 3-27 Trends in Net Earnings and Non-labor Income in Campbell and Sheridan Counties (2003 Constant Dollars)

3.5.4 Farming and Ranching

Farming and ranching serve an important role in the settlement and economic development of the Rocky Mountain west and are still viewed as one of the economic and social cornerstones of many local western economies. In recent years, however, agriculture has faced many challenges including changes in federal management of public lands, competition from foreign imports and limitations on exports, changes in consumer attitudes and consumption patterns, and drought. Farmers and ranchers also face challenges associated with energy resource development stemming from split estate issues or pressures or opportunities to sell land at prices above those supportable as an ongoing agricultural enterprise.

These and other factors have affected the local farming and ranching industry in a multitude of ways. Two direct characteristics of the local industry that are perhaps the most enlightening are the total number of "farms"[4] and the total amount of land involved in agricultural pursuits.

The 2002 Census of Agriculture enumerated 2,365 farms in the 6-county PRB area, 128 fewer than in 1997 but 88 more than in 1992. Of the 2002 total, 532 or 22.5 percent were in Campbell County (see **Table 3-13** and **Table S-8** in the Appendix of this report). Declines in the total number of farms were registered in the other five counties, with the total declines ranging between 7 (Sheridan) and 58 (Crook) operations. However, the total acreage of land involved in agriculture increased in five of the counties, including Campbell, and across the PRB as a whole. The 2002 Census of Agriculture

[4] The U.S. Census Bureau uses the term "farms" to refer to all agricultural operations, irrespective of whether their production is primarily in crops or from livestock.

estimated 12,426,140 acres involved in farming, with the average size of farming operations climbing from 4,937 acres to 5,254 acres. Increases in the average sizes were registered for all six counties, with increases ranging from 69 acres in Campbell and Crook counties to 1,168 acres in Weston County.

Table 3-13
Selected Farm Statistics (1997 – 2002)

	County						
	Campbell	**Converse**	**Crook**	**Johnson**	**Sheridan**	**Weston**	**Combined**
Number of Farms - 2002	532	339	440	272	561	221	2,365
Number of Farms - 1997	531	348	498	315	568	233	2,493
Change	1	(9)	(58)	(43)	(7)	(12)	(128)
Acres in Farms - 2002	2,985,945	2,517,920	1,523,198	2,155,277	1,638,163	1,605,637	12,426,140
Acres in Farms - 1997	2,943,628	2,515,290	1,689,572	2,131,595	1,608,206	1,420,632	12,308,923
Change	42,317	2,630	(166,374)	23,682	29,957	185,005	117,217
Average Size (Acres) – 2002	5,613	7,427	3,462	7,924	2,920	7,265	5,254
Average Size (Acres) - 1997	5,544	7,228	3,393	6,797	2,831	6,097	4,937
Change	69	199	69	1,127	89	1,168	317

Source: U.S. Department of Agriculture, National Agricultural Statistics Service 2004.

Other selected characteristics include the following, with additional information about the local agricultural industry presented in **Table S-8** in the Appendix of this report.

- The average value of land and buildings per farming operation ranges from $1.13 million in Campbell County to $2.14 million in Johnson County.

- Following several years of extended drought, the aggregate receipts from crop and livestock sales was $195.4 million in 2002. Farm operators in Campbell County garnered $33.1 million.

- Gross income from farm-related sources was $12.2 million, a rather modest gross profit margin of 6.4 percent of sales.

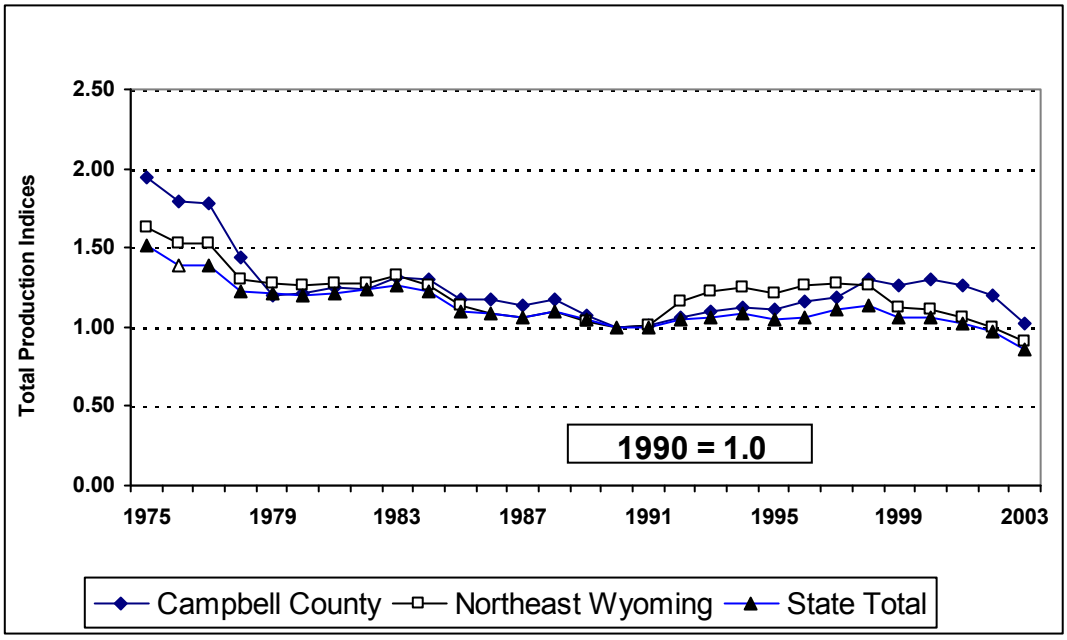
- As can be inferred from **Table 3-13**, most farms and ranches in the PRB are large. Nevertheless, there are numerous so-called hobby-farms, with 347 operations of less than 50 acres in size in the region. Smaller farms are most common in Sheridan (148 farms) and Campbell (86 farms) counties.

- There were 1,412 farms of 500 or more acres in the PRB, 329 of which were in Campbell County.

- Almost 35 percent of all farms in the PRB had sales of less than $5,000 in 2002, while 771 (33 percent) had sales of $50,000 or more. The largest number in the latter group was in Campbell County.

- Nearly two-thirds (63 percent) of all farm operators across the PRB list farming or ranching as their principal occupation, with 875 operators listing a different, non-farm occupation.

Although the total number of farms in the region has not changed appreciably in recent times, livestock and crop production in northeastern Wyoming has declined substantially over time. Using livestock inventory data from the National Agricultural Statistics Service as a proxy for production illustrates the declines in Campbell County, the 5-county Northeast Wyoming region, and across the entire state (see **Figure 3-28**). The annual livestock production index value reflects the ratio of the total head of cattle and sheep being raised in the county, region, or state to the corresponding numbers in 1990. For instance, the statewide index value of 1.51 for 1975 is the ratio of the combined 2,916,000 head of cattle and sheep in 1975 to the 1,925,000 head in 1990.



Note: The livestock production indices are the ratio of the total head of cattle and sheep compared to the corresponding 1990 totals.

Source: U.S. Department of Agriculture, various years.

Figure 3-28 Livestock Production Indices

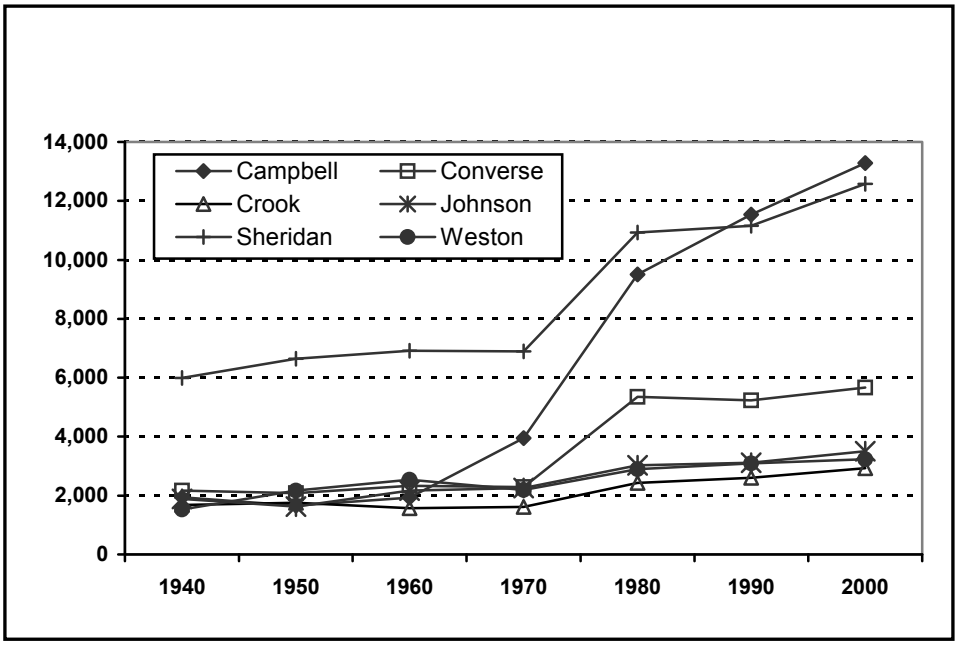
As shown, livestock production indices were substantially higher in 1975 than in 1990 or 2003 for all three instances. The largest relative declines have occurred in Campbell County, principally in the latter half of the 1970s, following a reduction of 56,000 head (a 49 percent reduction) in the total number of sheep and lambs in the county. Substantial reductions, though of a relatively lower magnitude, also occurred throughout the region. Since that time, however, overall livestock production has fluctuated in a narrower range, characterized by further declines through the 1980s, gains through much of the 1990s, and recent declines as drought and other factors. Through the 1990s, the relative gains in livestock production in Campbell County actually outpaced those in the remainder of the region and across the state. Furthermore, Campbell County's share of total regional and statewide livestock production has improved slightly over time following the initial decline in the 1970s.

3.6 Housing

This section presents current housing data, as well as trends from the decennial censuses of 1940 through 2000. The data are presented for counties and for the main cities and towns. Totals for the State of Wyoming are included for comparison.

3.6.1 Housing Stock

While the population grew by 55 percent in the 1970s, the housing stock in the study area grew by almost 78 percent. Housing growth was especially rapid during the 1970s in Campbell County, where population grew by 88 percent and the housing stock grew by 140 percent. This left housing vacancies in the PRB for some time. **Figure 3-29** graphically illustrates the long-term trend in the housing stock for the six counties of the study area. The data, along with information for the principal places in each county, are presented in **Table 3-14**.



Source: U.S. Census Bureau, various years.

Figure 3-29 County Housing Stock Trend (1940 – 2000)

3.6.2 Housing Vacancy

A more recent trend of tightening housing vacancy in the PRB is depicted in **Figure 3-30**, comparing vacancy rates in 1990 to 2000 for owner and renter units in the study area counties. As shown, the number of housing units in the study area has become more closely aligned with population since the booms of the 1960s and 1970s. After resumed growth in the 1990s, most county-level vacancy rates for owner (i.e., for sale) units in 2000 were at or below the state levels. Vacancy rates for rental units declined even more sharply in most study area counties during the

1990s. By 2000, the rental vacancy rates in Campbell County were below the state average and were well below the state average in Johnson County and Sheridan County.

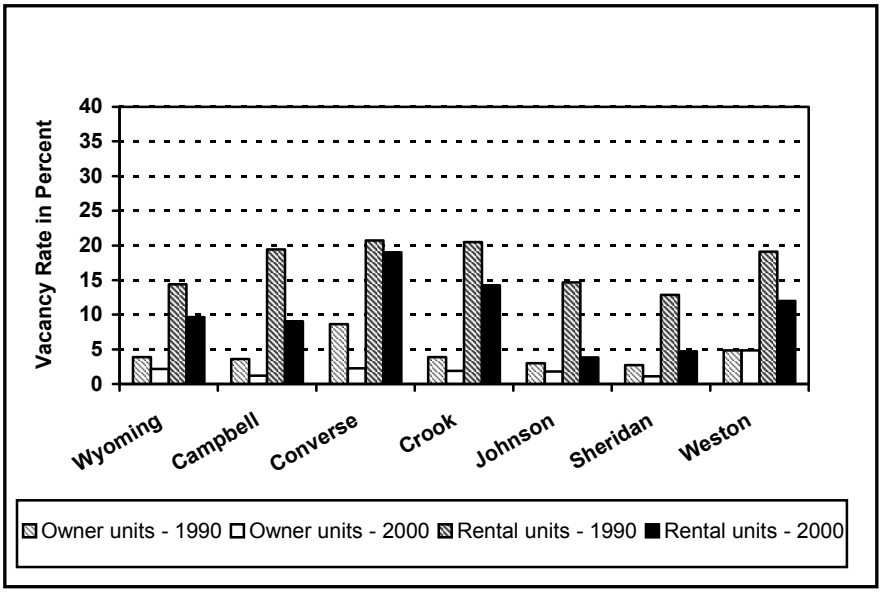
Table 3-14
Housing Units (1940 - 2000)

County/Location	1940	1950	1960	1970	1980	1990	2000
Campbell							
Gillette (city)	-	804	1,182	2,228	4,857	7,078	7,931
Wright (town)	-	-	-	-	514	527	544
Rest of county	1,944	852	749	1,723	4,134	3,933	4,813
Total	**1,944**	**1,656**	**1,931**	**3,951**	**9,505**	**11,538**	**13,288**
Converse							
Douglas (city)	-	881	1,060	1,066	2,338	2,267	2,385
Glenrock (town)	-	372	-	514	1,044	1,052	1,131
Rest of county	2,170	827	1,277	711	1,968	1,915	2,153
Total	**2,170**	**2,080**	**2,337**	**2,291**	**5,350**	**5,234**	**5,669**
Crook							
Moorcroft (town)	-	-	-	-	442	369	375
Sundance (town)	-	-	-	359	479	511	545
Rest of county	1,682	1,755	1,578	1,258	1,513	1,725	2,015
Total	**1,682**	**1,755**	**1,578**	**1,617**	**2,434**	**2,605**	**2,935**
Johnson							
Buffalo (city)	-	949	1,094	1,295	1,673	1,627	1,842
Rest of county	1,890	677	1,073	960	1,356	1,485	1,661
Total	**1,890**	**1,626**	**2,167**	**2,255**	**3,029**	**3,112**	**3,503**
Sheridan							
Sheridan (city)	3,373	4,065	4,359	4,438	6,604	6,475	7,413
Rest of county	2,620	2,580	2,559	2,455	4,324	4,679	5,164
Total	**5,993**	**6,645**	**6,918**	**6,893**	**10,928**	**11,154**	**12,577**
Weston							
Newcastle (city)	-	1,075	1,373	1,228	1,443	1,439	1,458
Upton (town)	-	-	-	-	525	450	441
Rest of county	1,531	1,092	1,162	964	932	1,201	1,332
Total	**1,531**	**2,167**	**2,535**	**2,192**	**2,900**	**3,090**	**3,231**
Six-county Study Area							
Selected places	3,373	8,146	9,068	11,128	19,919	21,795	24,065
Rest of area	11,837	7,783	8,398	8,071	14,227	14,938	17,138
Total	**15,210**	**15,929**	**17,466**	**19,199**	**34,146**	**36,733**	**41,203**
State of Wyoming	76,868	92,086	113,096	116,323	188,217	203,411	223,854

Source: U.S. Census Bureau 2004b.

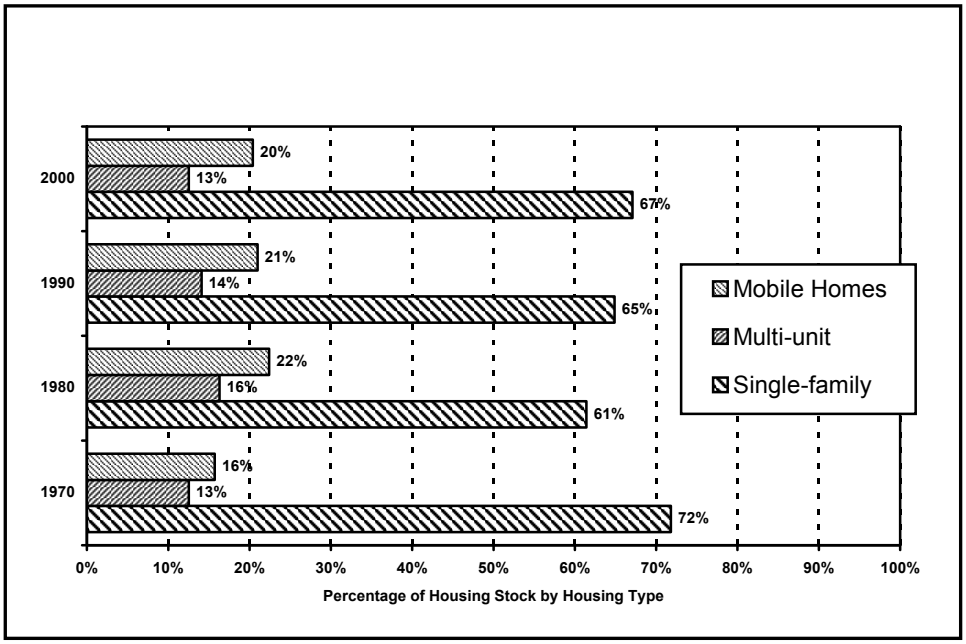
3.6.3 Housing Mix

A consequence of the 1970s boom growth is that the mix of structures in the housing stock of the PRB is now one of relatively fewer one-unit structures (single-family homes) than in 1970 and relatively more mobile homes. **Figure 3-31** and **Table 3-15**, which show the composition of the housing stock, depict the shift in units by housing structure type since 1970. Data from 1980 reflect the relatively large number of apartment units and mobile homes added to the housing stock during the 1970s boom. Since 1980, the share of the housing stock in single-family units gradually has recovered.



Source: U.S. Census Bureau, various years.

Figure 3-30 Housing Vacancy Rates by County (1990 and 2000)



Source: U.S. Census Bureau, various years.

Figure 3-31 Composition of the Housing Stock in PRB Study Area (1970 – 2000)

Table 3-15
Housing Units by Structure Type (1970 – 2000)

	Units by Structure Type				Share by Structure Type (percent)			
County	**1970**	**1980**	**1990**	**2000**	**1970**	**1980**	**1990**	**2000**
Campbell								
Single-Family	1,782	4,333	6,350	7,492	45.3	46.1	55.0	56.4
Multi-Unit	491	1,490	2,183	2,276	12.5	15.9	18.9	17.1
Mobile Home	1,664	3,572	3,005	3,520	42.3	38.0	26.0	26.5
Total	**3,937**	**9,359**	**11,538**	**13,288**				
Converse								
Single-Family	1,741	3,197	3,466	4,113	77.5	60.7	66.2	72.6
Multi-Unit	254	757	695	481	11.3	14.4	13.3	8.5
Mobile Home	252	1,314	1,073	1,075	11.2	24.9	20.5	19.0
Total	**2,247**	**5,268**	**5,234**	**5,669**				
Crook								
Single-Family	1,143	1,455	1,634	1,895	72.5	62.9	62.7	64.6
Multi-Unit	112	400	103	161	7.1	17.3	4.0	5.5
Mobile Home	321	457	868	879	20.4	19.8	33.3	29.9
Total	**1,576**	**2,312**	**2,605**	**2,935**				
Johnson								
Single-Family	1,684	1,845	2,195	2,717	78.0	66.6	70.5	77.6
Multi-Unit	277	469	370	297	12.8	16.9	11.9	8.5
Mobile Home	197	457	547	489	9.1	16.5	17.6	14.0
Total	**2,158**	**2,771**	**3,112**	**3,503**				
Sheridan								
Single-Family	5,528	7,241	8,198	9,258	81.3	70.6	73.5	73.6
Multi-Unit	1,023	1,877	1,606	1,738	15.0	18.3	14.4	13.8
Mobile Home	248	1,138	1,350	1,581	3.6	11.1	12.1	12.6
Total	**6,799**	**10,256**	**11,154**	**12,577**				
Weston								
Single-Family	1,698	2,114	1,991	2,186	77.6	73.3	64.4	67.7
Multi-Unit	200	352	233	203	9.1	12.2	7.5	6.3
Mobile Home	290	418	866	842	13.3	14.5	28.0	26.1
Total	**2,188**	**2,884**	**3,090**	**3,231**				
Study Area								
Single-Family	13,576	20,185	23,834	27,661	71.8	61.4	64.9	67.1
Multi-Unit	2,357	5,345	5,190	5,156	12.5	16.3	14.1	12.5
Mobile Home	2,972	7,356	7,709	8,386	15.7	22.4	21.0	20.4
Total	**18,905**	**23,886**	**36,733**	**41,203**				

Notes: 1970 and 1980 include year-round housing units only, calculated as total housing units minus units held vacant for seasonal or migratory use. 1990 and 2000 include all housing units. In 1990 and 2000, the one-unit structure category includes both 1-unit attached and 1-unit detached structures, and the mobile home category includes a small number of other types of units (boat, recreation vehicle [RV], van, etc.). Shares subject to rounding.

Source: U.S. Census Bureau, various years.

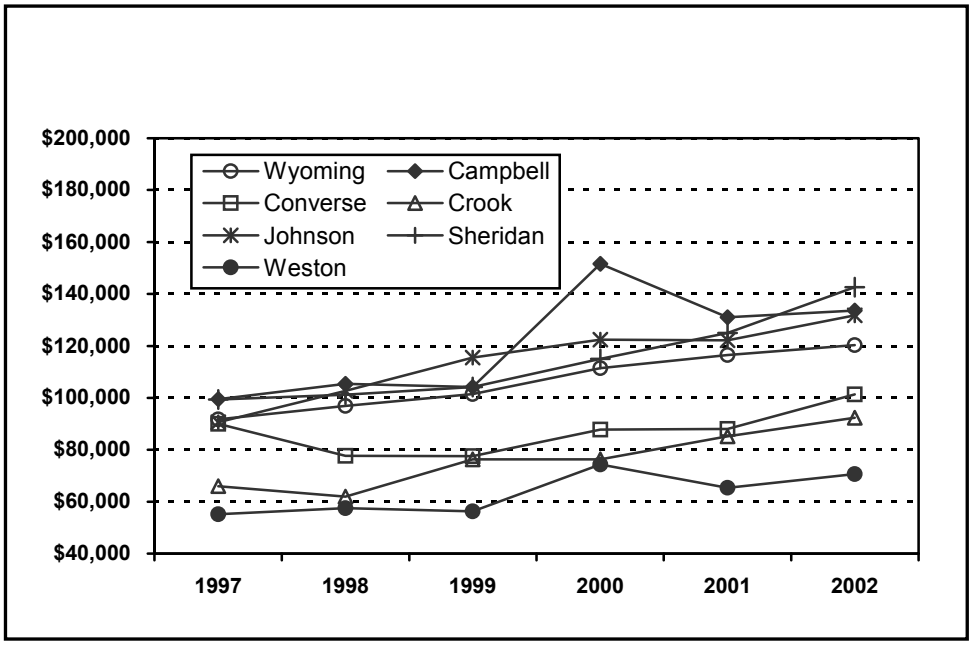
3.6.4 Housing Values

Housing values in 2002 in the PRB reflect a compounded average rate of appreciation of 6.1 percent per year since 1997, compared to 5.6 percent for Wyoming as a whole. Housing price appreciation from 1997 to 2002 was highest in Johnson County (7.8 percent per year), Sheridan County (7.5 percent per year), and Crook County (7.0 percent per year). In Campbell County, housing prices appreciated an average of 6.1 percent per year from 1997 to 2002. This is the same annual rate as the state for the entire period, although the change in housing prices in Campbell County fluctuated more on a year-to-year basis. After adjusting for inflation, housing price appreciation rates between 1997 and 2002, on a CAGR basis, were 3.3 percent statewide and 3.8 percent in Campbell County. Average appreciation in real terms, based on 2003 constant

dollars, for the other counties were 0.2 percent in Converse County, 2.8 percent in Weston County, 4.6 percent in Crook County, 5.2 percent in Sheridan County, and 5.4 percent in Johnson County. The appreciation in housing prices in Johnson County likely reflect the combined effects of a relatively smaller housing stock and demand associated with increasing local employment, including that tied to CBNG development in the PRB.

In 2002, the average sales price of a house in the study area varied from $70,674 in Weston County to $142,565 in Sheridan County. The average home price statewide in 2002 was $120,314.

Counties with an average housing sales price above the state average in 2002 were Sheridan, Campbell, ($133,482) and Johnson ($131,782). **Figure 3-32** depicts the change in the average sales price, in nominal dollars, of a house in the study area counties since 1997 compared to the average statewide.



Source: Wyoming Housing Database Partnership 2004.

Figure 3-32 Average Sales Price of Houses in Nominal Dollars as Reported by County Assessors (1997 – 2002)

3.6.5 Rental Housing Cost

Monthly costs for rental housing in the PRB, measured in the fourth quarter of 2003, generally were highest in Campbell County. **Table 3-16** presents the 2003 rental cost and the average annual appreciation rate from 1998 to 2003 for the counties in the study area.

Monthly rental costs in Campbell County averaged $707 per month for a house at the end of 2003, $590 per month for a mobile home on a lot, $563 per month for an apartment, and $228 per month for a mobile home lot.

Table 3-16
Monthly Housing Costs in Nominal Dollars, PRB Study Area (1998-2003)

County	Apartments		Mobile Home Lots		Houses		Mobile Homes on a Lot	
	Rental Cost 2003	Average Annual Change 1998-03 (percent)	Rental Cost 2003	Average Annual Change 1998-03 (percent)	Rental Cost 2003	Average Annual Change 1998-03 (percent)	Rental Cost 2003	Average Annual Change 1998-03 (percent)
Campbell	$563	9.8	$228	5.3	$707	6.1	$590	7.0
Converse	$385	3.1	$150	5.5	$488	3.4	$374	0.3
Crook	$345	2.1	$120	4.8	-	-	-	-
Johnson	$443	3.9	$208	11.1	$606	6.8	$414	2.8
Sheridan	$465	4.9	$273	11.3	$667	7.3	$502	3.1
Weston	$333	-0.8	$99	0.8	$380	4.0	$365	6.1
Wyoming	$466	4.3	$195	4.4	$658	5.4	$484	4.8

Notes: 2003 data are for the fourth quarter. Data were not collected for Crook and Johnson counties prior to 1999. General price inflation was about 2.4 percent per year from 1998 to 2003 as measured by the National Consumer Price Index.

Source: WDAI 2004a.

Weston County had the lowest rental housing costs in the study area during the same period. In Weston County, rental costs were $380 per month for a house, $365 per month for a mobile home on a lot, $333 per month for an apartment, and $99 per month for a mobile home lot. Comparable statewide averages were $658 for a house, $484 for a mobile home on a lot, $466 for an apartment, and $195 for a mobile home lot.

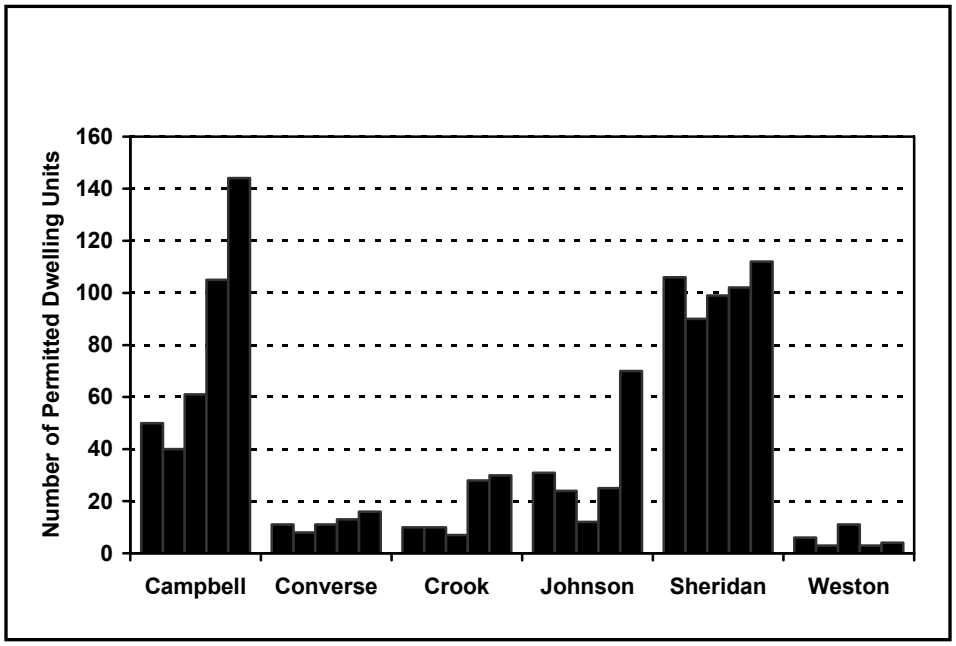
Escalation in rental housing costs since 1998 has varied widely by housing type and by county in the PRB. A high rate of cost escalation has characterized the market for mobile home spaces in Sheridan and Johnson counties, where space rents increased more than an average of 11 percent per year. The demand for apartments in Campbell County also has risen rapidly in the same period, driving up costs at a compound average rate of 9.8 percent per year. In at least one market (apartments in Weston County) rental costs were lower in 2003 than in 1998.

For the same timeframe, apartment costs rose at the rate of 4.3 percent compounded in Wyoming as a whole, and general price inflation was 2.4 percent per year compounded, as measured by the National Consumer Price Index.

3.6.6 Building Permits

With the exception of Weston County, counties in the PRB generally have experienced a rising level of residential construction activity since 1998. A total of 376 units were issued permits in 2002, the highest total recorded in the study area since 1983. The trend in the number of permits issued annually since 1998 is depicted by county in **Figure 3-33**. Although not all local governments in the study area issue permits, these data are a general indicator of residential construction activity.

A cumulative total of 1,242 new housing units were issued permits from 1998 through 2002 in the PRB, including permits for 400 housing units in Campbell County and 509 units in Sheridan County. In 2002, Campbell County issued permits for 144 units, Sheridan County issued permits for 112 units, and Johnson County issued permits for 70 units.



Source: WDAI 2004b.

Figure 3-33 Building Permits for Residential Units (1998 - 2002)

A large majority (88 percent) of the housing units issued permits in the PRB from 1998 to 2002 were single-family dwellings. However, a rise in the number of permits for denser types of housing also suggests a renewed interest in multi-family structures after a number of years.

Construction of duplexes, triplexes, and larger multi-family structures comprised 5 percent (11 units) of all permitted units in the study area in 1998, 4 percent (7 units) in 1999, 12 percent (24 units in 2000), 16 percent (45 units) in 2001, and 15 percent (56 units) in 2002. The counts of multi-family units do not include activity in Campbell County, which has reported multi-family residential structures as commercial building permits in recent years.

3.6.7 Temporary Housing

Temporary housing resources are available in the PRB in the form of hotel-motel rooms, private and public campgrounds, two large special event facilities, and vacant spaces in mobile home parks. In all, there are an estimated 71 lodging establishments with a total of more than 2,500 rooms. Many of these resources, plus pockets of persistently vacant apartments, townhouses, and mobile home spaces in Gillette and Wright, have served in the past to accommodate the temporary labor force associated with natural resource and energy projects.

Lodging

The majority of the hotel and motel rooms in the study area, 1,369 rooms in 18 establishments, are located in Campbell County, and almost all of these are in Gillette. Sheridan County also has a large lodging bed base (22 establishments with more than 925 rooms), with most of these in the City of Sheridan. Because of Sheridan's travel and tourism orientation, hotel and motel vacancies

typically are seasonal in this community. The hotel, motel, and campground portion of the temporary bed base is summarized in **Table 3-17**.

Table 3-17
Temporary Housing Resources

County	Lodging		RV Parks and Campgrounds	
	Establishments	Units	Establishments	Units
Campbell	18	1,369	3	209
Converse	11	NA	9	184
Crook	12	> 210	11	> 260
Johnson	6	> 36	15	466
Sheridan	22	> 927	2	60
Weston	2	NA	7	127
Total	**71**	**> 2,542**	**47**	**> 1,306**

Notes: Many RV spaces are in facilities that operate on a seasonal basis. Campbell County data do not include the CAM-PLEX Campgrounds in Gillette. Converse County data do not include the Wyoming State Fairgrounds Campgrounds. These generally are used by arrangement for special events.

Sources: Wyoming Campgrounds & RV Parks (map produced by CAM-PLEX Multi-Event Facilities, Wyoming RV Parks & Campgrounds Association, and Wyoming Travel & Tourism) and various community websites.

RV Parks and Campgrounds

Numerous RV parks and campgrounds are located in Campbell and Sheridan counties; however, these facilities are more characteristic of the less populated counties in the PRB. Of the more than 1,300 RV spaces identified in the study area, more than half are located in counties where the predominant use is related to travel and tourism associated with nearby attractions including the Big Horn Mountains, Devil's Tower, and the Black Hills. Included in this category are more than 850 RV spaces in Crook, Johnson, and Weston counties. Many of these spaces are in facilities that operate seasonally.

Special Event Sites

Two large special event sites with extensive camping facilities are located in the PRB. These are the CAM-PLEX Multi-Event Facility campgrounds in Gillette, and the Wyoming State Fairgrounds in Douglas.

The massive CAM-PLEX campgrounds contain 1,821 RV sites and ancillary facilities, including 953 full service sites and 90 water and electricity sites. The CAM-PLEX site is available seasonally by arrangement for rallies, rendezvous, and other events, but generally not available for public camping.

The state fairgrounds in Douglas have 312 recreational vehicle or mobile home spaces with water, sewer, and electrical service and an additional 144 spaces with only water and electrical service. Typically, these facilities are used during the fair or are rented by special arrangement to groups of 20 or more. However, the fairgrounds facilities were used to house the work force of a gas transmission system project in Converse County from 1998 to 2001.

Other Resources

A study of community issues concerning energy development prepared for the Wyoming Energy Commission found that communities in the PRB see temporary work force housing as the responsibility of the private sector (Pedersen Planning Consultants 2001a,b,c,d). Besides lodging and RV facilities, other private resources have been accessed in the past. These include resources located in Wright in the form of vacant apartments, townhouses, and spaces in mobile home courts, leased rental units in Douglas, and a limited number of available rental units in Glenrock.

Campbell County also hosts several mobile home parks with spaces that can open or expand on short notice and with only modest additional investment. These resources represent an expansion factor in the temporary housing resource base that is a legacy of the major labor force boom of the 1970s.

Housing Conditions in the City of Gillette

The City of Gillette began inventorying and monitoring land use in the mid-1970s and has continued to closely track land use and housing development and their determinants through the present.

In 1995, the city's data on housing trends indicated that Gillette's housing market had adjusted from the over-building of earlier years and that the economy had normalized, becoming less influenced by boom forces (City of Gillette 1995). By 2001, the housing market had resumed a gradual growth trend, with the overall vacancy in the housing stock at about 1 percent in both the city and in the surrounding Urban Service Area (City of Gillette 2001).

The growth trend noted by the City of Gillette in 2001 has continued and strengthened through 2003, driven by increased economic activity in the mining sector. The city began observing that tightness in the housing market, indicated by an overall vacancy rate of 1.9 percent in 2003, plus increasing demand for affordable housing, were stimulating the growth of denser housing types (City of Gillette 2004).

In 2003, the number of housing units in the city grew by 2.7 percent in the single-family attached sector, by 4.3 percent in the manufactured housing sector, and by 7.9 percent in the multi-family sector. This contrasted with a growth of 1.2 percent in the number of units in conventional, single-family detached housing (City of Gillette 2004).

3.7 Public Education

Public education in northeastern Wyoming serves students associated directly and indirectly with mineral and energy development. At the same time, the schools derive revenues from taxes on the mineral and energy industries.

There are 10 school districts in the PRB ranging in size from Campbell County School District #1 (Campbell #1) with 7,368 students in the 2003 school year to Sheridan County School District #3 (Sheridan #3) (based in Clearmont) with fewer than 100 students. Campbell #1, based in Gillette, serves the primary energy and resource development region. **Table 3-18** is an overview of the school districts in terms of the number of schools in operation, recent enrollment, district expenditures, and the local tax base, expressed in terms of the assessed valuation of real and personal property and mineral production within the district.

Table 3-18
Overview of Public Education Facilities in the PRB

School District	District Office Locations	Number of Schools in Operation	Students Enrolled		General Fund Expenditures (millions)	Assessed Valuation (millions)
			2002-03	2003-04	2002-03	2002
Campbell #1	Gillette	20	7,441	7,368	$57.55	$2,563.9
Converse #1	Douglas	8	1,663	1,688	$13.00	$221.7
Converse #2	Glenrock	5	792	787	$6.38	$138.2
Crook #1	Sundance	10	1,142	1,122	$11.65	$86.7
Johnson #1	Buffalo	8	1,257	1,257	$11.48	$102.2
Sheridan #1	Ranchester	7	857	867	$8.32	$38.5
Sheridan #2	Sheridan	12	3,250	3,172	$25.25	$161.9
Sheridan #3	Clearmont	4	113	95	$1.94	$25.1
Weston #1	Newcastle	5	875	849	$8.00	$61.5
Weston #7	Upton	3	265	261	$3.31	$16.6

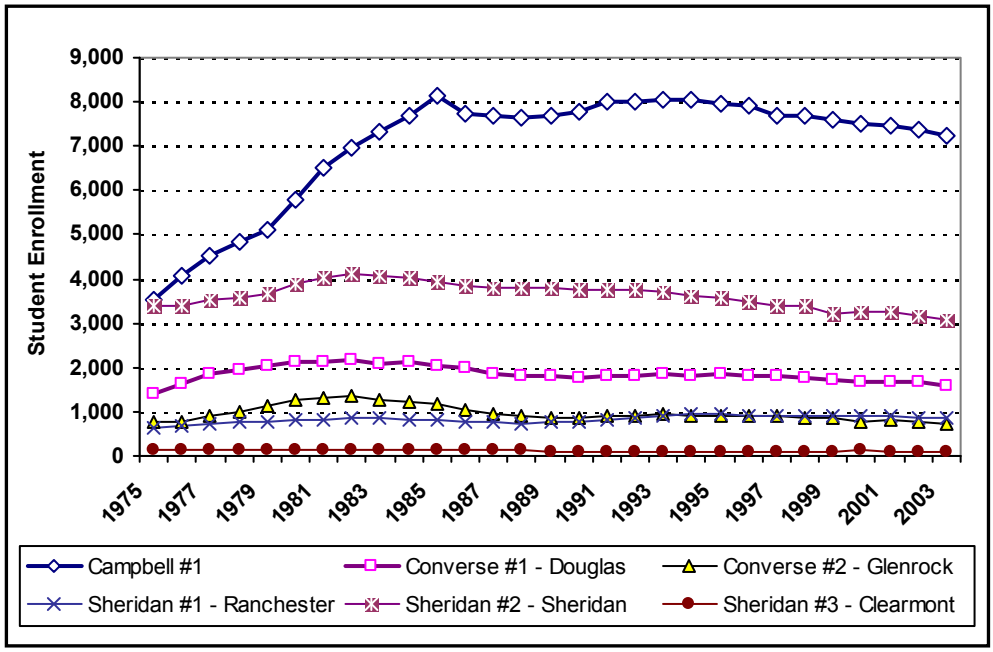
Notes: The number of schools in each district was tallied from data from the Wyoming Department of Education. Enrollments are 60-day averages from current 5-year plans filed by the districts with the Wyoming School Facilities Commission. General fund expenditures are data from the Wyoming Department of Education.

Sources: Wyoming Department of Education 2003a,c; Wyoming School Facilities Commission 2004a.

The trends in public school enrollment generally mirrored population trends during the period of rapid population growth. District-wide enrollment in Campbell County grew by more than 4,600 students (131 percent) between 1975 and 1985. Enrollment increased in all school districts in Converse and Sheridan counties as well.

At its peak during the early 1980s, enrollment in Campbell County and Sheridan County School District #1 (Sheridan #1) (Ranchester) exceeded projected 1990 enrollment levels, but the peak enrollments in the other districts were considerably below the projected levels for 1990. Enrollment levels in Sheridan #1 continued to climb at a modest rate through 1996 (**Figure 3-34**), but declined in the other districts. In 1990, total enrollment in Campbell County public schools was 7,234 students, 11.2 percent lower than the peak. Total enrollment in Sheridan County School

District #2 (Sheridan #2) (covering the city of Sheridan and surrounding areas) was 1,045 students, or 26 percent, below its peak.

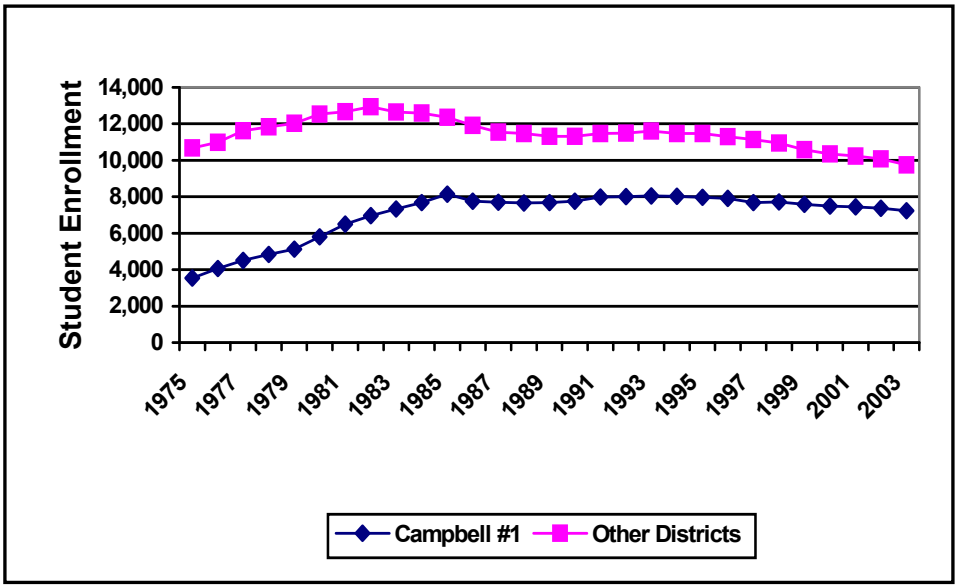


Source: Wyoming Department of Education 1975-2003c.

Figure 3-34 Public School Enrollment Trends in Directly Affected Counties

Enrollment in study area school districts since 1975 generally corresponds to the level of economic activity in the region, which in turn has encompassed several different periods and types of mineral and energy resource development. Because they have been relatively small to-date and somewhat localized, the effects of recent CBNG development on enrollment at specific school districts cannot be distinguished in the trends shown in **Figure 3-34**.

Figure 3-35 graphically compares the enrollment growth and decline at Campbell #1 with changes in combined enrollment at all other districts in the PRB. As shown, enrollment at Campbell #1 has remained at the relatively high level first achieved during the development of most of the large coal mines in the mid-1980s, despite a slight drop since the last peak in the mid-1990s. Elsewhere, enrollments generally have declined, and the sum of enrollments in the study area's other districts is now at its lowest level since 1975. In part, this reflects the loss of traditional economic sectors and a high sensitivity to the cyclical character of energy resource development in the region.



Source: Wyoming Department of Education 1975-2003c.

Figure 3-35 Combined Enrollment of School Districts in the PRB Study Area (1975 – 2003)

In Wyoming, a statewide school finance system, the Wyoming School Foundation Program (WSFP) [Title 21, Chapter 13, of Wyoming Statutes], regulates operating revenues and expenditures for public educational services delivered at the local level. The system is structured to achieve equalization in educational opportunities across the state, irrespective of the differences in the local revenue generating capacities of the individual districts. The northeastern part of the state plays an important role in the system because of its large energy and minerals-related tax base. Revenues for school funding come from taxes on minerals production; real estate and taxable personal property; and various other local, state, and federal program funds and grants. More information on the school foundation program is presented later in this report.

Public education funding also functions under the rules, policies, and procedures of the Wyoming School Facilities Commission (WSFC) [Title 21, Chapter 15, of Wyoming Statutes]. The WSFC was established during the 2002 Legislative session to oversee all aspects of construction and maintenance of school facilities and physical plants. Its mission is to provide adequate educational facilities for all children in Wyoming, mirroring the mission of the WSFP that focuses on operations.

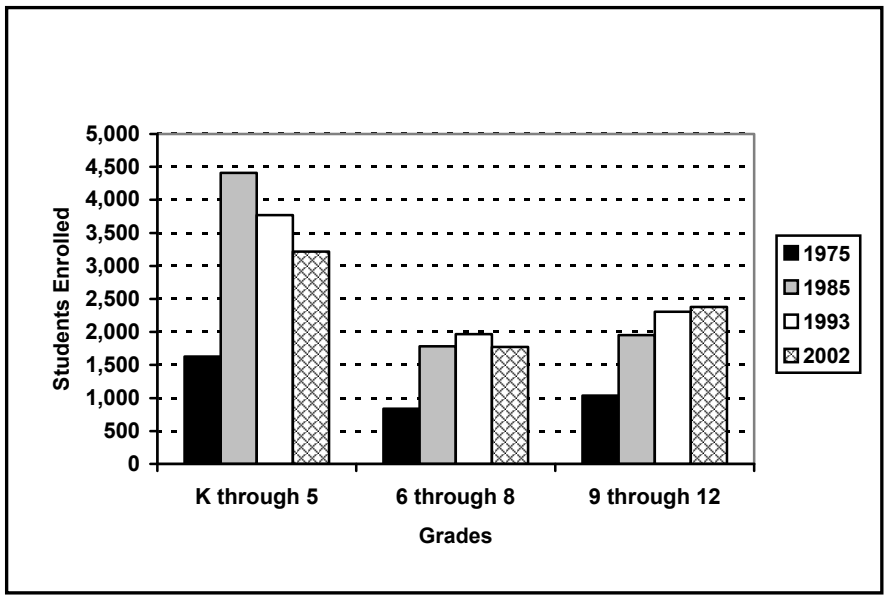
3.7.1 Campbell County School District #1

Campbell #1 provides public primary and secondary education services throughout Campbell County. Campbell #1 operates 2 high school campuses in Gillette under a single administration, a junior-senior high school in Wright, 2 junior high schools, 15 elementary schools, including 6 in the outlying rural areas of the county, an alternative school, and an aquatic center.

Enrollment in Campbell #1 has declined slowly over the past 5 years, from 7,684 students in the 1998 school year to 7,368 in the 2003 school year. Population growth in Campbell County, partly related to the onset of CBNG activity, has slowed but it has not reversed recent enrollment declines

as in-migrating workers to the area appear to have been accompanied by relatively fewer families and children.

In addition, many Campbell County households that arrived or formed during the energy boom of the 1970s, resulting in a sharp increase in the number of school-age children, particularly in the elementary grades, are in life-stages where their children have or will soon complete their education. Concurrently, the birth rate in Campbell County has declined over time such that the number of children entering school each year is substantially below the peak levels experienced in the early 1980s. These trends are reflected in enrollments by grade level (**Figure 3-36**). Enrollment in the district's middle and lower grades is declining, and enrollment in the upper grades is leveling out. Enrollment projections for Campbell #1 prepared as part of a 5-year plan show the total school population continuing to decline somewhat before stabilizing at about 7,187 students in the 2007 and 2008 school years.



Source: Wyoming Department of Education 1975-2003c.

Figure 3-36 Campbell County School Enrollment by Grade for Selected Years

Campbell #1 has an extensive vocational technical program focused on educating and training students for jobs in the energy and related industries in the county. These include diesel mechanics and computer and robotics mechanics, as well as operation of computer assisted milling machines. This program provides local industries with a pool of entry-level employees in critical trades and crafts, and it helps stabilize the community by providing employment opportunities for local youth.

In its most recent 5-year plan, the district proposed no major changes in educational programs. Campbell #1 has a diversified instructional program that includes extensive vocational and technical programs targeting jobs in the energy and minerals industries. Preparing students for employment in locally important industries has tended to stabilize the community.

The plan concentrates on the expenditure of major maintenance funds to renovate all existing facilities to attain building condition and educational suitability standards. A total of about $15.8 million in major maintenance has been programmed for the next 5 years. The plan includes four capital construction projects to replace three elementary schools and a bus maintenance facility; facility replacement projects total $14.6 million. Campbell #1's capital construction projects appear to reflect a goal of attaining condition and educational suitability standards rather than a need for additional capacity. The Commission's budget request for the 2005-06 biennium includes $2.78 million to help address capital needs in the district, the bulk of which is to replace the outdated Recluse elementary/middle school.

According to the WSFC, Campbell #1 has 59 percent more aggregate classroom floor space than recommended by Wyoming standards. The excess space stems from the declining enrollments superimposed on building capacities predicated on an expectation of future growth. The WSFC has instructed the district to assess the utilization of its facilities and potentially reduce square footages, if practical, by changing grade configurations and decommissioning classroom space. Utilization of the two-campus high school in Gillette is especially low, as it was originally built to accommodate larger-than-realized projected increases in high school enrollment. One obstacle to improving utilization is the reluctance of residents to close or realign neighborhood schools or to implement busing given local awareness of the relative affluence of the district.

For the 2001 school year, Campbell #1 had allowable general fund revenues of $7,097 per average daily membership (ADM) under Wyoming's school funding program. (ADM is the formal measure of student attendance based on daily records used by the WSFP). This was 14 percent below the state average and compares to revenue per ADM rates for Campbell #1 in the mid-1980s and 1990s that generally were at par with the state average. Factors contributing to the increasing disparity reflect the district's lack of eligibility for small school and other adjustments.

Seventy-two percent of Campbell #1's revenue in the 2001 school year was locally derived, the highest among the school districts in northeastern Wyoming and twice the share of local taxes in school district revenues statewide. The remainder of the district's revenue was from state and federal funding sources. That local share represents the maximum requirement under the state's funding program. Local revenue's share of total revenue before recapture in Campbell #1 has generally been 70 percent or higher since 1985. In addition, because of the total amount of revenue generated locally, Campbell #1 is able to fully fund its requisite local share of allowable revenues and, in addition, remits approximately $20 million to the state under the "recapture" provisions of the WSFP.

3.7.2 Other Powder River Study Area School Districts

Mineral development has directly and indirectly affected other school districts of the PRB. Over the years, all districts have, to some extent, served student populations from households supported by energy, minerals, and related service industries within the study area.

Energy minerals development has expanded the tax base of other school districts in the study area as it has that of Campbell County. In Converse County School District #1 (Converse #1), assessed valuation has grown because of coal production. Elsewhere, school district assessed valuations have grown recently because of increasing CBNG production.

Converse County School District #1

Converse #1 covers Douglas, Bill, Shawnee, and surrounding areas in eastern Converse County. The district operates four schools in Douglas, each one organized as follows: primary (K through grade 2), intermediate (grades 3 through 5), middle (grades 6 through 8), and high school (grades 9 through 12). The district also has four rural K-8 schools that are used on an as-needed basis.

Enrollment in Converse #1 for the 2003 school year was 1,688 students, down from 1,793 students in the 1998 school year. The current 5-year plan projects small annual increases for the coming 5 years to 1,750 students in 2008 (a total of 3.7 percent growth).

Facilities utilization is acceptable in Converse #1, according to the WSFC, and no new or replacement facilities are anticipated in the district. The approved 5-year master plan requests $4.1 million in funding, and the WSFC's budget request for the 2005-06 biennium includes $783,920 for capital projects in the district. Projects requested in the 5-year plan would extend the life of existing facilities, accommodate growth of special education and non-classroom programs, and upgrade electrical and air conditioning systems to accommodate more computers in the schools.

The City of Douglas relies heavily on Converse #1's facilities for recreation. For a number of years, the community has paid an optional 1.0-mill property tax to operate recreation programs and facilities.

Converse County School District #2

Converse County School District #2 (Converse #2) covers the town of Glenrock and a remote school south of Glenrock in the western part of Converse County. In Glenrock, Converse #2 operates three schools: elementary (K through grade 4), intermediate/middle (grades 5 through 8), and high school (grades 9 through 12).

The schools within Converse #2 are underutilized because of declining enrollment in recent years. The declining trend is projected to continue, with enrollment projected to be 649 students in the 2008 school year, down 17.5 percent from an enrollment of 787 students in 2003.

Converse #2's 5-year plan includes requests for major renovations at two schools funded through $6.7 million included in the WSFC's 2005-06 budget request to improve utilization in the elementary and middle school. In all, the 5-year plan requests a total of $19.2 million for facilities improvements through the 2007-08 school year.

Community use of schools in Converse #2 is concentrated in the intermediate/middle school building, which was the old high school. It contains an indoor swimming pool, which doubles as a public pool, and an auditorium that is used for town meetings and social gatherings.

Crook County School District #1

Crook County School District (Crook #1) serves Hulett, Moorcroft, and Sundance, three separate communities that are 30 to 40 miles apart. Enrollment in Crook #1 as a whole has declined from

1,300 to 1,122 over the past 5 years. Further declines are projected, but at a slower rate, such that district enrollment will fall to 964 in the 2008 school year.

Based on the recent trends and projections, Crook #1's 5-year plan requires no consolidation or expansion or facilities. However, each community experiences its own trends, with Moorcroft having shown particular sensitivity in the past to growth linked to energy development in Campbell County.

Crook #1 currently operates efficiently, according to the WSFC, and further consolidation of facilities is impractical. The approved 5-year master plan requests a cumulative total of $14.0 million. This includes $10.3 million in the WSFC's 2005-06 budget request for renovation of the entire education complex in Hulett.

Johnson County School District #1

While Johnson County's population has grown in the past 10 years, Johnson County School District #1's (Johnson #1's) student enrollment has not increased. However, district and state administrators are anticipating an expansion of CBNG development that could stimulate enrollment growth. Another possible source of growth is the secondary economic development that could come if the county continues to attract retirees as new residents.

Johnson #1 operates eight schools in Buffalo and Kaycee, two communities about 45 miles apart. There are five schools in Buffalo, plus a remote school 17 miles south of Buffalo. Kaycee has two schools, an elementary and a junior/senior high. District-wide enrollment has declined from 1,282 in the 1998 school year to 1,257 students in the 2003 school year. Enrollment is projected to stabilize at around 1,255 students over the next 5 years.

The district's 5-year plan includes several major capital projects to address crowding from past growth, the largest among them being a $10.9 million expenditure for construction of a new middle school and demolition of the old Buffalo High School which is included as part of the WSFC's 2005-06 budget request. The approved 5-year master plan requests $21.3 million for facilities, including proposed expansions of the Kaycee junior-senior high and the Buffalo elementary school. School improvements in Johnson County have community benefits as the schools are heavily used for social and cultural activities.

Sheridan County School District #1

Sheridan #1 serves Ranchester, Dayton, and Big Horn in northcentral Sheridan County. The district operates an elementary school and a middle school in Ranchester, a high school in Dayton, a combined high school-middle school in Big Horn, and a small rural school in Parkman.

Enrollment in Sheridan #1 currently is 867 students, down from 889 in 1998. Some growth in enrollment is anticipated because of the district's proximity to Sheridan and the potential for economic growth there.

Sheridan #1's 5-year master plan proposes to repair and renovate all of the district's existing facilities. The funding level approved for the 5-year period is $2.6 million, and $323,000 for about half of the capital construction needs identified in the plan is included in the WSFC's budget request for the 2005-06 biennium.

Sheridan County School District #2

Enrollment in Sheridan #2, currently 3,172 students, has been declining and could drop by another 133 students over the next 5 years, according to the WSFC. However, the district's administrators are watching two factors that could alter the trend: CBNG development and new programs at Sheridan Community College that may draw more young families to the area. The district has not attempted to project the impact of either possibility.

All but two of Sheridan #2's 12 facilities are in Sheridan. The two remote schools are 20 and 11 miles distant from the district's administrative facilities. A new middle school is under construction, and a $7 million elementary school expansion is in the 5-year plan. Otherwise, elementary schools (with the one exception) and the Sheridan High School are under-utilized, according to the WSFC. The agency included $4.98 million in its current budget request to address critical needs in the district, leaving a remainder of about $10.3 million in requests in the approved master plan.

Other factors contribute to the district's effective capacity. Facilities are operated on extended hours. In addition, the district has a long-standing practice of sharing facilities with the community and of using other community facilities to support school programs. Community facilities that are in continuing use by the school district belong to the YMCA and the U.S. Department of Veterans Affairs.

Sheridan County School District #3

Sheridan #3 is a small district that serves the sparsely populated eastern part of Sheridan County. There are two communities in the district, Clearmont and Arvada, which are 20 miles apart and are 38 and 58 miles from Sheridan, respectively. There is an elementary school in each community and a junior-senior high school at a central location.

Enrollment grew from 103 students in 1998 to 117 in 2000, but it has since declined to under 100. According to the WSFC, local administrators do not anticipate a change in the local economy, but they do expect enrollment to stabilize at between 90 and 100 students, which is within the district's available capacity.

Sheridan #3's approved 5-year master plan requests a total of $2.5 million for facilities improvements. This amount is included in the WSFC's budget for the current biennium.

Weston County School District #1

Weston County School District #1 (Weston #1) operates five schools, four in Newcastle and one 17 miles away. The district is very rural; however, all but 2 percent of the students attend school in Newcastle, with many students traveling long distances to get to school.

Weston #1's enrollment has declined from 1,057 students in 1998 to 836 in the 2003 school year. The WSFC projects a continued decline in enrollment to 636 in 2008. If this occurs, enrollment will have declined by almost 40 percent since the 1998 school year.

The school district's approved 5-year master plan requests $2.5 million for major maintenance projects. No capital construction funding was included for Weston #1 as part of the WSFC's budget request for the current biennium.

Despite an enrollment decline, some existing conditions have tended to disproportionately increase the demand for educational services in Weston #1. A growing number of households who hold energy-related jobs in Gillette and Campbell County reside in the school district. This trend is expected to continue. In addition, the Wyoming Department of Corrections Honor Camp in Newcastle brings families to the district on a transient basis. Students from this group tend to require higher levels of special services than typical school populations.

Weston County School District #7

Weston County School District #7 (Weston #7) covers the northwest corner of Weston County adjacent to Campbell County. In the past, this has attracted mining employee households to locate in the district as well as field services firms linked to energy and resource development. District enrollment was 261 students in the 2003 school year, down from 342 students in 1998. The district operates elementary, middle, and high schools in Upton.

The WSFC projects that the district will be serving only 225 students by 2008. That combined with current facility conditions resulted in no approved capital construction funding for the district as part of the commission's 2005-2006 biennium budget request. The district's approved 5-year plan does include requests for a total of $1.1 million for major maintenance of school facilities.

3.7.3 Wyoming School Foundation Program

The WSFP provides a guaranteed level of funding to every school district in the state through formulas based on numbers of students, classrooms, and other factors, such as adjustments for small schools, transportation, and special programs.

When enrollment growth occurs in a local school district, the WSFP's provisions generally ensure adequate funds are available to pay for the incremental instructional and administrative costs. However, under certain conditions, a district may experience a funding gap because of a specific WSFP provision. Under that provision, the WSFP funding formula uses a 3-year rolling average of enrollment to compute the next year's allowable school district operating budget. Therefore, if a school district has a substantial increase in enrollment in one year, the WSFP may not fully fund the additional students for 3 years. There is an exception allowing for additional funding of enrollment spikes of 10 percent or more over the previous year. For growth of less than 10 percent, the district may need to hire new teachers and fund higher operating expenditures without a comparable increase in revenues. However, for large discrete projects, such as coal mines or power plants, the lead time required and the provisions of the Wyoming Industrial Information and Siting Act (WIISA) generally allow the district to adequately plan and secure funding to accommodate increases in enrollment. As noted above, CBNG development has not been accompanied by substantial increases in enrollment, so the 3-year rolling average factor has not been an issue for Campbell #1.

To fund public education, all districts are statutorily required to levy an ad valorem property tax of 43 mills, 31 mills of which are deemed local resources, with a separate statewide levy of 12 mills used to fund the guaranteed revenue for less wealthy districts. If local property tax revenues do not

equal a district's guaranteed funding level, the WSFP makes up the difference. If the district's revenues exceed the guaranteed level, the excess is forwarded to the state to aid in the funding of other districts under what are termed the recapture provisions of the WSFP.

Over the years, Campbell #1 has forwarded large amounts of local revenue to the WSFP for redistribution to other school districts. Payments by Campbell #1 to the WSFP have varied widely since 1985; however, they frequently have been one-third to one-half of the district's local revenues. In the 2001-2002 school year, Campbell #1 paid the foundation program almost $20 million, or about 51 percent of the district's local revenue before recapture (**Table 3-19**). (Local revenue in Campbell County consists of the school district levy plus the county school levy.)

Table 3-19
School District Revenues by Source (2001-2002 School Year)

School District	Total Revenue (millions)	Percent Share by Source			Payments to State Fund (millions)
		Local	State	Federal	
Campbell #1	$52.77	99.8	0.1	0.1	$19.55
Converse #1	$12.87	63.4	0.2	36.4	-
Converse #2	$7.59	67.0	33.0	0.0	-
Crook #1	$11.83	36.0	64.0	0.0	-
Johnson #1	$11.22	39.5	60.6	0.0	-
Sheridan #1	$8.66	17.9	82.1	0.0	-
Sheridan #2	$23.94	24.5	75.5	0.0	-
Sheridan #3	$1.60	33.6	66.4	0.0	-
Weston #1	$7.38	32.7	67.4	0.0	-
Weston #7	$3.30	23.8	76.2	0.0	-
Total for All Wyoming Districts	**$717.12**	**47.3**	**51.7**	**1.0**	**$47.18**

Notes: Campbell County School District #1's payment to the state recapture fund was 51 percent of the statewide total of all recapture payments by school districts available in the 2001-2002 school year. Percentages may not add up to 100 because of rounding.

Source: Wyoming Department of Education 2003a.

In northeastern Wyoming, the lagged response of WSFP funding to enrollment growth potentially could affect a local school district's ability to respond to CBNG development, which like other petroleum development is exempt from the WIISA. CBNG growth can occur quickly, unlike the large discrete projects that are covered by WIISA, such as coal mines and power plants, where large project lead times and WIISA provisions allow for districts to plan for and secure funding to handle anticipated growth.

3.7.4 Wyoming School Facilities Commission

The WSFC was established by the state legislature to oversee all aspects of capital construction and physical plant maintenances for school facilities. The intent was to establish and maintain statewide standards for the adequacy of schools and related facilities necessary to provide the educational programs and services prescribed by law. The impetus for establishing the WSFC was a 2001 State Supreme Court decision (the State of Wyoming et al., v. Campbell County School

District, et al., WY 19, 19, P.3d 518) requiring the Legislature and school districts to remedy facilities that are in immediate need and inadequate condition.

Prior to the establishment of the WSFC, state aid for public education facilities was part of the broader Wyoming Capital Construction program. Under that program, local districts carried much of the responsibility for capital construction, frequently through the use of locally issued and retired long-term debt. Under the 2001 State Supreme Court decision, construction now must be funded through a statewide tax or from other revenues imposed equally on all taxpayers rather than from locally derived revenues.

Since its inception, the WSFC has:

- Conducted a statewide assessment of school facility adequacy;
- Established a systematic approach to developing school enrollment projections;
- Developed space adequacy standards, based on the various types of programs;
- Adopted rules, policies, and procedures for developing, reviewing, and approving master plans for each district; and
- Completed the initial review of district master plans and formulated budget requests for submission to the legislature for funding.

Districts are required to conduct annual evaluations of school buildings and facilities, update their plans for compliance, and prioritize their needs for the upcoming 5-year period. Compliance can involve minor or major renovations and remodeling, new facility construction, as well as full or partial facility closure, demolition, sale, or lease. The WSFC is required to address the court-ordered needs within 6 years beginning in July 2002.

The agency's full budget request for the 2005-06 biennium includes nearly $294 million for capital construction. That amount represents a substantial portion of the more than $705 million in total projected costs to satisfy the immediate needs and inadequate facilities identified by the WSFC. A transfer from the state's budget reserve account is expected to fund this appropriation. In turn, the budget reserve account receives revenues from the mineral severance tax, royalties, and coal bonus distributions.

3.8 Facilities and Services

Energy development affects local government facilities and services in several ways. In some cases, such as law enforcement and road maintenance, local governments provide direct services to energy facilities. Local governments also provide facilities and services used by employees and population associated with energy development, and most local governments receive revenues from taxes on energy facilities and production and from taxes on company and employee spending.

The types and levels of facilities and services provided by local governments reflect service demand, revenue availability, and community values regarding appropriate services and service levels. As with most socioeconomic characteristics, the level and availability of local government facilities and services varies by county and community across the PRB.

Although all local government facilities and services are affected by energy development, this assessment focuses on municipal water and sewer systems, law enforcement at the county level, and hospitals. Public education previously was described in Section 3.7.

3.8.1 Campbell County

In Campbell County, the major public facility and service providers include the county, the City of Gillette, and the Town of Wright. In some cases, these entities cooperate to provide facilities and services.

Campbell County – Sheriff's Department

The Campbell County Sheriff's Department provides law enforcement, detention, court security, and animal control services for the county. Currently, the department also provides law enforcement services for the Town of Wright, under a contract between the town and the county. For the 2004 fiscal year, the department has budgeted for 60 law enforcement employees, including 43 sworn officers, 56 detention employees (including 38 officers and 18 civilians), 2 animal control officers, and 6 court security employees including 5 sworn officers (Diede 2004). This staffing level is adequate for current demand (Seeman 2004).

Recent improvements have increased the Campbell County detention facility to 128 beds, which includes separate modules for women and juveniles. The facility currently is adequate, although week-end levels sometimes exceed 100 detainees (Seeman 2004).

Substantial increases in population result in corresponding increases in law enforcement demand. To respond to this demand, the Sheriff's Department either must pay overtime or increase staff and equipment. Currently, an entry-level sworn deputy is paid $36,000 annually, and requires almost that amount in benefits. Each new officer requires a vehicle and equipment, which can cost between $20,000 and $30,000. It requires several months to recruit and screen new officers, and the training period for entry-level deputies is 6 months, which results in additional expense for the department.

In the case of energy development, the demographics of the work force, which often includes a high percentage of single or single-status, working-age males, results in increased demand for certain

types of law enforcement services. In the case of large energy construction projects, particularly those that have a work camp, more intensive levels of law enforcement services are required, mainly as a result of the large concentrations of population (Seeman 2004).

Traffic effects of energy development vary with the type of development. Oil and gas development, and, more recently CBNG development, has resulted in increased traffic over wide areas of the county, frequently in remote areas. In order to respond to emergencies and calls for service in a variety of remote areas, the department has had to upgrade mapping capabilities and acquire global positioning systems.

Coal mine and power plant development result in intensified levels of traffic in concentrated areas, on existing highways such as Wyoming State Route 59 south of Gillette, U.S. Highway 14/16 north of Gillette, and on roads that provide access to each facility.

City of Gillette – Water and Wastewater

The City of Gillette provides water and sewer services within the city and in some portions of the Gillette Urban Service Area (GUSA). The sewage treatment system is designed to accommodate about 35,000. The City has scheduled improvements to the treatment facility, which when completed in 2006, will provide treatment capacity for the city's 20-year projected population of 41,000. The 2000 census population for the City of Gillette was 19,646, currently it is estimated that 25,000 people in the city and the GUSA are connected to the sewer system.

The water system has a current capacity of about 25,000 people and reaches that capacity during peak use periods in summer months. The city is encouraging conservation measures and considering changes in the water rate structure to reduce peak period consumption. Gillette is planning either to expand its current well field or develop a Ft. Union well field south of the city and also will need a new transmission line, pump station, and treatment facility for the additional water. If approved, these improvements are anticipated to come on line during the next 3 to 5 years (Schultz 2004).

Town of Wright – Water and Wastewater

The Wright Water and Sewer District provides water and wastewater treatment services in the Town of Wright. The 2000 census listed Wright's population at 1,347. The District's water and sewage systems were designed to serve a population of 3,000. The town has plans to develop an additional 400 gallons per minute well, which would increase the current water supply capacity by about 30 percent. Wright would have to add a new wastewater treatment lagoon at about 2,500 people. All currently available lots in the town are served by water mains, and most are served by sewer mains, except those that have septic systems (Kingan 2004).

3.8.2 Converse County

Converse County – Sheriff's Department

Energy development-related law enforcement issues in Converse County have included slight increases in the numbers of overall incidents (e.g., motor vehicle accidents and traffic citations) and increases in the numbers of individuals incarcerated in the county jail. These increases have been

observed in conjunction with increases in the resident population and short-term influxes of workers related to several pipelines and other infrastructure projects. Local law enforcement also experienced language problems associated with increases in the number of contacts or incidents involving individuals with poor English language skills. More recently, the Sheriff's Department has been affected by homeland security concerns related to the mines and railroad operations, which has increased the amount of patrol time for deputies, triggered additional equipment acquisition, and imposed additional training demands. With its current capacity and capabilities, the department is prepared to deal with some additional growth (Pederson 2001b; Steinfeld 2004).

City of Douglas – Water and Wastewater

The City of Douglas had a 2000 census population of 5,288. The city has three different water sources. Little Boxelder Spring is a high-quality gravity-fed water source located some 18-miles west of Douglas. This source provides up to 2 million gallons per day and meets the water demands in the fall and winter. The second source of water for the community is the 1.5 million gallon per day (mmgpd) Sheep Mountain Well. This well came into service in the fall of 1994 and supplements the city water supply during peak demand and also allows for reduced usage of the more costly water treatment plant.

The water treatment plant treats up to 2.5 mmgpd of North Platte River water during the summer and primarily is used during heavy irrigation periods. The facility is not designed to service the community in winter, but can be brought on-line under emergency circumstances.

The city has four water storage facilities: a 3 million gallon tank west of town, a 2 million gallon tank at the cemetery, and a 1 million gallon tank east of town. The current water system is designed to accommodate a population of 10,000 people (Sweeney 2004).

The city's wastewater treatment system is a three-cell complete aerated lagoon, with facilities also provided for chlorination and de-chlorination of the effluent prior to discharge to the North Platte River. The design capacity of the system could serve a population of approximately 15,000. The system includes two sewage pumping stations (City of Douglas 2004).

Town of Glenrock – Water and Wastewater

The Town of Glenrock provides water and wastewater services. Glenrock had a 2000 census population of 2,231. The water system was designed to handle a population of 5,000. The town is working on an expansion of the water system; the addition of a new well and storage facilities would expand the capacity to 7,500 to 8,000 people.

The sewer system was designed to handle a population of 3,000. The town has completed design work for construction of an additional cell on the wastewater treatment lagoon system, which would allow the system to accommodate substantial additional population.

There are a number of infill areas within the city that currently are served by water and sewer mains, as well as some developable areas to the east of the town. The town recently annexed 200 acres between the city and Interstate 25. The developers will be required to fund the extension of sewer and water mains to that land before it can be connected to both systems (Andrews 2004).

3.8.3 Crook County

Crook County - Sheriff's Department

Energy development affects law enforcement in Crook County in two ways. First, many Campbell County residents recreate in Crook County, at Keyhole reservoir and other locations, which results in law enforcement demand for both traffic and criminal offenses. Second, an increasing number of Campbell County workers have chosen to live in Crook County, many in rural areas of the county such as Pine Haven that previously were sparsely occupied, which results in law enforcement and other service demand in areas where demand was previously low.

Town of Moorcroft - Water and Wastewater

Moorcroft provides water and sewer services for the town, which had a 2000 census population of 807. At present, the water system is at capacity, and the town is purchasing 750,000 gallons per day from the City of Gillette. The town drilled a well in the Madison Formation 2 years ago at a location 8 miles from the town. The town has applied for funds to develop a 16-inch pipeline to connect the well to the town. When funding is secured and the pipeline is constructed, the town will be able to accommodate substantial growth.

The sewer system, constructed in the late 1980s, was designed to accommodate 300 to 400 more people than the town's current population. Sewer and water mains would have to be constructed to connect new subdivisions to both systems (Seehan 2004)

3.8.4 Johnson County

Johnson County - Sheriff's Department

Energy development-related demands on the Johnson County Sheriff's Department are for the most part limited to CBNG development. The oil fields in the southern part of the county are established, and activity is limited to ongoing production activity. Similarly, the low level of activity at Johnson County uranium operations does not generate substantial law enforcement demand. Although there have been a few cases of trespass and conflict between surface owners and CBNG operators, and a few cases of materials theft, for the most part, CBNG activity has resulted in traffic law enforcement demand and motor vehicle accident response. The Sheriff's Department has added several deputies in recent years in response to CBNG activity and general population growth in the county, and has added a routine patrol in areas of the county that are experiencing CBNG development.

The Johnson County jail has capacity for 24 prisoners. The jail population routinely exceeds 24 prisoners, and the county currently is conducting a feasibility study for construction of a new jail facility (Kozisek 2004).

City of Buffalo – Water and Wastewater

The City of Buffalo provides water and sewer services to a population of approximately 4,100 people. The water system currently is at capacity. Buffalo is in the process of expanding the water treatment system to handle a population of approximately 8,000. It is anticipated that the expansion will occur over a 4-year period. Portions of the water distribution and storage system also would need to be expanded to accommodate substantial growth, and the city currently is adding additional storage capacity.

The Buffalo sewage treatment facility has a design capacity of 3 mmgpd; current flows are about 1 mmgpd. Therefore, the sewage treatment facility could accommodate at least twice the current population and very likely more. However, the city would need to install a new sewage collection trunk line to the plant in order to accommodate substantially increased volumes.

3.8.5 Sheridan County

Sheridan County - Sheriff's Department

The Sheridan County Sheriff's Department provides law enforcement services for the unincorporated portion of Sheridan County. The department had 19 sworn officers in the summer of 2004, including the Lieutenant in charge of the jail. The Sheridan County jail was designed to accommodate 50 prisoners but has housed substantially over that number in recent years. The county has received Wyoming State Lands Investment Board funds and currently is building a new two story jail facility. When that facility is completed, the existing jail facility will be remodeled, providing total capacity for 120 prisoners.

Energy development has affected the department by increasing the population in the county, and correspondingly increasing the number of calls for law enforcement services. At present, neither the coal development (within the county or in Wyoming) nor the CBNG development has had a disproportionate effect on the level or type of law enforcement service demand in the county (Hofmeier 2004).

City of Sheridan - Water and Wastewater

The City of Sheridan provides raw water and treated water to consumers within the City's incorporated limits, and to other users within the Sheridan Area Water and Sewer Joint Powers Board service area, the Downer Neighborhood Improvement and Service District, and the Veteran's Administration facilities located northwest of the city. In all, approximately 20,000 people are served by the system. The city has raw water rights on Goose Creek, extensive raw water storage facilities at Twin Lakes Reservoir, and shared ownership of other mountain reservoirs. The city has 12 million gallons of treated water storage capacity in 12 different tanks. The city operates two water treatment plants; the Sheridan plant has a design capacity of 14 mmgpd and the Big Goose plant has a design capacity of 4.5 mmgpd, for a combined total of 18.5 mmgpd. The combined historic peak production for the two plants is 11.2 mmgpd or approximately 60 percent of combined capacity.

Sheridan operates a sewage treatment plant with a design capacity of approximately 4.5 mmgpd. The sewage plant serves users within the city and a limited number of users outside the city, a

population of approximately 17,000 people in all. Since 1998, the plant has treated an average of 2.2 mmgpd or 49 percent of design capacity, and peak daily flows of 4 mmgpd or about 89 percent of design capacity (Cole 2004).

3.8.6 Weston County

Weston County - Sheriff's Department

The Weston County Sheriff's Department provides law enforcement services to the county with a staff of seven sworn officers. Because most of the county's oil and gas fields are mature, the associated reduction in activity has little effect on law enforcement services. There are several Weston County service firms that work in the CBNG industry, but CBNG development has not appreciably affected law enforcement service demand. A number of employees of southern Campbell County coal mines reside in Newcastle and Upton; these employees typically commute to and from work on buses, resulting in little transportation impact (Kettley 2004).

City of Newcastle – Water and Wastewater

The City of Newcastle, the Weston County seat, had a 2000 census population of 3,065, down from a peak of 4,345 in 1960. Consequently, most of the city's infrastructure has been sized to accommodate a substantially larger population than currently exists.

For example, Newcastle is completing improvements to the sewer system which will allow it to accommodate between 5,000 and 6,000 residents. The water system also could supply over 5,000 residents (Hartley 2004).

Town of Upton – Water and Wastewater

The 2000 census count for Upton was 872 people, but the town has had some growth and currently is closer to 1,000 residents. The Town of Upton's water system was designed to accommodate a population of 3,000, and the town has adequate water supply and storage capacity for that amount. The town's sewage treatment facility was designed to accommodate between 4,000 and 5,000 people (Lundstrom 2004).

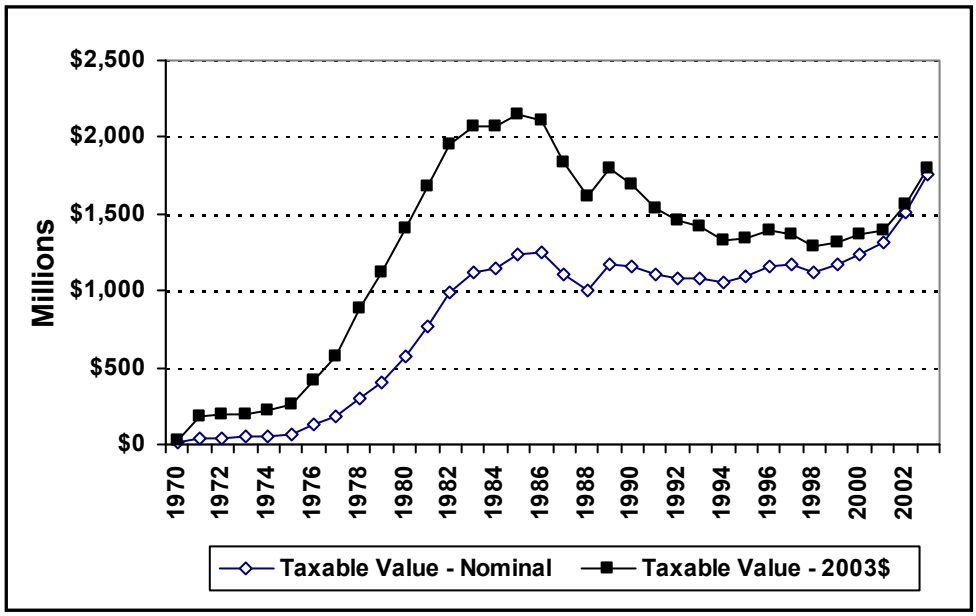
3.9 Fiscal Conditions

Federal mineral royalties and state and local taxes levied on coal and other mineral production are major sources of public revenue in Wyoming. Taxes, fees, and charges levied on real estate improvements, retail trade, and other economic activity supported by energy development provide additional sources of revenue to support public facilities and services. These revenues benefit not only the jurisdictions within which the production or activity occurs or is located, but also the federal treasury, state coffers, and school districts and local governments across the state through various revenue-sharing and intergovernmental transfer mechanisms.

3.9.1 Ad Valorem (Property Taxes)

Coal and other minerals produced in Wyoming, regardless of ownership, are subject to ad valorem taxation by local taxing entities and the statewide levy to support public education.

The statewide total taxable value of coal has increased in response to production, but falling prices have dampened the increases. Total taxable valuation on coal production, in nominal terms, climbed from $38.9 million in 1971[5] to $773.6 million in 1981 and $1,100.3 million in 1991. Even as production expanded by 94 percent between 1991 and 2003, falling market prices limited the subsequent increases in total taxable value to $660 million (60 percent), raising the statewide total to $1,760.3 million. The decline in commodity prices for PRB coal were so substantial that the aggregate value of statewide production in real 2003 constant dollar terms peaked at $2.1 billion in 1984 and 1985, declining thereafter by 40 percent to $1.3 billion in 1997 despite a 140 percent increase in production (**Figure 3-37**).



Source: Based on WTA 1970-2003 (with adjustments by Sammons/Dutton, LLC).

Figure 3-37 Taxable Value of Annual Coal Production in Wyoming in Nominal and 2003 Constant Dollars (1969 – 2003)

[5] The valuation and taxation of coal lag production by 1 year. Thus, the value reported in 1971 is based on 1970 production.

As noted in Section 3.1, coal production in Campbell County accounts for an increasing share of statewide production over time. The concentration of coal production in Campbell County is evidenced by the increase in total valuation from less than $1.0 million in 1973 to $1.48 billion in 2003. The valuation on coal produced in Converse County reached $50 million in 1991, driven by the combined production of the Dave Johnston and Antelope mines. It subsequently declined through the mid-1990s in response to declining market prices, but surged on expanded production at the Antelope Mine near the Converse County/Campbell County line, even as the Dave Johnston Mine curtailed production and began reclamation.

The ad valorem tax base of Sheridan County realized a short-term boost between 1978 and 1989 from production at the Big Horn Mine. The closure of that mine signaled the onset of a steady decline in coal-related valuation through 2001. No coal production and, hence, no valuation on production, was recorded in Sheridan County during the past 2 years.

The aggregate taxable valuation on coal production across the remainder of the state peaked at $442.3 million in 1986, since falling to $171.7 million, or 9.8 percent of the total. Recent trends in the taxable valuation (nominal) on coal, for the PRB counties and the state as a whole, are shown in **Table 3-20** and **Table S-9**. Trends in taxable valuation on coal in 2003 constant dollars are shown in **Table S-10**.

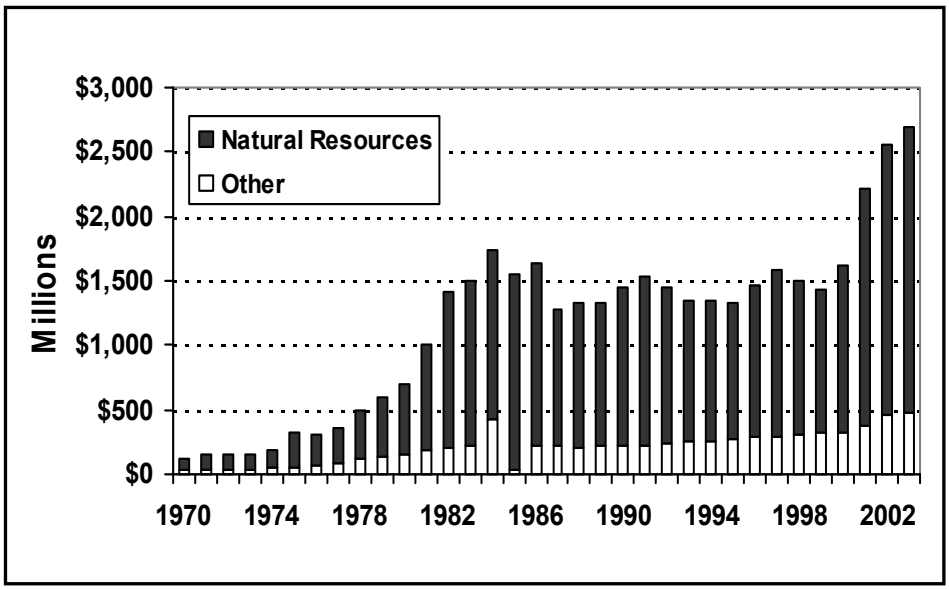
Table 3-20
Taxable Valuation of Annual Coal Production in Nominal Dollars (1999-2003)

Year	County			Other	State Total
	Campbell	Converse	Sheridan		
1999	$901,823,928	$7,993,963	$521,507	$203,010,092	$1,173,349,490
2000	$976,439,893	$74,821,315	$897,948	$184,331,158	$1,236,490,314
2001	$1,065,607,228	$74,616,015	$543,370	$171,929,074	$1,312,695,687
2002	$1,228,879,992	$83,284,924	-	$194,172,379	$1,506,337,295
2003	$1,480,406,834	$108,151,284	-	$171,733,186	$1,760,291,304

Note: Taxable valuation reflects the previous year's production (e.g., the 2001 values are based on 2000 production).

Source: WTA 1999 – 2004.

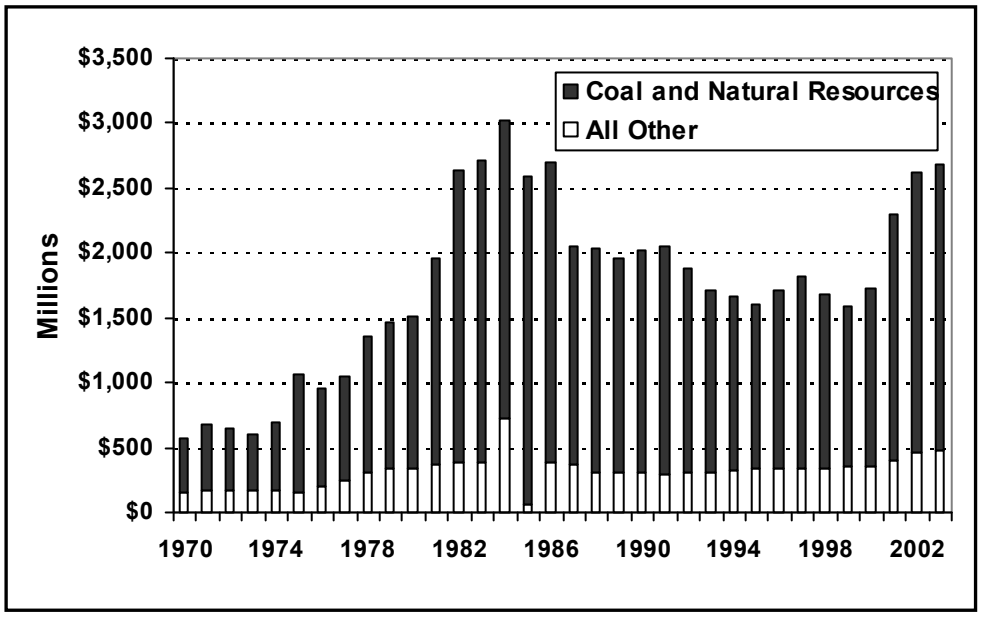
Assessed valuation for Campbell County reflects the trends in coal and other natural resource production and commodity prices. Though the inventory and value of non-mineral property has climbed over time, the valuation, in nominal terms, on minerals is the dominant source of the ad valorem tax base in Campbell County. The county's total assessed valuation, in nominal terms, expanded almost eight-fold from $125.3 million in 1970, prior to the expansion of the region's mining industry, to $998.7 million in 1981. Three years later, assessed valuation had climbed to $1,738.6 million (nominal) in 1984. For the next 15 years, the county's valuation fluctuated in a relatively narrow range of $1,280 and $1,630 million, as production increases were largely offset by lower prices. More recently, rising CBNG production helped boost total assessed valuation to $2,687 million in 2003. In 2003, total coal and other natural resource production accounted for 82 percent of total Campbell County valuation (**Figure 3-38**).



Source: WTA 1970 – 2004.

Figure 3-38 Campbell County Assessed Valuation from Natural Resources and Other Sources in Nominal Dollars

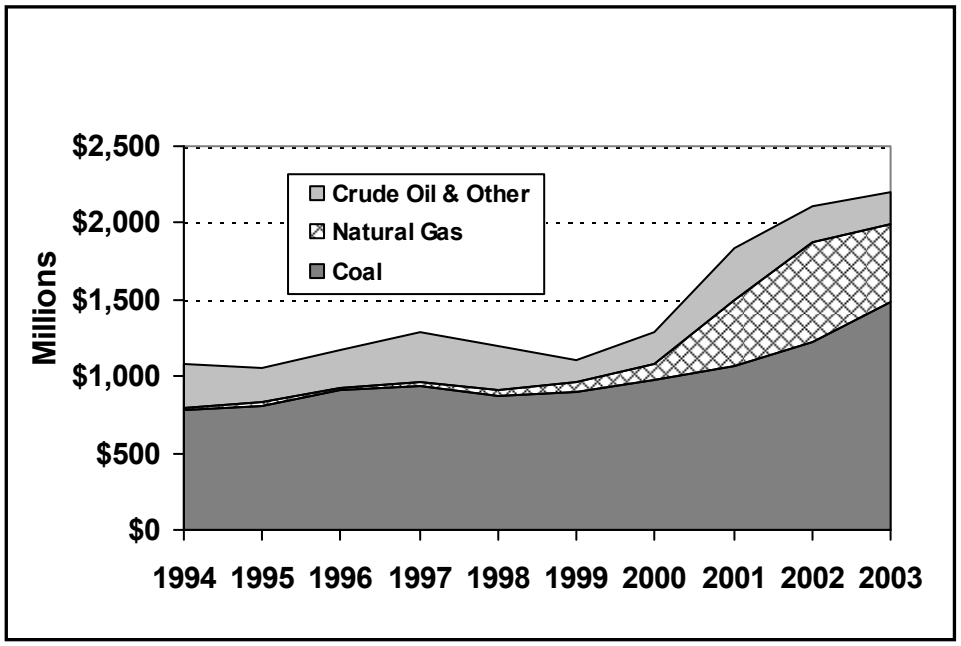
The significance of mineral production to Campbell County's tax base over time is even more apparent when viewed in 2003 constant dollars (**Figure 3-39**). The total valuation on coal and other natural resource production increased by 13.9 percent CAGR between 1970 and 1983 compared to 7.8 percent CAGR for all other sources. From its peak of just over $3.0 billion (2003 constant dollars) local assessed valuation subsequently declined by nearly 50 percent in 1994.



Source: Based on WTA 1970 – 2004 (with adjustments by Sammons/Dutton LLC).

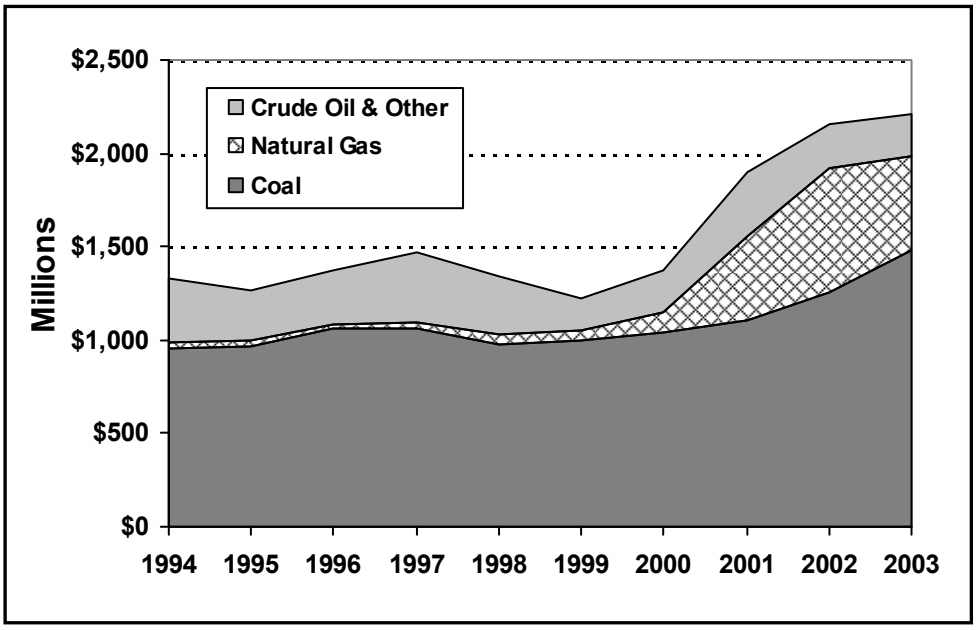
Figure 3-39 Campbell County Assessed Valuation from Natural Resources and Other Sources in 2003 Constant Dollars

Campbell County's total assessed valuation has experienced a major expansion since 2001, both in nominal and real (2003 constant dollar) terms. Higher valuations associated with natural gas, due to increased production in CBNG and rising energy prices for both natural gas and crude oil, accounted for much of the initial increase in 2001 and 2002. More recently, taxable valuations on coal production also have contributed to the increases. **Figures 3-40** and **3-41** illustrate the valuations on natural resource production in nominal and real 2003 constant dollars, respectively.



Source: WTA 1995 – 2004.

Figure 3-40 Valuation on Mineral Production for Campbell County in Nominal Dollars (1994 – 2003)



Source: Based on WTA 1970 – 2004 (with adjustments by Sammons/Dutton LLC).

Figure 3-41 Valuation on Mineral Production in Campbell County in 2003 Constant Dollars (1994 – 2003)

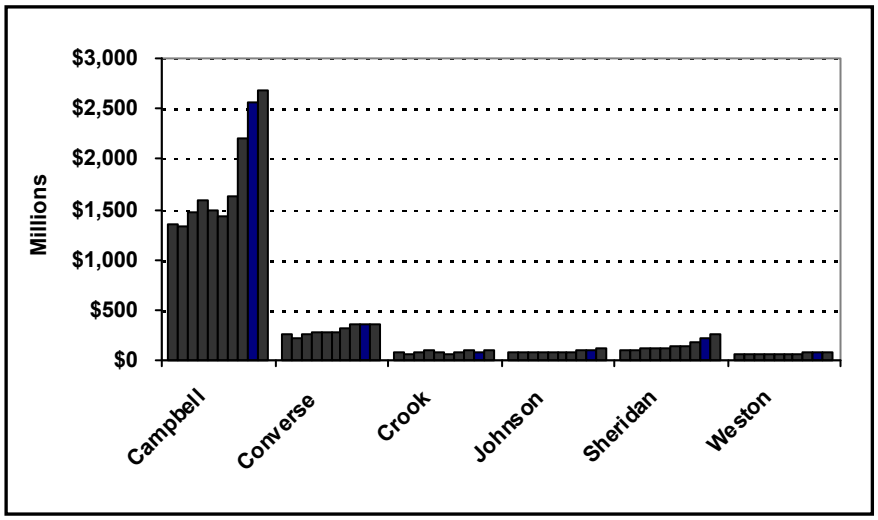
With respect to assessed valuation on mineral and energy resource production, Campbell County has been the primary beneficiary of production gains over the past three decades and the recent gains tied to CBNG. The results include order of magnitude differences in the assessed valuation among the counties in the PRB: Campbell County's assessed valuation of $2,687 million in 2003 was nearly 35 times that of Weston ($77.7 million) and 29 times that of Crook County ($92.1 million) (**Table 3-21**). The scale of the differences and implications for local finance is somewhat ironic given that Campbell County was not one of the 13 original counties when Wyoming was admitted to statehood, but was carved from Weston and Crook counties in 1911. Converse County, which also hosts coal production and electrical power generation facilities, has the second highest assessed valuation in the PRB ($348.3 million in 2003).

Table 3-21
County Assessed Valuation (2003)

County	Assessed Value
Campbell	$ 2,686,679,191
Converse	$ 348,338,443
Crook	$ 92,059,534
Johnson	$ 111,195,527
Sheridan	$ 267,888,569
Weston	$ 77,743,850
Total	**$ 3,583,905,114**

Source: WTA 2004.

Though linked to the underlying coal resource, the geographic extent of CBNG exploration, development, and production activities is not as constrained as that associated with coal mining. While the initial impacts of CBNG on assessed valuation have been focused in Campbell County, energy resource-related increases are accruing in Sheridan and Johnson counties as well. For example, assessed valuation on mineral production in Sheridan County jumped from $6.1 million to $57.0 million between 2001 and 2003. Countywide assessed valuation for the past decade, highlighting the recent increases due to CBNG production, are shown in **Figure 3-42**.



Source: WTA 1995 – 2004.

Figure 3-42 County Assessed Valuation Trends (1994–2003)

Taxing entities levying property taxes vary by location, but generally include the county, appropriate school district, special districts such as a fire or hospital district, and the statewide levy to support public education (25 mills). Applying the general mill levies for each county to the taxable values of coal production yields the estimated annual revenues shown in **Table 3-22**.

Table 3-22
Estimated Ad Valorem Tax Revenue on Coal Production

Year	County			Other	State Total
	Campbell	Converse	Sheridan		
1969	$31,250	$63,720	$35,230	$164,800	$295,000
1970	$29,490	$65,320	$40,330	$248,390	$383,530
1971	$27,050	$64,190	$231,990	$2,076,730	$2,399,960
1972	$31,920	$71,610	$295,940	$2,319,700	$2,719,170
1973	$35,760	$135,950	$142,450	$2,615,380	$2,929,540
1974	$98,590	$151,550	$54,050	$3,260,840	$3,565,030
1975	$314,410	$204,100	$294,820	$3,552,040	$4,365,370
1976	$533,920	$400,450	$344,170	$6,622,100	$7,900,640
1977	$1,730,400	$543,920	$431,140	$9,216,870	$11,922,330
1978	$4,302,730	$670,360	$2,280,310	$12,755,410	$20,008,810
1979	$8,084,600	$702,080	$2,840,120	$15,926,710	$27,553,510
1980	$13,967,620	$837,610	$3,957,550	$19,148,710	$37,911,490
1981	$21,076,910	$974,480	$4,658,920	$22,604,840	$49,315,150
1982	$33,570,370	$1,274,470	$3,954,120	$26,115,230	$64,914,190
1983	$43,515,380	$1,282,650	$4,431,980	$27,171,490	$76,401,500
1984	$42,680,950	$981,870	$5,420,220	$28,261,000	$77,344,040
1985	$48,162,740	$1,071,510	$4,839,190	$27,810,310	$81,883,750
1986	$44,384,810	$1,224,060	$4,579,170	$29,897,310	$80,085,350
1987	$40,617,120	$1,527,680	$2,330,140	$27,531,910	$72,006,850
1988	$38,396,950	$1,159,870	$1,766,980	$21,527,650	$62,851,450
1989	$43,684,980	$1,855,730	$1,786,430	$26,408,900	$73,736,040
1990	$46,435,420	$1,528,710	$115,240	$25,030,090	$73,109,460
1991	$46,095,580	$3,189,940	$80,190	$20,139,340	$69,505,050
1992	$46,022,470	$1,841,830	$89,780	$21,523,530	$69,477,610
1993	$43,665,080	$1,789,140	$201,410	$24,322,370	$69,978,000
1994	$47,095,890	$2,013,150	$51,920	$17,607,110	$66,768,070
1995	$49,290,470	$2,049,870	$61,730	$17,822,220	$69,224,290
1996	$56,467,380	$2,447,460	$18,710	$15,229,680	$74,163,230
1997	$57,794,130	$3,252,210	$13,450	$14,351,120	$75,410,910
1998	$52,628,530	$3,157,210	$26,520	$13,999,460	$69,811,720
1999	$54,651,200	$4,082,720	$36,810	$14,181,880	$72,952,610
2000	$59,126,340	$4,476,120	$62,570	$12,751,140	$76,416,170
2001	$64,152,860	$4,412,920	$37,390	$11,677,640	$80,280,810
2002	$73,795,030	$4,928,130	-	$12,900,730	$91,623,890
2003	$88,488,940	$6,403,940	-	$11,452,150	$106,345,030
Cumulative Total	**$1,170,987,270**	**$60,836,530**	**$45,510,970**	**$548,224,780**	**$1,825,559,550**

Source: WTA 1970 – 2004.

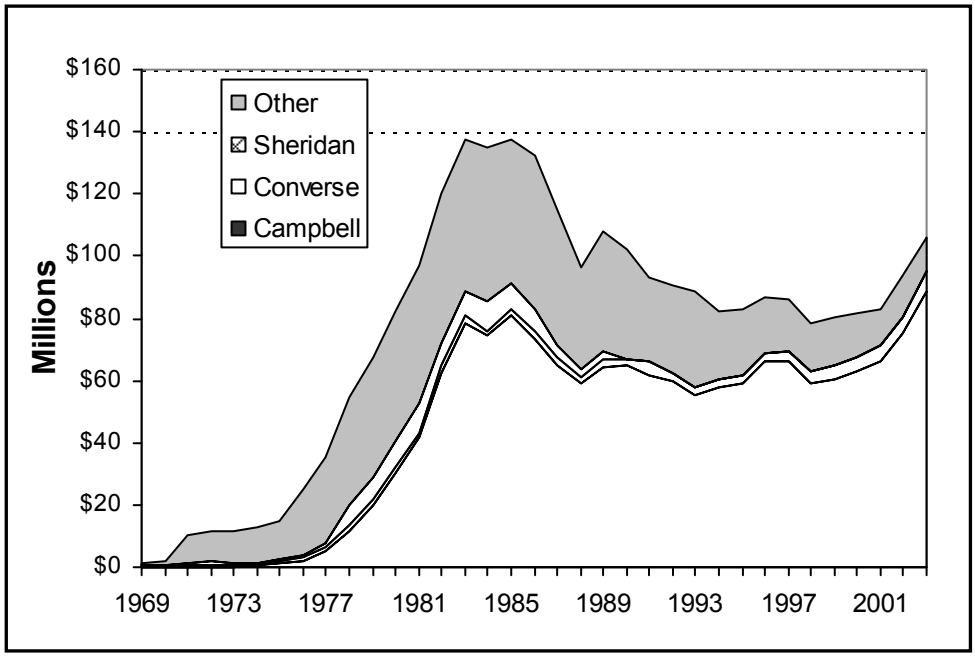
Annual ad valorem tax revenues on a statewide basis increased from $2.4 million in 1971 to $106.3 million (both in nominal dollars) in 2003. The trend has not been one of steady increases over time. Rather, ad valorem tax revenues had an interim peak of $81.9 million in 1985, after which they fell to $68.8 million in 1994. Following a small spike and another decline between 1995 and

1998, total ad valorem taxes have increased in each of the succeeding years, climbing by 52 percent ($36.5 million) in the past 5 years.

Ad valorem taxes generated in Sheridan County and the remainder of the state mirror the trends in taxable values, peaking in the mid-1980s, followed by protracted declines. Receipts in Converse County have grown over time, topping $6.4 million in 2003. Revenues in Campbell County increased in a step-wise fashion after an initial period of rapid growth in the early 1980s that provided revenue to help finance infrastructure and service capacity expansions during the initial boom. Revenues then remained in the mid-$40 million range through 1995, with the exception of 1988. Annual receipts were in the $50 million per year range in the latter 1990s, before rising sharply in the past 3 years.

An estimated total of $1.83 billion in ad valorem taxes have been collected on statewide coal production since 1969. Revenues generated from production in Campbell County total $1.17 billion, or 64 percent of the total. Total revenues generated in Converse, Sheridan, and the remaining counties are $60.8 million, $45.5 million, and $548.2 million, respectively. In 2003 the $88.5 million in revenues derived on production in Campbell County accounted for 83 percent of the statewide total.

In real 2003 constant dollar terms, the estimated ad valorem tax receipts on statewide coal production would total nearly $2.65 billion. The single highest annual receipts of $137.7 million occurred in 1985. Although Campbell County experienced a protracted period of relatively stagnant ad valorem tax revenues, expressed in real 2003 constant dollars, through the late 1980s and early 1990s, Sheridan and the other coal-producing counties other than Converse experienced declines in the real ad valorem tax revenues derived from coal (**Figure 3-43** and **Table S-11**).



Source: Based on WTA 1970 – 2004 (with adjustments by Sammons/Dutton LLC).

Figure 3-43 Estimated Annual Ad Valorem Tax Revenue on Coal Production in 2003 Constant Dollars (1969 to 2003)

3.9.2 Wyoming State Severance Taxes

Wyoming levies a state severance tax on coal and many other minerals produced in the state. That severance tax rate, levied on the value of production, has varied over time. Prior to the dramatic expansion of surface coal mining, the severance tax rate on coal stood at 1.0 percent in 1972. The Wyoming State Legislature raised the rate to 10.5 percent in 1977-78, in part to provide funding for long-term highway, education, and community infrastructure improvements. The severance tax rate has since ratcheted down to 8.5 percent between 1987 and 1992 and to 7.0 percent since, as legislatively established permanent trust fund caps were reached.

Given the tax rate changes, severance tax receipts follow a pattern that varies from the general production and valuation trends described earlier. Statewide receipts, in nominal dollars, grew from $1.3 million in 1973 to a peak of $129.2 million in 1986. Thereafter, receipts declined to $73.7 million in 1995 in response to the falling market prices and the cutbacks in tax rates (**Table 3-23**). Recent production increases yielded statewide proceeds of $86.5 million in 2001, $91.9 million in 2002, and $105.4 million in 2003.

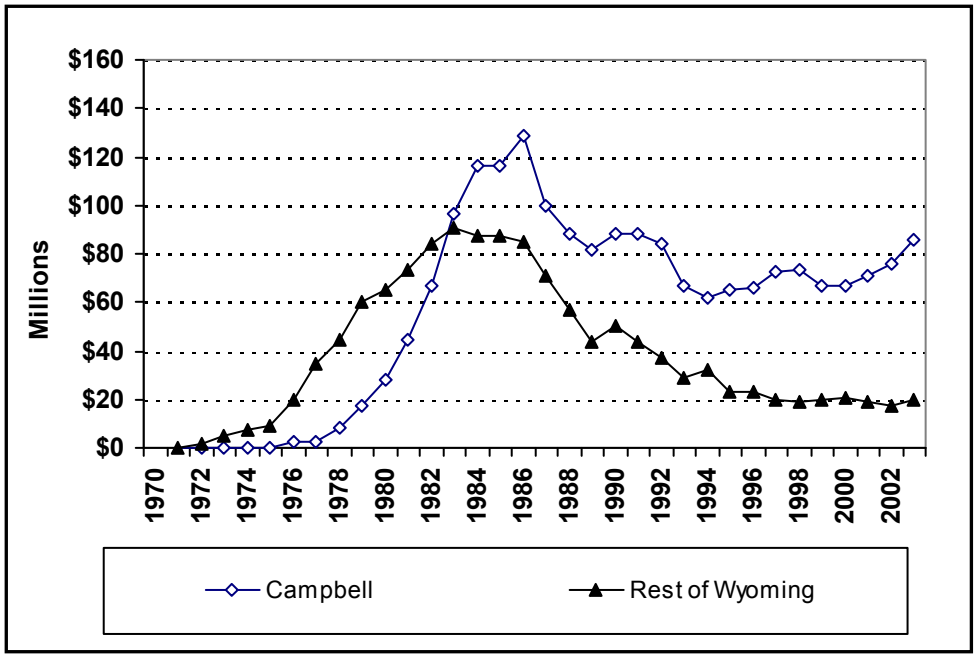
Table 3-23
Estimated Annual Severance Tax Receipts (1970-2003)

Year	Tax Rate (percent)	County			Other	State Total
		Campbell	Converse	Sheridan		
1970	1.0	--	--	--	--	--
1971	1.0	$5,740	$12,970	$6,340	$41,000	$66,050
1972	1.0	$5,030	$12,840	$34,960	$335,940	$388,770
1973	3.0	$17,960	$41,970	$127,810	$1,099,780	$1,287,520
1974	4.4	$28,890	$99,930	$93,350	$1,793,010	$2,015,180
1975	4.8	$86,650	$120,840	$40,220	$2,454,880	$2,702,590
1976	9.7	$658,390	$359,520	$383,660	$5,452,310	$6,853,880
1977	10.1	$898,830	$701,340	$490,740	$10,499,370	$12,590,280
1978	10.5	$3,072,060	$926,150	$614,990	$14,564,180	$19,177,380
1979	10.5	$7,058,910	$1,103,630	$3,100,510	$20,213,670	$31,476,720
1980	10.5	$12,855,990	$1,094,200	$4,108,350	$24,876,660	$42,935,200
1981	10.5	$22,641,750	$1,372,470	$5,792,960	$30,320,920	$60,128,100
1982	10.5	$36,032,960	$1,489,620	$6,952,280	$36,756,680	$81,231,540
1983	10.5	$53,380,100	$1,960,370	$5,717,730	$42,859,850	$103,918,050
1984	10.5	$66,618,810	$1,822,260	$6,587,980	$41,903,690	$116,932,740
1985	10.5	$69,101,630	$1,405,220	$7,237,280	$43,115,910	$120,860,040
1986	10.5	$77,845,180	$1,671,600	$6,763,230	$42,966,320	$129,246,330
1987	8.5	$62,619,890	$1,610,990	$4,963,060	$37,596,720	$106,790,660
1988	8.5	$57,198,990	$1,968,920	$2,535,100	$32,773,380	$94,476,390
1989	8.5	$55,897,130	$1,453,730	$2,119,840	$26,058,810	$85,529,510
1990	8.5	$63,264,860	$2,402,150	$2,060,680	$31,782,340	$99,510,030
1991	8.5	$66,030,940	$2,055,170	$131,910	$30,151,820	$98,369,840
1992	8.5	$64,922,130	$4,254,440	$91,850	$24,254,910	$93,523,330
1993	7.0	$52,955,580	$2,054,320	$84,420	$20,865,340	$75,959,660
1994	7.0	$50,300,490	$1,989,660	$186,380	$23,619,840	$76,096,370
1995	7.0	$54,378,710	$2,231,040	$48,280	$17,073,200	$73,731,230
1996	7.0	$56,502,290	$2,259,820	$57,500	$17,460,700	$76,280,310
1997	7.0	$63,545,110	$2,769,640	$17,540	$14,626,070	$80,958,360
1998	7.0	$65,276,480	$3,466,350	$12,340	$13,525,770	$82,280,940
1999	7.0	$60,973,940	$3,680,690	$26,150	$14,119,380	$78,800,160
2000	7.0	$63,127,670	$4,759,580	$36,510	$14,210,710	$82,134,470
2001	7.0	$68,350,790	$5,237,490	$62,860	$12,903,180	$86,554,320
2002	7.0	$74,592,510	$5,223,120	$38,040	$12,035,040	$91,888,710
2003	7.0	$86,021,600	$5,829,940	-	$13,592,070	$105,443,610
Cumulative Total		**$1,416,267,990**	**$67,441,980**	**$60,524,850**	**$675,903,450**	**$2,220,138,270**

Sources: WTA 1970 – 2003.

Cumulative severance tax proceeds since 1970, in nominal dollars, total $2.22 billion statewide. Severance tax revenues on coal produced in Campbell County total $1.42 billion. Severance tax revenues for the corresponding period total $67.4 million from Converse County, $60.5 million from Sheridan County, and $675.9 million from the remainder of the state. Shares of total annual severance tax revenues in the most recent year were Campbell County – 81.6 percent, Converse County – 5.5 percent, Sheridan – 0 percent, and the remainder of the state – 12.9 percent.

Cumulative severance tax revenues since 1970 total $3.23 billion in real 2003 constant dollars. The rapid expansion of Wyoming's coal mining industry during the late 1970s and early 1980s resulted in annual receipts in excess of $200 million between 1984 and 1987. The first year in which annual severance tax receipts in Campbell County exceeded those generated from the combined production of the remainder of Wyoming was 1983 (see **Figure 3-44** and **Table S-12**). Since 1987, severance tax receipts, expressed in real 2003 constant dollars, trended downward across the remainder of the state, as they generally did from coal produced in Campbell County through most of the 1990s. These declines were, in part, the result of reductions in the severance tax rates. With the tax rate remaining at 7.0 percent since 1993, the higher production in recent years has resulted in total annual severance tax receipts from coal production exceeding $105 million in 2003, more than 81 percent of which was derived from coal production in Campbell County.



Source: Based on WTA 1970 – 2004 (with adjustments by Sammons/Dutton LLC).

Figure 3-44 Estimated Annual Severance Tax Receipts from Coal Produced in Campbell County and the Rest of Wyoming in 2003 Constant Dollars (1970 to 2003)

Distribution formulas for severance tax proceeds are set by the Wyoming legislature, with concurrence by the Governor. Over time, the basic allocation framework has remained relatively consistent, though some specific allocation shares have varied in response to changing fiscal needs. The basic formula includes a constitutionally mandated diversion of the proceeds from a 1.5 percent tax levy into the Permanent Wyoming Mineral Trust Fund (PWMTF). The PWMTF

principal, now in excess of $2.0 billion dollars, is invested and the derived income transferred into the state's General Fund for appropriation by the Legislature. Funds may be loaned to political subdivisions in Wyoming.

Following the above allocations, remaining severance tax proceeds are allocated as follows:

- An amount equal to the proceeds of a 1-cent statewide gas tax is dedicated for environmental remediation of leaking underground storage tanks.

- Remaining amounts, up to an annual cap of $155 million are transferred to the general fund (62.26 percent), water development accounts (14.55 percent), local governments (13.13 percent), highway and state aid to county road funds (7.23 percent), and capital construction (2.83 percent).

- Amounts in excess of $155 million per year are allocated to the General Fund (33.3 percent) and the state's budget reserve account (66.7 percent).

Total projected severance tax receipts on all minerals produced in Wyoming are projected at $473.5 million for 2004.

Earnings from the PWMTF, which like other investments are subject to market condition fluctuations and other risks, were over $61 million in 2003.

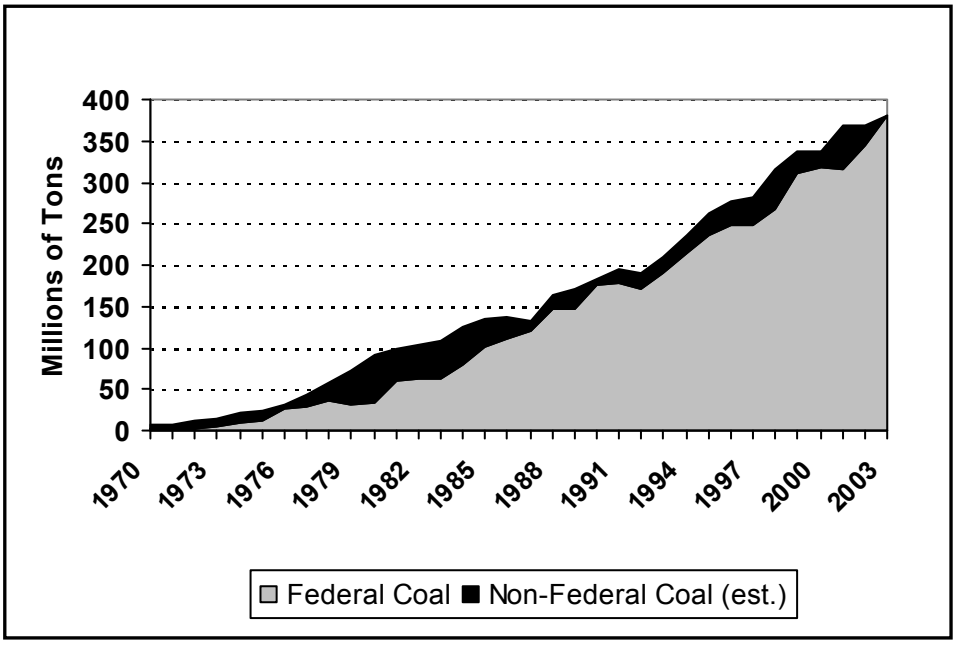
3.9.3 Federal Mineral Royalties

Producers pay a 12.5 percent royalty to the federal treasury on the value of all surface coal production on federal leases. Federal mineral royalties (FMR) also are assessed on natural gas, oil, and other minerals produced on federal leases.

One-half of the FMR receipts subsequently are disbursed to the state in which the production occurred. The size of the resource base, the rate of surface coal production in the PRB, and the predominance of federal ownership, combine to make federal mineral royalties an important revenue source. Across the entire state, 90 to 95 percent of all coal production is from federal coal (**Figure 3-45**).

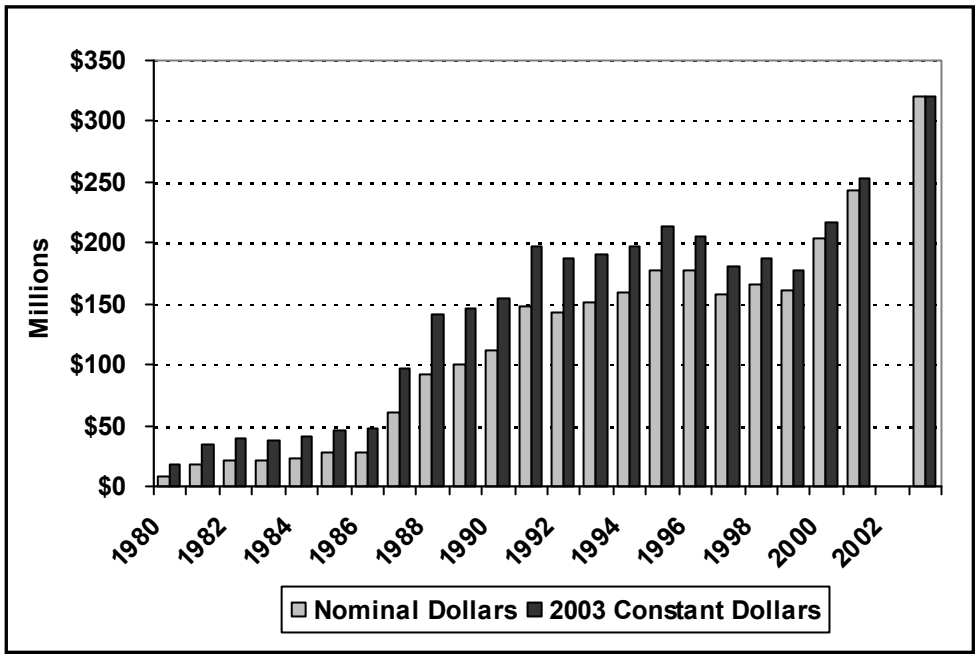
FRM's on coal have grown sharply as production in Wyoming, and in particular the PRB, has expanded. Royalty receipts on coal produced in Wyoming totaled $2.2 million (nominal) in 1975. They had increased more than 12-fold, to $27.7 million, in 1985, topping $100 million in 1989 and $200 million in 1999 (**Figure 3-46** and **Table S-13** in the Appendix of this report). Total federal mineral royalty receipts in 2003 were $321.0 million. Federal mineral royalty receipts on coal produced in Wyoming exceeded $2.76 billion between 1980 and 2003. Annual receipts may double over the next 6 to 8 years based on anticipated production levels.

Cumulative federal mineral royalties on coal produced in Wyoming between 1980 and 2003 total $3.32 billion in 2003 constant dollars. Of that total, $2.24 billion was generated by production in Campbell and Converse counties. **Figure 3-46** shows the annual FMR in nominal and real (2003 constant dollar) terms. **Tables S-13** and **S-14** present the associated data in numerical formats.



Source: U.S. Minerals Management Service 1980 – 2003; WTA 1970 – 2004.

Figure 3-45 Annual Coal Production in Wyoming – Federal Versus Non-federal Ownership (1970 – 2003)

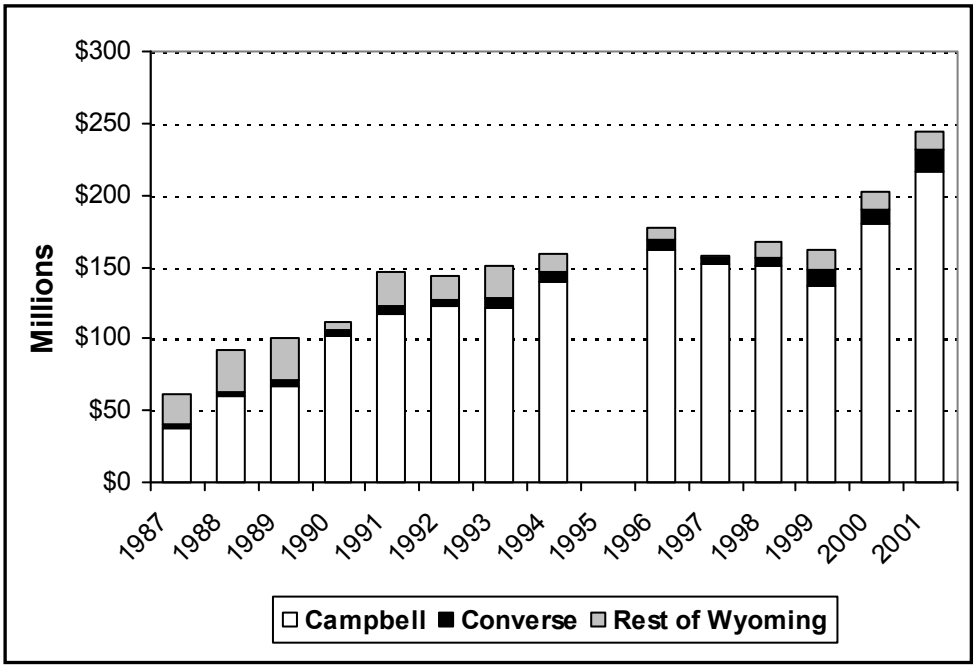


Source: U.S. Minerals Management Service 1987 – 2003 (with adjustments for inflation by Sammons/Dutton LLC).

Figure 3-46 Federal Coal Royalties Collected on Production in Wyoming in Nominal and 2003 Constant Dollars (1980 – 2003)

The increases in FMR receipts on coal production reflect three major factors: 1) the increase in annual production to over 380 million tons a year (2003); 2) changes in the federal royalty tax rate over time; and 3) reductions in the per ton market value of coal. The latter is tied to the increases in production efficiency discussed above.

The Minerals Management Service is responsible for collecting and reporting on the FMR program. Reports covering the periods 1987 to 1994 and 1996 to 2001 (reports are not available for 1995 due to changes in reporting formats) report total federal royalty receipts of $1.77 billion (nominal) and $2.14 billion (2003 constant dollars) collected on coal production in Campbell County. That total represents 85 percent of the total royalties collected on coal produced in Wyoming during the same periods (**Figure 3-47**). Receipts from Converse County were $88 million (nominal) and $105 million (2003 constant dollars), while those from the remainder of the state totaled $219.4 million (nominal) and $291.0 million (2003 constant dollars). In 2001, the most recent year for which detailed data are available, Campbell County coal production yielded FMR of $216.6 million.



Source: U.S. Minerals Management Service 1987 – 2003 (with adjustments for inflation by Sammons/Dutton LLC).

Figure 3-47 Federal Royalties Collected on Wyoming Coal by Location in 2003 Constant Dollars (1987 – 2001)

The annual distribution of FMR to Wyoming was $476.3 million in fiscal year 2003 and is projected at nearly $495 million in fiscal year 2004.

Like severance tax receipts, distributions of the state's FMR receipts follow a legislatively established, two-tier formula. The first tier covers total annual receipts up to $200 million, the second applies to receipts over $200 million per year. Under the tier-one allocation, a 1.0 percent administration fee is first transferred to the general fund. The remaining funds are allocated to the Wyoming School Foundation Program (44.8 percent), the highway and count road funds (32.625 percent), cities and towns (9.375 percent), the University of Wyoming (6.75 percent), and

capital construction projects (6.45 percent). Allocations of the tier-two funds are to the state's budget reserve account (66.7 percent) and the school foundation program (33.3 percent).

3.9.4 Payments in Lieu of Taxes

Congress authorized "payments in lieu of taxes" (PILT) to local governments that have certain federal lands within their boundaries (31 U.S.C. 6901-6907 - 1976). These payments are intended to supplement other federal land receipt-sharing payments that government may receive and to help defray or offset the costs of providing public services such as law enforcement, fire protection, and road construction and maintenance affected by the presence and use of those federal lands.

Payments of PILT are authorized to local governments, generally counties, based on the acres of "entitlement lands" within their boundaries. Such "entitlement lands" consist of lands in the National Forest and National Parks systems, some lands involved in Bureau of Reclamation projects, National Wildlife Reserves, and lands administered by the BLM. The entitlement acreage is updated annually to reflect additions or disposal of federal lands. The amount of PILT to be paid to each local government is based on a formula factoring in the number of "entitlement" acres, a per acre payment rate, deductions for certain other federal land payments, and a ceiling or cap on payments based on the area's population. The sum of the base payments typically exceeds the funding appropriated by Congress, such that the actual payment reflects a pro-rata reduction based on available funds. The amount of PILT is not a function of the land use activity or any mineral production that might occur on the land.

A total of 2,686,782 acres of entitlement land are located in the six PRB study area counties (BLM 2004). Of that total, 42.8 percent is public land managed by the BLM, 56.6 percent is land within the National Forests, and 0.6 percent is other eligible federal lands. PILT eligible entitlement lands total 377,072 acres in Campbell County. Johnson County has the most entitlement acres with 829,469 acres (see **Table 3-24**).

Table 3-24
Entitlement Acreage for Federal Payments in Lieu of Taxes (Fiscal Year 2003)

County	BLM	USFS	Other	Total
Campbell	231,418	145,654	0	377,072
Converse	141,587	252,128	1,061	394,776
Crook	150,925	169,194	15,034	335,153
Johnson	502,588	326,881	0	829,469
Sheridan	48,073	393,627	711	442,411
Weston	74,777	233,124	0	307,901
Six-county Combined	**1,149,368**	**1,520,608**	**16,806**	**2,686,782**
Percent of Total Entitlement Acreage	**42.8**	**56.6**	**0.6**	**100**

Source: BLM 2004.

Total PILT payments received by the six counties have grown by more than 61 percent, in nominal terms, over the past 5 fiscal years, from $1,358,331 in 2000 to $2,188,373 in 2004 (**Table 3-25**). Statewide total annual PILT increased from $8.32 million to $14.63 million during the same period. The higher receipts reflect increases in Congressional appropriations for the program, rather than

increases in the entitlement acreage in the PRB. PILT payments across the PRB study area in fiscal year 2004 ranged from $183,270 in Weston County, to $570,460 in Sheridan County, and $375,692 in Campbell County. Despite having nearly 88 percent more PILT entitlement acres, Johnson County's receipts of $521,588 were nearly $49,000 below those to Sheridan County, the receipts to the former capped due to its lower population.

Table 3-25
Federal Payments In Lieu of Taxes in Nominal Dollars (Fiscal Years 2000 to 2004)

County	2000	2001	2002	2003	2004
Campbell	$266,528	$346,804	$366,002	$393,156	$375,692
Converse	$254,390	$335,541	$356,983	$370,669	$347,185
Crook	$35,348	$87,352	$124,221	$182,313	$190,178
Johnson	$299,137	$432,726	$461,842	$506,573	$521,588
Sheridan	$317,399	$458,606	$492,508	$550,012	$570,460
Weston	$185,529	$207,491	$221,308	$220,430	$183,270
Six-county Combined	**$1,358,331**	**$1,868,520**	**$2,022,864**	**$2,223,153**	**$2,188,373**

Source: BLM 2004.

Cumulative PILT payments to the six counties, in 2003 constant dollars, totaled $9.82 million over the past 5 years (**Table 3-26**). Of that total, Sheridan County received 25 percent, Johnson County 23 percent, and Campbell County 18 percent. Crook County had the lowest total receipts of PILT, $623,651, or 6 percent of the total.

Table 3-26
Federal Payments in Lieu of Taxes in 2003 Constant Dollars (Fiscal Years 2000 to 2004)

	2000	2001	2002	2003	2004	5-Year Total
Campbell County	$283,746	$359,428	$374,164	$393,156	$367,802	$1,778,296
Converse County	$270,824	$347,755	$364,944	$370,669	$339,894	$1,694,086
Crook County	$37,631	$90,532	$126,991	$182,313	$186,184	$623,651
Johnson County	$318,461	$448,477	$472,141	$506,573	$510,635	$2,256,287
Sheridan County	$337,903	$475,299	$503,491	$550,012	$558,480	$2,425,185
Weston County	$197,514	$215,044	$226,243	$220,430	$179,421	$1,038,652
Six-county Combined	**$1,446,079**	**$1,936,535**	**$2,067,974**	**$2,223,153**	**$2,142,416**	**$ 9,816,157**

Source: BLM 2004 (with adjustments for inflation by Sammons/Dutton LLC).

3.9.5 Local Fiscal Conditions

County Government Revenues

Mineral and energy resource development, the associated indirect and induced economic activities, population growth, and changing demands for public services and facilities are reflected in the key revenue sources of local governments and school districts. In some instances, such as property taxes, the effects are linked to the physical location of resources and facilities, while in other cases, the impacts reflect the location of indirect activities or the residential choices of the affected work forces. Local fiscal conditions also reflect the effects of other factors, such as the structure of the economy, land use and ownership patterns, natural and human-created attractions that promote

tourism, and the location of interstate highways and other transportation facilities that generate travel-related commerce through a community, being some of the more important. These other factors notwithstanding, key public revenues reflect the dominant character and concentration of development and activity in Campbell County.

Property Taxes. Among the most obvious barometers of the differences in the scale of public revenues in the PRB are the assessed value and the corresponding property taxes levied and collected by the respective counties. As discussed above, Campbell County's assessed value was nearly $2.7 billion in 2003, about eight times that of Converse County, the second highest among the six counties at $348.3 million. The mill levies for general fund purposes are relatively comparable among the counties, ranging from 7.522 in Sheridan County to 9.329 in Crook County. Thus, the relative magnitude of annual property tax revenues of the counties correlate strongly with assessed values (**Table 3-27**).

Table 3-27
2003 Property Tax Collections by County

County	Assessed Value (millions)	Property Tax Revenues			
		General Fund	Other Countywide	Other	Total
Campbell	$2,686.7	$22,850,207	$16,093,209	$1,482,869	$40,426,285
Converse	$348.3	$2,995,362	$1,254,716	$905,912	$5,155,990
Crook	$92.1	$858,823	$706,190	--	$1,565,013
Johnson	$111.2	$920,969	$1,245,566	$372,211	$2,538,746
Sheridan	$267.9	$2,014,951	$1,735,490	$522,867	$4,273,308
Weston	$77.7	$695,885	$703,505	$291,812	$1,691,202

Source: WTA 2003.

As shown, property tax collections in 2003 ranged from $695,885 in Weston County to $22,850,207 in Campbell County.

Countywide property taxes also are levied to support hospital districts, weed and pest control, libraries, the county fair, and, in some counties, other services and purposes. Property taxes for these other functions ranged from just over $700,000 in Crook and Weston counties, to $16.1 million in Campbell County. Other taxes are levied to support special districts or services that are not countywide in scope. Such taxes ranged in amount from $0 in Crook County to $1.48 million in Campbell County. Fire protection and recreation are the two most common beneficiaries of the sub-county district, with the taxing districts centered around communities and excluding most of the rural farm areas.

Combined property tax collections for the three categories totaled $40.43 million for Campbell County in 2003. Converse County had the second highest total property tax receipts, $5.16 million, just 12.7 percent of its northern neighbor. Among the six PRB counties, Crook County with $1.56 million, had the lowest property tax receipts.

Sales Taxes. Sales and use tax receipts derived from retail purchases of equipment, supplies, motor vehicles, consumer goods, meals, and other taxable items are another important source of

locally generated revenue for local governments, though more so for cities than for counties. Local sales tax collections within each county provide another insight into the relative sizes of the local economies and some of the fiscal implications of mineral development.

Countywide sales tax collections for 2003 are shown in **Table 3-28** below. The effect of the mining industry, in this instance including CBNG, is apparent as the total collections in Campbell County were nearly $75 million. Collections in the retail trade sector accounted for the largest amount and share of the total; the wholesale trade, mining, and services all generated significant sales tax collections in the county. Sheridan County ranked second in the PRB region, largely on the strength of collections in the retail trade sector, which benefit from a large trade area that extends into Montana; a relatively more affluent resident population; and commercial travel and tourism associated with the interstate highway and the scenic amenities and recreation attractions in the county.

Table 3-28
Sales Tax Collections, by Industrial Sector (2003)

	Industrial Sector					
County	Mining	Wholesale Trade	Retail Trade	Services	All Other[1]	Total
Campbell	$12,611,648	$16,182,231	$18,361,595	$13,164,874	$14,637,766	$74,958,114
Converse	$583,338	$1,580,392	$3,150,954	$1,191,449	$3,285,242	$9,791,374
Crook	$154,658	$300,179	$1,291,883	$411,487	$1,045,360	$3,203,566
Johnson	$673,330	$355,258	$2,091,757	$874,451	$1,792,739	$5,787,535
Sheridan	$1,096,476	$1,482,965	$13,039,913	$3,151,953	$6,217,270	$24,988,577
Weston	$226,948	$364,881	$1,581,006	$336,015	$1,033,990	$3,542,839

[1]Other includes agriculture, manufacturing, construction, transportation, finance and real estate, and public administration.

Source: WDAI 2004c.

The remaining four counties all recorded total sales tax collections of less than $10 million in 2003, Crook County again the lowest at $3.2 million. Sales tax collections in the four counties follow a more traditional pattern with retail trade accounting for the single largest source or generator of sales tax collections.

Sales tax collections by major merchandise line within the retail trade sector again reveal significant differences between the counties (**Table 3-29**). General merchandise and motor vehicles and automotive service sales each accounted for about $3.4 million in retail sales tax collections. Sales by food stores generated nearly $3.0 in Campbell County, followed by $2.3 million from restaurant sales. The differences in the relative scales of the retail trade sectors among the counties is apparent in that only the general merchandise and restaurant sectors in Sheridan County generated sales in excess of $2.0 million.

Also apparent in **Table 3-29** is the changing landscape occurring with respect to retail trade in rural areas, whereby many smaller towns no longer support locally-owned general merchandise stores or full service grocers in the face of competition from Wal-Mart, Target, K-Mart, and other big box retailers in the larger, more urban communities. The larger stores offer larger selections and lower prices, enticing customers to drive from an extended trade area. In the process, the outflow of retail sales in other sectors also increases. The remaining sales tend to be concentrated in outlets catering to essential and convenience purchases of fuel, snack foods and basic foodstuffs, eat-in

and take-out meals, liquor, and some building materials and hardware. One indication of the impact of the dynamic changes that are occurring in retail trade is the annual per capita retail sales tax collections in the PRB counties that range from highs of $507 and $481 in Campbell and Sheridan counties, respectively, to $281 and $237 in Crook and Weston counties.

Table 3-29
Retail Sales Tax Collections by Retail Sector (2003)

County	Retail Sector					
	General Merchandise	Food Stores	Auto Dealer and Gas Service	Restaurants	All Other[1]	Total
Campbell	$3,447,388	$2,948,620	$3,379,330	$2,296,418	$6,289,839	$18,361,595
Converse	$217,055	$965,494	$349,256	$539,451	$1,079,698	$3,150,954
Crook	$29,843	$300,427	$227,496	$197,203	$536,914	$1,291,883
Johnson	$22,684	$336,746	$260,780	$400,160	$1,071,387	$2,091,757
Sheridan	$4,270,215	$1,827,411	$1,240,610	$2,029,839	$3,671,838	$13,039,913
Weston	$224,428	$495,876	$144,336	$237,132	$479,234	$1,581,006

[1]Other includes building materials, apparel, and miscellaneous trade.

Source: WDAI 2004c.

Campbell County Budgeted Expenditures

Residents, businesses, and visitors to Campbell County are afforded access to a broad range of public facilities and services. To a large extent, the range and quality of services provided reflect the county's financial resources, much of which is due to the coal, CBNG, and other related energy development. At the same time, those activities and associated population and business activity impose demands for services and the need for facilities.

The increased demand on the county accompanying the initial boom in the 1970s outpaced the community's ability to meet those demands or to expand facility capacity in a timely fashion. Inherent lags between the timing of demand increases and when counties and cities realize increases in taxes and other revenues to respond contributed to the problem. Long-term debt, grants, loans, and a focus on essential services allowed Campbell County to weather the initial boom. Subsequently, the county has maintained a long-term program of capital facility and service improvements. Recognizing the potential volatility of market conditions, for example, the uranium industry's sudden reversal of fortunes or the impact of falling coal prices on the taxable value of coal, the county has largely eschewed the use of long-term debt. Instead, the county tends to accumulate surpluses and reserves during periods of economic strength, drawing on those resources to fund capital projects without resorting to debt.

A consequence of the county's fiscal management approach is relatively high variability in the year-to-year budgeted expenditures, particularly for individual functions or departments. Commonly the variation is attributable to major capital expenditures. Such variability is evident in **Table 3-30**, which summarizes the county's budgeted expenditures for selected years over the past decade. As shown, total general fund expenditures varied between $32.8 million and $70.2 million (both in nominal values) in the selected years, with the highest budgeted expenditures occurring in 2003.

Over time, transportation, justice, and law enforcement consistently account for the largest shares of the county's general fund operating and maintenance outlays. Those functions, which for this report are defined to include the sheriff, attorney, coroner, engineer, road and bridge, court, and jail, had combined expenditures of $18.4 million. Administrative functions including the commissioners, clerk, treasurer, and assessor had budgeted expenditures of $6.8 million in 2003. Capital construction and other general fund expenditures totaled $45.1 million. That sum includes funding for the county Children's Center, funding for the Joint Powers Fire Board, $5.5 million in county grants for other purposes, and $10.8 million for programs and facilities funded under a 1.0 percent optional sales tax.

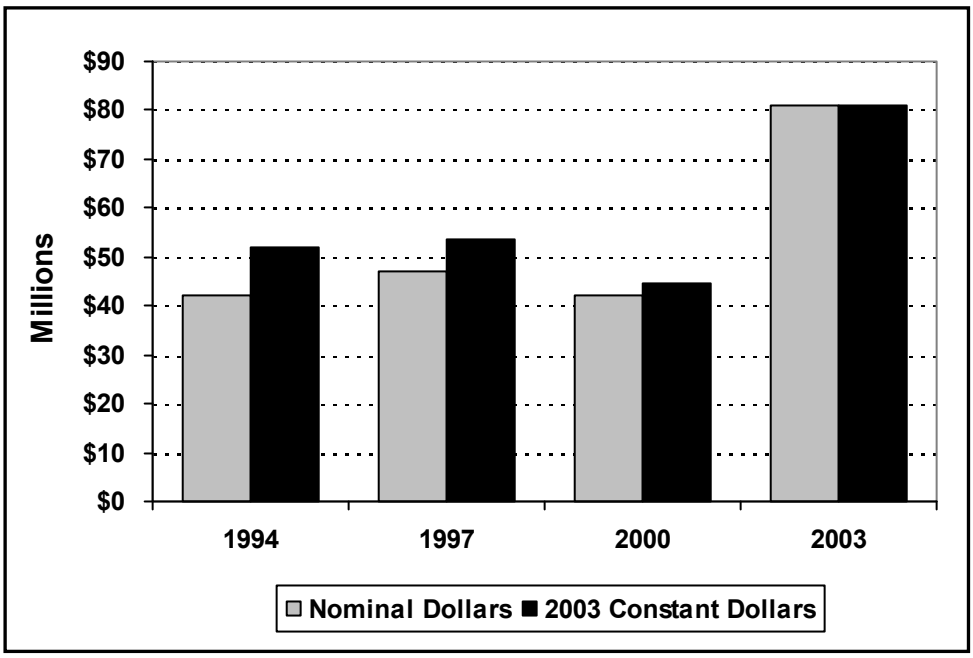
Table 3-30
Budgeted Expenditures for Campbell County (Selected Years)

	1994	1997	2000	2003
General Fund				
County Commissioners	$7,963,566	$3,985,672	$2,731,125	$3,825,090
Clerk, Treasurer and Assessor	$1,870,379	$2,060,853	$2,042,720	$2,970,148
Sheriff, Attorney, Coroner	$3,445,579	$3,699,497	$4,116,789	$6,885,935
Court and Jail	$2,752,015	$2,960,871	$5,809,567	$5,150,798
Engineer and Road and Bridge	$5,309,777	$4,513,020	$4,101,875	$6,330,112
General Fund - Capital Construction	$7,823,206	$14,692,583	$1,747,050	$9,836,620
Other General Fund	$6,459,573	$7,360,853	$12,299,709	$35,226,202
Total General Fund	**$35,624,095**	**$39,273,349**	**$32,848,835**	**$70,224,905**
Other Funds				
Airport	$445,798	$663,029	$822,489	$1,247,026
Library	$1,349,159	$1,465,355	$1,573,300	$2,402,716
Recreation	$1,926,827	$2,073,673	$2,923,777	$4,061,751
Joint Powers Fire	$1,286,050	$1,538,445	$1,576,474	--
Other Funds	$1,591,727	$2,053,335	$2,261,264	$2,938,759
Total Other Funds	**$6,599,561**	**$7,793,837**	**$9,157,304**	**$10,650,252**
Total Budgeted Expenditures	**$42,223,656**	**$47,067,186**	**$42,006,139**	**$80,875,157**

Source: Campbell County Commissioners 1981 - 2003.

In addition to the general fund, Campbell County also has a series of special service/district funds. These include operations of the Gillette/Campbell County Airport, library system, recreation district, fair, and other smaller districts. Until recently, the Gillette/Campbell County Fire District also was included in the county's budget, but it is now administered as a separate entity. Total budgeted expenditures for these other districts, which tend to be more closely correlated with population levels and growth, have trended upwards over time, climbing from $6.6 million in 1994 to $10.7 million in 2003.

Total annual budgeted expenditures by Campbell County increased at 7.5 percent CAGR, in nominal terms, between 1994 and 2003. The compounded growth rate was 5.0 percent CAGR in real terms, as budgeted expenditures, in 2003 constant dollars, increased from $52.1 million to $80.9 million between 1994 and 2003 (**Figure 3-48**). That growth outpaced population growth over the same period as the county invested more funds in infrastructure and expanded services. The increase also reflects the county fiscal policies of higher spending during periods of economic expansion while eschewing long-term debt as a means of limiting fiscal hardships during periods of economic weakness. Those policies are apparent in the recent increase in budgeted expenditures on the heels of strong public sector revenue growth associated with higher natural gas production and rising energy prices.



Source: Campbell County Commissioners 1994 – 2003 (with adjustments for inflation by Sammons/Dutton LLC).

Figure 3-48 Total Budgeted Expenditures for Campbell County in Nominal Dollars and 2003 Constant Dollars (Selected Years)

City of Gillette

While the Town of Wright owes its existence to coal mining, the City of Gillette is the community most heavily affected by coal and other development in the region. Not only is it the largest community in terms of population, it is the regional trade and service center for much of northeastern Wyoming. As a result, the city's revenues, in nominal dollars, have increased dramatically over time (**Table 3-31**). Over the past decade, the city's total general fund revenue has grown from $9.5 million in 1994 to $17.4 million in 2003. The net change represents an average of 6.5 percent on a CAGR basis. All major sources of revenue have increased, with higher tax revenues accounting for most of the revenue growth as annual tax receipts increased by $6.9 million. Revenue growth in real (2003 constant dollar) terms averaged 4.5 percent CAGR (**Table S-15**).

Table 3-31
General Government Revenues by Source, City of Gillette, in Nominal Dollars (1994 – 2003)

Source	1994	1997	2000	2003
Taxes	$7,246,967	$8,017,932	$10,868,165	$14,118,881
Intergovernmental	$1,170,312	$1,582,538	$1,668,583	$1,642,598
Licenses and Permits	$118,141	$117,690	$115,148	$158,025
Charges for Services	$345,096	$306,830	$538,868	$421,420
Fines and Fees	$164,808	$162,275	$244,486	$372,448
Interest	$377,413	$226,016	$614,583	$578,417
Miscellaneous	$100,767	$213,010	$81,672	$151,559
Total	**$9,523,504**	**$10,626,291**	**$14,131,505**	**$17,443,348**

Source: City of Gillette 1985 – 2003.

Sales and use taxes are the dominant revenue source for the City of Gillette. Receipts from such taxes, in nominal dollars, reached an all-time peak of $11.7 million in 2002, declining to $10.8 million in 2003. Long-term and more recent trends both reflect Gillette's growth as a trade and service center and the economic injections accompanying CBNG development. Noteworthy is the decline of almost $850,000 (nominal) in sales and use taxes from 2002 to 2003 (**Table 3-32**) following the initial wave of CBNG development, although such taxes continued to account for the single largest source of the revenue and the overall decline in tax revenues between 2002 and 2003. The decline during the same period in 2003 constant dollars was approximately $1.11 million (**Table S-16**).

Table 3-32
City of Gillette Tax Receipts, in Nominal Dollars, by Major Source (1999 – 2003)

Tax Source	1999	2000	2001	2002	2003
Severance	$604,749	$972,604	$1,972,564	$1,049,246	$891,173
Property	$533,538	$578,788	$599,135	$614,929	$700,836
Sales and Use	$6,846,212	$8,027,435	$9,669,325	$11,662,321	$10,813,313
Other Taxes	$1,847,622	$1,289,338	$1,406,425	$1,638,513	$1,713,559
Total Taxes	**$9,832,121**	**$10,868,165**	**$13,647,449**	**$14,965,009**	**$14,118,881**

Source: City of Gillette 1985 - 2003.

Despite the substantial sum of severance taxes generated in Campbell County, the City of Gillette does not receive a directly earmarked share of those proceeds. Rather it receives a population based share, the same as other Wyoming cities and towns. While those revenues have increased over time, severance tax proceeds accounted for only about 6.3 percent of the city's 2003 general fund revenues. In prior years, severance taxes had accounted for larger shares of the total, peaking at 14.4 percent in 2001.

The city has resorted to long-term debt and loans for capital improvements, generally related to water and wastewater facility expansion. Like the county, it tends to avoid those mechanisms to the extent possible.

Operating and maintenance expenditures have increased dramatically over the past decade, with 2003 general expenditures of $17.55 million (nominal), compared to annual expenditures of $10 to $11 million annually through much of the latter 1990s (**Table 3-33** and **Table S-17** [2003 constant dollars]). As with Campbell County, law enforcement and public works are the two departments/functions in the city's budget. Higher revenues realized in recent years have allowed the city to fund several major capital projects, include road improvements and upgraded technology. The city does not have fire or recreation departments, as those functions are provided by a joint powers authority or the county respectively.

Recent operating budget increases are reflected in the expansion of the city's staff. During the 5-year period from 1999 to 2003, the city added 31 full time positions, a 17.6 percent increase. Staff was added in most departments, with the largest increases occurring in administration and the police force (**Table 3-34**). The former is tied to staff associated with expanded use of new technology and information management systems, the latter to population growth and the upsurge in economic activity that trigger increases according to staffing standards adopted by City Council.

Table 3-33
City of Gillette General Fund Expenditures by Major Category in Nominal Dollars
(1994 – 2003)

Category	1994	1997	2000	2003
Administration	$1,398,091	$1,855,606	$2,174,660	$3,097,996
Community Development	$425,243	$473,443	$521,438	$629,480
Police	$2,475,365	$2,856,402	$3,233,728	$5,084,150
Public Works	$5,253,334	$4,207,679	$3,756,593	$5,191,371
Miscellaneous/Other	$364,865	$599,003	$1,326,152	$3,469,655
Capital Outlay	$76,873	$57,312	$11,052	$29,132
Debt Service	--	--	$4,103	$45,131
Total	**$9,993,771**	**$10,049,445**	**$11,027,726**	**$17,546,915**

Source: City of Gillette 1985 – 2003.

Table 3-34
City of Gillette Budgeted Full-time Employees by Department (1999-2003)

Department	1999	2000	2001	2002	2003
Administration	23	23	21	32	35
Finance/Treasurer	4	4	5	4	4
Community Development/Planning	9	9	9	10	10
Police	55	58	61	64	66
Public Works	29	28	25	29	31
Utilities	56	56	59	61	61
Total	**176**	**178**	**180**	**200**	**207**

Source: City of Gillette 1985 – 2003.

The city operates several enterprise activities, including water and wastewater systems. These systems operate with separate budgets and are funded largely through user fees, grants, and loans, but with little or no direct tax support. The combined budgeted expenditures for enterprise funds were $18.6 million in 2003.

3.10 Institutional and Management Capacity

Just as communities need capacity in facilities and service systems to accommodate energy development and related population growth, they also need management capabilities and institutional mechanisms to efficiently anticipate and respond to energy development. In the mid-1970s, when population growth began to accelerate in Campbell County as a result of coal development, neither the state nor local governments were well equipped to respond. Recognizing that fact, local and state governments, individually and in cooperation, began to build growth management capabilities and to develop institutional mechanisms to assist communities in their efforts to respond to energy development and related population growth.

3.10.1 Local Government Management

At the local government level, communities began to hire professional managers and planners to develop and implement information and regulatory mechanisms that encouraged orderly growth and development. For example, in Campbell County, Gillette's planning department prepared a comprehensive plan and updated its zoning and subdivision regulations. The department also developed an annual citizen's survey (still in effect) that enhanced the ability of the city council to identify and prioritize expansions and refinements to city facilities and services (Burgess 1982). Today, Gillette is a city of over 20,000 situated in an urban service area of over 25,000. The city has professional managers in administration, finance, utilities, public works, planning, law enforcement, and other aspects of municipal government. Many of the current managers have been through periods of energy development and population growth, and are familiar with the process of community impact assessment and planning and with the institutional resources at the state and federal level for addressing development-related issues.

Local governments in the PRB have all added professional managers, depending on the size of the community. In addition to Gillette, larger communities such as Douglas and Sheridan have developed professional growth management capabilities.

3.10.2 Community Facility Financing Mechanisms

Counties and communities can ask voters to approve one or both of two 1-cent local option sales and use taxes. One is a general purpose sales tax for any legitimate government purpose; the other tax is a specific purpose tax, in which the purpose and the ultimate yield of the taxes must be specified in the election imposing the tax. The local option sales and use taxes allow local governments to take advantage of capital spending during development of energy facilities; however, the tax is imposed on long-time residents as well, a fact which sometimes reduces the likelihood of voter approval.

At the state level, Wyoming has added a number of regulatory and financing options that allow communities to more effectively plan for and accommodate energy growth and development.

3.10.3 Wyoming Joint Powers Act

The Wyoming Joint Powers Act (WS 16-1-101), was enacted in 1973. The act allows counties, municipalities, and other government entities to cooperate in the development and operation of public facilities and in the provision of public services. In addition to the obvious advantages of consolidating services and sharing costs, the potential advantage for energy-impacted communities is that affected counties receive ad valorem tax revenues on industrial facilities and production, typically the greatest amount of energy-related revenue, while municipalities often receive the lion's share of the impact from energy-related population growth. The Joint Powers Act allows local officials to share resources to address revenue disparities, if they choose to do so. The Gillette-Campbell County Joint Powers Board, created under cooperative agreement between the City of Gillette, Campbell County, and the Town of Wright to provide countywide fire protection, suppression, and emergency medical response, is an example of a cooperative service and taxing arrangement authorized under the Act.

3.10.4 The Wyoming Industrial Information and Siting Act

The WIISA (WS 35-12-101 through 35-12-119) was designed to protect Wyoming's environment and the social and economic fabric of the communities affected by industrial development (Wyoming Department of Environmental Quality 1998). Under the Act, industrial development companies intending to develop projects whose construction cost exceed a certain threshold ($143.1 million in 2004) must assess potential impacts and work with local governments to ensure that projects and the related population growth are accommodated in an acceptable manner. The Industrial Siting Council, created under WS 35-12-104, holds public hearings and reviews the socioeconomic and environmental impacts of industrial facilities before issuing a permit for construction. Emphasis is placed on socioeconomic impacts and public and local government participation.

A key local government benefit of the Act is that counties and municipalities designated as affected by an industrial facility are eligible for Impact Assistance Payments (IAPs) under the provisions of WS 39 6 411(c) and 39-6-512(d). These payments are derived from incremental increases in state sales taxes in an affected county over a monthly average of sales tax receipts during the year preceding the initiation of construction of the facility. Affected counties and municipalities must be levying a 1-cent local option tax to be eligible for IAPs. Although not guaranteed (IAPs depend on the state of the general economy and other activities occurring in an affected county prior to and during construction), IAPs can provide substantial revenue for affected communities, which can be used for financing needed facilities and services to accommodate industrial growth.

The Industrial Siting Act was intended to address the impacts of power plants, mines, and other large industrial projects; the Act specifically exempts most oil and gas development, most pipelines, and large powerlines[6]. Consequently, the Act has not been a resource for PRB communities in addressing impacts of the recent CBNG boom.

[6] WS 3 5-12-119 exempts the construction, operation, and maintenance of the following activities from the Industrial Information and Siting Act:
(i) Electric transmission lines not exceeding 500,000 volts;
(ii) Oil and gas drilling facilities;
(iii) All pipelines except coal slurry pipelines;
(iv) Oil and gas producing facilities;
(v) Oil and gas wellfield activities.

3.10.5 Wyoming State Land and Investment Board-administered Loans and Grants

Since the 1970s, the State of Wyoming and the federal government have developed a number of mechanisms for financing public facilities and improvements at the local government level. While these financing resources are not specifically targeted at energy-impacted communities, (all communities in the state compete for these funds), they do provide additional resources for financing community facilities (Miskimins 2004). Most programs are administered by the Wyoming State Land and Investment Board (SLIB) (Wyoming State Loan and Investment Board 2004).

3.10.5.1 Mineral Royalty Grant Program

This program is funded by a share of Wyoming's federal mineral royalties in amounts subject to legislative appropriation. The SLIB may award grants to:

- Alleviate an emergency situation that poses a direct and immediate threat to health, safety, or welfare;
- Comply with a federal or state mandate; or
- Provide an essential public service.

Mineral royalty grants are useful to address energy development-related impacts, although they are not earmarked for such purposes. They can meet immediate needs because they are approved within 6 months of application (the length of time between regularly scheduled meetings of the board). However, funds may fall short if impact needs are high. For example, there were $36 million in requests at a recent SLIB meeting, and only $9 million was available for grants and loans.

3.10.5.2 Joint Powers Act Loans

These loans are used to finance revenue-generating public facilities developed under the Joint Powers Act. The program was funded by $30 million from the PWMTF, and about $10 million remains for lending in the future.

3.10.5.3 Clean Water and Drinking Water State Revolving Fund Loan

Two loan programs are funded by U.S. Environmental Protection Agency grants plus a 20 percent state match. The state uses monies from the 1.0 percent corrective action fuel tax to match clean water grants and monies from the Mineral Royalty Grant and Water Development Account funds to match drinking water grants. Clean water loans are for wastewater collection and sanitary treatment facilities; drinking water loans are for water treatment and distribution systems.

3.10.5.4 Wyoming Water Development Commission Grants and Loans

These grants and loans are for water supply projects (e.g., reservoirs, well fields) including those for municipal water systems. This program is funded by mineral taxes on production from state-owned land and is administered by its own board and staff.

3.10.5.5 Abandoned Mine Land Grants

These grants are funded by a tax on coal production for use in areas under the jurisdiction of the federal Surface Mining Control and Reclamation Act. The state must use the majority of funds for reclamation projects; about $2 million a year is available for public facilities projects in areas of the state impacted by minerals/mining, which would include much of the PRB.

3.10.5.6 Transportation Enterprise Fund

This fund was established with Amtrak settlement monies from the discontinuation of national passenger rail service in Wyoming. It yields about $2 million per biennium, and generally is used as award grants for the purchase of public transportation vehicles.

3.10.5.7 Summary

Each of these financing resources has its unique requirements and limitations; however, each also can provide additional resources for communities to develop the infrastructure required to accommodate energy development.

3.11 Social Setting

The past 30 years have seen sweeping social change in the U.S. and throughout much of the world. However, in addition to the broad forces that have driven social change in the U.S. as a whole, social conditions in some PRB communities have been substantially influenced by energy development. Preceding sections of this report describe factors that have affected social conditions in the PRB, including industrial and natural resource development, economic and demographic change, housing and public infrastructure development, and institutional change at the local and state government levels. This section presents an overview of the social effects of energy development in the PRB, focusing on Campbell County where most of the research on social change has been conducted. The objective is to define the social setting for future energy development.

3.11.1 Population Growth

One of the key drivers of social change in the PRB has been energy-related population growth. Section 4.4 of this report discusses population growth for counties and communities in the PRB and for the basin as a whole.

When the first oil boom occurred in the late 1950s, Campbell County was a relatively stable, sparsely-populated rural county. Periodic visits by seismic crews and the construction of the Wyodak Mine introduced some newcomers into the community, but overall, Campbell County was, like many places in Wyoming and throughout the rural west, a small, relatively homogeneous ranching community (ROMCOE 1982). The oil booms of the 1950s and 1960s brought an influx of new people, many of whom were transient in that they resided in the community only for the duration of the drilling and field development phase of the project. Nevertheless, Campbell County's population grew by 168 percent between 1950 and 1970. Development of coal mines, continued oil and gas drilling, and power plant construction caused the county to grow another 88 percent between 1970 and 1980. Population growth slowed (in relative terms) to 21 percent between 1980 and 1990 and to 15 percent between 1990 and 2000. In all, Campbell County population grew by almost 600 percent between 1950 and 2000.

On the one hand, this population growth, combined with a robust economy, generated a variety of positive social effects. Financial and technical resources poured into the community as it mobilized to accommodate the new population. In addition to the large number of high-paying jobs in the energy industries that attracted people to the area, job opportunities were created in the construction industry, as the community responded to demands for housing, public facilities, and in the retail and service sectors as merchants and service providers responded to the needs of the increased population (Gardiner 1985). In fact, new jobs were created in all sectors of the economy. The large and rapid influx of new residents, eager to take advantage of the employment opportunities, created energy, vitality, and sense of economic optimism about the community (Gardiner 1985). Where economic advancement had been limited before the boom, there was now opportunity. The out-migration of high school graduates to seek employment, a concern during the pre boom era, became an option rather than a necessity given the abundant work opportunities (Hladky 1985).

New residents brought new ideas, new ways of doing things, new preferences for goods and services and new demands for government services. Some long-time residents, particularly those who were not directly participating in the economic benefits of energy development, viewed these changes as negative. Some senior citizens and other groups and individuals on fixed incomes were affected by rising prices for housing and other goods and services. Ranchers and local merchants were affected by the rapidly increasing wage scales, which drew away long-term employees and made new employees difficult to find and retain. Increased taxes to pay for bond issues, particularly in the early years of the boom, were resented by some long-term residents, who believed that the new facilities were required to serve the new population and not themselves (Carter 1985; Swartz 1985).

Long-time residents who were used to knowing virtually everyone in the community and to being recognized by merchants, city and county personnel, doctors, and other community members increasingly encountered strangers in their business and social interactions. Consequently, these traditionally informal business and social interactions became more formal. It is likely that many residents had mixed feelings about these changes (Heineke 1985).

During both the coal and oil booms, there were conflicts with ranchers on split estate issues, and increasing instances of trespass occurred as residential growth and newcomers seeking recreation and sporting opportunities encroached upon traditional ranching land. There also was increasing concern among local and national groups about the environmental effects of the scale and pace of the energy development.

3.11.2 Community Infrastructure and Services

As might be expected, the community infrastructure in Campbell County and the City of Gillette initially was inadequate to accommodate the rapid population growth associated with energy development.

This resulted in a shortage of housing, particularly in the early years of the boom. The cost of conventional housing, coupled with the relatively huge and immediate need and uncertainty about the magnitude and duration of the boom, led to increased reliance on mobile homes as a partial solution to the housing needs. Some mobile home parks were unattractive with few amenities. Stores and public facilities such as schools and medical clinics experienced crowding. Indoor recreation options, important during the long winter months, were limited. Counseling and mental health services initially were more geared to a stable rural community than to the needs of a rapidly growing, more diverse population.

For new residents, the challenge of dealing with new jobs and new people in a new community, compounded by housing shortages and crowding in commercial and public facilities, created a certain amount of stress. While some people clearly relished the challenge and the frontier atmosphere of the early boom years, others were dissatisfied with their living conditions. Mental health and counseling professionals began to attribute increases in social and behavioral problems to the difficult living conditions and to the individual and family stress experienced during the early years of the boom. One researcher went so far as to coin the term “the Gillette Syndrome” to describe boom town conditions that he believed resulted in elevated levels of social problems including alcoholism, depression, delinquency, and divorce (Kohrs 1974). This label contributed to the focus of the regional and national news media on the problems associated with rapid growth in

Gillette and Campbell County, which was often unaccompanied by coverage of the positive aspects. Locally, community leaders and residents lamented the one-sided coverage and disputed the fact that Gillette and Campbell County were difficult, undesirable places in which to live (Doll 1985; Bujol 1985; Heineke 1985).

Later, some researchers would dispute the contention that rapid growth resulted in elevated levels of alcoholism, domestic violence, and divorce, contending that these conclusions were not reflected in the social indicators. These researchers concluded that increases in social problems generally were proportionate to increases in population and demonstrated, in the case of divorce, that increases in divorce rates did not seem to be correlated with increases in growth rates (Wilkinson et al. 1980).

Given the passage of time and difficulties associated with collecting and interpreting social indicators, it is unlikely that this issue will be definitively resolved. Even if proportional to population growth, the increases in mental health and counseling caseloads, like increases in demand for most public services, far outstripped the capacity of local counseling and mental health services. However, while it is true that living conditions in Campbell County and Gillette were difficult for some during the energy boom, it is also true that many residents believed that the advantages outweighed the disadvantages. In 1976, the Gillette/Campbell County Department of Planning and Development (GCCDPD) initiated an annual community survey of randomly selected households in the city and county. This practice has continued to the present. In 1978, the first year the question was asked, just over 70 percent of the respondents to the survey said they would recommend Gillette as a place to live (GCCDPD 1978).

As the rate of growth slowed during the 1980s and 1990s and energy development matured into the more stable operations phase, resident satisfaction with the community as a place to live increased dramatically. During 1984 through 1989, the percentage of survey respondents saying they would recommend Gillette as a place to live ranged from a high of 88.7 in 1983 to a low of 77.6 in 1986 (the second year of the nationwide energy bust). Between 1992 and 2000, the percentage of survey respondents saying that they would recommend Gillette as a place to live ranged between 91 and 96 percent (City of Gillette, various years), and between 2001 through 2003, the favorable response was about 90 percent (City of Gillette, various years).

Other parts of the Gillette/Campbell County survey elicited opinions about the adequacy of community facilities and services, about the effectiveness of local government, and about citizen priorities for improving public services. Local officials have used results of those surveys to help guide the expansion and improvement of public facilities and services and to formulate public policies on growth management and community governance. Although public facilities lagged demand during the early years of the boom, the considerable revenues associated with energy facilities and production, coupled with the development of state and federal funding resources for community facilities and the willingness of Campbell County residents to approve bond initiatives and sales tax increases, resulted in the development and expansion of the most critical facilities in the community. In many cases such as schools, hospitals, and recreation facilities, Campbell County and Gillette are now recognized as having among the best public facilities in the state. For instance, the number of hospital beds and range of health care services offered in Campbell County relative to the other counties is profiled in **Table S-18**.

3.11.3 Community Management and Institutional Structures

Partially due to lessons learned from previous booms, partially as a result of intervention by the Governor, and partially as a result of a new municipal administration, Gillette and Campbell County responded to the coal boom of the 1970s by developing management and institutional structures to plan for and accommodate growth (Burgess 1982) (see Section 3.10 of this report for a discussion of management and institutional capacities). The professional managers and planners hired by the City of Gillette developed the institutional and regulatory tools to address growth-related issues. Additionally, state programs, including the WIISA, and a variety of funding mechanisms (also discussed in Section 3.9) were developed to assist communities in planning for and responding to energy-related growth.

Responding to the findings of a statewide energy issues task force created by Governor Stan Hathaway, in 1971, Campbell County energy company managers formed a committee to work with city and county officials to plan and implement a coordinated response to rapid growth issues. In addition to communicating plans for future development and funding technical studies, individual companies sometimes provided land, financial assistance, housing, or in-kind support to address community impacts (Burgess 1982).

3.11.4 Inter-organizational Cooperation

While there have been tensions between the City of Gillette, Campbell County, and more recently, the Town of Wright, these communities have cooperated on many aspects of growth management. The City of Gillette and Campbell County joined together under the authority of the Wyoming Joint Powers Act to develop a city-county fire department and to expand and operate the airport and a solid waste landfill (Burgess 1982).

More recently, the Town of Wright has participated in these efforts; for example, the Town contracts with the county sheriff's office for law enforcement services. During recent Wyoming Industrial Siting Hearings, Campbell County, Gillette, and Wright have been instrumental in cooperating with other affected units of local government to develop formulae for distributing IAPs.

As noted above, the energy industry has cooperated with local government in planning and accommodating industrial growth, although cooperation from larger more discrete coal, electric power generation, and railroad industries has been easier to obtain than cooperation from the more diffuse CBNG industry.

3.11.5 Community Integration

Again, as a result of previous booms and the magnitude and duration of population growth, newcomers have been able to more easily integrate into Campbell County communities. Although there were tensions between some newcomers and old-timers in the early days of the boom, the numbers of newcomers and the growth in community organizations facilitated community integration for those that were so inclined. Then-Mayor Michael Enzi (who became Mayor only 6 years after moving to Gillette) suggested that participating in community activities and organizations was easier in Gillette than in most places, because although most members of the community were relative newcomers, many of the organizations themselves were new (Enzi 1985).

Today, almost any organization, committee, or government body is made up of a cross-section of energy employees, ranchers, and other community members whose tenure in the community may be long or short (Bigelow 2004; Spencer 2004). Moreover, because of the turnover in the energy companies, the community has become accustomed to newcomers.

3.11.6 Social Climate for Energy Development

Gillette and Campbell County are much larger communities than they were at the beginning of the 1970s, and they have nearly 50 years of experience in dealing with energy development. Consequently, the city, the county, and more recently, the Town of Wright, have developed both the expertise and the management and institutional systems to respond to and accommodate growth and development and are accustomed to the ebbs and flows of energy industries. However, institutional mechanisms at both state and local levels are better equipped to handle discrete projects, such as coal mines and mine expansions, power plants, and enhanced-coal/coal gasification projects than to address the challenges posed by more diffuse development, such as CBNG. Nevertheless, given their size, past experiences with rapid growth, and the quality and capacity of most infrastructure, Campbell County and the City of Gillette are among the communities best situated to accommodate energy development in Wyoming and perhaps in the Rocky Mountain west.

From a social integration standpoint, much of the existing population in Campbell County is supported directly or indirectly by the energy industry. Consequently, there are few social barriers to integration for new residents of the community. However, there is potential for conflict between new or expanded energy development and certain segments of the community. During the recent CBNG boom, split estate conflicts between CBNG developers and ranchers gained national attention and resulted in continuing attempts to change mineral entry laws. Also, environmental organizations have been active participants in energy-related environmental processes, and over the years have identified issues that needed to be addressed more thoroughly.

3.11.7 Other Communities within the PRB

Much of the energy development-related social change that has occurred in Campbell County and Gillette also has occurred in other communities and counties throughout the PRB, although to a substantially lesser degree.

3.11.7.1 Converse County

Converse County, the City of Douglas, and the Town of Glenrock have been affected by a variety of energy development, including coal mines in Converse and southern Campbell counties, uranium mines, railroads, oil and gas, an electric power plant and natural gas pipeline construction. As these communities grew in response to energy development, they added management and institutional capabilities for managing growth and developed infrastructure to accommodate populations larger than currently existed. Recently, the county and its communities have been affected economically by the closure of the Dave Johnson Mine near Glenrock. Much of the Converse County work force is employed directly and indirectly by energy industry, and the county and its communities are actively pursuing a number of carbon-based industries to spur economic development in the county. As with Campbell County, Converse County, the City of Douglas, and the Town of Glenrock are

accustomed to accommodating energy development, and there would be few barriers to social integration for long-term energy industry employees and families.

3.11.7.2 Crook County

Energy development within Crook County has been limited to oil and natural gas development. A number of Campbell County energy industry employees live in Crook County, primarily in Moorcroft and Pine Haven. While Moorcroft has a long history of accommodating energy employees, particularly from the Wyodak Coal Mine and power plant, Pine Haven is a more rural agriculture- and recreation-based community. The growth in public service demand in Pine Haven is resulting in an intensification of service levels in that area with associated cost implications for the county (Barron 2004). If residential development continues to increase in Pine Haven, it is likely that the community will continue to face issues related to residential growth in rural areas.

3.11.7.3 Johnson County

During the past 30 years, Johnson County has experienced oil, natural gas, and uranium development and more recently has been the site of increasing CBNG development. Due to the relatively modest level of oil and gas drilling and field development that has occurred in the county over the years, the county is primarily a rural, ranching oriented county, with tourism, recreation, and second/retirement home development playing an important role in the Buffalo area and western parts of the county. Split estate conflicts between ranch owners and CBNG developers have occurred in recent years, and the county has experienced some road maintenance and law enforcement issues related to CBNG development (Pedersen 2001a). Additionally, some residents of Buffalo and the surrounding area actively opposed development of a natural gas-fired power plant near Buffalo.

3.11.7.4 Sheridan County

Sheridan County was home to the Big Horn Mine for over 60 years, and several Sheridan County towns serve as bedroom communities for the Decker and Spring Creek mines in Montana. The county may host the Ash Creek Coal Mine in the future. Sheridan County had only minimal experience with oil and gas development until about 1999, when CBNG development began and subsequently accelerated. Sheridan County and the City of Sheridan have been ranching and agriculture oriented, with second and retirement home development, tourism, and recreation playing a large part in the economy of the City of Sheridan and the western portions of the county. Sheridan also serves as a regional trade center for much of north central Wyoming. Although community integration is unlikely to be a problem with energy development, controversy may arise over environmental concerns, split estate issues, the financing of public service expansions to serve energy development, and effects on county roads (Pederson 2001b).

3.11.7.5 Weston County

Weston County's experience with energy development includes oil and natural gas development and the relatively long-term operations of the Wyoming Refining Company petroleum products refinery. Newcastle and Upton also serve as bedroom communities for some employees of southern Campbell County coal mines. A number of Newcastle residents recently have expressed concern over air emissions at the refinery, but the communities generally are seeking development of energy-related businesses (Spencer 2004).

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5.0 GLOSSARY

Ad Valorem Tax	A tax paid as a percentage of the assessed value of property.
Assessed Value (assessed valuation)	The value of real property for the purposes of levying ad valorem taxes. The value is a function of the market value of property and the assessment rate, which ranges from 9.5 percent for residential property to 100 percent for minerals and mine products.
Compounded Annual Growth Rate (CAGR)	The average annualized growth rate over a defined number of years, which equates to the total change between the starting and ending values, as if the change had occurred at a constant rate.
Mill Levy	A mill is 1/10 of $.01 or $.001 (one thousandth). A mill levy is the number of dollars a taxpayer must pay for every $1000 of assessed value. The mill levy is determined by the amount of revenue that the taxing entity needs to collect from ad valorem taxes.
Mineral Royalty	A share of the value of production that is free of the production expenses. It is generally paid by a lessee to a lessor of a mineral lease as part of the terms of the lease. The Federal government receives a 12.5 percent royalty on coal produced from federal leases.
Severance Tax	A tax on the removal of minerals from the ground. The State of Wyoming imposes a severance tax of 7.0 percent on the value of all coal produced.
Split Estate	The term applied to situations where the surface rights and mineral rights are held by different parties/owners.

APPENDIX

SUPPLEMENTAL DATA TABLES

Table S-1
Annual Coal Production – Surface Mines
(mmtpy)

Year	County				State Total	Estimated PRB Portion (percent)
	Campbell	Converse	Sheridan	Other		
1970	641,495	1,844,278	1,464,597	3,430,551	7,380,921	53.5
1971	- - - - - - - - - Not Available - - - - - - - -				8,007,765	0.0
1972	- - - - - - - - - Not Available - - - - - - - -				10,920,468	0.0
1973	- - - - - - - - - Not Available - - - - - - - -				14,840,857	0.0
1974	1,575,986	2,467,744	464,093	16,141,931	20,649,754	21.8
1975	3,814,317	2,421,268	1,023,175	16,525,368	23,784,128	30.5
1976	- - - - - - - - - Not Available - - - - - - - -				31,085,412	0.0
1977	16,619,977	3,091,393	2,362,296	21,973,176	44,046,842	50.1
1978	27,934,626	2,977,413	2,859,993	24,402,793	58,174,825	58.1
1979	39,322,640	3,004,854	3,636,608	25,481,076	71,445,178	64.3
1980	58,157,230	3,152,635	4,327,594	24,892,541	90,530,000	72.5
1981	68,066,432	3,219,001	2,736,409	24,388,680	98,410,522	75.2
1982	77,927,442	2,821,931	3,002,677	20,267,046	104,019,096	80.5
1983	84,693,794	2,176,113	2,922,014	18,110,843	107,902,764	83.2
1984	102,779,093	2,675,630	2,531,470	17,945,262	125,931,455	85.7
1985	109,202,078	3,151,197	2,632,539	20,119,390	135,105,204	85.1
1986	103,801,604	4,406,517	1,346,503	27,236,796	136,791,420	80.1
1987	110,153,389	4,436,159	1,180,781	16,982,682	132,753,011	87.2
1988	136,002,378	5,795,596	944,816	21,058,584	163,801,374	87.1
1989	143,944,898	6,116,368	111,293	20,866,010	171,038,569	87.8
1990	154,816,910	7,890,661	119,283	21,081,546	183,908,400	88.5
1991	164,920,201	8,218,762	78,324	20,820,479	194,037,766	89.3
1992	159,642,002	8,517,680	166,287	21,699,283	190,025,252	88.6
1993	181,557,042	10,206,096	86,873	18,212,275	210,062,286	91.3
1994	205,507,104	11,417,424	87,472	19,936,922	236,948,922	91.6
1995	232,394,443	14,135,841	37,472	16,937,458	263,505,214	93.6
1996	245,534,000	15,839,000	16,000	16,883,409	278,272,409	93.9
1997	246,281,000	17,701,000	44,000	17,703,283	281,729,283	93.7
1998	273,886,000	23,383,000	66,000	17,363,732	314,698,732	94.5
1999	294,291,256	25,641,038	76,401	16,292,093	336,300,788	95.2
2000	299,542,969	23,599,855	38,411	13,896,914	337,078,149	95.9
2001	329,516,832	24,643,293	--	14,578,791	368,738,916	96.0
2002	332,830,461	26,808,504	--	9,958,972	369,597,937	97.3
2003	334,144,079	29,533,072	--	12,888,096	376,565,247	96.6

Sources: Wyoming Sate Inspector of Mines, various years; WTA 1970 – 2003.

Table S-2
County Population Estimates
(1977 - 2003)

Year	Campbell	Converse	Crook	Johnson	Natrona	Niobrara	Sheridan	Weston
1977	17,767	9,906	4,984	6,043	61,526	2,970	21,819	6,824
1978	20,159	11,390	5,246	6,272	65,515	2,966	22,876	7,064
1979	22,122	12,478	5,301	6,423	68,354	3,030	24,235	7,257
1980	25,166	14,223	5,345	6,755	72,523	2,954	25,178	7,188
1981	28,313	14,815	5,481	6,965	75,042	3,068	25,646	7,507
1982	31,559	15,036	5,620	7,128	77,094	3,109	26,376	7,789
1983	33,168	15,022	5,766	7,200	76,292	3,174	26,806	7,811
1984	33,820	14,417	5,813	7,025	73,166	3,288	26,936	7,853
1985	34,864	13,955	5,787	6,909	71,569	3,114	26,199	7,777
1986	34,600	13,318	5,738	6,730	69,177	2,995	25,354	7,593
1987	31,313	12,248	5,575	6,417	64,552	2,895	24,745	7,249
1988	30,544	11,710	5,476	6,253	62,507	2,707	24,107	6,843
1989	29,790	11,443	5,353	6,185	61,722	2,538	23,700	6,677
1990	29,403	11,069	5,302	6,172	61,296	2,486	23,593	6,506
1991	29,826	11,081	5,315	6,209	62,312	2,396	23,722	6,515
1992	30,517	11,277	5,405	6,280	63,087	2,411	24,230	6,638
1993	30,544	11,436	5,435	6,357	63,981	2,447	24,787	6,587
1994	30,835	11,492	5,657	6,533	65,316	2,446	25,256	6,696
1995	31,440	11,713	5,682	6,672	65,687	2,483	25,663	6,721
1996	31,946	11,856	5,813	6,772	65,859	2,501	26,008	6,768
1997	32,098	12,011	5,859	6,831	66,311	2,480	26,095	6,725
1998	32,452	11,911	5,851	6,872	66,146	2,510	26,240	6,739
1999	32,844	11,993	5,849	6,958	66,282	2,454	26,328	6,667
2000	33,984	12,104	5,895	7,108	66,551	2,390	26,608	6,642
2001	34,636	12,330	5,928	7,543	68,211	2,237	27,111	6,659
2002	36,240	12,361	5,871	7,400	67,448	2,269	26,964	6,630
2003	36,119	12,087	5,776	7,164	66,862	2,320	26,721	6,523

Source: U.S. Bureau of Economic Analysis 2004; U.S. Census Bureau, various years.

Table S-3
Employment by Major Industry by County
(2002)

Employment/Industry	Campbell	Converse	Crook	Johnson	Sheridan	Weston
Total employment	**25,453**	**7,086**	**3,756**	**5,133**	**17,512**	**4,931**
Wage and salary employment	22,978	5,104	2,297	3,251	12,821	2,612
Proprietors employment	2,475	1,982	1,459	1,882	4,691	2,319
Farm proprietors employment	530	327	473	315	556	236
Nonfarm proprietors employment	1,945	1,655	986	1,567	4,135	2,083
Farm employment	**618**	**456**	**613**	**466**	**781**	**304**
Nonfarm employment	24,835	6,630	3,143	4,667	16,731	4,627
Private employment	**21,328**	**5,303**	**2,452**	**3,774**	**13,635**	**3,871**
Forestry, fishing, related and other	(D)	85	143	143	214	79
Mining	6,689	725	197	269	254	650
Utilities	168	(D)	(D)	(L)	(D)	(D)
Construction	2,599	592	346	395	1,552	331
Manufacturing	511	151	190	111	451	132
Wholesale trade	1,036	(D)	(D)	127	(D)	(D)
Retail trade	2,386	718	312	552	2,168	516
Transportation and warehousing	988	395	125	152	641	263
Information	206	79	20	54	225	39
Finance and insurance	455	(D)	(D)	234	643	166
Real estate and rental and leasing	431	234	(D)	258	760	257
Professional and technical services	833	(D)	96	203	932	238
Management of companies and enterprises	40	(D)	(D)	-	(D)	(D)
Administrative and waste services	866	188	(D)	101	(D)	(D)
Educational services	61	(D)	(D)	(L)	157	15
Health care and social assistance	1,040	(D)	(D)	221	1,760	274
Arts, entertainment, & recreation	114	116	100	128	342	(D)
Accommodation and food services	1,721	568	263	534	1,574	(D)
Other services, exc. public administration	(D)	328	164	276	1,108	276
Government and government enterprises	**3,507**	**1,327**	**691**	**893**	**3,096**	**756**
Federal, civilian	89	72	85	111	572	69
Military	176	60	29	36	131	37
State and local	3,242	1,195	577	746	2,393	650
State government	180	146	83	121	348	118
Local government	3,062	1,049	494	625	2,045	532

Notes: Beginning in 2001, employment was reported by the North American Industrial Classification System.
(D) = Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.
(L) = Less than 10 jobs, but the estimates are included in the totals.

Source: U.S. Bureau of Economic Analysis 2004.

Table S-4
Number of Workers by Workplace

County of Residence/Year	Workplace County									
	Big Horn, Montana	Campbell, Wyoming	Converse, Wyoming	Crook, Wyoming	Johnson, Wyoming	Natrona, Wyoming	Powder River, Montana	Rosebud, Montana	Sheridan, Wyoming	Weston, Wyoming
Big Horn, Montana										
1960	2,742	-	-	-	-	12	-	9	-	-
1970	2,811	-	-	-	-	-	-	82	-	-
1980	3,587	-	-	-	-	-	-	146	-	-
1990	3,133	-	-	-	-	-	-	164	-	-
2000	3,937	3	-	-	-	8	-	294	30	-
Campbell, Wyoming										
1960	-	2,120	-	46	-	-	-	-	-	-
1970	-	4,353	-	21	6	20	-	-	-	-
1980	-	11,782	71	79	20	65	-	-	3	58
1990	-	14,016	44	36	-	22	-	-	32	18
2000	-	17,225	50	88	26	54	-	-	43	25
Converse, Wyoming										
1960	-	14	2,157	-	-	48	-	-	-	-
1970	-	40	1,712	-	-	79	-	-	-	-
1980	-	22	5,675	-	-	600	-	-	-	-
1990	-	240	4,233	-	-	353	-	-	-	-
2000	-	349	4,477	-	5	812	-	-	3	4
Crook, Wyoming										
1960	-	4	-	1,460	-	-	-	-	-	10
1970	-	128	-	1,180	-	-	-	-	-	44
1980	-	286	-	1,833	-	-	-	-	-	19
1990	-	189	-	1,995	-	-	-	-	-	28
2000	-	522	9	2,011	-	5	-	-	-	22
Johnson, Wyoming										
1960	-	12	-	-	1,787	8	-	-	4	-
1970	-	47	-	-	1,750	27	-	-	20	-
1980	-	126	-	-	2,445	74	-	-	61	-
1990	-	81	-	-	2,663	15	-	-	146	-
2000	-	122	13	-	2,759	54	-	-	142	-
Natrona, Wyoming										
1960	12	20	153	-	46	16,965	-	-	-	9
1970	30	137	171	26	88	17,552	-	-	-	7
1980	-	69	779	-	20	33,200	-	-	-	-
1990	-	44	373	-	25	26,686	-	-	-	-
2000	-	-	-	-	-	31,031	-	-	-	-
Powder River, Montana										
1960	-	-	-	-	-	-	841	13	-	-
1970	11	22	-	-	-	-	958	17	-	-
1980	-	-	-	-	-	-	1,161	60	-	-
1990	-	-	-	-	-	-	954	54	-	-
2000	5	5	-	-	-	-	804	56	3	-
Rosebud, Montana										
1960	10	-	-	-	-	-	-	2,029	-	-
1970	-	-	-	-	-	-	-	2,083	-	-
1980	26	-	-	-	-	-	-	3,960	-	-
1990	8	-	-	-	-	-	-	4,216	-	-
2000	22	-	-	-	-	-	2	3,636	13	-
Sheridan, Wyoming										
1960	23	19	-	-	42	-	-	8	5,940	-
1970	14	25	-	-	67	14	-	-	5,966	-
1980	677	70	46	-	66	-	-	38	9,527	-
1990	515	80	10	-	91	-	-	-	9,629	-
2000	435	172	-	-	162	41	-	7	11,978	14
Weston, Wyoming										
1960	-	36	-	59	-	-	-	-	-	2,539
1970	-	99	-	49	-	27	-	-	-	1,942
1980	-	246	-	34	-	48	-	-	-	2,746
1990	-	176	-	36	-	13	-	-	-	2,617
2000	-	376	8	62	-	7	-	-	5	2,431
All Other/Not Reported										
1960	33	13	24	4	-	81	-	133	8	41
1970	39	31	41	86	-	156	14	130	31	25
1980	237	260	150	291	286	312	-	508	90	55
1990	196	95	38	246	-	153	-	291	30	46
2000	341	786	638	218	52	463	23	286	243	173
Total										
1960	2,820	2,238	2,334	1,569	1,875	17,114	841	2,192	5,952	2,599
1970	2,905	4,882	1,924	1,362	1,911	17,875	972	2,312	6,017	2,018
1980	4,527	12,861	6,721	2,237	2,837	34,299	1,161	4,712	9,681	2,878
1990	3,852	14,921	4,698	2,313	2,779	27,242	954	4,725	9,837	2,709
2000	4,740	19,560	5,195	2,379	3,004	32,475	829	4,279	12,460	2,669

Source: U.S. Census Bureau, various years.

Table S-5
Percent of Workers by Workplace

County of Residence/ Year	Workplace County									
	Big Horn, Montana	Campbell, Wyoming	Converse, Wyoming	Crook, Wyoming	Johnson, Wyoming	Natrona, Wyoming	Powder River, Montana	Rosebud, Montana	Sheridan, Wyoming	Weston, Wyoming
Big Horn, Montana										
1960	97.2	-	-	-	-	0.1	-	0.4	-	-
1970	96.8	-	-	-	-	-	-	3.5	-	-
1980	79.2	-	-	-	-	-	-	3.1	-	-
1990	81.3	-	-	-	-	-	-	3.5	-	-
2000	83.1	0.0	-	-	-	0.0	-	6.9	0.2	-
Campbell, Wyoming										
1960	-	94.7	-	2.9	-	-	-	-	-	-
1970	-	89.2	-	1.5	0.3	0.1	-	-	-	-
1980	-	91.6	1.1	3.5	0.7	0.2	-	-	0.0	2.0
1990	-	93.9	0.9	1.6	-	0.1	-	-	0.3	0.7
2000	-	88.1	1.0	3.7	0.9	0.2	-	-	0.3	0.9
Converse, Wyoming										
1960	-	0.6	92.4	-	-	0.3	-	-	-	-
1970	-	0.8	89.0	-	-	0.4	-	-	-	-
1980	-	0.2	84.4	-	-	1.7	-	-	-	-
1990	-	1.6	90.1	-	-	1.3	-	-	-	-
2000	-	1.8	86.2	-	0.2	2.5	-	-	0.0	0.1
Crook, Wyoming										
1960	-	0.2	-	93.1	-	-	-	-	-	0.4
1970	-	2.6	-	86.6	-	-	-	-	-	2.2
1980	-	2.2	-	81.9	-	-	-	-	-	0.7
1990	-	1.3	-	86.3	-	-	-	-	-	1.0
2000	-	2.7	0.2	84.5	-	0.0	-	-	-	0.8
Johnson, Wyoming										
1960	-	0.5	-	-	95.3	0.0	-	-	0.1	-
1970	-	1.0	-	-	91.6	0.2	-	-	0.3	-
1980	-	1.0	-	-	86.2	0.2	-	-	0.6	-
1990	-	0.5	-	-	95.8	0.1	-	-	1.5	-
2000	-	0.6	0.3	-	91.8	0.2	-	-	1.1	-
Natrona, Wyoming										
1960	0.4	0.9	6.6	-	2.5	99.1	-	-	-	0.3
1970	1.0	2.8	8.9	1.9	4.6	98.2	-	-	-	0.3
1980	-	0.5	11.6	-	0.7	96.8	-	-	-	-
1990	-	0.3	7.9	-	0.9	98.0	-	-	-	-
2000	-	-	-	-	-	95.6	-	-	-	-
Powder River, Montana										
1960	-	-	-	-	-	-	100.0	0.6	-	-
1970	0.4	0.5	-	-	-	-	98.6	0.7	-	-
1980	-	-	-	-	-	-	100.0	1.3	-	-
1990	-	-	-	-	-	-	100.0	1.1	-	-
2000	0.1	0.0	-	-	-	-	97.0	1.3	0.0	-
Rosebud, Montana										
1960	0.4	-	-	-	-	-	-	92.6	-	-
1970	-	-	-	-	-	-	-	90.1	-	-
1980	0.6	-	-	-	-	-	-	84.0	-	-
1990	0.2	-	-	-	-	-	-	89.2	-	-
2000	0.5	-	-	-	-	-	0.2	85.0	0.1	-
Sheridan, Wyoming										
1960	0.8	0.8	-	-	2.2	-	-	0.4	99.8	-
1970	0.5	0.5	-	-	3.5	0.1	-	-	99.2	-
1980	15.0	0.5	0.7	-	2.3	-	-	0.8	98.4	-
1990	13.4	0.5	0.2	-	3.3	-	-	-	97.9	-
2000	9.2	0.9	-	-	5.4	0.1	-	0.2	96.1	0.5
Weston, Wyoming										
1960	-	1.6	-	3.8	-	-	-	-	-	97.7
1970	-	2.0	-	3.6	-	0.2	-	-	-	96.2
1980	-	1.9	-	1.5	-	0.1	-	-	-	95.4
1990	-	1.2	-	1.6	-	0.0	-	-	-	96.6
2000	-	1.9	0.2	2.6	-	0.0	-	-	0.0	91.1
All Other/Not Reported										
1960	1.2	0.6	1.0	0.3	-	0.5	-	6.1	0.1	1.6
1970	1.3	0.6	2.1	6.3	-	0.9	1.4	5.6	0.5	1.2
1980	5.2	2.0	2.2	13.0	10.1	0.9	-	10.8	0.9	1.9
1990	5.1	0.6	0.8	10.6	-	0.6	-	6.2	0.3	1.7
2000	7.2	4.0	12.3	9.2	1.7	1.4	2.8	6.7	2.0	6.5
Total										
1960	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1980	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2000	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: U.S. Census Bureau, various years.

Table S-6
Number of Workers Commuting by County of Residence

Workplace County/Year	County of Residence									
	Big Horn, Montana	Campbell, Wyoming	Converse, Wyoming	Crook, Wyoming	Johnson, Wyoming	Natrona, Wyoming	Powder River, Montana	Rosebud, Montana	Sheridan, Wyoming	Weston, Wyoming
Big Horn, Montana										
1960	2,742	-	-	-	-	12	-	10	48	-
1970	2,811	-	-	-	-	30	11	-	42	-
1980	3,587	-	-	-	-	-	-	26	914	-
1990	3,133	-	-	-	-	-	-	8	533	-
2000	3,937	-	-	-	6	15	5	22	435	-
Campbell, Wyoming										
1960	-	2,120	14	4	12	20	-	-	19	36
1970	-	4,353	40	128	47	137	22	-	25	99
1980	-	11,782	22	286	126	69	-	-	70	246
1990	-	14,016	240	189	81	44	-	-	80	176
2000	3	17,225	349	522	122	210	5	-	172	376
Converse, Wyoming										
1960	-	-	2,157	-	-	153	-	-	-	-
1970	-	-	1,712	-	-	171	-	-	-	-
1980	-	71	5,675	-	-	779	-	-	46	-
1990	-	44	4,233	-	-	373	-	-	10	-
2000	-	50	4,477	9	13	375	-	-	-	8
Crook, Wyoming										
1960	-	46	-	1,460	-	-	-	-	-	59
1970	-	21	-	1,180	-	26	-	-	-	49
1980	-	79	-	1,833	-	-	-	-	-	34
1990	-	36	-	1,995	-	-	-	-	-	36
2000	-	88	-	2,011	-	-	-	-	-	62
Johnson, Wyoming										
1960	-	-	-	-	1,787	46	-	-	42	-
1970	-	6	-	-	1,750	88	-	-	67	-
1980	-	20	-	-	2,445	20	-	-	66	-
1990	-	-	-	-	2,663	25	-	-	91	-
2000	-	26	5	-	2,759	27	-	-	162	-
Natrona, Wyoming										
1960	12	-	48	-	8	16,965	-	-	-	-
1970	-	20	79	-	27	17,552	-	-	14	27
1980	-	65	600	-	74	33,200	-	-	-	48
1990	-	22	353	-	15	26,686	-	-	-	13
2000	-	-	-	-	-	31,031	-	-	-	-
Powder River, Montana										
1960	-	-	-	-	-	-	841	-	-	-
1970	-	-	-	-	-	-	958	-	-	-
1980	-	-	-	-	-	-	1,161	-	-	-
1990	-	-	-	-	-	-	954	-	-	-
2000	-	-	-	-	-	-	804	2	-	-
Rosebud, Montana										
1960	9	-	-	-	-	-	13	2,029	8	-
1970	82	-	-	-	-	-	17	2,083	-	-
1980	146	-	-	-	-	-	60	3,960	38	-
1990	164	-	-	-	-	-	54	4,216	-	-
2000	294	-	-	2	-	-	56	3,636	7	-
Sheridan, Wyoming										
1960	8	-	-	-	4	-	-	-	5,940	-
1970	8	-	-	-	20	-	-	-	5,966	-
1980	30	3	-	-	61	-	-	-	9,527	-
1990	2	32	-	-	146	-	-	-	9,629	-
2000	30	43	3	-	142	21	-	13	11,978	5
Weston, Wyoming										
1960	-	-	-	10	-	9	-	-	-	2,539
1970	-	-	-	44	-	7	-	-	-	1,942
1980	-	58	-	19	-	-	-	-	-	2,746
1990	-	18	-	28	-	-	-	-	-	2,617
2000	-	25	4	22	-	4	-	-	14	2,431
All Other/Not Reported										
1960	81	67	124	101	74	207	44	38	334	168
1970	126	380	319	264	307	502	111	(1,885)	521	180
1980	22	152	193	91	90	1,286	17	(2,056)	315	31
1990	64	167	180	131	54	518	(19)	(3,861)	129	106
2000	148	321	1,020	216	125	936	(5)	(4,016)	291	63
Total										
1960	2,852	2,233	2,343	1,575	1,885	17,412	898	2,077	6,391	2,802
1970	3,036	4,780	2,150	1,616	2,151	18,513	1,132	2,227	6,643	2,297
1980	3,867	12,230	6,490	2,229	2,796	35,354	1,255	4,013	10,976	3,105
1990	3,509	14,335	5,006	2,343	2,959	27,646	1,049	4,323	10,510	2,948
2000	4,576	17,778	5,858	2,782	3,167	32,619	922	3,873	13,059	2,945

Source: U.S. Census Bureau, various years.

Table S-7
Percent of Workers Commuting by County of Residence

Workplace County/Year	County of Residence									
	Big Horn, Montana	Campbell, Wyoming	Converse, Wyoming	Crook, Wyoming	Johnson, Wyoming	Natrona, Wyoming	Powder River, Montana	Rosebud, Montana	Sheridan, Wyoming	Weston, Wyoming
Big Horn, Montana										
1960	96.1	-	-	-	-	0.1	-	0.5	0.8	-
1970	92.6	-	-	-	-	0.2	1.0	-	0.6	-
1980	92.8	-	-	-	-	-	-	0.6	8.3	-
1990	89.3	-	-	-	-	-	-	0.2	5.1	-
2000	86.0	-	-	-	0.2	0.0	0.5	0.6	3.3	-
Campbell, Wyoming										
1960	-	94.9	0.6	0.3	0.6	0.1	-	-	0.3	1.3
1970	-	91.1	1.9	7.9	2.2	0.7	1.9	-	0.4	4.3
1980	-	96.3	0.3	12.8	4.5	0.2	-	-	0.6	7.9
1990	-	97.8	4.8	8.1	2.7	0.2	-	-	0.8	6.0
2000	0.1	96.9	6.0	18.8	3.9	0.6	0.5	-	1.3	12.8
Converse, Wyoming										
1960	-	-	92.1	-	-	0.9	-	-	-	-
1970	-	-	79.6	-	-	0.9	-	-	-	-
1980	-	0.6	87.4	-	-	2.2	-	-	0.4	-
1990	-	0.3	84.6	-	-	1.3	-	-	0.1	-
2000	-	0.3	76.4	0.3	0.4	1.1	-	-	-	0.3
Crook, Wyoming										
1960	-	2.1	-	92.7	-	-	-	-	-	2.1
1970	-	0.4	-	73.0	-	0.1	-	-	-	2.1
1980	-	0.6	-	82.2	-	-	-	-	-	1.1
1990	-	0.3	-	85.1	-	-	-	-	-	1.2
2000	-	0.5	-	72.3	-	-	-	-	-	2.1
Johnson, Wyoming										
1960	-	-	-	-	94.8	0.3	-	-	0.7	-
1970	-	0.1	-	-	81.4	0.5	-	-	1.0	-
1980	-	0.2	-	-	87.4	0.1	-	-	0.6	-
1990	-	-	-	-	90.0	0.1	-	-	0.9	-
2000	-	0.1	0.1	-	87.1	0.1	-	-	1.2	-
Natrona, Wyoming										
1960	0.4	-	2.0	-	0.4	97.4	-	-	-	-
1970	-	0.4	3.7	-	1.3	94.8	-	-	0.2	1.2
1980	-	0.5	9.2	-	2.6	93.9	-	-	-	1.5
1990	-	0.2	7.1	-	0.5	96.5	-	-	-	0.4
2000	-	-	-	-	-	95.1	-	-	-	-
Powder River, Montana										
1960	-	-	-	-	-	-	93.7	-	-	-
1970	-	-	-	-	-	-	84.6	-	-	-
1980	-	-	-	-	-	-	92.5	-	-	-
1990	-	-	-	-	-	-	90.9	-	-	-
2000	-	-	-	-	-	-	87.2	0.1	-	-
Rosebud, Montana										
1960	0.3	-	-	-	-	-	1.4	97.7	0.1	-
1970	2.7	-	-	-	-	-	1.5	93.5	-	-
1980	3.8	-	-	-	-	-	4.8	98.7	0.3	-
1990	4.7	-	-	-	-	-	5.1	97.5	-	-
2000	6.4	-	-	0.1	-	-	6.1	93.9	0.1	-
Sheridan, Wyoming										
1960	0.3	-	-	-	0.2	-	-	-	92.9	-
1970	0.3	-	-	-	0.9	-	-	-	89.8	-
1980	0.8	0.0	-	-	2.2	-	-	-	86.8	-
1990	0.1	0.2	-	-	4.9	-	-	-	91.6	-
2000	0.7	0.2	0.1	-	4.5	0.1	0.3	0.3	91.7	0.2
Weston, Wyoming										
1960	-	-	-	0.6	-	0.1	-	-	-	90.6
1970	-	-	-	2.7	-	0.0	-	-	-	84.5
1980	-	0.5	-	0.9	-	-	-	-	-	88.4
1990	-	0.1	-	1.2	-	-	-	-	-	88.8
2000	-	0.1	0.1	0.8	-	0.0	-	-	0.1	82.5
All Other/Not Reported										
1960	2.8	3.0	5.3	6.4	3.9	1.2	4.9	1.8	5.2	6.0
1970	4.2	7.9	14.8	16.3	14.3	2.7	9.8	-	7.8	7.8
1980	0.6	1.2	3.0	4.1	3.2	3.6	1.4	-	2.9	1.0
1990	1.8	1.2	3.6	5.6	1.8	1.9	-	-	1.2	3.6
2000	3.2	1.8	17.4	7.8	3.9	2.9	-	-	2.2	2.1
Total										
1960	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1970	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1980	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2000	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: U.S. Census Bureau, various years.

Table S-8
Selected Farm Statistics for PRB Study Area
(2002)

	County						
	Campbell	**Converse**	**Crook**	**Johnson**	**Sheridan**	**Weston**	**Combined**
Number of Farms	532	339	440	272	561	221	2,365
Total Acres in Farms	2,985,945	2,517,920	1,523,198	2,155,277	1,638,163	1,605,637	12,426,140
Average Size (acres)	5,613	7,427	3,462	7,924	2,920	7,265	5,254
Irrigated Land (acres)	7,915	39,480	3,915	38,933	54,525	2,337	147,105
Total County Land Area	3,070,016	2,723,136	1,829,568	2,666,496	1,614,976	1,534,656	13,438,848
Market Value of Products Sold	$33,118,000	$31,480,000	$37,154,000	$26,459,000	$41,710,000	$25,507,000	$195,428,000
Average Value of Land and Buildings	$1,138,227	$1,210,588	$1,337,293	$2,141,370	$1,328,667	$1,577,631	NA
Total Income from Farm-related Sources (gross before taxes and expenses)	$2,937,000	$2,742,000	$2,332,000	$2,112,000	$1,134,000	$987,000	$12,244,000
Farms by Size							
1 to 49 acres	86	47	27	32	148	17	357
50 to 499 acres	117	94	109	53	185	38	596
500 or more	329	198	304	187	228	166	1,412
Farms by Value of Sales							
Less than $5,000	180	106	149	73	246	63	817
$5,000 to $49,999	187	116	137	77	194	66	777
$50,000 or more	165	117	154	122	121	92	771
Principal Occupation							
Farming/Ranching	321	220	309	184	313	143	1,490
Other	211	119	131	88	248	78	875
Total Number of Farms (1987 to 2002)							
Census of Agriculture 1987	489	337	461	272	586	235	2,380
Census of Agriculture 1992	476	305	442	290	533	231	2,277
Census of Agriculture 1997	531	348	498	315	568	233	2,493
Census of Agriculture 2002	532	339	440	272	561	221	2,365
Change 1987 to 2002	43	2	-21	0	-25	-14	(15)

Source: U.S. Department of Agriculture 2004.

Table S-9
Taxable Valuation of Annual Coal Production
in Nominal Dollars

Year	County			Other	State Total
	Campbell	Converse	Sheridan		
1969	$604,894	$1,289,566	$564,025	$2,700,405	$5,158,890
1970	$574,039	$1,296,893	$634,111	$4,099,674	$6,604,717
1971	$502,992	$1,283,998	$3,496,149	$33,593,694	$38,876,833
1972	$598,768	$1,398,932	$4,260,495	$36,659,226	$42,917,421
1973	$656,668	$2,271,192	$2,121,563	$40,750,296	$45,799,719
1974	$1,805,224	$2,517,445	$837,871	$51,143,326	$56,303,866
1975	$6,787,524	$3,706,354	$3,955,212	$56,209,383	$70,658,473
1976	$8,899,319	$6,944,007	$4,858,835	$103,954,155	$124,656,316
1977	$29,257,744	$8,820,464	$5,857,047	$138,706,522	$182,641,777
1978	$67,227,688	$10,510,736	$29,528,700	$192,511,099	$299,778,223
1979	$122,438,018	$10,420,946	$39,127,101	$236,920,590	$408,906,655
1980	$215,635,685	$13,071,115	$55,171,085	$288,770,657	$572,648,542
1981	$343,171,063	$14,186,858	$66,212,188	$350,063,625	$773,633,734
1982	$508,381,871	$18,670,206	$54,454,539	$408,189,076	$989,695,692
1983	$634,464,846	$17,354,876	$62,742,657	$399,082,761	$1,113,645,140
1984	$658,110,780	$13,383,095	$68,926,516	$410,627,744	$1,151,048,135
1985	$741,382,685	$15,919,999	$64,411,755	$409,203,016	$1,230,917,455
1986	$736,704,572	$18,952,799	$58,388,953	$442,314,311	$1,256,360,635
1987	$672,929,302	$23,163,796	$29,824,713	$385,569,170	$1,111,486,981
1988	$657,613,326	$17,102,688	$24,939,341	$306,574,246	$1,006,229,601
1989	$744,292,453	$28,260,618	$24,243,307	$373,909,838	$1,170,706,216
1990	$776,834,554	$24,178,459	$1,551,907	$354,727,304	$1,157,292,224
1991	$763,789,725	$50,052,279	$1,080,561	$285,351,931	$1,100,274,496
1992	$756,508,340	$29,347,422	$1,205,952	$298,076,348	$1,085,138,062
1993	$718,578,481	$28,423,735	$2,662,512	$337,426,290	$1,087,091,018
1994	$776,838,701	$31,872,048	$689,774	$243,902,911	$1,053,303,434
1995	$807,175,574	$32,283,203	$821,389	$249,438,534	$1,089,718,700
1996	$907,787,337	$39,566,308	$250,540	$208,943,912	$1,156,548,097
1997	$932,521,112	$49,519,274	$176,293	$193,225,354	$1,175,442,033
1998	$871,056,292	$52,581,254	$373,573	$201,705,476	$1,125,716,595
1999	$901,823,928	$67,993,963	$521,507	$203,010,092	$1,173,349,490
2000	$976,439,893	$74,821,315	$897,948	$184,331,158	$1,236,490,314
2001	$1,065,607,228	$74,616,015	$543,370	$171,929,074	$1,312,695,687
2002	$1,228,879,992	$83,284,924	--	$194,172,379	$1,506,337,295
2003	$1,480,406,834	$108,151,284	--	$171,733,186	$1,760,291,304

Note: Taxable valuation reflect the previous year's production (e.g., 2001 values are based on 2000 production).

Source: WTA 1970 to 2004.

Table S-10
Taxable Valuation of Annual Coal Production
in 2003 Constant Dollars

Year	County			Other	State Total
	Campbell	Converse	Sheridan		
1969	$3,109,155	$6,628,369	$2,899,089	$13,880,082	$26,516,695
1970	$2,800,162	$6,326,244	$3,093,193	$19,998,210	$32,217,809
1971	$2,316,429	$5,913,196	$16,100,815	$154,709,039	$179,039,479
1972	$2,643,860	$6,176,984	$18,812,216	$161,868,812	$189,501,872
1973	$2,806,927	$9,708,210	$9,068,621	$174,187,140	$195,770,898
1974	$7,264,221	$10,130,199	$3,371,593	$205,800,744	$226,566,757
1975	$24,613,598	$13,440,352	$14,342,785	$203,832,086	$256,228,821
1976	$29,568,877	$23,072,158	$16,143,965	$345,398,075	$414,183,075
1977	$91,907,351	$27,707,724	$18,398,742	$435,718,798	$573,732,615
1978	$198,388,907	$31,017,182	$87,139,194	$568,100,253	$884,645,536
1979	$335,774,021	$28,578,402	$107,302,162	$649,731,026	$1,121,385,611
1980	$530,528,476	$32,158,864	$135,737,420	$710,462,447	$1,408,887,207
1981	$743,994,865	$30,757,108	$143,548,024	$758,937,939	$1,677,237,936
1982	$999,936,302	$36,722,428	$107,106,633	$802,867,094	$1,946,632,457
1983	$1,177,503,308	$32,208,914	$116,444,097	$740,657,696	$2,066,814,015
1984	$1,185,191,704	$24,101,616	$124,129,763	$739,499,504	$2,072,922,587
1985	$1,290,895,531	$27,719,902	$112,153,748	$712,504,291	$2,143,273,472
1986	$1,238,842,408	$31,871,027	$98,186,863	$743,795,745	$2,112,696,043
1987	$1,114,505,510	$38,363,879	$49,395,690	$638,579,659	$1,840,844,738
1988	$1,051,392,186	$27,343,778	$39,873,018	$490,150,905	$1,608,759,887
1989	$1,144,200,788	$43,445,048	$37,269,236	$574,811,594	$1,799,726,666
1990	$1,139,305,557	$35,460,128	$2,276,027	$520,243,064	$1,697,284,776
1991	$1,064,188,224	$69,737,840	$1,505,546	$397,580,845	$1,533,012,455
1992	$1,013,191,620	$39,305,002	$1,615,132	$399,213,653	$1,453,325,407
1993	$935,301,751	$36,996,333	$3,465,526	$439,194,059	$1,414,957,669
1994	$983,400,112	$40,346,826	$873,185	$308,756,695	$1,333,376,818
1995	$996,619,681	$39,860,071	$1,014,169	$307,981,758	$1,345,475,679
1996	$1,089,889,477	$47,503,309	$300,798	$250,858,061	$1,388,551,645
1997	$1,087,879,129	$57,769,185	$205,663	$225,416,698	$1,371,270,675
1998	$994,136,546	$60,010,985	$426,359	$230,206,460	$1,284,780,350
1999	$1,015,634,108	$76,574,801	$587,321	$228,629,966	$1,321,426,196
2000	$1,075,646,186	$82,423,161	$989,180	$203,059,204	$1,362,117,731
2001	$1,134,445,455	$79,436,210	$578,472	$183,035,692	$1,397,495,829
2002	$1,273,611,224	$86,316,495	$0	$201,240,254	$1,561,167,973
2003	$1,513,419,906	$110,563,058	$0	$175,562,836	$1,799,545,800

Source: Based the WTA 1970 – 2003 (with adjustments by Sammons/Dutton LLC).

Table S-11
Estimated Ad Valorem Tax Revenue on Coal Production in Wyoming
in 2003 Constant Dollars
(1969 – 2003)

Year	County			Other	State Total
	Campbell	Converse	Sheridan		
1969	$152,400	$310,800	$171,900	$803,900	$1,439,000
1970	$135,800	$300,800	$185,700	$1,143,900	$1,766,200
1971	$119,400	$283,400	$1,024,400	$9,169,800	$10,597,000
1972	$136,400	$306,100	$1,265,000	$9,915,600	$11,623,100
1973	$143,900	$547,100	$573,200	$10,524,300	$11,788,500
1974	$357,500	$549,600	$196,000	$11,824,800	$12,927,900
1975	$1,044,700	$678,100	$979,600	$11,802,000	$14,504,400
1976	$1,677,200	$1,257,900	$1,081,100	$20,802,000	$24,818,200
1977	$5,106,400	$1,605,100	$1,272,300	$27,199,000	$35,182,800
1978	$11,799,800	$1,838,400	$6,253,500	$34,980,400	$54,872,100
1979	$19,890,500	$1,727,300	$6,987,500	$39,184,500	$67,789,800
1980	$30,281,800	$1,815,900	$8,580,000	$41,514,400	$82,192,100
1981	$41,456,200	$1,916,700	$9,163,600	$44,461,500	$96,998,000
1982	$62,303,200	$2,365,300	$7,338,500	$48,467,300	$120,474,300
1983	$78,366,800	$2,309,900	$7,981,600	$48,933,100	$137,591,400
1984	$74,316,100	$1,709,600	$9,437,700	$49,208,100	$134,671,500
1985	$80,990,500	$1,801,900	$8,137,600	$46,765,800	$137,695,800
1986	$73,510,100	$2,027,300	$7,584,000	$49,515,900	$132,637,300
1987	$64,938,700	$2,442,500	$3,725,400	$44,018,000	$115,124,600
1988	$59,027,600	$1,783,100	$2,716,400	$33,094,500	$96,621,600
1989	$64,068,400	$2,721,600	$2,620,000	$38,731,300	$108,141,300
1990	$64,698,500	$2,130,000	$160,600	$34,874,400	$101,863,500
1991	$61,735,800	$4,272,300	$107,400	$26,972,600	$93,088,100
1992	$59,902,800	$2,397,300	$116,900	$28,015,000	$90,432,000
1993	$55,275,600	$2,264,900	$255,000	$30,789,700	$88,585,200
1994	$58,149,300	$2,485,600	$64,100	$21,739,500	$82,438,500
1995	$59,178,100	$2,461,100	$74,100	$21,397,400	$83,110,700
1996	$65,874,800	$2,855,200	$21,800	$17,766,900	$86,518,700
1997	$65,960,400	$3,711,700	$15,400	$16,378,900	$86,066,400
1998	$59,270,300	$3,555,600	$29,900	$15,766,200	$78,622,000
1999	$60,203,800	$4,497,500	$40,500	$15,622,800	$80,364,600
2000	$62,945,900	$4,765,300	$66,600	$13,574,900	$81,352,700
2001	$66,488,000	$4,573,600	$38,800	$12,102,700	$83,203,100
2002	$75,440,700	$5,038,000	-	$13,188,400	$93,667,100
2003	$88,488,900	$6,403,900	-	$11,452,200	$106,345,000
Cumulative Totals	**$1,573,436,300**	**$81,710,400**	**$88,266,100**	**$901,701,700**	**$2,645,114,500**

Source: Based on the WTA 1970 – 2003 (with adjustments by Sammons/Dutton LLC).

Table S-12
Estimated Annual Severance Tax Receipts
in 2003 Constant Dollars
(1970 – 2003)

Year	Tax Rate (percent)	County			Other	State Total
		Campbell	Converse	Sheridan		
1969	1.0	-	-	-	-	-
1970	1.0	-	-	-	-	-
1971	1.0	$25,340	$57,270	$27,990	$181,040	$291,640
1972	3.0	$21,500	$54,880	$149,440	$1,435,980	$1,661,800
1973	4.4	$72,270	$168,890	$514,310	$4,425,510	$5,180,980
1974	4.8	$104,760	$362,380	$338,520	$6,501,990	$7,307,650
1975	9.7	$287,900	$401,500	$133,630	$8,156,580	$8,979,610
1976	10.1	$2,068,200	$1,129,360	$1,205,190	$17,127,340	$21,530,090
1977	10.5	$2,652,450	$2,069,650	$1,448,170	$30,983,640	$37,153,910
1978	10.5	$8,424,820	$2,539,870	$1,686,550	$39,940,810	$52,592,050
1979	10.5	$17,367,040	$2,715,260	$7,628,180	$49,731,690	$77,442,170
1980	10.5	$27,871,790	$2,372,230	$8,906,900	$53,932,600	$93,083,520
1981	10.5	$44,534,060	$2,699,510	$11,394,170	$59,638,220	$118,265,960
1982	10.5	$66,873,570	$2,764,590	$12,902,740	$68,216,720	$150,757,620
1983	10.5	$96,132,220	$3,530,430	$10,297,060	$77,186,300	$187,146,010
1984	10.5	$115,996,670	$3,172,920	$11,470,990	$72,962,710	$203,603,290
1985	10.5	$116,201,300	$2,363,020	$12,170,210	$72,503,710	$203,238,240
1986	8.5	$128,927,190	$2,768,500	$11,201,260	$71,160,820	$214,057,770
1987	8.5	$100,116,680	$2,575,650	$7,934,940	$60,109,640	$170,736,910
1988	8.5	$87,932,010	$3,026,820	$3,897,210	$50,382,520	$145,238,560
1989	8.5	$81,978,730	$2,132,040	$3,108,960	$38,217,850	$125,437,580
1990	8.5	$88,146,930	$3,346,920	$2,871,150	$44,282,330	$138,647,330
1991	8.5	$88,435,240	$2,752,490	$176,670	$40,382,330	$131,746,730
1992	7.0	$84,502,640	$5,537,580	$119,550	$31,570,190	$121,729,960
1993	7.0	$67,036,470	$2,600,560	$106,870	$26,413,430	$96,157,330
1994	7.0	$62,106,020	$2,456,630	$230,120	$29,163,420	$93,956,190
1995	7.0	$65,287,080	$2,678,590	$57,960	$20,498,080	$88,521,710
1996	7.0	$65,915,570	$2,636,310	$67,080	$20,369,650	$88,988,610
1997	7.0	$72,524,030	$3,160,990	$20,020	$16,692,730	$92,397,770
1998	7.0	$73,514,370	$3,903,800	$13,900	$15,232,720	$92,664,790
1999	7.0	$67,168,890	$4,054,650	$28,810	$15,553,910	$86,806,260
2000	7.0	$67,205,720	$5,067,050	$38,870	$15,128,720	$87,440,360
2001	7.0	$70,838,760	$5,428,130	$65,150	$13,372,860	$89,704,900
2002	7.0	$76,255,920	$5,339,600	$38,890	$12,303,420	$93,937,830
2003	-	$86,021,600	$5,829,940	-	$13,592,070	$105,443,610
Cumulative Totals		**$1,932,547,740**	**$91,698,010**	**$110,251,460**	**$1,097,351,530**	**$3,231,848,740**

Source: WTA 1970 – 2003 (with adjustments by Sammons/Dutton LLC).

Table S-13
Federal Royalties Collected on Coal Produced in Wyoming
in Nominal Dollars

Year	Total Royalties Paid on Federal Coal in Wyoming	Federal Royalties on Campbell County Coal	Federal Royalties on Converse County Coal	Federal Coal Royalties for Campbell and Converse Counties	Federal Coal Royalties for the Remainder of Wyoming
1980	$8,700,686	---	---	---	---
1981	$17,289,702	---	---	---	---
1982	$21,331,355	---	---	---	---
1983	$21,024,109	---	---	---	---
1984	$23,449,891	---	---	---	---
1985	$27,705,941	---	---	---	---
1986	$28,486,778	---	---	---	---
1987	$60,894,526	$37,722,050	$2,319,689	$40,041,739	$20,852,787
1988	$91,858,561	$59,652,909	$2,903,145	$62,556,054	$29,302,507
1989	$100,112,259	$67,666,853	$3,032,977	$70,699,830	$29,412,429
1990	$111,192,225	$102,537,831	$3,386,354	$105,924,185	$5,268,040
1991	$147,158,539	$117,321,748	$5,124,090	$122,445,838	$24,712,701
1992	$143,718,541	$122,555,094	$5,045,721	$127,600,815	$16,117,726
1993	$150,508,600	$121,577,414	$7,010,390	$128,587,804	$21,920,796
1994	$159,208,542	$139,894,377	$7,102,524	$146,996,901	$12,211,641
1995	$178,202,333	---	---	---	---
1996	$176,655,794	$161,358,949	$6,938,326	$168,297,275	$8,358,519
1997	$158,319,997	$152,483,528	$4,107,199	$156,590,727	$1,729,270
1998	$166,749,664	$150,322,127	$6,283,672	$156,605,799	$10,143,865
1999	$161,457,356	$137,173,957	$10,164,056	$147,338,013	$14,119,343
2000	$203,017,050	$180,485,566	$9,411,794	$189,897,360	$13,119,690
2001	$243,974,135	$216,602,119	$15,215,420	$231,817,539	$12,156,596
2002	- - - - - - - - - - - - - - - - - - Data for fiscal year 2002 are not available. - - - - - - - - - - - -				
2003	$321,076,791	- - - - - - - - - - - - Data for fiscal year 2003 are not reported by county. - - - - - - - - - -			

Source: U.S. Minerals Management Service 1980 to 2003.

Table S-14
Federal Royalties Collected on Coal Produced in Wyoming
in 2003 Constant Dollars

Year	Total Royalties Paid on Federal Coal in Wyoming	Federal Royalties on Campbell County Coal	Federal Royalties on Converse County Coal	Federal Coal Royalties for Campbell and Converse Counties	Federal Coal Royalties for the remainder of Wyoming
1980	$18,863,087	N/A	N/A	N/A	N/A
1981	$34,007,115	N/A	N/A	N/A	N/A
1982	$39,588,862	N/A	N/A	N/A	N/A
1983	$37,862,318	N/A	N/A	N/A	N/A
1984	$40,830,950	N/A	N/A	N/A	N/A
1985	$46,590,310	N/A	N/A	N/A	N/A
1986	$47,179,802	N/A	N/A	N/A	N/A
1987	$97,358,168	$60,310,014	$3,708,719	$64,018,732	$33,339,436
1988	$141,214,166	$91,704,417	$4,463,005	$96,167,422	$45,046,744
1989	$146,824,639	$99,240,207	$4,448,164	$103,688,371	$43,136,268
1990	$154,924,127	$142,865,960	$4,718,207	$147,584,167	$7,339,960
1991	$197,089,431	$157,129,017	$6,862,694	$163,991,711	$33,097,720
1992	$187,064,053	$159,517,710	$6,567,510	$166,085,221	$20,978,832
1993	$190,528,837	$153,904,848	$8,874,453	$162,779,301	$27,749,536
1994	$196,574,787	$172,727,587	$8,769,486	$181,497,074	$15,077,713
1995	$213,949,721	-	-	-	-
1996	$206,086,649	$188,241,350	$8,094,251	$196,335,601	$9,751,048
1997	$180,690,613	$174,029,451	$4,687,546	$178,716,997	$1,973,616
1998	$187,793,472	$169,292,779	$7,076,671	$176,369,451	$11,424,021
1999	$177,861,423	$151,110,831	$11,196,724	$162,307,555	$15,553,868
2000	$216,131,951	$192,144,934	$10,019,796	$202,164,729	$13,967,222
2001	$252,854,794	$224,486,436	$15,769,261	$240,255,697	$12,599,096
2002	- - - - - - - - - - - - - - - - - - Data for Fiscal Year 2002 are not available - - - - - - - - - - -				
2003	$321,076,791	N/A	N/A	N/A	N/A
Cumulative Total	$3,332,946,066	$2,136,705,541	$105,256,487	$2,241,962,029	$291,035,080

Source: U.S. Minerals Management Service 1980 - 2003 (with adjustments by Sammons/Dutton LLC).

Table S-15
General Government Revenues by Source, City of Gillette
in 2003 Constant Dollars
(1994 – 2003)

Source	1994	1997	2000	2003	Total Change (percent)	CAGR (percent)
Taxes	$8,947,830	$9,150,866	$11,570,248	$14,118,881	58	5.2
Intergovernmental	$1,444,984	$1,806,151	$1,776,373	$1,642,598	14	1.4
Licenses & Permits	$145,869	$134,320	$122,587	$158,025	8	0.9
Charges for Services	$426,090	$350,185	$573,679	$421,420	-1	-0.1
Fines and Fees	$203,488	$185,204	$260,280	$372,448	83	6.9
Interest	$465,992	$257,952	$654,285	$578,417	24	2.4
Misc.	$124,417	$243,108	$86,948	$151,559	22	2.2
Total	**$11,758,670**	**$12,127,786**	**$15,044,400**	**$17,443,348**	**48**	**4.5**

Source: City of Gillette 1985 – 2003 (with adjustments by Sammons/Dutton LLC).

Table S-16
City of Gillette Tax Receipts by Major Source, 2003 Constant Dollars
(1994-2003)

Tax Source	1999	2000	2001	2002	2003	Total Change (percent)
Severance	$666,191	$1,035,434	$2,044,365	$1,072,644	$891,173	34
Property	$587,745	$616,178	$620,944	$628,642	$700,836	19
Sales & Use	$7,541,787	$8,546,007	$10,021,288	$11,922,391	$10,813,313	43
Other Taxes	$2,035,340	$1,372,629	$1,457,619	$1,675,052	$1,713,559	-16
Total Taxes	**$10,831,063**	**$11,570,248**	**$14,144,216**	**$15,298,729**	**$14,118,881**	**30**

Source: City of Gillette 1985 – 2003 (with adjustments by Sammons/Dutton LLC).

Table S-17
City of Gillette General Fund Expenditures by Major Category, 2003 Constant Dollars
(1994-2003)

Category	1994	1997	2000	2003	Total Change (percent)	CAGR (percent)
Administration	$1,726,223	$2,117,803	$2,315,143	$3,097,996	80	6.7
Community Development	$525,048	$540,340	$555,123	$629,480	20	2.0
Police	$3,056,333	$3,260,012	$3,442,627	$5,084,150	66	5.8
Public Works	$6,486,291	$4,802,224	$3,999,269	$5,191,371	-20	-2.4
Miscellaneous/Other	$450,499	$683,642	$1,411,821	$3,469,655	670	25.5
Capital Outlay	$94,915	$65,410	$11,766	$29,132	-69	-12.3
Debt Service	--	--	$4,368	$45,131	NA	NA
Total	**$12,339,309**	**$11,469,431**	**$11,740,117**	**$17,546,915**	**42**	**4.0**

Source: City of Gillette 1985 – 2003 (with adjustments by Sammons/Dutton LLC).

Table S-18
Hospitals and Major Health Clinics in the PRB Study Area

County	Facility	Beds	Services
Campbell	Campbell County Memorial Hospital (Gillette)	90	Acute care, behavioral health services, cancer care, cardiopulmonary services, home health care, hospice services, laboratory, Wyoming Orthopedic and Rehabilitation Institute, Pioneer Manor Long Term Care facility, Pediatric Specialty Clinic
	Wright Clinic	-	Family practice, laboratory, x-ray, physical therapy, visiting physician, and counseling services.
Converse	Converse County Memorial Hospital (Douglas)	25	Critical Access, Surgical Services, Birthing Center, Wellness and Community Education, Diagnostic Services, Quality Management, Radiology
	Oregon Trail Rural Health Clinic (Glenrock)	-	Rural health care, x-ray, basic laboratory
Crook	Crook County Medical Services District (Sundance)	-	Emergency medical services, primary health care, wellness, health education, laboratory services, x-ray, physical therapy, long-term care
	Moorcroft Clinic	-	Ambulatory care, health physicals, specialty matters including CT Scan and mammograms on a consulting basis
Johnson	Johnson County Health Care Center (Buffalo)	25	Acute care, physicians clinic, family care, oncology, long-term care, special care, 24-hour emergency care, hospice and home care, surgical unit, labor/delivery/recovery rooms, nursery, diagnostic equipment, laboratory, radiology, physical, respiratory therapy, visiting specialists
Sheridan	Sheridan Memorial Hospital (Sheridan)	64	Critical/emergency, medical surgical unit, surgical, women's health care and pediatrics, diagnostic imaging/ radiology, laboratory, rehab services, cancer, diabetes, cardio, psychiatric, home care, hospice, dialysis, pain management, sleep lab
Weston	Weston County Health Services	23	24-hour emergency services, skilled nursing care, surgery, laboratory, radiology, outpatient clinics, long-term care, home health, registered dietitians, swing bed program, respite care, physical therapy, speech therapy, cardiac rehabilitation, obstetrics, chemotherapy (limited), outpatient intravenous therapy, sleep studies

Sources: Campbell County Memorial Hospital 2004; Converse County Memorial Hospital 2004; Cook County Medical Services District 2004; Johnson County Health Care Center 2004; Sheridan Memorial Hospital 2004; Weston County Health Services 2004.