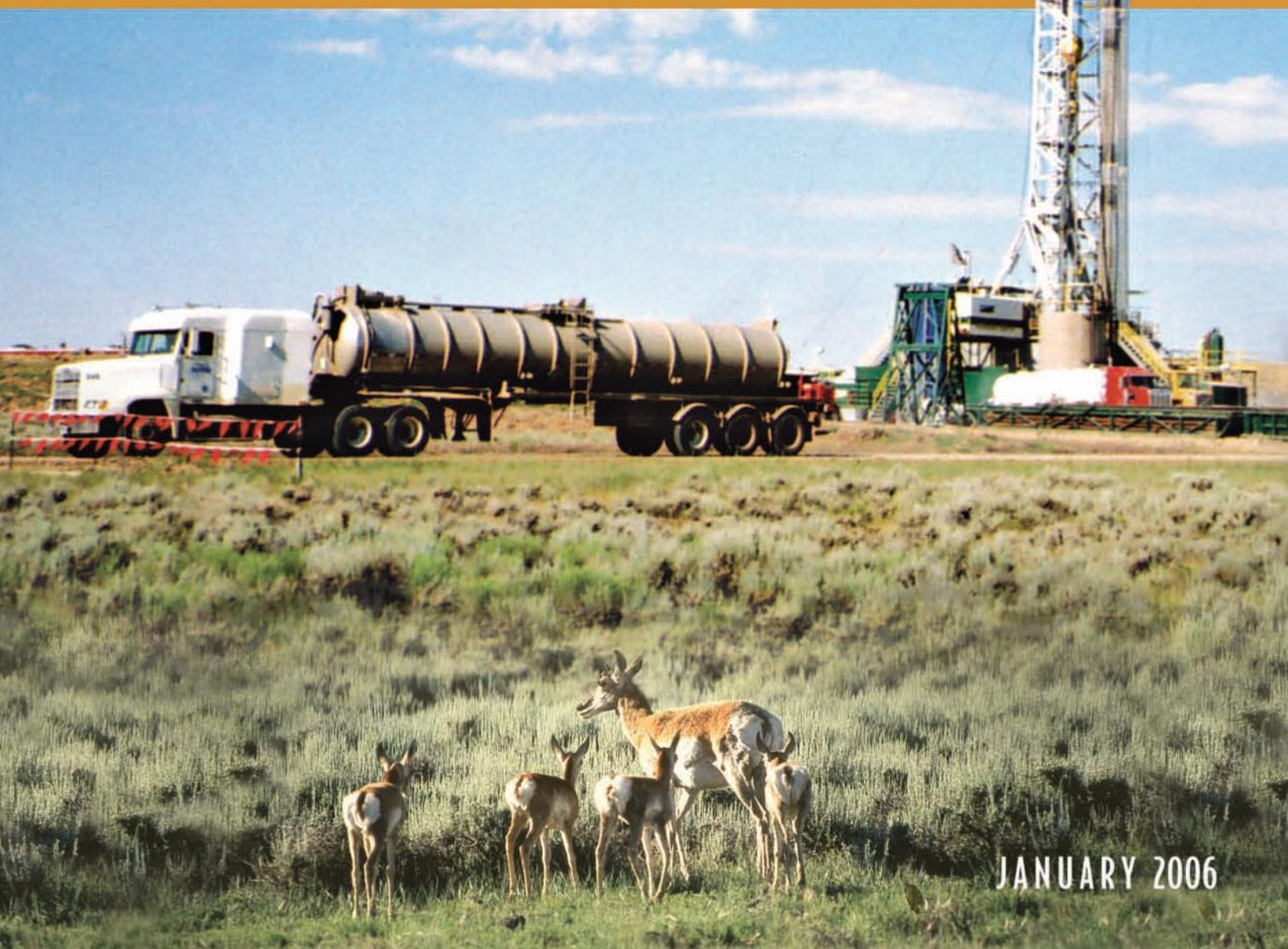
U.S. Department of the Interior

Bureau of Land Management
Pinedale and Rock Springs Field Offices

FINAL ENVIRONMENTAL IMPACT STATEMENT

SOCIOECONOMIC ANALYSIS TECHNICAL SUPPORT DOCUMENT

JONAH INFILL DRILLING PROJECT SUBLETTE COUNTY, WYOMING



JANUARY 2006

FINAL

SOCIOECONOMIC ANALYSIS TECHNICAL SUPPORT DOCUMENT FOR THE JONAH INFILL DRILLING PROJECT ENVIRONMENTAL IMPACT STATEMENT

Prepared for

Bureau of Land Management
Wyoming State Office
Cheyenne, Wyoming

and

Pinedale Field Office
Pinedale, Wyoming

and

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1.0 OVERVIEW

TRC Mariah Associates Inc. (TRC Mariah) developed socioeconomic profiles of the Jonah Infill Drilling Project (JIDP) study area for the draft version of this technical support document (TSD). The draft TSD was issued in February 2005 with the Draft JIDP Environmental Impact Statement (EIS). SWCA Environmental Consultants (SWCA) revised and updated the TSD to reflect changes made to the EIS after public review and to respond to public comments on the TSD itself. Revisions included providing more recent socioeconomic data whenever possible; however, it should be noted that the original 20-year study period (1980–2000) for the modeled economic impact analysis has not changed. Revisions also included removing all references to the South Piney Project, streamlining document presentation, and rewriting sections in Chapter 3 (for example, the crime discussion) to incorporate additional research. Descriptions of alternatives have been changed in accord with changes in the JIDP EIS. Alternatives C through G have been eliminated. Alternatives A and B each include only one rate of well development rather than the possible three rates described in the draft socioeconomic TSD. The number of well pads allowable under the Preferred Alternative have increased from 2,553 (same as the former Alternative G) to 2,825 (same as the Proposed Action). Because all the variables incorporated in the revised alternatives were captured in the initial modeling effort (see following paragraph), BLM determined that remodeling was not necessary. Quantitative results from that effort are integrated in the analysis portion of this document as appropriate.

The University of Wyoming, College of Agriculture, Cooperative Extension Service, Agricultural Economics Department (UWAED) performed the input/output modeling used as the basis for economic impact estimates provided in this document. The analysis was performed according to the requirements of the socioeconomic analysis protocol developed for this project (TRC Mariah 2003). At the direction of the Bureau of Land Management (BLM) Wyoming State Office, the analysis used information from existing documents (as appropriate), documents currently in preparation (provided by the authors or analysts as necessary), the Sonoran Institute Economic Profile System (EPS) software (Sonoran Institute 2003), and other extant data to develop economic profile baseline data. IMPLAN® PRO 2.0 (IMPLAN) software was used to conduct an input/output analysis to determine potential impacts of the proposed project and alternatives. UWAED has calibrated county-specific data sets for the study area under a contract with the State of Wyoming (personal communication, October 14 and 17, 2003, with Roy Allen, Economist, BLM Wyoming State Office), and the protocol mandated that the calibrated county-specific datasets be used in place of the nationalized county data provided by MIG, Inc. (the manufacturer of IMPLAN). Cumulative impacts were estimated based on the information developed for the JIDP Proposed Action and alternatives and reasonable foreseeable development information.

The proposed economic study area included the counties and communities most likely to be impacted by the JIDP, including the following:

- Lincoln County and the community of LaBarge;
- Sublette County and the communities of Pinedale, Big Piney, Marbleton, and Boulder;
- Sweetwater County and the communities of Eden, Farson, and Rock Springs;
- the State of Wyoming; and
- the U.S. (for selected items, as appropriate).

Existing documents and documents in preparation that were used to develop economic profile baseline data and to estimate potential and cumulative impacts for the study area included the following reports:

- Southwest Wyoming Resource Evaluation Socio/Economic Evaluation (SWREE), Final Report, Parts I and II (UWAED 1997);
- the economic effect analysis developed for the Jack Morrow Hills Coordinated Activity Plan (JMHCAP) (UWAED 2003);
- the JMHCAP supplemental draft EIS (BLM 2003a);
- BLM's Socioeconomic Profile-Pinedale (BLM 2003b);
- the economic impact analysis currently being prepared for the Pinedale Resource Management Plan (RMP) (UWAED [2004]); and
- Sublette County Comprehensive Plan: County Vision, Goals and Policies (Sublette County Board of Commissioners and Sublette County Planning Commission [SCBC and SCPC] 2003).

The following socioeconomic factors were profiled using either the EPS or other sources mentioned above:

- population and demography;
- employment and personal income;
- quality of living (i.e., the degree to which a person enjoys the important possibilities of his or her life);
- industry and economy;
- tax and revenue; and
- recreation.

The draft TSD included grazing as a socioeconomic factor that was profiled and analyzed as part of the report. However, after public review of the TSD, BLM concluded a reduction of grazing permits as a result of Animal Unit Month (AUM) loss would occur only if reclamation efforts were unsuccessful, and could be determined only by collecting forage and rangeland monitoring data. Thus, in response to public comments, BLM removed grazing as a socioeconomic factor in this final socioeconomic TSD.

2.0 METHODS

2.1 ECONOMIC PROFILES

TRC Mariah developed baseline profiles from selected statistics for the counties and affected communities in the JIDP study area for the 20-year study period (1980 to 2000). The baseline profiles were developed using existing documents, documents in preparation, the EPS, and data obtained from other extant sources. The baseline profiles developed from EPS provided the foundation from which social and economic impacts arising from the JIDP Proposed Action and alternatives were projected and compared. The EPS profiles, tables, and graphs used for this analysis are on file at TRC Mariah's Laramie, Wyoming, office under Project 35982. EPS software is available to the public at no charge from <www.sonoran.org>, where it may be downloaded and individual county profiles may be created. Additionally, the State of Wyoming has developed county profiles that may be viewed at <http://eadiv.state.wy.us/wef/eps.asp>.

2.1.1 Resources

The EPS was formally adopted by the U.S. Department of the Interior, BLM, Washington, D.C. (Instruction Memorandum No. 2003-169, May 16, 2003) for use with all RMPs in the 14-state region covered by EPS. The BLM Wyoming State Office specified that EPS be used to profile affected counties and communities in the JIDP EIS study area (personal communication, October 14 and 17, 2003, with Roy Allen, Economist, BLM Wyoming State Office).

The EPS was developed by the Sonoran Institute Socio/Economics Program, in partnership with the BLM, to provide analysts and planners with a way to efficiently and consistently produce detailed socioeconomic profiles at the state, regional, county, and multi-county level. Profiles produced from EPS contain narrative, tables, and figures that illustrate long-term trends related to:

- population;
- employment and personal income by industry;
- average earnings;
- retirement and other non-labor income;
- business development; and
- agriculture.

Additional or more-detailed information used to compile profile and baseline socioeconomic data may have been obtained from extant sources, including the following:

- U.S. Census Bureau;
- U.S. Department of Commerce, Bureau of Economic Analysis (BEA);
- BLM;
- other U.S. departments and agencies;
- State of Wyoming departments and agencies;
- local county and community governments;
- UWAED;
- JIDP proponents (collectively referred to as Operators herein); and

- personal interviews with individuals in affected areas (particularly when published data appeared to deviate from actual circumstances).

2.1.2 Socioeconomic Study Factors

TRC Mariah compiled baseline statistics for a 20-year study period (1980 to 2000) for the social and economic factors detailed in the sections below. SWCA Environmental Consultants provided updated information for the final document.

2.1.2.1 Population and Demography

Factors related to population and demography include the following:

- population trends;
- income, poverty, and unemployment; and
- workforce age, gender, and disabilities.

2.1.2.2 Employment and Personal Income

Factors related to employment and personal income include the following:

- average wages by area;
- median wages by job category;
- total personal income (TPI) (adjusted for place of residence and place of work), including labor income (i.e., wages, salaries, and self-employment income), investment income (i.e., dividends, interest, and rent), and transfer payments (i.e., Social Security benefits, Medicare and Medicaid benefits, and other income support and assistance); and
- per capita personal income (PCPI).

2.1.2.3 Quality of Living

Factors related to quality of life (e.g., the degree to which a person enjoys the important possibilities of his or her life) of residents in the economic study area were gathered and enumerated where possible. Baseline statistics were compiled on quality of life in the affected communities, counties, and the State of Wyoming. Quality of life factors include the following:

- crime (including crimes against people and crimes against property);
- health care (facilities and providers);
- housing (type, quality, quantity, cost, assessed values, building permits issued);
- cost of living;
- inflation; and
- education (primary, secondary, post-secondary).

2.1.2.4 Industry and Economy

Factors related to income and the economy include the following:

- gross state product ("value added" or the gross output [sales, operating income] minus intermediate inputs [purchased or imported goods or services used in production]);

- industry compensation of employees (sum of employees wages and salaries plus supplements to wages and salaries);
- industry employment and job growth trends; and
- earnings by industry and industry growth trends.

2.1.2.5 Taxes and Revenues

Factors related to taxes and revenue include the following:

- mineral severance taxes and federal minerals royalties received by Wyoming and directly distributed to counties, cities, and towns;
- fiscal year general fund revenue collections by source;
- fiscal year distribution of mineral severance taxes to all accounts by mineral;
- royalties from state minerals received and distributed by the State of Wyoming;
- payments in lieu of taxes (PILT);
- state-assessed real and personal property valuations;
- state-assessed production valuations;
- proportionate taxable valuation of various classes of property in Wyoming;
- locally assessed property valuations;
- ad valorem taxes;
- sales tax collections;
- use tax collections; and
- lodging tax collections.

2.1.2.6 Recreation

TRC Mariah compiled baseline statistics for consumptive (hunting) and nonconsumptive recreation in the JIDPA, using the methodology developed for the SWREE (UWAED 1997). Historical information was derived from previously listed sources (see Sections 1.0 and 2.2) and/or the Wyoming Game and Fish Department (WGFD) and the Wyoming Division of Tourism.

Where sufficient data were available, recreation activities in the JIDPA were separated into nonresident and resident use. Nonresident use value was based on the economic impact from expenditures by nonresidents in the region. Direct fiscal revenues to local governments from recreation were estimated based on the proportion of nonresident sales, lodging, and gas tax revenues returned to local governments in the study area.

Recreation data included the following items:

- BLM-recorded recreation visits;
- BLM recreation days (visits split into 12-hour days);
- net consumer value per day for outdoor recreation activities;
- visitor expenditures;
- hunter recreation days for appropriate herd units (obtained from WGFD);
- number of hunters; and
- surface ownership status of herd units.

2.2 IMPACT ANALYSIS

TRC Mariah developed the socioeconomic impact analysis for the JIDP EIS using the methods developed for the SWREE (UWAED 1997) and the economic effect analysis developed for the JMHCAP (UWAED 2003, BLM 2003a). Additional information was obtained from the Operators, BLM, BLM's pertinent reasonable foreseeable development documents, WGFD, and other sources.

The economic impacts of the JIDP and alternatives on the economic study area were analyzed using IMPLAN, which is an input/output (I/O) modeling system (personal communication, October 14 and 17, 2003, with Roy Allen, Economist, BLM Wyoming State Office). I/O modeling is a mathematical accounting of the flow of dollars and commodities through a region's economy. These types of models provide estimates of how a given amount of a particular economic activity translates into jobs and income in a region. The I/O analysis used coefficients calibrated by the UWAED specifically for the SWREE from a combination of primary and secondary data specific to Lincoln, Sublette, and Sweetwater Counties. These calibrated county-specific coefficients were updated for the JMHCAP (BLM 2003a) and the Pinedale RMP (UWAED 2004, BLM 2004a). Year 2000 was used as the base year.

The BLM provided estimates of physical outputs for selected commodities associated with the various alternatives. TRC Mariah, in consultation with the Operators, BLM, and UWAED, determined the appropriate values for these commodities. UWAED then used the output and value data in IMPLAN to estimate the economic impacts of the JIDP on the economic study area.

The JIDP analysis was based on a 3- to 42-year development horizon (2004–2046) and a 43- to 85-year production horizon (2004–2089), with 2000 being used as the base year. Cumulative economic effects are expressed as both short-term (2004–2013) and long-term (2014 up to 2089) impacts. The economic analysis focused on two types of commodities: natural gas infill development and recreation activities (hunting and nonconsumptive).

Prior to modeling, input data used for the I/O model were adjusted for inflation and converted to 2000 constant-dollars, as necessary. After modeling, impact dollar values were discounted using a 3.5% discount rate as recommended for projects exceeding 30 years by the Office of Management and Budget (OMB) Circular No. A-94 (OMB 2004). The OMB recommendation for using a real discount rate of 3.5% for constant-dollar benefit-cost analysis approximates the marginal pretax rate of return on an average investment in the private sector in recent years (BLM 2003a).

The OMB describes the discount rate policy in OMB (2004). To compute net present value, it is necessary to discount future benefits and costs. This discounting reflects the time value of money. Benefits and costs are worth more if they are experienced sooner. All future benefits and costs, including nonmonetized benefits and costs, should be discounted. The higher the discount rate, the lower is the present value of future cash flows. For typical investments, with costs concentrated in early periods and benefits following in later periods, raising the discount rate tends to reduce the net present value. On the other hand, when costs and revenues are both concentrated in early periods with lower benefits following in later periods, raising the discount rate tends to increase the net present value.

Real versus Nominal Discount Rates. The proper discount rate to use depends on whether the benefits and costs are measured in real or nominal terms.

- A real discount rate that has been adjusted to eliminate the effect of expected inflation is used to discount constant-dollar or real benefits and costs. A real discount rate can be approximated by subtracting expected inflation from a nominal interest rate.
- A nominal discount rate that reflects expected inflation is used to discount nominal benefits and costs. Market interest rates are nominal interest rates in this sense.

As presented herein, the "nominal" value of project activities is the simple calculation of dollars with no adjustments. The "present value" is the value of those activities after the real discount rate has been applied over time.

The discount factor is calculated as $1/(1+i)^t$ where i is the interest rate and t is the project year (OMB 2004).

The I/O model required a series of assumptions and inputs specific to the study area. Assumptions included the value of production resulting from land uses within the JIDPA under each alternative. BLM staff and cooperating agencies provided information on current uses in the JIDPA and how those uses may change under each alternative. This information provided a physical quantitative measure of inputs necessary for the economic impact analysis (e.g., number of gas wells, recreational visitor days, etc.). Primary data and sources used to estimate physical inputs for the I/O model are summarized in Appendix A.

Estimates of inputs, including prices, were used to evaluate the potential sales from uses of the JIDPA under each alternative. This direct sales estimate serves as the input for the I/O model to obtain an estimate of total economic impact for each alternative (changes in direct and indirect income and employment).

The economic impact analysis for the No Action Alternative was the first model prepared to provide a baseline for the alternatives analysis. It contains a discussion of impacts that were used for comparison with other alternatives. Methodology for the Proposed Action impact analyses are fully discussed in Appendix B. Project-specific impacts are discussed in Chapter 4.0. Where impacts are the same between alternatives, reference is made to the earlier analysis so that impact discussions are not repeated. Cumulative impacts for the Proposed Action and each alternative are discussed and include the social and economic impacts of the Proposed Action or alternatives in combination with other proposed, existing, or reasonable foreseeable developments.

2.2.1 Natural Gas Activities

The economic impact of the Proposed Action, alternatives, and cumulative effects on the study-area economy were analyzed in two parts. The first part of the project analyzed was the development phase and the economic impacts associated with drilling and completion of wells in the JIDPA. The second part analyzed was the production phase and the economic impacts associated with the production of natural gas from the completed wells.

Estimated average per well development and production costs were provided by the Operators. Certain economic assumptions were used in the natural gas development analyses (the drilling and completion of natural gas wells), including the following:

- expenditure per well (cost to drill);
- volume of production (million cubic feet [MMCF]) per well;
- value of production (the average price of natural gas used for the price forecast by the Consensus Revenue Estimating Group (CREG) [CREG 2004]);

- total economic impact per well (direct and indirect);
- industry earnings per well;
- annual job equivalents (AJEs) per well;[1] and
- local government taxes and revenues.

2.2.2 Recreation

Recreation activities are not purchased in an identifiable market so their economic value must be determined indirectly. Two types of measures are typically used for "non-market" commodities:

- the expenditures associated with the use of the non-market commodity, and
- the net value of the non-market commodity to the consumer.

The first measure considers the economic activity generated by the use of the non-market commodity by measuring participant expenditures to estimate the economic activity that is generated in the region in terms of income and jobs. In regional analyses, this type of measure is typically used to value recreation use by nonresidents and this was the measure employed in this analysis. For resident expenditures, it was assumed that recreationists would have spent their money elsewhere in the region's economy if they had not been participating in the recreation activity. Recreation expenditures by residents are viewed as a shifting of dollars from one site or commodity to another based on personal consumption preferences and not a net gain to the region's economy.

The second measure considers the value of the satisfaction that the non-market commodity provides the consumer by considering the value of the recreation activity to the participant after all his or her costs are subtracted. This measure represents the "net economic value" to the user that is over-and-above costs. It is similar to the concept of profit for a business. Special techniques based on observed consumer behavior or the expressed valuations by the consumer are used to estimate this type of value. In regional analysis, this type of measure is typically used to value recreation use by residents. This measure was not used for this analysis due to a lack of available data on resident use. A detailed discussion of the estimation of "net economic values" is presented in the appendix of the economic effect analysis developed for the JMHCAP (UWAED 2003, BLM 2003a).

Recreation impacts were estimated using information obtained from the sources described in Chapter 1.0 and Section 2.2.1. From those estimates, certain economic assumptions were developed for use in the analysis for consumptive (i.e., hunting pronghorn antelope and greater sage-grouse) and nonconsumptive recreation (e.g., wildlife and scenery viewing, off-road vehicle use), including the following:

- expenditures by individual per recreation day;
- total economic impact (direct and secondary) per recreation day;
- labor earnings generated per recreation day;
- AJEs generated per recreation day;
- local government revenue generated per recreation day; and
- net economic value generated per recreation day.

[1] An AJE represents 12 months of employment. For example, one AJE could represent one job for 12 months or two jobs for 6 months or three jobs for 4 months. For the purposes of this analysis, one AJE is defined as 260 worker-days = 1 worker-year, a person-year is 365 days; therefore, there are approximately 1.4 worker-years per person-year (one AJE = 1.4 person-years).

2.2.3 Social Impacts

Baseline social and economic factors, including population, personal income, and quality of living factors described in Sections 2.1.2.1–2.1.2.3 were compared to expected changes in the economy that would affect a typical family in the study area. Impacts were evaluated against the potential for changes in quality of life factors (i.e., availability of necessities, recreation, and leisure time) and the ability of residents to maintain or improve the current quality of life as a result of the proposed project and alternatives.

2.2.4 Environmental Justice

The potential direct, indirect, and cumulative effects to the social, cultural, and economic well-being and health of minority and low-income groups were evaluated per Executive Order (EO) 12898. This was done by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental impacts of the proposed project (including cumulative effects) on minority populations and low-income populations.

3.0 SOCIOECONOMIC PROFILES AND EXISTING ENVIRONMENT

The Pinedale Field Office (PFO) and Rock Springs Field Office (RSFO) RMP Records of Decision (RODs) (BLM 1988, 1997, 2004a) and land use plans for both the state (Wyoming State Land Use Commission 1979) and local areas (SCBC and SCPC 2003) identify the following management objectives associated with socioeconomics:

- to coordinate land use decisions with economic factors and needs;
- to mitigate economic, social, and environmental impacts on communities caused by rapid or large-scale growth and development;
- to plan for the provision of public facilities and services, including safe and efficient transportation and utility systems, in coordination with local land use policies, goals, and objectives; and
- to provide adequate, suitable land to meet housing needs of all residents.

BLM (1999) criteria stipulate that impacts to socioeconomic resources would be considered potentially significant if any of the following were to occur:

- increased demand for housing resulting from project activities that exceeds supply;
- short- or long-term increases in demand for local government facilities or services that exceed existing capacity and are not offset by adequate revenues from continued exploration and development; or
- a 10% change in county government or in countywide employment.

The SCBC and SCPC (2003) emphasize the following values specific to the social traditions and socioeconomic base of Sublette County:

- Sublette County's unique local culture should be preserved and enriched. This is a culture characterized by a rural Wyoming flavor, a thriving private business community, an atmosphere friendly to working families, and the security of friendly, crime-free communities.
- There should be an abundance of economic freedom and diverse opportunities for residents old and new to pursue prosperity and happiness, complemented and sustained by a business-friendly atmosphere, reasonable taxation, a low cost of living, limited regulation, wise development of its natural resources, and a strong work ethic tradition.

Additional guiding principles and information have been taken from the socioeconomic profile (BLM 2003b) prepared for inclusion in the new Pinedale RMP (now in preparation). Unless otherwise stated, all dollar amounts are presented in Year 2000 dollars, adjusted for inflation.

3.1 POPULATION AND DEMOGRAPHY

3.1.1 Geographic Study Area

3.1.1.1 JIDP Location

The JIDPA is located in south-central Sublette County, Wyoming, approximately 32 miles southeast of Pinedale and 28 miles northwest of Farson, on approximately 30,500 acres in T28N and T29N, R107W through R109W (Figure 1). This acreage includes approximately 28,580 acres of federal surface and mineral estate managed by the BLM, 1,280 acres of State of Wyoming surface and minerals, and 640 acres of private surface/federal minerals. Access to the area is from U.S. Highway 191, located 1.5 to 11 miles east of the JIDPA.

3.1.1.2 Economic Study Area

The economic study area includes the counties and communities most likely to be impacted by the proposed project, including LaBarge in Lincoln County; Pinedale, Big Piney, Marbleton, and Boulder in Sublette County; and Eden, Farson, and Rock Springs in Sweetwater County (see Figure 1). Rock Springs is about 70 miles from the project area, but is a hub for regional natural gas development activities and is a community where some project workers are likely to reside. Wyoming and the U.S. are also included in the profile and impact analyses where information is available and pertinent.

Like much of Wyoming, the economic study area is rural. All three counties have a large land area with a dispersed population as summarized in Table 3.1. Public lands constitute the majority of the land in the three counties, ranging from 72.4% in Sweetwater County to 81.5% in Sublette County. Landownership in all three counties is primarily federal, ranging from 68.7% in Sweetwater County to 74.7% in Sublette County. Private lands constitute 20.8% of Lincoln County lands, 18.5% of Sublette County lands, 27.6% of Sweetwater County lands, and 43.0% of all lands in Wyoming.

3.1.2 Population

Population data were obtained from the U.S. Census Bureau (2000a, 2000b, 2000c, 2000d, 2005a, 2005b, 2005c), Taylor and Lieske (2002a), and the Wyoming Department of Administration and Information (WDAI) (2001a, 2001b, 2002a, 2002b, 2003a, 2005a). EPS uses BEA population data, which differ from census totals; however, percentages tend to approximate calculations based on census data.

Where the population data conflict, census estimates were used for calculations and variances from EPS reporting are noted. EPS profiles, charts, and raw data are on file at TRC Mariah's Laramie, Wyoming, office. Annual growth rates between two consecutive years (e.g., 1999–2000) were calculated using an annual growth formula (Formula 1).

Formula 1:

([Y2 data–Y1 data]/Y1 data) × 100 = annual growth

Example of Annual Growth from 1999 to 2000

([2000 data–1999 data]/1999 data) × 100 = Annual Growth rate for 1999

Annualized growth rate over a period of time (e.g., 1980 to 1990) was calculated using Formula 2. Formula 2 is a geometric mean equation, based on end-points.

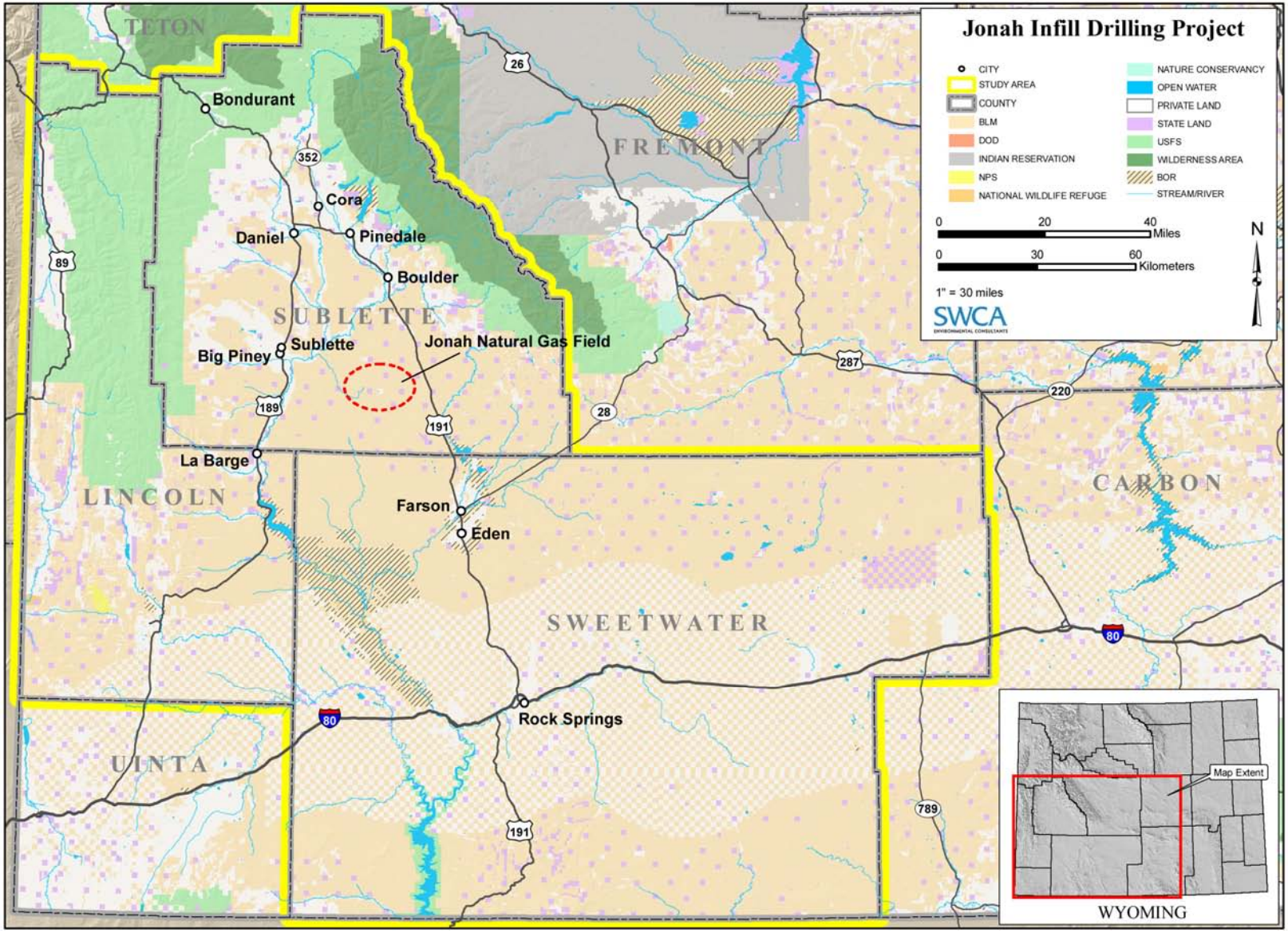

Figure 1. Location of Jonah Natural Gas Field.

Table 3.1. Landownership of the JIDP Study Area[1]

Geographic Characteristic	Wyoming		Counties					
			Lincoln		Sublette		Sweetwater	
	Acres	Mile^2	Acres	Mile^2	Acres	Mile^2	Acres	Mile^2
PUBLIC LANDS								
Federal Lands								
National Park Service	2,342,399	3,660.0	7,438	11.6	0	0	0	0
Forest Service	9,270,312	14,484.9	901,026	1,407.9	1,169,377	1,827.2	93,276	145.7
Fish and Wildlife	92,805	145.0	6,029	9.4	0	0	25,291	39.5
Bureau of Land Management	17,428,611	27,232.2	1,013,269	1,583.2	1,257,155	1,964.3	4,304,983	6,726.5
Bureau of Reclamation	803,294	1,255.1	25,032	39.1	5,428	8.5	200,250	312.9
Total Federal Lands	29,937,421	46,777.2	1,952,794	3,051.2	2,431,960	3,799.9	4,623,800	7,224.7
Percentage of Total Federal Lands	47.6%	n/a	71.4%	n/a	74.7%	n/a	68.7%	n/a
Wyoming								
State Lands Commission	3,649,649	5,702.6	212,095	331.4	212,095	331.4	212,095	331.4
Recreation Commission	126,901	198.3	4	0.0	0	0	25	0.0
Department of Game and Fish	156,170	244.0	2,181	3.4	9,425	14.7	35,395	55.3
Total State Lands	3,932,720	6,144.9	214,280	334.8	221,520	346.1	247,515	386.7
Percentage of Total State Lands	6.3%	n/a	7.8%	n/a	6.8%	n/a	3.7%	n/a
Local Government								
County	15,156	23.7	0	0	701	1.1	1,483	2.3
City	46,894	73.3	0	0	525	0.8	4,110	6.4
School Districts and Colleges	23,759	37.1	0	0	141	0.2	910	1.4
Total Local Government Lands	**85,809**	**134.1**	**0**	**0**	**1,367**	**2.1**	**6,503**	**10.2**
Percentage of Total Government Lands	0.14%	n/a	0	0	0.04%	n/a	0.1%	n/a
Other Public Lands	1,884,186	2,944.0	1,482	2.3	2,923	4.6	7,782	12.2
Percentage of Total Other Public Lands	2.99%	n/a	0.05%	n/a	0.09%	n/a	0.12%	n/a
Total Public Lands	**35,840,136**	**56,000.2**	**2,167,074**	**3,386.1**	**2,653,480**	**4,146.1**	**4,871,315**	**7,611.4**
Percentage of Total Public Lands	57.0%	n/a	79.2%	n/a	81.5%	n/a	72.4%	n/a
PRIVATE LANDS	27,073,322	42,302.1	568,566	888.4	602,433	941.3	1,860,085	2,906.4
Percentage of Total Private Lands	43.0%	n/a	20.8%	n/a	18.5%	n/a	27.6%	n/a
TOTAL LANDS	**62,913,458**	**98,302.3**	**2,735,640**	**4,274.4**	**3,255,913**	**5,087.4**	**6,731,400**	**10,517.8**

[1] Number of acres for each land classification was obtained from Wyoming Department of Administration and Information (WDAI) (2002a). The number of square miles and percentage of total acres was calculated. In some instances, the calculated information differs from the information presented in WDAI (2002a) and BLM (2003b).

Formula 2:

$$[(\text{Y2 data}/\text{Y1 data})^{(1/[\text{Y2-Y1}])} - 1] \times 100 = \text{average annual growth}$$

Example of Average Annual Growth from 1980 to 1990

$$[(\text{1990 data}/\text{1980 data})^{(1/[1990-1980])} - 1] \times 100 =$$

average annual growth rate for the period 1980 to 1990

All state and local area dollar estimates are in Year 2000 dollars (thousands) (adjusted for inflation), with the exception of PCPI, which is stated in actual dollars and was obtained from BEA (2003d).

3.1.2.1 United States

As summarized in Table 3.2, the U.S. population increased by 24% from 1980 to 2000. EPS estimates a different number of people but arrives at the same percentage. As shown in Table 3.3, in 2000 the U.S. has an average population density of 79.6 people/square mile with the majority of residents residing in urban areas (U.S. Census Bureau 2000a).

3.1.2.2 Wyoming

Numbers from the 2000 Census and estimates from U.S. Census Bureau data indicate considerable growth in the Rocky Mountain West; however, Wyoming has experienced both growth and decline over the past 20 years. After increasing by 41% between 1970 and 1980 and then decreasing by more than 3.4% from 1980 to 1990, Wyoming population trends have returned to a more moderate growth rate (Taylor and Lieske 2002a, WDAI 2002a). As summarized in Table 3.2, the state's population increased by 8.9% between 1990 and 2000 (U.S. Census Bureau 2000a). Between 2000 and 2004, the population in Wyoming increased by 2.6% (U.S. Census Bureau 2005c). In 2000, the majority of Wyoming residents lived in urban areas (see Table 3.3).

The state's growth from 1980 to 2000 (5.2%) was substantially lower than that of the neighboring states of Colorado (30.6%), Utah (29.6%), Idaho (28.5%), and Montana (12.9%) (Taylor and Lieske 2002a). Growth was also lower than the national average (13.2%) but was comparable to growth in the eastern border states, South Dakota (8.5%) and Nebraska (8.4%). Wyoming's growth, however, was substantially higher than growth in nearby North Dakota (0.5%).

3.1.2.3 Lincoln County

As shown in Tale 3.2, over the 20-year study period (1980–2000), Lincoln County population increased by 19.7% (EPS, using BEA population estimates, indicated an 18% increase in population). Wyoming census population estimates for 2004 show that the county continues to grow, experiencing an approximate 7.2% growth increase between 2000 and 2004 (WDAI 2004) (see Table 3.2). Census urban and rural populations for Lincoln County are provided in Table 3.3. Unlike the State of Wyoming, the majority of Lincoln County residents in 2000 lived in rural areas.

LaBarge is the community in Lincoln County most likely to be affected by the proposed project. Population data for LaBarge were not collected until the 1990 Census, though population data for 1980 were reported by WDAI (2001a). As summarized in Table 3.2, LaBarge's growth has fluctuated since 1980. Over the 20-year study period (1980–2000), LaBarge had a 42.7% increase in population, but between 2000 and 2004, the population declined 2.8% (U.S. Census Bureau 2005a).

Table 3.2. Historical and Projected Population

Location	Population[1]				Total Change in Population (%)[1]				Projected Population[1]				
	1980[2]	1990[2]	2000[2]	2004[1,3,4]	1980–1990	1990–2000	1980–2000	2000–2004	2005[5,6]	2010[5,6]	2015[5,6]	2020[5,6]	2025[5,6]
U.S. (thousands)	226,542	248,709	281,421	293,655	9.8	13.2	24.2	4.3	295,507	308,935	322,365	335,804	349,439
Wyoming	469,557	453,588	493,782	506,529	-3.4	8.9	5.2	2.6	506,184	519,595	529,352	533,534	529,031
Lincoln County	12,177	12,625	14,573	15,626	3.7	15.4	19.7	7.2	15,551	16,466	17,275	17,868	NR
LaBarge	302	493	431	419	63.2	-12.6	42.7	-2.8	442	468	490	507	NR
Sublette County	4,548	4,843	5,920	6,654	6.4	22.2	30.2	12.4	6586	7161	7697	8135	NR
Big Piney	530	454	408	444	-10.1	-1.3	-23.0	8.8	452	491	528	558	NR
Bondurant	NR	NR	155	NR	--	--	--	--	NR	NR	NR	NR	NR
Boulder	NR	NR	30	NR	--	--	--	--	NR	NR	NR	NR	NR
Cora	NR	NR	76	NR	--	--	--	--	NR	NR	NR	NR	NR
Daniel	NR	NR	89	NR	--	--	--	--	NR	NR	NR	NR	NR
Marbleton	537	634	720	789	18.0	16.9	34.1	9.6	804	874	940	993	NR
Pinedale	1,066	1,181	1,412	1,575	10.7	20.3	32.5	11.5	1,552	1,688	1,814	1,918	NR
Sweetwater County	41,723	38,823	37,613	37,758	-6.9	-3.1	-9.9	0.4	36,645	35,567	34,293	32,759	NR
Eden	NR	NR	388	NR	--	--	--	--	NR	NR	NR	NR	NR
Farson	NR	NR	242	NR	--	--	--	--	NR	NR	NR, NP	NR	NR
Rock Springs	19,458	19,050	18,708	18,746	-2.1	-1.7	-3.9	0.2	18,211	17,670	17,038	16,275	NR

[1] NR = not reported; -- = not calculated due to lack of information; NP = no projection available at this geographic level.
[2] Sources: WDAI (2000, 2001a). 1990 Census of Population and Housing: Profiles for State, Counties, and Major Cities and Towns. http://eadiv.state.wy.us/pop90/pop90.htm, Data accessed June 17, 2000. Information for Bondurant, Boulder, Cora, Daniel, Eden, and Farson was not collected until the 2000 census. U.S. Census Bureau information was not collected for LaBarge until the 1990 census; however, WDAI reported 1980 estimates (WDAI 2001a).
[3] Source: U.S. Census Bureau (2005a).
[4] Source: U.S. Census Bureau (2005b).
[5] Source: U.S. Census Bureau (2005c).
[6] Source: WDAI (2004).

Table 3.3. Urban and Rural Population and Density, 2000

Location	Population[1]				Density per Square Mile
	Urban (% of Total)	Rural (% of Total)	Rural Farm[2] (% of Rural)	Rural Non-Farm[2] (% of Rural)	
U.S.					
No. of People	222,358,309	59,063,597	2,987,531	56,076,066	79.6
Percent	(79%)	(21%)	(5%)	(95%)	n/a
Wyoming					
No. of People	322,073	171,709	15,150	156,559	5.1
Percent	(65%)	(35%)	(9%)	(91%)	n/a
Lincoln County					
No. of People	2,958	11,653	718	10,897	3.6
Percent	(20%)	(80%)	(6%)	(94%)	n/a
Sublette County					
No. of People	--[3]	5,920	477	5,443	1.2
Percent	--	(100%)	(8%)	(92%)	n/a
Sweetwater County					
No. of People	33,512	4,101	416	3,685	3.6
Percent	(89%)	(3%)	(10%)	(90%)	n/a

[1] Source: U.S. Census Bureau (2000a).
[2] Total rural residents living on farms and not living on farms.
[3] Sublette County has no urban population as defined by the U.S. Census Bureau.

3.1.2.4 Sublette County

The Sublette County population in 2000 was 5,920, up from 4,843 (22%) in 1990 and up from 4,548 (30%) in 1980 (U.S. Census Bureau 2000a, 2000b) (EPS indicates a growth of 1,333 people, a 59% increase in population). The county's population continues to increase, growing approximately12% between 2000 and 2004 (U.S. Census Bureau 2005a). In 2000, Sublette County had no urban clusters or urban areas as defined by the U.S. Census Bureau; thus, the entire population was considered rural. Approximately 8% of the county's population resided on farms, while 92% were considered non-farm residents (U.S. Census Bureau 2000d) (see Table 3.3).

Pinedale, Big Piney, Marbleton, and Boulder in Sublette County are the communities most likely to be affected by the proposed project. Bondurant, Cora, and Daniel may also be affected. Census data for Bondurant, Boulder, Cora, and Daniel were not collected until the 2000 census. In 2000, Pinedale had the largest population in Sublette County (1,412), while Boulder had the smallest population in the entire study area (30) (see Table 3.2). According to U.S. Census Bureau estimates, the communities of Pinedale, Marbleton, and Big Piney in Sublette County all experienced growth between 2000 and 2004 (U.S. Census Bureau 2005b). Population increases for each community are provided in Table 3.2.

3.1.2.5 Sweetwater County

The Sweetwater County population in 2000 was 37,613, down from 38,823 (-3.1%) in 1990 and from 41,723 in 1980 (-9.9%) (U.S. Census Bureau 2000a, 2000b) (see Table 3.2). (EPS indicates an increase of 4,778 people [11%] over the 1980–2000 period.) Between 2000 and 2004, population in the county increased by 0.4% (U.S. Census Bureau 2005a). In 2000, Sweetwater County had a population density of 3.6 people/square mile; however, unlike Sublette County, the majority (89%, or 33,512) of the Sweetwater County population lived in urban clusters (U.S. Census Bureau 2000d) (see Table 3.3). Of the 4,101 rural residents, only 416 (1% of county residents) resided on farms.

Rock Springs is the community most likely to be affected in Sweetwater County. Eden and Farson may also be affected, though minimally. No census data were collected for Eden and Farson until 2000. Rock Springs reflected Sweetwater County's trend, declining 2.1% between 1980 and 1990 and 1.7% between 1990 and 2000 (see Table 3.2). Overall, Rock Springs experienced a 3.9% decrease in growth in the 20-year study period (1980–2000). Similar to Sweetwater County as a whole, population estimates reflect a slight increase in growth (0.2%) between 2000 and 2004 (U.S. Census Bureau 2005a, 2005b). In 2004, Rock Springs had the largest estimated population in the entire study area (18,746) (see Table 3.2).

3.1.3 Income, Poverty, and Unemployment

Income, poverty, and unemployment data were obtained for each county in the study area from the U.S. Census Bureau (1981, 1990, 2000c, 2004); the Wyoming Department of Employment, Research, and Planning (WDERP) (2002a, 2002b, 2002c); and the Wyoming Department of Administration and Information (2005b). EPS does not address poverty and has limited coverage of unemployment trends. Personal per capita income as reported by the census is not the same as the PCPI reported by BEA (see Section 3.2). All income and wage statistics are reported in Year 2000 dollars, adjusted for inflation based on the U.S. average CPI used by EPS as reported by the Bureau of Labor Statistics (BLS), unless otherwise noted. Table 3.4 shows the information on median household income, personal per capita income, poverty, and unemployment at the state and county level, as well as at the community level where available.

The following definitions involved in the discussion of income, poverty, and unemployment were obtained from the U.S. Census Bureau (2000a).

Household Income. Household income is the sum of money income received in a calendar year (1979, 1989, 1999) by all household members 15 years old and over, including household members not related to the householder, people living alone, and other non-family household members. Included in the total are amounts reported separately for wage or salary income; net self-employment income; interest, dividends, or net rental or royalty income or income from estates and trusts; Social Security or Railroad Retirement income; Supplemental Security Income (SSI); public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income.

Personal Per Capita Income. Personal per capita income is the mean income computed for every man, woman, and child in a geographic area. It is derived by dividing the total income of all people 15 years old and over in a geographic area by the total population in that area. (Income information is not collected for all people under 15 years old even though all people under the age of 15 are included in the denominator of per capita income; thus, personal per capita income may be underestimated.)

Below Poverty Level. Below poverty level is a classification assigned to families and persons if their total family income or unrelated individual income was less than the poverty threshold specified for the applicable family size, age of householder, and number of related children under 18 present. The U.S. Census Bureau follows OMB's Statistical Policy Directive 14 to define poverty and uses a set of money income thresholds that vary by family size and composition to determine who is poor. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. If a person is not living with anyone related by birth, marriage, or adoption, then the person's own income is compared with his or her poverty threshold.

Table 3.4. Income, Poverty, and Unemployment

Location	Median Household Income[1,2] ($)				Personal Per Capita Income[1,2] ($)				Poverty Rate[1,2] (%)				Unemployment Rate[1,2] (%)			
	1980[3]	1990[4]	2000[5]	2002[6] Estimate	1980[3]	1990[4]	2000[5]	2003[12]	1979[3]	1989[7]	1999[5]	2002[6] Estimate	1980[8,9]	1990[9,10]	2000[10,11]	2003[12]
U.S.	35,194	39,599	41,994	43,318	21,280	25,787	29,469	31,472	12.4	11.8	12.4	12.1	7.1	5.6	4.0	6.0
Wyoming	41,784	35,700	37,892	39,772	24,561	23,696	27,372	32,433	7.9	11.2	11.4	10.6	4.0	5.5	3.9	4.4
Lincoln County	37,627	37,534	40,794	44,567	19,602	19,071	20,980	27,156	11.5	11.1	9.0	9.1	6.0	6.6	5.2	5.8
LaBarge	NR	12,142	18,837	NR	NR	6,995	18,837	NR	NR	24.5	12.3	NR	NR	NR	NR	NR
Sublette County	36,425	35,343	39,044	45,765	25,201	24,746	26,927	33,936	9.7	8.8	9.7	7.3	2.7	2.9	3.8	2.8
Big Piney	NR	15,418	17,647	NR	NR	8,882	17,647	NR	NR	6.2	11.5	NR	NR	NR	NR	NR
Bondurant	NR	NR	19,432	NR	NR	NR	19,432	NR	NR	NR	19.2	NR	NR	NR	NR	NR
Boulder	NR	NR	12,500	NR	NR	NR	NR	NR	NR	NR	33.3	NR	NR	NR	NR	NR
Cora	NR	NR	20,831	NR	NR	NR	20,831	NR	NR	NR	7.9	NR	NR	NR	NR	NR
Daniel	NR	NR	21,213	NR	NR	NR	21,213	NR	NR	NR	24.4	NR	NR	NR	NR	NR
Marbleton	NR	15,125	18,446	NR	NR	8,713	18,446	NR	NR	10.1	4.2	NR	NR	NR	NR	NR
Pinedale	NR	17,030	20,441	NR	NR	9,811	20,441	NR	NR	12.9	8.9	NR	NR	NR	NR	NR
Sweetwater County	50,394	47,707	46,357	50,801	10,955	16,810	28,037	32,941	5.2	7.4	7.8	7.9	3.7	5.5	4.8	4.3
Eden	NR	NR	52,625	NR	NR	NR	18,392	NR	NR	NR	17.6	NR	NR	NR	NR	NR
Farson	NR	NR	44,545	NR	NR	NR	16,140	NR	NR	NR	0.0	NR	NR	NR	NR	NR
Rock Springs	19,525	19,456	51,539	NR	4,471	11,208	19,396	NR	5.8	8.5	9.4	NR	NR	NR	NR	NR

1 NR = not reported.
2 All national, state, and local area dollar estimates are in Year 2000 dollars adjusted for inflation based on U.S. average consumer price index (for urban consumers). EPS uses the urban consumer base; therefore, it was also applied to inflation adjustments for this technical report to maintain consistency. Median household income is for all geographic units; personal per capita is for towns and cities. Poverty rate is the percent of people in poverty. Unemployment rate is the percentage of people actively seeking work but unemployed.
3 Source: U.S. Census Bureau (1981) (based on 1979 income).
4 Source: U.S. Census Bureau (1990) (based on 1989 income).
5 Source: U.S. Census Bureau (2000c) (based on 1999 income).
6 Source: U.S. Census Bureau (2004) (based on 2003 income).
7 Source: WDAI (2001b). Poverty rate is the percent of people in poverty.
8 Source: WDERP (2002a).
9 Source: BLS (2003).
10 Source: WDERP (2002b).
11 Source: WDERP (2002c).
12 Source: WDAI (2005b).

The poverty thresholds do not vary geographically, and they are updated annually for inflation using the CPI. The official poverty definition counts money income before taxes and does not include capital gains and non-cash benefits (such as public housing, Medicaid, and food stamps).

Poverty is not defined for people in military barracks, or institutional group quarters, or for unrelated individuals under age 15 (such as foster children); these people are excluded from the poverty universe—that is, they are considered neither as "poor" nor as "non-poor" (Dalaker and Proctor 2000).

According to the U.S. Census Bureau, for a family of four (i.e., two adults and two children), the poverty threshold in 2002 occurred at an annual income of $18,244 (U.S. Census Bureau 2003).

If total family income is less than the poverty threshold (poverty guidelines as published by the U.S. Department of Health and Human Services) appropriate for that family, the family is in poverty.

All family members have the same poverty status. For individuals who do not live with family members, their own income is compared with the appropriate threshold. If total family income equals or is greater than the threshold, the family (or unrelated individual) is not in poverty. Total family income divided by the poverty threshold is called the ratio of income to poverty. A family is considered to be in poverty if the ratio of income to poverty is less than 1.0. The difference in dollars between family income and the poverty threshold is called the income deficit (for families in poverty) or income surplus (for families above poverty).

Computation of Poverty

Total Family Income/Poverty Threshold = Ratio of Income to Poverty
Ratio of Income to Poverty $\geq$1.0 = family not in poverty
Ratio of Income to Poverty <1.0 = family in poverty

Total Family Income - Poverty Threshold = Income Deficit or Surplus

Employment. As defined by the BEA, employment is the total number of persons: a) performing any type of labor for pay or profit, b) working at least 15 hours per week on an unpaid basis in family enterprises, and c) temporarily absent for non-economic reasons. Employment under this definition includes all full-time and part-time jobs. The BEA employment count is a measure of occupied jobs, rather than a measure of employed persons. If an individual holds two separate jobs at any given time, the individual is counted twice, since two employment positions are occupied.

On the other hand, WDERP derives unemployment rates from the BLS data. The BLS employment and unemployment figures are a count of people, not jobs. This is the fundamental difference in methodology between BEA and BLS employment figures. Unemployed persons include those persons who did not work, have made specific efforts to find employment, and were also available for work. The unemployment rate is calculated by dividing the number of unemployed persons by the total civilian labor force. All unemployment information was obtained from WDERP (2002a, 2002b, 2002c).

3.1.3.1 United States

Households throughout the U.S. experienced increased income over the 20-year study period, although poverty levels remained relatively static and unemployment decreased. The median household income throughout the U.S. increased by approximately 13% between 1980 and 1990 and

by 6% between 1990 and 2000, with a total increase of 19% (<1% average annual increase) over the course of the 20-year study period. Census estimates indicate that the median household income for the U.S. grew 3.2% between 2000 and 2002 (U.S. Census Bureau 2004). Personal per capita income increased 21% from 1980 to 1990 and again increased (14%) from 1990 to 2000, for a total increase of 38% (slightly less than 2% average annual increase) over the 20-year study period. Wyoming estimates imply a similar trend for the state as a whole, with a 7% increase in personal per capita income between 2000 and 2003 (WDAI 2005b). Overall, for the 20-year study period, poverty levels did not change in the U.S., although they dropped slightly from 1979 to 1989 then increased again by 1999 (U.S. Census Bureau 1981, 1990, 2000a) (see Table 3.4). The unemployment rate in the U.S. dropped throughout the 20-year study period, from 7.1% (1980) to 4.0% (2000). The unemployment rate rose to 6.0% in 2003 (BLS 2003,WDAI 2005b).

3.1.3.2 Wyoming

The median household income throughout Wyoming fell by nearly 15% between 1980 and 1990 and grew 6% between 1990 and 2000, for a total decline of 9% over the course of the 20-year study period (-0.5% average annual decline) (see Table 3.4). According to U.S. Census Bureau estimates, the state's median household income grew 5% between 2000 and 2002 (U.S. Census Bureau 2004). In distinct contrast to national increases, Wyoming's personal per capita income fell by nearly 4% from 1980 to 1990, but experienced a recovery of 16% from 1990 to 2000, for an overall increase of 11% (0.5% average annual growth) over the 20-year study period. This trend continues with an 18.5% increase in personal per capita income from 2000 to 2003 (WDAI 2005b). The poverty rate increased over the 20-year study period, from 7.9% in 1979 to 11.4% in 1999 (U.S. Census Bureau 1981, 1990, 2000a). During the two-year span between 2000 and 2002, the poverty rate decreased to 10.6 (U.S. Census Bureau 2004). The unemployment rate for Wyoming rose from 1980 (4.0%) to 1990 (5.5%), then decreased to 3.9% by 2000 (WDERP 2002a, 2002b, 2002c). In 2003, the unemployment rate for Wyoming rose slightly to 4.4% (WDAI 2005b).

3.1.3.3 Lincoln County

Lincoln County residents experienced an overall increase in income, along with reduced poverty and unemployment rates over the 20-year study period.

The median household income in Lincoln County fell by 0.2% between 1980 and 1990, then grew by nearly 9% between 1990 and 2000, for an overall increase of 8% for the 20-year study period (0.4% average annual increase) (see Table 3.4). Between 2000 and 2002, median household income increased by 9.2% (U.S. Census Bureau 2004). Personal per capita income in Lincoln County decreased by nearly 3% from 1980 to 1990 but followed the state trend for an increase of nearly 10% from 1990 to 2000, for an overall increase of almost 7% (0.3% average annual increase) over the 20-year study period. Over that period, personal per capita income only slightly exceeded the poverty level. The poverty rate decreased slightly from 1979 (11.5%) to 1989 (11.4%) and decreased again, to 9% by 1999 (U.S. Census Bureau 1981, 1990, 2000a). The poverty rate rose slightly to 9.1% in 2002 (U.S. Census Bureau 2004). Unemployment followed a rise-and-fall pattern similar to that experienced by the state and the other counties in the study area, with the unemployment rate increasing from 6.0% in 1980 to 6.6% in 1990, then falling to 5.2% in 2000 and increasing again to 5.8 in 2003 (WDERP 2002a, 2002b, 2002c, WDAI 2005b).

Data were not collected for LaBarge until the 1990 census. LaBarge has experienced trends similar to those of the state, with median household income increasing by approximately 55% (4% average annual growth) from 1990 to 2000 (see Table 3.4). Personal per capita income increased more than 169% (10% average annual growth) between 1990 and 2000. Despite the dramatic increase, the per

capita income of LaBarge barely exceeded the poverty level ($18,244). The poverty rate significantly decreased from 24.5% in 1989 to 12.3% in 1999; however, it still exceeded the poverty rate in both the state and county, as well as the other counties in the study area.

3.1.3.4 Sublette County

Sublette County residents experienced an overall increase in income, although poverty rates remained stable and unemployment rates increased over the 20-year study period. The median household income in Sublette County fell by nearly 3% between 1980 and 1990, then increased by 10% between 1990 and 2000, for an overall increase of 7% (0.4% average annual growth) over the 20-year study period. Household income increased 17.2% from 2000 to 2002 (U.S. Census Bureau 2005a). Personal per capita income in Sublette County followed the state trend and fell by almost 2% between 1980 and 1990 but increased by almost 9% from 1990 to 2000, for an overall increase of 7% (0.3% average annual growth) over the course of the 20-year study period (see Table 3.4). The poverty rate decreased from 9.7% in 1979 to 8.8% in 1989 but, despite the gains in personal income, increased back to 9.7% by 1999 (U.S. Census Bureau 1981, 1990, 2000a). The poverty rate decreased to 7.3 in 2003 (U.S. Census Bureau 2004). The 2000 unemployment rate in Sublette County (3.8%) was lower than the state overall and was the lowest unemployment rate in the study area. Unemployment followed a rise-and-fall pattern similar to that experienced by the state and the other counties in the study area, with the unemployment rate increasing from 2.7% in 1980 to 3.8% in 2000 and then decreasing to 2.8 in 2003 (WDERP 2002a, 2002b, 2002c, WDAI 2005b).

Complete information for the potentially affected communities in Sublette County is not available for all study years. Big Piney, Marbleton, and Pinedale have experienced increases in both median household income and personal per capita income since 1980. Marbleton had the highest increase in median household income (22%; 2% average annual growth) and personal per capita income (112%; 8% average annual growth) (see Table 3.4). Despite the increase, the per capita income of Marbleton barely exceeds the poverty level and no personal per capita income is reported for Boulder. The median household income in Boulder in 2000 was only $12,500, 68.5% of the poverty level ($18,244). The highest reported poverty rates in the three-county study area in 2000 were in Sublette County—Boulder (33.3%), Daniel (24.4%), and Bondurant (19.2%). Although poverty in Sublette County has remained relatively stable, the poverty rates in Marbleton and Pinedale have decreased since 1989. EPS indicates that the fastest growing area of personal income is from non-labor sources, presumably in-migrants attracted by the quality of life in the community (personal communication, December 2004, with Roy Allen, Economist, BLM Wyoming State Office, Cheyenne).

3.1.3.5 Sweetwater County

The median household income in Sweetwater County fell by 5% between 1980 and 1990 and fell again by 3% between 1990 and 2000, for an overall decrease of 8% (-0.4% average annual change) over the course of the 20-year study period (see Table 3.4). Median household income increased 9% from 2000 to 2002. Median household income increased 9.6% from 2000 to 2002 (U.S. Census Bureau 2005a). Personal per capita income increased 53% from 1980 to 1990 and 67% from 1990 to 2000, for an overall increase of 156% over the course of the 20-year study period (see Table 3.4). The poverty rate increased 42% from 1979 to 1989 but only increased 5% from 1989 to 1999 and remained constant 2002–2004 (U.S. Census Bureau 1981, 1990, 2000a, 2004). The 2000 unemployment rate in Sweetwater County was 4.8%, higher than both the state and national rates. Unemployment followed a rise-and-fall pattern similar to that experienced by the state and the other counties in the study area, with the unemployment rate increasing from 3.7% in 1980 to 5.5% in 1990, then decreasing to 4.8% by 2000 and to 4.3% in 2003 (WDERP 2002a, 2002b, 2002c; WDAI 2005b).

Rock Springs experienced a decline in median household income (-0.4%) from 1980 to 1990 but experienced an increase (165%) from 1990 to 2000, for an overall increase of 164% (5% average annual growth) over the 20-year study period (see Table 3.4). Personal per capita income increased (151%) from 1980 to 1990 and again from 1990 to 2000 (73%), for an overall increase of 334% (8% average annual growth) over the course of the 20-year study period. Despite the increase in personal income, the Rock Springs poverty level increased from 5.8% in 1979 to 8.5% in 1989 and to 9.4% in 1999.

Information for Eden and Farson in Sweetwater County was not collected until the 2000 census. However, the median household income in Eden was the highest in the three-county study area ($52,625), and Farson had the lowest poverty level in the three-county study area in 1999 (0.0%) (see Table 3.4).

3.1.4 Workforce Age, Gender, and Disabilities

Workforce information was obtained from the U.S. Census Bureau (2000e, 2000f). For the purposes of this report, the civilian labor force is defined as all persons between 16 and 66 years of age (retirement age is 67) in the civilian non-institutional population who either had a job or were looking for a job in the last 12 months and who did not have an employment disability. Employment disability was defined for the purposes of the last census as a condition that had lasted for 6 months or more:

- that limited the kind or amount of work that he or she could do at a job;
- that prevented him or her from working at a job;
- that made it difficult to go outside the home alone (for example, to shop or visit a doctor's office); and
- that made it difficult to take care of his or her own personal needs such as bathing, dressing, or getting around inside the home.

Based on the age of residents, employment disability information, and the unemployment rates in each county, approximately 1,718 unemployed, working-age residents were available for employment in the study area in 2000 (Table 3.5). Of those, 1,140 were reported from Sweetwater County. In November 2004, however, a labor shortage was reported in all sectors in Sweetwater County, with as many as 600 job vacancies existing (Mast 2004). Additionally, Halliburton reported that it was having difficulty filling the 100 new jobs created by its facility in Rock Springs (Mast 2004).

3.1.4.1 United States

As a whole, in 2000, the population of the U.S. was almost equally divided between males (49%) and females (51%). There were 186,047,605 (66% of the total population) working-age residents in the U.S. (U.S. Census Bureau 2000e) (see Table 3.5). According to census records, 57,890,659 individuals in the U.S. were work-disabled (U.S. Census Bureau 2000f), leaving a total of 128,156,946 working-age individuals nationwide (see Table 3.5). Given an unemployment rate of 4%, approximately 5,126,277 unemployed residents of working age were available for employment in the nation.

3.1.4.2 Wyoming

As a whole, in 2000, the population of Wyoming was almost equally divided between males (248,253; 50.3%) and females (245,529; 49.7%) (see Table 3.5). There were 330,940 (67% of the total population) working-age residents in Wyoming (U.S. Census Bureau 2000e). According to census records, 30,952 individuals in Wyoming were work-disabled (U.S. Census Bureau 2000f), leaving a total of 299,988 working-age individuals statewide. Given an unemployment rate of 3.9%, approximately 11,699 unemployed residents of working age were available for employment in the state.

Table 3.5. Population and Workforce, 2000[1]

Sex and Age	U.S.	Wyoming	County		
			Lincoln	Sublette	Sweetwater
Male					
0–15 years	32,919,334	57,604	1,985	680	4,727
16–66 years	92,539,411	168,540	4,627	2,080	13,168
67 years and over	12,594,818	22,109	763	281	1,072
Total males	138,053,563	248,253	7,375	3,041	18,967
Female					
0–15 years	31,353,445	54,266	1,901	663	4,515
16–66 years	93,508,194	162,400	4,455	1,926	12,533
67 years and over	18,506,704	28,863	842	290	1,598
Total females	143,368,343	245,529	7,198	2,879	18,646
Total all ages	281,421,906	493,782	14,573	5,920	37,613
Total working age	186,047,605	330,940	9,082	4,006	25,701
Persons with disabilities[2]	57,890,659	30,952	633	325	1,942
Total potential workforce	128,156,946	299,988	8,449	3,681	23,759
Unemployment rate	4.0%	3.9%	5.2%	3.8%	4.8%
Number of persons available for employment	5,126,277	11,699	439	139	1,140

[1] Source: U.S. Census Bureau (2000e).
[2] Source for persons with disability data: U.S. Census Bureau (2000f).

3.1.4.3 Lincoln County

In 2000, the population of Lincoln County was nearly equally divided between males (7,375; 51%) and females (7,198; 49%) (see Table 3.5). There were 9,082 (62%) working-age residents in Lincoln County (U.S. Census Bureau 2000e). Of these, the census indicated that 633 people were work-disabled (U.S. Census Bureau 2000f), leaving 8,449 working-age individuals available for employment. Given an unemployment rate of 5.2%, approximately 439 unemployed residents of working age were available for employment in Lincoln County.

3.1.4.4 Sublette County

The population in Sublette County had slightly more males (3,041; 51%) than females (2,879; 49%) (see Table 3.5). There were 4,006 (68%) working-age residents in Sublette County (U.S. Census

Bureau 2000e). Of these, the census indicated that 325 individuals were work-disabled (U.S. Census Bureau 2000f), leaving a total of 3,681 working-age individuals available for employment. Given an unemployment rate of 3.8%, approximately 139 unemployed residents of working age were available for employment in Sublette County.

3.1.4.5 Sweetwater County

In 2000, the population of Sweetwater County was nearly equally divided between males (18,967; 50%) and females (18,646; 50%) (see Table 3.5). There were 25,701 (68%) working-age residents in Sweetwater County (U.S. Census Bureau 2000e). Of these, the census indicated that 1,942 individuals were work-disabled (U.S. Census Bureau 2000f), leaving a total of 23,759 working-age individuals available for employment. Given an unemployment rate of 4.8%, approximately 1,140 unemployed residents of working age were available for employment in Sweetwater County.

3.1.5 Quality of Living

Data on quality of living for each county in the study area were obtained from the Wyoming Business Council (2002), WDAI (2002b), and the Wyoming Attorney General's office (1999, 2000, 2001, 2002, 2003, 2004). Due to the remoteness and atypical nature of the JIDP study area, the U.S. is not included in the quality of life analysis.

3.1.5.1 Crime

The Wyoming Attorney General, Division of Criminal Investigation (DCI) produces annual reports on crime statistics for the State of Wyoming. Crime data are complied from the Uniform Crime Reporting (UCR) records submitted to the DCI by law enforcement agencies across the state. In 2004, 64 individual law enforcement agencies contributed UCR data that work in jurisdictions representing 97.6% of the state's population. The intent of the UCR program is to gather relevant standardized data at the city, county, and state levels for use in compiling and analyzing crime statistics (Wyoming Attorney General 2004).

The UCR program defines crime rates as representing the number of crimes in relation to a population of a given jurisdiction (Wyoming Attorney General 2004). As such, crime rates are often used to compare crime in different areas. Serious offenses reported in UCR data are categorized as violent crimes (murder, forcible rape, robbery, and aggravated assault) or as property crimes (burglary, larceny theft, and motor vehicle theft) (Wyoming Attorney General 2004). Crime rates are calculated by dividing the number of offenses by the population and multiplying the result by 100,000. Census estimates for 2004 were used as the base population figures for calculating crime rates.

In 2004 the national crime rates were 465.5 arrests per 100,000 residents for violent offenses and 3,517.7 per 100,000 residents for property crime (U.S. Department of Justice 2004). Wyoming's crime rates were lower for both violent crimes (228.6) and property crimes (3,352.0) (Wyoming Attorney General 2004). Based on information provided in UCR annual reports, the comparable crime rates were calculated for Lincoln, Sublette, and Sweetwater Counties. National, state, and county crime rates are all reported in Table 3.6a.

Table 3.6a. Crime Rates[1] for the U.S., Wyoming, and the Three-County Study Area, 2004

Jurisdiction	U.S.	Wyoming	Lincoln County	Sublette County	Sweetwater County
Violent Crime Rate	465.5	228.6	256.0	405.8	598.5
Property Crime Rate	3,517.7	3,352.0	1,305.5	3,531.7	4,558.0

[1] Crime rate = number of crimes per 100,000 residents.

In 2004, Lincoln County's violent crime rate (256.0) was higher than the state's but lower than the nation's; the property crime rate (1,305.5) was lower than both the state's and the nation's. Sublette County's violent crime rate (405.8) and property crime rate (3,531.7) were both higher than the state crime rates but lower than national crime rates. Sweetwater County's violent crime rate (598.5) and property crime rate (4,558.0) were both higher than rates for the state and the nation.

In addition to reporting crime rate offenses, the UCR program reports arrest totals. Table 3.6b provides the number of arrests in Wyoming and in the three-county study area for 1999 to 2004. Data presented in Table 3.6b were compiled from the UCR annual reports from 1999 to 2004. UCR reports arrests by the type of crime committed and the age (adult or juvenile) of the defender. According to UCR data, the number of annual total arrests in Wyoming increased by 368 between 1999 and 2004 (see Table 3.6b) (Wyoming Attorney General 2004). Arrest totals decreased for the majority of crimes listed in Table 3.6b; however; the number of arrests for aggravated assault, burglary, drug offenses, and driving under the influence increased.

Reported arrests in Lincoln County decreased from 435 in 1999 to 347 in 2004. In 2004, crimes associated with the greatest number of arrests were driving under the influence (112), drug abuse violations (55), all other offenses except traffic (42), aggravated assault (35), and other assaults (17) (see Table 3.6b) (Wyoming Attorney General 2004).

Reported arrests in Sublette County increased from 257 in 1999 to 442 in 2004. Crimes associated with the greatest number of arrests were all other offenses except traffic (174), driving under the influence (110), other assaults (36), drug abuse violations (33), liquor laws (25), and aggravated assault (14) (see Table 3.6b) (Wyoming Attorney General 2004).

In Sweetwater County, arrests decreased from 3,039 reported in 1999 to 2,773 reported in 2004. Crimes associated with the greatest number of arrests in 2004 were all other offenses except traffic (674), driving under the influence (364), drug abuse violations (336) drunkenness (270), and larceny-theft (220) (see Table 3.6b) (Wyoming Attorney General 2004).

3.1.5.2 Infrastructure

County and community profile information was primarily obtained from BLM (1997) as well as local community websites and other extant information.

Lincoln County

In Lincoln County, LaBarge is the only potentially affected community. Incorporated in 1973, LaBarge is located in Lincoln County on U.S. Highway 189 approximately 75 miles north of Green River and 21 miles south of Big Piney. The town has a mayor/council, one full-time and one part-time policeman, 911 emergency telephone service, and a 15-member volunteer fire department.

Table 3.6b. Arrest Totals, 1999–2004

Crime	Wyoming State											
	1999[1]		2000[2]		2001[3]		2002[4]		2003[5]		2004[6]	
	A	J	A	J	A	J	A	J	A	J	A	J
Murder & Non-Negligent Manslaughter	11	0	12	0	12	0	8	2	10	0	13	0
Forcible Rape	40	5	39	5	38	3	56	3	29	3	27	1
Robbery	26	7	33	9	22	12	36	7	32	2	26	1
Aggravated Assault	345	77	460	86	425	84	452	62	449	49	391	61
Burglary	244	140	234	160	223	165	243	103	233	100	269	71
Larceny-Theft	1,389	1,316	1,347	968	1,205	894	1,296	804	1,155	897	1,222	790
Motor Vehicle Theft	74	74	83	60	61	47	84	34	72	46	78	22
Manslaughter by Negligence	4	1	6	0	4	0	10	1	3	0	7	0
Arson	5	9	11	19	25	27	48	10	11	6	21	13
Other Assaults	1,779	406	2,098	471	2,019	433	2,097	507	2,020	598	2,247	730
Forgery & Counterfeiting	96	10	118	12	100	17	126	5	110	5	146	5
Fraud	216	19	210	17	246	8	224	10	184	18	167	12
Embezzlement	10	0	3	0	3	1	11	0	4	0	8	0
Stolen Property; Buy, Receive or Possess	59	22	68	25	63	13	102	12	94	15	73	8
Vandalism	327	274	319	216	398	270	330	247	378	207	388	276
Weapons; Carry, Possess	95	60	90	56	70	67	90	45	74	49	83	51
Prostitution & Commercialized Vice	2	1	4	0	3	0	2	5	2	0	1	0
Sex Offenses (Except Rape and Prostitution)	93	20	123	23	121	29	120	17	101	15	107	19
Drug Abuse Violations	1,763	558	1,823	484	2,009	557	2,188	487	2,177	447	2,363	540
Gambling Offenses	1	0	1	0	1	0	2	0	3	0	1	1
Offenses Against Family & Children	213	9	194	17	171	17	150	13	237	20	228	20
Driving under the Influence	4,157	101	4,386	80	4,357	81	4,164	68	4,207	71	4,469	81
Liquor Laws	3,959	2,104	3,896	1,731	3,501	1,349	3,193	1304	3,016	1,193	2,892	1,141
Drunkenness	1,578	74	1,387	66	1,277	53	1,204	23	1,430	30	1,370	22
Disorderly Conduct	1,089	517	1,027	432	1,133	360	1,061	325	1,029	280	966	256
Vagrancy	134	17	140	46	229	17	764	97	1124	107	38	6
All Other Offenses (except Traffic)	7,905	1,872	8,206	1,687	8,467	1,582	9,132	1389	9,109	1391	10,521	1,537
Suspicion	17	32	12	88	32	84	47	52	11	75	21	51
Curfew & Loitering Law Violations	N/A	630	N/A	717	N/A	485	N/A	382	N/A	334	N/A	409
Runaways	N/A	218	N/A	176	N/A	146	N/A	142	N/A	197	N/A	305
Totals	25,631	8,573	26,330	7,651	26,215	6,801	27,240	6,156	27,304	6,155	28,143	6,429
Total Arrests	**34,204**		**33,981**		**33,016**		**33,396**		**33,459**		**34,572**	

Crime	Lincoln County											
	1999[1]		2000[2]		2001[3]		2002[4]		2003[5]		2004[6]	
	A	J	A	J	A	J	A	J	A	J	A	J
Murder & Non-Negligent Manslaughter	1	0	0	0	0	0	0	0	0	0	2	0
Forcible Rape	1	0	0	0	1	0	0	0	0	0	0	0
Robbery	0	0	0	0	0	0	0	0	0	0	0	0
Aggravated Assault	15	1	19	8	25	1	30	4	15	4	28	7
Burglary	2	3	10	8	2	1	1	2	6	0	4	0
Larceny-Theft	11	6	11	17	16	19	8	7	9	5	4	6
Motor Vehicle Theft	4	2	1	2	2	4	1	1	1	2	6	2
Manslaughter by Negligence	0	0	0	0	1	0	0	0	0	0	0	0
Arson	0	0	0	0	0	0	0	0	0	0	1	0
Other Assaults	15	4	17	2	18	3	18	1	24	6	15	2
Forgery & Counterfeiting	2	0	1	0	0	1	0	0	2	0	2	0
Fraud	5	0	3	0	10	0	10	1	6	0	4	0
Embezzlement	1	0	0	0	0	0	0	0	0	0	0	0
Stolen Property; Buy, Receive or Possess	1	0	0	1	0	0	2	0	0	0	1	0
Vandalism	0	1	0	4	2	0	1	0	0	0	0	3
Weapons; Carry, Possess	0	0	0	0	2	0	0	0	2	0	0	0
Prostitution & Commercialized Vice	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offenses (Except Rape and Prostitution)	0	0	3	0	3	0	3	1	2	1	4	1
Drug Abuse Violations	26	11	28	9	40	3	63	6	45	7	40	15
Gambling Offenses	0	0	0	0	0	0	0	0	0	0	0	0
Offenses Against Family & Children	1	0	3	0	4	1	0	0	9	0	1	0
Driving under the Influence	151	2	124	3	159	1	153	2	132	3	109	3
Liquor Laws	37	13	28	12	27	6	33	6	9	3	8	7
Drunkenness	25	19	8	7	23	8	7	3	14	1	10	3
Disorderly Conduct	11	1	5	1	3	2	4	2	8	0	4	0
Vagrancy	1	0	0	0	0	0	0	0	0	0	0	0
All Other Offenses (except Traffic)	31	5	15	4	21	10	40	6	22	2	38	4
Suspicion	8	0	4	0	4	0	5	0	8	0	8	0
Curfew & Loitering Law Violations	N/A	12	N/A	20	N/A	6	N/A	0	N/A	0	N/A	0
Runaways	N/A	6	N/A	7	N/A	5	N/A	0	N/A	6	N/A	4
Totals	349	86	280	105	363	71	379	46	314	40	290	57
Total Arrests	**435**		**385**		**434**		**425**		**354**		**347**	

Crime	Sublette County											
	1999[1]		2000[2]		2001[3]		2002[4]		2003[5]		2004[6]	
	A	J	A	J	A	J	A	J	A	J	A	J
Murder & Non-Negligent Manslaughter	0	0	0	0	0	0	0	0	0	0	0	0
Forcible Rape	0	0	0	0	1	0	3	0	2	1	1	0
Robbery	0	0	0	0	0	0	0	0	0	0	0	0
Aggravated Assault	2	0	1	1	1	0	2	0	3	0	14	0
Burglary	4	4	6	3	5	0	3	0	4	0	4	0
Larceny-Theft	7	2	9	4	5	1	12	2	4	3	11	0
Motor Vehicle Theft	2	0	3	0	1	0	2	2	2	1	4	1
Manslaughter by Negligence	0	0	0	0	0	0	0	0	0	0	0	0
Arson	0	0	1	0	0	0	1	0	0	0	0	0
Other Assaults	19	0	33	0	41	0	32	1	30	1	36	0
Forgery & Counterfeiting	0	0	0	0	0	0	0	0	5	0	0	0
Fraud	12	0	9	0	6	1	4	0	13	0	6	0
Embezzlement	0	0	0	0	0	0	0	0	0	0	0	0
Stolen Property; Buy, Receive or Possess	0	0	0	0	0	0	0	0	0	0	0	0
Vandalism	0	0	5	0	4	0	3	0	5	0	2	0
Weapons; Carry, Possess	1	0	0	0	0	0	0	0	1	0	0	0
Prostitution & Commercialized Vice	0	0	0	0	0	0	0	0	0	0	0	0
Sex Offenses (Except Rape and Prostitution)	1	0	2	0	3	2	0	0	0	1	7	0
Drug Abuse Violations	21	3	14	1	13	1	14	1	36	1	33	0
Gambling Offenses	0	0	0	0	0	0	0	0	0	0	0	0
Offenses Against Family & Children	5	1	1	0	1	1	3	0	1	1	5	1
Driving under the Influence	75	0	63	0	47	0	59	0	84	0	110	0
Liquor Laws	33	7	28	2	28	3	15	4	21	2	25	0
Drunkenness	1	0	3	0	6	0	7	0	8	0	8	0
Disorderly Conduct	0	0	0	0	0	0	1	0	0	0	0	0
Vagrancy	0	0	0	0	0	0	0	0	0	0	0	0
All Other Offenses (except Traffic)	56	1	52	1	64	3	90	3	125	3	173	1
Suspicion	0	0	0	0	0	0	0	0	0	0	0	0
Curfew & Loitering Law Violations	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0	N/A	0
Runaways	N/A	0	N/A	0	N/A	0	N/A	1	N/A	0	N/A	0
Totals	239	18	230	12	226	12	251	14	344	14	439	3
Total Arrests	**257**		**242**		**238**		**265**		**358**		**442**	

Crime	Sweetwater County											
	1999[1]		2000[2]		2001[3]		2002[4]		2003[5]		2004[6]	
	A	J	A	J	A	J	A	J	A	J	A	J
Murder & Non-Negligent Manslaughter	5	0	1	0	3	0	3	0	2	0	1	0
Forcible Rape	2	0	5	3	0	0	4	0	0	0	0	0
Robbery	1	0	1	0	1	2	7	0	7	1	3	0
Aggravated Assault	29	8	35	7	50	8	36	3	70	12	70	8
Burglary	23	16	14	21	23	13	18	10	34	24	51	8
Larceny-Theft	266	251	147	193	87	93	132	101	99	81	167	53
Motor Vehicle Theft	7	9	12	8	2	8	12	5	10	1	20	6
Manslaughter by Negligence	1	0	2	0	0	0	0	0	0	0	0	0
Arson	1	0	0	0	1	3	0	0	0	1	4	3
Other Assaults	130	19	135	25	153	19	113	21	139	23	147	62
Forgery & Counterfeiting	12	3	13	3	8	0	17	2	10	1	19	0
Fraud	11	0	9	0	10	0	13	0	10	0	7	0
Embezzlement	1	0	1	0	0	0	0	0	1	0	1	0
Stolen Property; Buy, Receive or Possess	6	5	9	1	7	0	12	1	15	2	6	2
Vandalism	37	37	30	20	33	27	31	25	39	15	37	27
Weapons; Carry, Possess	8	6	13	6	6	11	3	1	9	0	3	4
Prostitution & Commercialized Vice	0	0	0	0	1	0	0	0	0	0	0	0
Sex Offenses (Except Rape and Prostitution)	1	1	15	1	12	1	6	2	18	2	5	0
Drug Abuse Violations	166	25	138	43	161	41	184	39	267	28	287	49
Gambling Offenses	0	0	0	0	0	0	0	0	0	0	0	0
Offenses Against Family & Children	6	1	11	1	1	0	9	1	23	1	18	0
Driving under the Influence	312	8	309	4	361	8	303	3	308	9	360	4
Liquor Laws	214	212	170	168	92	99	126	57	112	69	122	61
Drunkenness	190	28	156	7	210	10	142	9	232	3	269	1
Disorderly Conduct	37	69	45	75	88	81	32	59	55	84	43	31
Vagrancy	1	0	4	1	1	1	10	0	0	5	0	3
All Other Offenses (except Traffic)	483	215	590	248	559	185	642	126	676	109	525	149
Suspicion	0	0	0	0	0	0	0	0	0	2	1	0
Curfew & Loitering Law Violations	N/A	157	N/A	272	N/A	148	N/A	153	N/A	67	N/A	103
Runaways	N/A	19	N/A	18	N/A	12	N/A	26	N/A	22	N/A	33
Totals	1,950	1,089	1,865	1,125	1,870	770	1,855	644	2,136	562	2,166	607
Total Arrests	**3,039**		**2,990**		**2,640**		**2,499**		**2,698**		**2773**	

[1] Source: Wyoming Attorney General 1999
[2] Source: Wyoming Attorney General 2000
[3] Source: Wyoming Attorney General 2001
[4] Source: Wyoming Attorney General 2002
[5] Source: Wyoming Attorney General 2003
[6] Source: Wyoming Attorney General 2004

There is a 6,000-volume library, one day care center, one senior center, four churches, one motel with 36 rooms, and an RV park with six spaces. Medical services are provided by a weekly clinic and by ambulance service, and communications include a weekly newspaper, cable TV, and a post office. Recreational facilities include one ice skating rink, two baseball fields, bike paths, two parks, and a small airport.

Sublette County

Sublette County has three airports; 26 churches; three libraries; five medical facilities (however, the nearest hospitals are in Jackson and Rock Springs, Wyoming); two museums; two newspapers; nine post offices (Big Piney, Bondurant, Boulder, Cora, Daniel, Farson, LaBarge, Marbleton, and Pinedale); and two school districts, including three elementary schools, two middle schools, two high schools, and a private school, with higher education available from Western Community College's distance learning program. Utilities/services are provided by one telephone company, two garbage/refuse services, one cable television provider, three natural gas suppliers, one electricity supplier, and one coal company. Citizen organizations are important to Sublette County's infrastructure and include volunteer fire departments, a search-and-rescue organization, and a citizen's recycling program (Sublette.Com 2001, Pinedale Online 2002). The largest communities in Sublette County are Pinedale, Big Piney, Marbleton, and Boulder.

Pinedale. Located approximately 100 miles northwest of Rock Springs and 32 miles north of the JIDPA on U.S. Highway 191, Pinedale is the county seat of Sublette County. The town has a mayor/council government, 911 emergency service, and a volunteer fire department. Police protection for the town is provided through contract with the Sublette County Sheriff's Office. There is a 37,000-volume library, one day care center, one senior center, nine churches, 11 hotels/motels with a total of 162 rooms, and a recreational vehicle (RV) park with 44 spaces. Medical services include a clinic, three doctors, a physician's assistant, one dentist, ambulance service, and a nursing home with 107 rooms. Communications include a weekly newspaper, cable TV, and a post office. Pinedale has one golf course, one ice skating rink, bike paths, two parks, and a recreation center, as well as a small airport. It has been reported that there is a shortage of health-care providers in Sublette County (Royster 2004). Some health-care providers may work shifts of up to 52 hours straight. The Pinedale Medical Clinic serviced approximately 12,000 patients last year, mostly oil and gas workers.

Pinedale has a variety of establishments for overnight lodging. Best Western and Super 8 motels are located on the west end of town and offer the most rooms. A variety of smaller motels are located in the downtown area. The surrounding area has several bed-and-breakfasts, guest ranches and lodges, and individual cabins available for rent. Tourism in and around Pinedale, and in Sublette County generally, is a major business with the primary attraction being the natural resources in the area and the many outdoor activities associated with them, including hunting, fishing, camping, backpacking and hiking, wilderness escapes, horseback riding, mountain biking, golf, wildlife viewing, downhill skiing, cross-country skiing, and snowmobiling.

Big Piney. Big Piney is located on U.S. Highway 189 about 95 miles north of Green River and 35 miles southwest of Pinedale. The town has a mayor/council government, 911 emergency service, and a voluntary fire department. Police protection is provided by the Sublette County Sheriff's Office. There is a 40,000-volume library, one day care center, six churches, and three motels. Medical services include two doctors, one dentist, and ambulance service. Communications include a weekly newspaper, cable TV, and a post office. Big Piney has one ice skating rink, one bike path, three parks, three baseball fields, one swimming pool, and a small airport.

Marbleton. Marbleton is located on U.S. Highway 189, 1 mile north of Big Piney. Marbleton has an RV park and picnic grounds, two motels, a coffee shop and restaurant, gas stations, retail shops, a movie theater, a medical clinic, and an airport.

Boulder. Boulder is an unincorporated community located on U.S. Highway 191, 12 miles south of Pinedale and 85 miles north of Rock Springs. Boulder has a post office and the Boulder Store, which includes a general store, gas station, RV park (nine spaces), motel (nine rooms), restaurant, and bar.

Sweetwater County

Sweetwater County is located in the southwestern part of Wyoming approximately 60 miles from the border with Utah and Colorado. Communities in Sweetwater County most likely to be affected by the JIDP include the county's largest city, Rock Springs, and two unincorporated communities, Eden and Farson.

Rock Springs. Established in 1888 as a mining town, Rock Springs emphasizes natural resources as the driving force behind its economy (Rock Springs Chamber of Commerce 2004). Rock Springs is located along Interstate 80 (I-80) in west-central Sweetwater County and serves as the economic hub of the area. Law enforcement and fire protection services are available, as well as a 911 emergency number. Public education is provided by 11 elementary schools, two junior high schools, one high school, and Western Wyoming Community College (a 2-year junior college). Community services consist of two libraries (107,000 total volumes), eight day care centers, and 32 churches. Commercial services include two shopping centers, five convention facilities (with a total capacity of 4,660 persons), 31 hotels/motels (1,680 total rooms), an RV park (50 spaces), and several mobile home parks. Medical care is provided by a hospital (100 beds), a nursing home (100 rooms), 33 doctors, 24 dentists, and an ambulance service. Communications consist of two local newspapers (one published in Rock Springs and one in Green River), cable television, telephone service, two AM and three FM radio stations, and two post offices.

Recreation resources include 17 baseball fields, 24 tennis courts, six swimming pools, eight soccer fields, a golf course, one ice skating rink, two recreation centers, and 24 parks. Outdoor recreation opportunities available within 30 miles of the city include Flaming Gorge National Recreation Area and various opportunities on BLM-administered lands, including Boar's Tusk, sand dunes, petroglyphs, and the Oregon/California Trails.

Cultural/entertainment attractions include the Red Desert Rodeo, Wild Horse Days, the Sweetwater County Museum, the historical Rock Springs City Hall Museum, the Fine Arts Center, and the Western Wyoming Community College Dinosaur Collection.

Rock Springs is serviced by two commercial airlines providing flights to and from the Rock Springs Airport, two bus lines, four car rental services, and two taxi services.

Eden/Farson. Eden and Farson are two unincorporated communities located on U.S. Highway 191 about 40 miles northwest of Rock Springs and 28 miles southeast of the JIDPA. The communities are governed by Sweetwater County and have a resident sheriff's officer and highway patrolman, a 26-member volunteer fire department, ambulance service, and 911 emergency phone service. Eden and Farson together have four churches, two gas stations, two cafes, two bars, and a convenience store. Recreational facilities include a youth center and a county park.

Eden and Farson are not serviced by a doctor, nurse, or dentist, although an emergency medical technician service is available. The nearest medical facility is in Rock Springs. The two communities

support one elementary and one secondary school. Bridger Valley Electric supplies energy and three vendors supply propane for heating. Residents have individual wells and septic systems, and solid waste disposal facilities are available.

3.1.5.3 Housing

Historical information on housing in Lincoln, Sublette, and Sweetwater Counties was obtained from the WDAI (2002a), and information on projected housing availability was obtained from the Wyoming Business Council (2002); these data are presented in Table 3.7. Numbers of authorized building permits for 1980–2004 were obtained from the Wyoming Housing Database Partnership (WHDP) (2005) and are listed in Table 3.8. Rental rates and costs in the three counties as compared to those for the state as a whole were obtained from WDAI (2003b) (Table 3.9a), and information on housing values as well as percentage of income spent on housing was obtained from the WHDP (2003) (Table 3.9b). Housing data reported in Tables 3.7–3.10 provide an overall view by state and affected county and are not intended to reflect conditions within particular communities (e.g., Pinedale) that have already been impacted by other projects (e.g., Pinedale Anticline Project) in the area. For example, information and data on housing in Sublette County provided by the Pinedale Anticline Working Group (PAWG) SocioEconomic Task Group Monitoring Plan are more (2005) specific to local conditions than the data generated from WHDP and are used to supplement the data from both state and census sources.

Table 3.7. Historical and Projected Housing Availability

Housing Item	Wyoming						Lincoln					
	Historical				Projected		Historical				Projected	
	1980	1990	2000	2002	2007	2012	1980	1990	2000	2002	2007	2012
Type of Housing[1,2]												
Vacant	22,593	34,572	30,246	38,804	38,706	39,582	812	1,272	1,565	1,349	1,389	1,430
Owner-occupied	114,653	114,544	135,514	139,391	149,399	159,413	3,035	3,310	4,280	4,461	4,869	5,282
Renter-occupied	50,971	54,295	58,094	58,736	60,422	62,098	824	826	986	1,024	1,072	1,116
Total housing units	188,217	203,411	223,854	236,931	248,527	261,093	4,671	5,408	6,831	6,834	7,330	7,828
Percent of Housing[1]												
Vacant	12.0	17.0	13.5	16.4	15.6	15.2	17.4	23.5	22.9	19.7	18.9	18.3
Owner-occupied	60.9	56.3	60.5	58.8	60.1	61.1	65.0	61.2	62.7	65.3	66.4	67.5
Renter-occupied	27.1	26.7	26.0	24.8	24.3	23.8	17.6	15.3	14.4	15.0	14.6	14.30

Housing Item	Sublette						Sweetwater					
	Historical				Projected		Historical				Projected	
	1980	1990	2000	2002	2007	2012	1980	1990	2000	2002	2007	2012
Type of Housing[1,2]												
Vacant	802	1,077	1,181	1,155	1,177	1,201	1,064	1,828	1,816	2,075	2,063	2,107
Owner-occupied	1,121	1,281	1,737	1,820	2,055	2,289	9,470	9,552	10,586	10,722	10,960	11,154
Renter-occupied	470	553	634	652	692	733	4,582	4,065	3,519	3,420	3,168	2,926
Total housing units	2,393	2,911	3,552	3,627	3,924	4,223	15,116	15,445	15,921	16,217	16,191	16,187
Percent of Housing[1]												
Vacant	33.5	37.0	33.2	31.8	30.0	28.4	7.0	11.8	11.4	12.8	12.7	13.0
Owner-occupied	46.8	44.0	48.9	50.2	52.4	54.2	62.6	61.8	66.5	66.1	67.7	68.9
Renter-occupied	19.6	19.0	17.9	18.0	17.6	17.4	30.3	26.3	22.1	21.1	19.6	18.1

[1] Historical data from WDAI (2002a); projected data from Wyoming Business Council (2002). Reported average availability may not accurately reflect actual availability within particular communities (e.g., Pinedale) that have already been impacted by other projects (e.g., Pinedale Anticline Project) in the area.
[2] Total residential units (i.e., single family units, duplex units, tri- and four-plex units, and multi-family units) (WHDP 2003).

Table 3.8. Authorized Building Permits, 1980–2004[1]

Year	Lincoln County	Sublette County	Sweetwater County
1980	30	82	801
1981	59	104	516
1982	72	101	325
1983	41	100	213
1984	46	72	139
1985	54	67	93
1986	11	68	85
1987	9	34	72
1988	5	21	30
1989	2	19	34
1990	3	37	56
1991	9	59	80
1992	112	50	102
1993	132	53	99
1994	170	74	123
1995	175	94	90
1996	146	69	90
1997	86	46	75
1998	103	68	73
1999	143	75	51
2000	145	54	41
2001	218	76	38
2002	204	88	48
2003	180	95	63
2004	212	93	216

[1] Source: WHDP 2005.

The U.S. Census Bureau defines a housing unit as "a house, an apartment, a group of rooms or a single room intended for occupancy as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have a direct access from the outside of the building or through a common hall. In accordance with this definition, each apartment unit in an apartment building is counted as one housing unit" (WHDP 2003).

Residences reported herein include single family units (including mobile homes), duplex units, tri- and four-plex units, and multi-family units. The habitability of vacant residences is unknown, and the acceptability of any individual housing unit is not quantifiable and is subjective for each individual tenant. Housing units are locations intended to be permanent living residences and do not include transient lodging facilities such as hotels, motels, and bed-and-breakfasts.

In 2002, Wyoming had a total of 236,931 housing units with a 16.4% vacancy rate (38,804 vacant units). More than 2,000 residential housing building permits were issued statewide in 2002 (WHDP 2003) (see Table 3.8).

Table 3.9a. Average Rental Rates, 2001–2005[1,2,3]

Location	Apartment[4]				House[5]				Mobile Home[6]				Mobile Home Lot[7]			
	Fourth Quarter[1] 2001 ($)	Second Quarter 2002 ($)	Second Quarter 2005[3] ($)	2001–2005 Change (%)	Fourth Quarter[1] 2001 ($)	Second Quarter 2002 ($)	Second Quarter 2005[6] ($)	2001–2005 Change (%)	Fourth Quarter[1] 2001 ($)	Second Quarter 2002 ($)	Second Quarter 2005[3] ($)	2001–2005 Change (%)	Fourth Quarter[1] 2001 ($)	Second Quarter 2002 ($)	Second Quarter 2005[3] ($)	2001–2005 Change (%)
Wyoming	430	443	504	17.2	599	617	693	15.7	436	448	505	15.8	178	183	203	14.0
Lincoln	292	332	--	--	400	388	--	--	315	304	--	--	158	163	--	--
Lincoln-Afton[8]	NR	NR	496	--	NR	NR	727	--	NR	NR	476	--	NR	NR	208	--
Lincoln-Kemmerer[8]	NR	NR	379	--	NR	NR	407	--	NR	NR	374	--	NR	NR	178	--
Sublette	441	534	699	58.5	613	655	882	43.9	350	457	590	68.6	175	165	240	37.1
Sweetwater	390	392	512	31.3	533	516	673	26.3	422	422	594	40.8	201	197	214	6.5

1 Source for 2001–2002 data: WDAI (2003b). Reported average rental rates may not accurately reflect actual rates within particular communities (e.g., Pinedale) that have already been impacted by other projects (e.g., Pinedale Anticline Project) in the area.
2 Source for 2005 data: WDAI (2005c).
3 NR = Not Reported.
4 Two-bedroom, unfurnished, excluding gas and electric.
5 Two or three-bedroom, single family, excluding gas and electric.
6 This price reflects total monthly rental expense, including lot rent.
7 Single-wide, including water.
8 Starting in 2003 the Wyoming Cost of Living report no longer provided data for Lincoln County as a whole. Instead, they divided Lincoln County into two reporting units: Lincoln-Afton and Lincoln-Kemmerer. The percent changes for 2001–2005, therefore, cannot be calculated for Lincoln County.

Table 3.9b. Housing Values and Percentage of Income Spent on Housing, 2000[1]

	Wyoming	County		
		Lincoln	Sublette	Sweetwater
Housing Values				
Number of Occupied Units	193,608	5,266	2,371	14,105
Median Value	$96,600	$95,300	$112,000	$104,200
Median Monthly Owner Costs				
Mortgage	$825	$855	$847	$953
No mortgage	$229	$233	$243	$231
Median Selected Renter Costs				
Contract Rent	$373	$362	$413	$363
Gross Rent	$437	$434	$523	$428
Percentage of Income Spent on Housing[2]				
Rental Units				
Number of Units	55,793	921	502	3,488
Less than 10%	5,109	101	41	449
10–14%	8,331	167	74	715
15–19%	8,150	176	50	487
20–24%	6,533	82	58	402
25–29%	4,914	54	23	286
30–34%	3,569	30	21	162
35–39%	2,641	28	13	134
40–49%	3,177	81	32	125
>50%	7,179	120	75	385
Not computed	6,190	921	115	343
Units with Mortgage				
Number of Units	62,809	1,838	473	5,128
Less than 10%	5,157	126	35	426
10–14%	13,007	347	87	1,173
15–19%	13,879	363	85	1,201
20–24%	10,691	296	69	833
25–29%	6,845	222	63	567
30–34%	3,783	118	45	325
35–39%	2,465	76	16	164
40–49%	2,691	139	15	157
>50%	4,081	139	56	259
Not computed	210	12	2	23
Units Without Mortgage				
Number of Units	32,782	1,147	389	2,155
Less than 10%	19,215	688	239	1,423
10–14%	5,770	235	54	371
15–19%	2,737	96	24	122
20–24%	1,703	38	32	93
25–29%	921	24	11	39
30–34%	565	17	9	20
35–39%	322	23	4	23
40–49%	328	17	8	13
>50%	911	17	6	44
Not computed	310	12	2	7
Total No. of Units Compiled for Income Spent on Housing[2]	151,384	3,906	1,364	10,771

[1] Source: WHDP (2003).
[2] Total number of units used by WHDP to calculate percentage of income spent on housing unit information does not equal total number of occupied units.

The cost of rental housing for the fourth quarter of 2005 increased approximately 14–17% from 2001 for apartments, houses, mobile homes, and mobile home lots n Wyoming. The highest rent in the second quarter of 2005 was for houses at $693, up 15.7% from 2001, and the lowest rent was for mobile home lots at $203 (assumes the renter owns a mobile home to place on a lot), up 14.0% from 2001 (see Table 3.9a).

3.1.5.3.1 Wyoming

According to WHDP (2003), 193,608 residential units in Wyoming were occupied in 2000 (see Table 3.9b). The median value of these units was $96,600, with a median mortgage payment of $825 and a median gross rent of $437. Of the 151,384 units surveyed for percentage of income spent on housing, 36.9% of these units were rentals, 41.5% were mortgaged units, and 21.7% were units without a mortgage. Some occupants paid more than 50% of their income for housing costs (12.9% of renters, 6.5% of mortgaged unit owners, and 2.8% of unmortgaged unit occupants) (see Table 3.9b).

Some vacant units can be attributable to second home growth in the state, particularly in Sublette County. Between 1990 and 2000 second homes accounted for almost 3,000 new housing units in Wyoming (Table 3.10). This growth represents over 14% of the total increase in housing units for the decade (Taylor and Lieske 2002b). The Census Bureau defines "second home" as housing units that do not serve as the primary residence for their inhabitants. Usually this type of housing is used seasonally for recreation or other purposes (Taylor and Lieske 2002b).

Table 3.10. Second Home Housing Units, Wyoming and Lincoln, Sublette, and Sweetwater Counties, 1990–2000[1]

Area Name	1990		2000			Change 1990–2000
	Total Housing Units	Second Home Units	Total Housing Units	Second Home Units	% Second Homes	
Wyoming	203,411	9,468	223,854	12,389	5.5%	30.9%
Lincoln County	5,409	621	6,831	912	13.4%	46.9%
Sublette County	2,911	747	3,552	930	26.2%	24.5%
Sweetwater County	15,444	137	15,921	243	1.5%	77.4%

[1] Source: Taylor and Lieske (2002b).

3.1.5.3.2 Lincoln County

In 2002, Lincoln County had the fewest renter-occupied units (15%, 1,024 units) in the study area. A total of 1,349 units (19.7%) in Lincoln County were vacant in that year. The relatively high percentage of such units may be attributable to the growing number of second homes in the county (912 in 2000, a 46.9% increase over 1990). The greatest number of residential building permits (204) in the study area was issued in Lincoln County (WHDP 2003) (see Table 3.8).

Lincoln County had the lowest rental costs in the study area in 2001 (see Table 3.9a). With the exception of one reporting category (house rentals in one division[2] of Lincoln County), rents in

[2] Beginning in 2003, rather than report rental costs for Lincoln County as a whole, WDAI has reported Lincoln County statistics in two divisions: Lincoln-Afton and Lincoln-Kemmerer. For this reason, it is not possible to provide percentage changes in countywide rental costs before and after that date.

Lincoln County continued to be the lowest in the study area in the second quarter of 2005, the most recent reporting period. The highest rent category in the fourth quarter of 2001 was houses ($400); by the second quarter of 2005 that amount had risen to $727 in Lincoln-Afton but only $407 in Lincoln-Kemmerer. The lowest rent category in 2001 was mobile home lots ($158). By 2005, that had risen to $208 in Lincoln-Afton and $178 in Lincoln-Kemmerer. As shown in Table 3.9a, in the second quarter of 2005, rents in Lincoln-Afton were consistently higher than in Lincoln-Kemmerer.

According to WHDP (2003), 5,266 residential units in Lincoln County were occupied in 2000 (see Table 3.9b). The median value of these units was $95,300, with a median mortgage payment of $855 and a median gross rent of $434. Of the 3,906 units surveyed for percentage of income spent on housing, 23.6% were rentals, 47.1% were mortgaged units, and 29.4% were units without a mortgage. In Lincoln County, 8.8% of renters, 7.8% of mortgaged unit occupants, and 1.5% of unmortgaged unit occupants spent more than half their income on housing costs.

LaBarge is the community in Lincoln County most likely to be affected by the proposed project. According to the Lincoln County Planning Department, the housing market in LaBarge has recently turned a corner and is stabilizing after experiencing a decrease in housing prices for the last several years. Housing in LaBarge is considered available but limited (Woodward 2005).

3.1.5.3.3 Sublette County

According to the 2000 Census, Sublette County had the highest percent of second home units in Wyoming; a total of 26.2% of all housing units in the county were second homes at that time. In 2002, Sublette County also had the highest officially reported vacancy rate in the study area (31.8%, 1,155 vacant units), and the lowest number of owner-occupied units (50.2%) (see Table 3.7). Between 1990 and 2000 the number of second homes in the county grew by 24.5%, which contributes significantly to the county's very high reported vacancy rate (see Table 3.10). According to the County Assessor's Office, there is a shortage of available housing in Sublette County (Saxton 2005). Housing shortages in the northern portions of the county are such that the demand for housing has increased the cost of current homes on the market.

As a result of the lack of housing and rental market in the County, the PAWG 2005 socioeconomic report and monitoring plan states:

> *Businesses are having to supply employees with housing. Specific examples of this are: White Pine Ski Area converting a building into apartments for employees. Sinclair Gas Station…building an addition for employee housing. Sublette County School District Number One buying housing for teachers and also creating plans for a planned unit development west of Town for teacher housing. Numerous instance of people converting garages into apartments and renting them out. Camping trailers parked on town streets with people staying in them* (PAWG 2005, p. 21).

Between 2000 and 2004, the number of new building permits issued annually in the county increased by 72% (see Table 3.8) (WHDP 2005a). According to PAWG (2005), the housing shortage in Sublette County varies with the most notable shortages occurring in the Town of Pinedale and the surrounding areas. As such, these areas are also experiencing the greatest increase in new housing growth within the County. Within the town limits of Big Piney, a new subdivision is currently being developed, and Pinedale has several new rural subdivisions under construction. A total of 130 residential lots were permitted within a mile of the town of Pinedale in 2004 and 40 residential lots associated with new subdivisions within the town of Pinedale were platted (PAWG 2005). The study states that:

> *Overall, the most significant increases in building are in single-family housing, multi-family housing, motel/hotel units, and the large amount of land being developed around the Town of Pinedale. The percentage increases are extreme. The "fringe area" land development is particularly alarming due to water quality issues arising from a large increase in septic systems* (PAWG 2005, p. 24).

In the second quarter of 2005, Sublette County had the highest rental costs in the study area for apartments ($699, up 58.5% from the fourth quarter of 2001), houses ($822, up 43.9%), mobile homes ($590, up 68.6%), and mobile home lots ($240, up 37.1%) (see Table 3.9a). These increases tended to be the highest in the study area.

According to WHDP (2003), 2,371 residential units in Sublette County were occupied in 2000 (see Table 3.9b). The median value of these units was $112,000, with a median mortgage payment of $847 and a median gross rent of $523. Of the 1,364 units surveyed for percentage of income spent on housing, 36.8% were rentals, 34.7% were mortgaged units, and 28.5% were units without a mortgage. In Sublette County, 14.9% of renters, 18.4% of mortgaged unit occupants, and 61.4% of unmortgaged unit occupants spent more than half their income on housing costs.

Between 1998 and 2004, the cost for an average single-family home in Sublette County increased by 65% (PAWG 2005). Over the same time frame, the statewide increase for an average single-family home was 35%. Due to the housing shortage in the county, waiting lists exist for rental properties. A semi-annual rental vacancy survey conducted by WDAI in Sublette County reported one vacant single-family house and a waiting list of 86 existed in spring 2004 (PAWG 2005).

3.1.5.3.4 Sweetwater County

In 2002, Sweetwater County had the highest number of owner-occupied units (10,722, 66.1%), the highest number of renter-occupied units (3,420, 21.1%), and the lowest vacancy rate (2,075 units, 12.8%) (see Table 3.7). In 2000, the county had 243 second homes, a total of 1.5% of all housing units. Compared to Lincoln and Sublette Counties, Sweetwater County had the greatest increase in second home development between 1990 and 2000, an increase of 77.4% (see Table 3.10).

According to a November 4, 2005, Casper Star Tribune article, housing in Sweetwater County is inadequate for the current demand for two reasons: (1) housing in the county is not readily available, and (2) housing currently on the market is expensive (Gearino 2005). In the second quarter of 2005, the average rental cost in Sweetwater County was $512 for apartments (up 31.3% from the fourth quarter of 2001); $673 for houses (up 26.3%); $594 for mobile homes (up 40.8%); and $214 for mobile home lots (up 6.5%) (see Table 3.9a). To help meet the demand for new housing, the Sweetwater Economic Development Association has made housing development a priority for the county, and it is anticipated that 500 new housing units will be constructed in the county by next year (Gearino 2005). Sweetwater County also had the greatest increase in new building permits issued in the study area. Between 2000 and 2004, the number of new building permits issued in the county increased over 400% (see Table 3.8) (WHDP 2005).

According to WHDP (2003), 14,105 residential units in Sweetwater County were occupied in 2000 (see Table 3.9b). The median value of these units was $104,200, with a median mortgage payment of $953 and a median gross rent of $428. Of the 10,771 units surveyed for percentage of income spent on housing, 32.4% were rentals, 47.6% were mortgaged units, and 20.0% were units without a mortgage. In Sweetwater County, 11.0% of renters, 5.1% of mortgaged unit occupants, and 2.0% of unmortgaged unit occupants paid more than 50% of their income for housing costs.

3.1.5.4 Cost of Living and Inflation

Cost of living and inflation information is collected by the WDAI and is used to build a Comparative Cost of Living Index for each of Wyoming's 23 counties. To build the index, prices are collected for 140 items and aggregated into six categories, which were then weighted according to their overall importance in the average consumer's budget. These categories and their respective weight components include housing (46.3%), transportation (17.1%), food (14.7%), recreation and personal care (10.3%), apparel (5.8%), and medical costs (5.8%). The housing category, due to its relative importance in the average consumer's budget, carries the largest weight factor and is the most influential category in both the comparative index and the inflation rates. Table 3.11 presents data from the Comparative Cost of Living Index for the fourth quarter of 2002 and for the second quarter of 2005 (WDAI 2003b, WDAI 2005c)

Table 3.11. Comparative Cost of Living Index for Each Wyoming County Compared with the Statewide Average of 100

Fourth Quarter 2002[1]								
Rank	County	All Items	Food	Housing	Apparel	Transportation	Medical	Recreation and Personal Care
1	Teton	139	105	174	121	104	110	111
2	Sheridan	106	107	107	120	100	107	104
3	Sublette	105	96	107	123	101	97	110
4	Campbell	105	100	111	87	99	101	102
5	Laramie	104	107	109	94	98	100	97
6	Johnson	103	105	100	132	100	99	106
7	Albany	102	94	107	103	101	99	96
8	Natrona	99	105	98	103	100	98	96
9	Sweetwater	98	100	95	94	100	99	103
10	Park	97	99	92	107	101	102	101
11	Carbon	94	105	85	91	102	96	107
12	Converse	94	95	90	89	100	98	98
13	Fremont	93	89	91	87	101	99	100
14	Hot Springs	93	98	83	102	102	104	103
15	Uinta	93	92	89	87	100	105	98
16	Goshen	91	93	85	99	99	97	99
17	Platte	91	100	80	107	100	95	100
18	Lincoln	91	90	84	102	100	92	99
19	Big Horn	89	96	77	117	100	95	99
20	Washakie	89	92	78	112	99	101	98
21	Niobrara	88	90	74	104	101	103	106
22	Crook	87	93	76	98	100	93	101
23	Weston	87	89	76	93	101	109	100
Second Quarter 2005[2]								
Rank	County	All Items	Food	Housing	Apparel	Transportation	Medical	Recreation and Personal Care
1	Teton	139	104	173	127	105	111	108
2	Sublette	112	102	118	125	101	99	114
3	Sheridan	105	109	103	129	98	109	105

Table 3.11. (Continued)

		Second Quarter 2005[2]						
Rank	County	All Items	Food	Housing	Apparel	Transportation	Medical	Recreation and Personal Care
4	Campbell	104	103	108	98	101	95	102
5	Lincoln-Afton	103	94	107	101	101	103	106
6	Laramie	103	109	108	86	98	99	93
7	Albany	102	90	107	103	100	101	99
8	Sweetwater	102	99	104	95	101	104	98
9	Johnson	100	108	95	136	100	91	98
10	Natrona	98	99	96	100	100	95	103
11	Carbon	96	103	91	90	101	105	100
12	Park	95	100	90	101	100	103	99
13	Fremont	94	92	89	90	102	101	104
14	Converse	93	95	88	87	100	98	104
15	Uinta	93	93	90	94	99	93	94
16	Hot Springs	91	108	76	121	101	103	96
17	Lincoln-Kemmerer	90	89	83	100	100	88	111
18	Crook	90	92	81	112	101	94	100
19	Platte	90	100	78	105	99	106	101
20	BigHorn	89	96	77	118	100	99	102
21	Niobrara	89	94	78	109	102	101	94
22	Washakie	88	95	73	115	100	101	106
23	Goshen	88	91	78	93	99	104	96
24	Weston	86	87	76	92	100	102	99

[1] Fourth quarter 2002: prices as of January 8, 9, and 10, 2003 (statewide average = 100) (WDAI 2003b).
[2] Second quarter 2005: prices as of July 6,7, and 8, 2005 (statewide average = 100) (WDAI 2005c).

3.1.5.4.1 Lincoln County

Lincoln County ranked eighteenth in the state in the fourth quarter of 2002 (see Table 3.11). Beginning in 2003, WDAI no longer reported cost of living for Lincoln County as whole but divided the county into a northern portion (Lincoln-Afton) and southern portion (Lincoln-Kemmerer) (WDAI 2005b). In the second quarter of 2005, Lincoln-Afton ranked fifth and Lincoln-Kemmerer ranked seventeenth for cost of living. Lincoln-Afton reported an all-items index of 103 and the state's fourth highest housing index of 107. Lincoln-Kemmerer had a significantly lower cost of living than the other counties in the study area with an all-items index of 90. It had the lowest index in the study area for food (89), housing (83), transportation (100), and medical (88).

3.4.5.4.2. Sublette County

Sublette County rose from the third most expensive county in Wyoming in the fourth quarter of 2002 to the second most expensive county in the second quarter of 2005 (see Table 3.11). In 2005, the county had the highest cost of living in the study area, with an all-items ranking of 112—a seven-point increase from the second quarter 2002 (see Table 3.11). Sublette County had the highest index in the study area for food (102), housing (118), apparel (125), and recreation and personal care (114).

3.4.5.4.3 Sweetwater County

Sweetwater County was ranked ninth in the state in the fourth quarter of 2002 and rose to eighth in the second quarter of 2005 (see Table 3.11). With an index of 104 in 2005, the cost of the county's medical services remained the highest in the study area. Sweetwater County had the lowest index in the study area for apparel (95) and recreation and personal care (98).

3.1.5.5 Inflation

Tables 3.12 and 3.13 show estimated Wyoming inflation rates. Table 3.12 shows estimated inflation rates for all categories and the respective category weights. Table 3.13 shows the estimated annual "all-items" inflation rates for the five regions of the state, as well as statewide rates. The inflation rate represents the percent change in the price level of a standard basket of selected consumer items priced this quarter, compared with the price level of the same goods recorded one year ago. WDAI (2005b) weighted the data by population to more accurately represent the price changes experienced by the majority of consumers in Wyoming.

Table 3.12. Annual Inflation Rates in Wyoming by Category (Statewide Average)[1]

	Category (%)						
Quarter[2]	All Items	Food	Housing	Apparel	Transportation	Medical	Recreation and Personal Care
Weights	100.0	14.7	46.3	5.8	17.1	5.8	10.3
4Q96	4.8	9.3	2.4	7.0	7.0	4.1	2.9
2Q97	2.8	4.9	2.1	2.8	2.4	3.3	2.8
4Q97	2.9	4.5	2.5	-0.6	0.9	4.7	5.0
2Q98	1.5	2.6	0.9	3.6	0.0	0.2	3.7
4Q98	2.2	2.8	2.6	4.0	-2.2	0.7	6.2
2Q99[3]	2.6	3.7	3.2	1.1	0.7	3.0	2.3
4Q99	3.1	4.7	2.5	-0.2	4.5	3.4	3.1
2Q00	4.3	4.9	3.6	-1.2	7.9	5.2	3.3
4Q00	3.2	1.8	3.9	-0.4	2.9	4.0	3.9
2Q01	4.3	3.0	6.6	3.1	1.6	4.0	2.0
4Q01	3.5	5.0	4.5	1.8	-0.1	7.3	2.3
2Q02	2.5	1.9	3.1	0.5	-0.4	5.9	4.3
4Q02	3.7	3.3	3.1	4.5	4.7	6.0	3.9
2Q03	2.9	4.2	3.0	3.6	1.2	4.3	1.8
4Q03	3.6	5.1	5.7	2.2	-1.2	3.0	1.4
2Q04	4.9	5.2	6.3	1.8	4.8	5.0	-0.4
4Q04	4.3	4.2	4.8	0.4	5.9	5.5	0.4
2Q05	4.5	3.1	5.1	1.0	6.2	5.0	1.5

1 WDAI (2003b) was the source of data for 4Q96–2Q02; WDAI (2005c) was the source of data for 4Q02–2Q05.

2 4Q96 = fourth quarter (October, November, December) 1996. Fourth quarter represents the December to December and 2nd Quarter represents the June to June percent change.

3 The 2Q99 inflation calculations mark the first time the WCLI used all 23 counties to calculate the inflation rates. Previously, only 15 counties were used. The inflation rate represents the percent change in the price level of a standard basket of selected consumer items priced this quarter, compared with the price level of the same goods recorded one year ago.

Table 3.13. Annual Inflation Rates for the U.S., Wyoming, and Regions in Wyoming[1]

Quarter[3]	U.S. Consumer Price Index (%)	Wyoming (All Items %)	Region[2] (All Items %)				
			Southeast	Southwest	Central	Northeast	Northwest
4Q96	3.3	4.8	5.2	4.0	5.0	4.2	4.9
2Q97	2.3	2.8	3.6	2.8	3.1	1.0	2.6
4Q97	1.7	2.9	3.3	4.0	1.9	3.0	2.2
2Q98	1.7	1.5	1.3	2.6	0.3	2.1	2.5
4Q98	1.6	2.2	2.7	2.8	1.4	2.0	2.4
2Q99	2.0	2.6	3.8	3.4	1.5	2.6	0.9
4Q99[4]	2.7	3.1	3.6	2.6	2.8	3.4	3.0
2Q00	3.7	4.3	3.9	2.3	4.4	7.4	4.0
4Q00	3.4	3.2	2.8	2.6	3.4	6.9	3.8
2Q01	3.2	4.3	4.1	3.1	5.0	4.8	4.6
4Q01	1.6	3.5	4.9	2.3	2.9	4.0	2.6
2Q02	1.1	2.5	2.6	1.4	2.8	3.1	2.2
4Q02	2.4	3.7	3.0	2.5	5.1	5.1	2.7
2Q03	2.1	2.9	3.0	3.5	2.1	3.1	3.0
4Q03	1.9	3.6	4.1	4.3	2.6	3.4	3.9
2Q04	3.3	4.9	4.4	4.6	5.1	6.4	4.4
4Q04	3.3	4.3	4.0	4.8	4.8	4.3	3.3
2Q05	2.5	4.5	4.4	6.6	4.6	3.2	3.5

1 WDAI (2003b) was the source of data for 4Q96–4Q01; WDAI (2005c) was the source of data for 2Q02–2Q05.
2 Regional Composition for Inflation Estimate:
Southeast: Albany, Carbon, Goshen, Laramie, Niobrara, and Platte Counties.
Southwest: Lincoln, Sublette, Sweetwater, and Uinta Counties.
Central: Converse, Fremont, and Natrona Counties.
Northeast: Campbell, Crook, Johnson, Sheridan, and Weston Counties.
Northwest: Big Horn, Hot Springs, Park, Teton, and Washakie Counties.
3 4Q96 = fourth quarter (October, November, December) 1996. Fourth quarter represents the December to December and 2nd Quarter represents the June to June percent change.
4 The 2Q99 inflation calculations mark the first time the WCLI used all 23 counties to calculate the inflation rates. Previously, only 15 counties were used.

The Wyoming annual all-items inflation rate for the second quarter of 2005 was 4.5.% (see Table 3.12), with the transportation category experiencing the highest inflation rate for the second consecutive period. The inflation rate for medical ranked second overall; however, the rate had decreased since the fourth quarter 2004.

Table 3.13 compares inflation rates of different regions in Wyoming with the U.S. and the entire state. The study area falls within the southwest region of the state, which consists of Lincoln, Sublette, Sweetwater, and Unita Counties. This region had a 6.6% inflation rate in the second quarter of 2005, the highest in Wyoming, ranking higher than the state average of 4.5 and the U.S. average of 2.5.

3.1.6 Education

3.1.6.1 Primary and Secondary Education

Table 3.14 provides information obtained from the National Center of Education Statistics (NCES) on education statistics in the study area (NCES 2003, 2005). Table 3.15 presents proficiency statistics for economically disadvantaged students in each school district in the study area.

Proficiency statistics are collected through the Wyoming Comprehensive Assessment System (WyCAS), a statewide, systematic approach to student assessment (Wyoming Department of Education Assessment and Accountability Office 2003).

Table 3.14. Education Statistics, 2003–2004[1]

Statistic	Wyoming	County		
		Lincoln	Sublette	Sweetwater
Schools	380	13	8	25
School Districts	59	2	2	2
Students	87,462	3,191	1,306	7,012
American Indian/Alaskan Native Students	3,033	23	10	81
Asian/Pacific Islander Students	847	27	12	47
Black Non-Hispanic Students	1,197	3	10	90
Hispanic Students	7,200	94	30	784
White Non-Hispanic Students	75,185	3,045	1,147	5,862
Staff	14,126	473	212	1,058
Teachers	6,568	212	102	476
Pupil/Teacher Ratio	13:1	15:1	13:1	15:1

[1] Source: NCES (2003, 2005).

Table 3.15. Results of WyCAS Testing, Categorized by Economically Disadvantaged Category[1]

District Name	Total Number of Students Tested	Number of Economically Disadvantaged Students	Proficient and Advancing (%)	Number of Students Not Economically Disadvantaged	Proficient and Advancing (%)
FOURTH GRADE					
Reading					
Lincoln #1	42	9	11	33	33
Lincoln #2	180	68	49	112	63
Sublette #1	51	14	21	37	68
Sublette #9	41	17	41	24	38
Sweetwater #1	279	86	22	193	48
Sweetwater #2	196	52	31	144	44
Writing					
Lincoln #1	42	9	11	33	30
Lincoln #2	180	68	34	112	49
Sublette #1	51	14	14	37	62
Sublette #9	41	17	17	24	46
Sweetwater #1	279	86	86	193	45
Sweetwater #2	196	52	52	144	37
Mathematics					
Lincoln #1	42	9	22	33	27
Lincoln #2	180	68	44	112	49
Sublette #1	51	14	14	37	41
Sublette #9	41	17	24	24	21
Sweetwater #1	279	86	21	193	55
Sweetwater #2	196	52	26	144	26

Table 3.15. (Continued)

District Name	Total Number of Students Tested	Number of Economically Disadvantaged Students	Proficient and Advancing (%)	Number of Students Not Economically Disadvantaged	Proficient and Advancing (%)
EIGHT GRADE					
Reading					
Lincoln #1	61	12	33	49	31
Lincoln #2	177	57	51	120	69
Sublette #1	55	0	--	55	64
Sublette #9	58	15	27	43	53
Sweetwater #1	332	37	11	295	25
Sweetwater #2	205	20	15	185	45
Writing					
Lincoln #1	61	12	33	49	45
Lincoln #2	177	57	63	120	82
Sublette #1	55	0	--	55	65
Sublette #9	58	15	60	43	60
Sweetwater #1	332	37	11	295	35
Sweetwater #2	205	20	25	185	56
Mathematics					
Lincoln #1	61	12	25	49	24
Lincoln #2	176	57	21	119	39
Sublette #1	55	0	--	55	56
Sublette #9	58	15	27	43	33
Sweetwater #1	332	37	3	295	33
Sweetwater #2	205	20	0	185	44
ELEVENTH GRADE					
Reading					
Lincoln #1	50	5	0	45	44
Lincoln #2	180	33	55	147	69
Sublette #1	55	11	55	44	66
Sublette #9	41	5	20	36	58
Sweetwater #1	308	0	--	308	41
Sweetwater #2	228	13	15	215	50
Writing					
Lincoln #1	50	5	20	45	42
Lincoln #2	180	33	70	147	69
Sublette #1	55	11	64	44	89
Sublette #9	41	5	60	36	61
Sweetwater #1	308	0	--	308	52
Sweetwater #2	228	13	38	215	61
Mathematics					
Lincoln #1	50	5	0	45	42
Lincoln #2	180	33	48	147	54
Sublette #1	55	11	55	44	61
Sublette #9	41	5	40	36	56
Sweetwater #1	308	0	--	308	37
Sweetwater #2	228	13	15	215	38

[1] Source: Wyoming Department of Education Assessment and Accountability Office (2003).

3.1.6.1.1 Wyoming

In the 2003–2004 school year, 380 schools in 59 school districts in Wyoming served a total 87,462 students (see Table 3.14). The ethnic distribution of the students was as follows: white/non-Hispanic, 86%; Hispanic, 8.2%; American Indian/Alaskan Native, 3.5%; black/non-Hispanic, 1.4%; and Asian/Pacific Islander, 1.0%. The average pupil/teacher ratio in the state was 13:1.

3.1.6.1.2. Lincoln County

Lincoln County had the second largest school system in the study area. In the 2003–2004 school year, 13 schools in two school districts (Lincoln #1 and Lincoln #2) served a total 3,191 students (see Table 3.14). The ethnic distribution of the students was as follows: white/non-Hispanic, 95.4%; Hispanic, 2.9%; Asian/Pacific Islander, 0.8%; American Indian/Alaskan Native, 0.7%; and black/non-Hispanic 0.1%. The average pupil/teacher ratio was15:1.

As presented in the WyCAS test results, of the 222 fourth graders in Lincoln County tested for reading, writing, and mathematics, 34.7% were considered economically disadvantaged (see Table 3.15). Of these, 44.2% were proficient in reading compared to 55.9% of students not economically disadvantaged. Approximately 31.2% of the economically disadvantaged fourth graders were proficient in writing compared to 44.8% of those not economically disadvantaged. Approximately 41.6% of the economically disadvantaged students were proficient in mathematics compared to 44.1% of those not economically disadvantaged. The results for eighth graders and eleventh graders were similar, with economically disadvantaged students consistently performing at lower levels than students not economically disadvantaged.

3.1.6.1.3 Sublette County

Sublette County had the smallest school system in the study area. In the 2003–2004 school year, eight schools in two school districts served a total 1,306 students (see Table 3.14). The ethnic distribution of the students was as follows: white/ non-Hispanic 87.8%; Hispanic, 2.3%; Asian/Pacific Islander, 0.9%; black/non-Hispanic, 0.8%; and American Indian/Alaskan Native, 0.8%. Sublette County had the lowest pupil/teacher ratio in the study area (13:1).

As presented in the WyCAS test results, of the 92 fourth graders in Sublette County tested for reading, writing, and mathematics, 33.7% were considered economically disadvantaged (see Table 3.15). Of these, 32.3% were proficient in reading compared to 55.7% of students not economically disadvantaged. Approximately 16.1% of economically disadvantaged fourth graders were proficient in writing compared to 55.7% of those not economically disadvantaged. Approximately 19.4% of the economically disadvantaged students were proficient in mathematics compared to 32.8% of those not economically disadvantaged. The results for eighth graders and eleventh graders in Sublette County were similar, with economically disadvantaged students consistently performing at lower levels than students not economically disadvantaged.

3.1.6.1.4 Sweetwater County

Sweetwater County had the largest school system in the study area. In the 2003–2004 school year, 25 schools in two school districts served a total 7,012 students (see Table 3.14). The ethnic distribution of the students was as follows: white/ non-Hispanic, 83.6%; Hispanic, 11.2%; black/ non-Hispanic, 1.3%; American Indian/Alaskan Native, 1.2%; and Asian/Pacific Islander 0.7%. The average pupil/teacher ratio was 15:1, the same as Lincoln County.

As presented in the WyCAS test results, of the 475 fourth graders in Sweetwater County tested for reading, writing, and mathematics, 29.1% were considered economically disadvantaged (see Table 3.15). Of these, 25.4% were proficient in reading compared to 46.3% of students not economically disadvantaged. Approximately 73.2% of economically disadvantaged fourth graders were proficient in writing compared to 41.5% of those not economically disadvantaged. Approximately 23.2% of the economically disadvantaged students were proficient in mathematics compared to 42.7% of those not economically disadvantaged. The results for eighth graders and eleventh graders in Sweetwater County were similar, with economically disadvantaged students consistently performing at lower levels than students not economically disadvantaged.

3.1.6.2 Post-Secondary Education

Information on post-secondary educational services was obtained from the Wyoming Community College Commission (2003).

Seven Wyoming community colleges and the University of Wyoming serve the state and the study area. Following the largest 1-year increase in the last decade, enrollments at Wyoming's community colleges rose an average of 4.1% over the 2002–2003 school year. The increase was due in part to a number of strategic efforts implemented by the individual colleges and the college system, including an aggressive enrollment development campaign (Wyoming Community College Commission 2003).

Compared to the previous academic year, enrollment at Western Wyoming Community College (located in Rock Springs, within the study area) was up 5.6% in 2002–2003. Central Wyoming Community College's enrollment was up 11.7%%; Laramie County Community College's enrollment was up 8.3%; Eastern Wyoming College's enrollment was up 7.7%; and Casper College's enrollment was up 4.0%. According to the Wyoming Community College Commission (2003), Wyoming leads the nation in proportion of the adult population served by community colleges at any given time. In 2003, Wyoming community colleges served 5.3% of the adult Wyoming population compared to a national average of 2.7%. On March 28, 2003, the Wyoming Community College Commission approved a statewide Technical Studies Associate of Applied Sciences Degree, which responds to the growing need for college degrees that recognize specialized workforce training programs offered by Wyoming community colleges.

3.1.7 Social Traditions

The study area's general heritage is based on ranching and mineral extraction and remains one of least populated and most undeveloped areas in the lower U.S., with a population density ranging from 1.2 people/square mile in Sublette County to 3.6 people/square mile in Sweetwater County (see Table 3.3). Landownership is largely public (80% of Sublette County, 79% of Lincoln County, and 72% of Sweetwater County) (see Table 3.1). Oil and gas has played a significant role in the regional economy since the 1920s. Historically, most of the oil and gas activity was limited to the LaBarge area in southwestern Sublette County and neighboring Lincoln County, but now extends over much of the southern portion of Sublette county.

The social characteristics throughout the study area are similar to other small rural western communities and are strongly tied to traditional natural resource-based industries such as agriculture and extractive industries. Study area residents recognize the importance of public lands in providing the natural resource base for economic activities, as well as supporting a particular way of life. Public lands often provide scenic beauty, wildlife habitat, and recreational opportunities. Because public lands comprise 76% of all land within the study area, management decisions can affect not only the economic base but lifestyles as well.

Agriculture has provided the historical basis for community development for much of the nineteenth century, and ranching and grazing are viewed as a viable economic activity that provides open space, protection of natural resources, and support of cultural and ecological diversity. Although agricultural activities have become less important economically in recent years (providing 0.7% of industry income and 4.7% of employment in the study area in 2000), the industry is important for its historical and cultural influence. Moreover, agricultural is viewed as a guardian of resources and an underpinning of social culture in the area. Because management decisions made by federal land managers affect ranching operations beyond public land boundaries, communities are concerned about the social influences these decisions have on local communities.

The oil and gas industry has played a strong role in the social character of Sublette County and has been an important part of the tax base for Sublette, Sweetwater, and Lincoln Counties for nearly 50 years. The area has experienced several boom and bust cycles throughout its history and has realized an increased population tied to this industry. Individuals working in this industry are now active members of local communities and are directly affected by federal land management decisions.

In spite of the traditional social characteristics, there are indications that the views and beliefs of residents in the study area are changing. Some areas have seen an increase in population, including a combination of retirees and others attracted to this region for the abundance of high quality air, water, and land resources that offer a rich quality of life and reflect a western wilderness heritage. This new population is not tied to traditional natural resource industries and is more likely to support a conservation-oriented public land management policy.

3.2 WAGES AND PERSONAL INCOME

Wages and Number of Jobs. The average wage in Wyoming has steadily decreased over the 20-year study period, going from $32,004 in 1980 to $26,549 in 2000 (17.0% decrease; 0.9% average annual loss), while the number of jobs for the same period increased by a total of 17.5% (Table 3.16) (BEA 2002, 2003e). In 2003, the average wage in Wyoming was $29,793, an increase of 12.2% over the 2000 average wage (BEA 2005a). The number of jobs in the state increased by 4.2% over the same period (BEA 2005b).

Table 3.16. Wages and Number of Jobs, 1980–2000

Area	Average Wage Per Job ($)[1,2]			Number of Jobs[3]		
	1980	2000	2003	1980	2000	2003
U.S.	29,254	34,647	37,130	114,231,200	167,283,800	167,487,500
Wyoming	32,004	26,549	29,793	279,650	328,532	342,363
Lincoln County	31,618	25,050	30,273	6,591	8,125	9,311
Sublette County	27,816	24,783	29,887	2,812	3,965	4,704
Sweetwater County	39,568	33,748	37,460	25,503	24,281	25,017

[1] The employment estimates used to compute the average wage are a job, not person, count. People holding more than one job are counted in the employment estimates for each job they hold. Source for 1980 and 2000 data: BEA (2002); source for 2003 data: BEA (2005a).
[2] All national, state, and local area dollar estimates are in Year 2000 dollars, adjusted for inflation.
[3] Source for 1980 and 2000 data: BEA (2003e); source for 2003 data: BEA (2005b).

The average wage in Lincoln County in 2000 ($25,050) was 72.3% of the national average and 94.3% of the state average (see Table 3.16) (BEA 2002). Wages in Lincoln County decreased a total of 20.7% over the 20-year study period (1.2% average annual decrease). The number of jobs for the same period increased by a total of 23.3%, well ahead of the state (17.5%) (BEA 2003e). In 2003, the average wage in Lincoln County was $30,273, an increase of 20.9% over the 2000 average wage (BEA 2005a). The number of jobs in the county increased by 14.6% over the same period (BEA 2005b).

The average wage in Sublette County in 2000 ($24,783) was 71.5% of the national average and 93.3% of the state average (see Table 3.16) (BEA 2002). The 2000 wage in Sublette County was 10.9% lower than in 1980 (0.6% average annual decrease). The number of jobs for the same period increased by a total of 41.0%, well ahead of the state (17.5%) (BEA 2003e). In 2003, the average wage in Sublette County was $29,887, an increase of 20.6% over the 2000 average wage (BEA 2005a). The number of jobs in the county increased by 18.6% over the same period (BEA 2005b).

The average wage in Sweetwater County during 2000 ($33,748) was 97.4% of the national average and 127.1% of the state average (see Table 3.16). Despite the apparent high wages, it is important to note that the 2000 wage was 14.7% lower than in 1980, an average annual loss of 0.8%. The number of jobs fell 4.8% in the same period, as compared to state growth (17.5% increase in the number of jobs) (BEA 2003e). In 2003, the average wage in Sweetwater County was $37,460, an increase of 11% over the 2000 average wage (BEA 2005a). The number of jobs in the county increased by 3% over the same period (BEA 2005b).

Personal income trend. Personal income trend data were obtained from the BEA (2003b). Table 3.17 shows the components of personal income for 1980, 1990, and 2000 for the U.S., the State of Wyoming, and counties in the study area. Included in the table are data summarizing:

- labor income (i.e., earnings from work: wages, salaries, and self-employment income);
- investment income (i.e., dividends, interest, and rent);
- transfer payments (i.e., Social Security benefits, Medicare and Medicaid benefits, other income support and assistance);
- total personal income (TPI); and
- per capita personal income (PCPI).

Total Personal Income. TPI, as defined by the BEA, is the current income of residents of a particular area from all sources. It is measured after personal Social Security deductions but before personal tax deductions have been made. It includes income received from business; federal, state, and local governments; households; institutions; foreign governments; other labor income (such as employers' contributions to private social insurance programs); farm and non-farm proprietor income; dividends, interest, and rent; and transfer payments. It is the only key economic indicator that is adjusted for seasonality; it is not, however, adjusted for price changes.

Because total personal income is a measure of income received, estimates of state and local area personal income are assumed to reflect the residence of the income recipients (see below). Of the six major components of personal income, three are recorded on a place-of-residence basis. They are transfer payments; dividends, interest, and rental income; and proprietors' income. The data available at the state and county level for wages and salaries, other labor income, and personal contributions for social insurance are estimated from data recorded by place-of-work.

Table 3.17. Personal Income by Major Source[1]

Income Item	U.S.			Wyoming			County								
							Lincoln			Sublette			Sweetwater		
	1980	1990	2000	1980	1990	2000	1980	1990	2000	1980	1990	2000	1980	1990	2000
Income Source															
Labor Income (earnings from work)	3,615,178,085	4,622,364,468	6,088,880,000	9,481,940	7,530,552	9,006,059	211,327	176,954	186,814	82,942	73,132	86,531	1,079,406	833,885	883,267
Less: Personal contributions for social insurance[2]	160,889,971	267,369,815	357,843,000	(434,627)	(443,716)	(538,454)	(9,960)	(10,862)	(11,294)	(3,425)	(3,845)	(4,888)	(57,357)	(57,117)	(57,646)
Plus/minus: Adjustment for residence[3]	(948,772)	(971,013)	(1,060,000)	(160,186)	(15,830)	(33,158)	(20,687)	(7,190)	(1,374)	1,112	2,897	4,546	(68,086)	(76,827)	(50,302)
Equals: Net earnings by place of residence	3,453,339,342	4,354,023,640	5,729,977,000	8,887,127	7,071,006	8,434,447	180,680	158,902	174,146	80,629	72,184	86,189	953,963	699,941	775,319
Plus: Dividends, interest, and rent[4]	797,599,471	1,299,148,210	1,598,302,000	1,941,106	2,512,872	3,770,663	41,514	56,371	93,968	28,756	36,812	62,205	109,813	139,622	238,493
Plus: Transfer payments	584,706,772	783,610,132	1,070,592,000	818,364	1,166,353	1,600,213	20,804	27,112	39,839	6,921	11,835	16,721	62,011	83,394	103,608
Total personal income (TPI)	4,835,645,585	6,436,781,982	8,398,871,000	11,646,597	10,750,231	13,805,323	242,998	242,386	307,953	116,306	120,831	165,115	1,125,787	922,956	1,117,420
Per capita personal income (PCPI)[5]	21,280	25,787	29,760	24,561	23,696	27,941	19,602	19,071	21,041	25,201	24,864	27,741	12,749	18,058	29,811

1 Source: BEA (2003b). Thousands of Year 2000 dollars adjusted for inflation unless otherwise noted. All national, state, and local estimates are in current dollars adjusted for inflation based on U.S. average CPI (for urban consumers). EPS uses the urban consumer base; therefore, it was also applied to inflation adjustments for this technical report to maintain consistency. EPS uses unconventional groupings for some tabular information; therefore, totals presented by EPS (Appendix A) may vary slightly from those shown in this document.

2 Personal contributions for social insurance (e.g., Medicare) are included in earnings by type and industry but they are excluded from personal income.

3 The adjustment for residence is the net inflow/outflow of the earnings of inter-area commuters (i.e., live in Sweetwater County, work in Sublette County, net inflow to Sublette County and net outflow to Sweetwater County).

4 Rental income of persons includes the capital consumption adjustment.

5 PCPI as calculated by the BEA is not the same as personal per capita income reported by the census; therefore, they may not be identical.

Four adjustments are made to earnings by place of work to derive total personal income by place of residence. Following these adjustments, total earnings still represent the bulk of total personal income. Beginning with total labor and proprietor earnings, the first adjustment is made by deducting contributions for social insurance. Although these are considered part of employee total earnings for the current period, social insurance contributions are not received during the current period and are, therefore, not included in personal income.

The second adjustment is made for employee place of residency. The BEA defines employee residency as the location at which the employee is residing while employed. An example of this type of adjustment is a regular occurrence in Sweetwater County, Wyoming. Here, a significant number of employees work in the oil and gas fields in Sublette County but reside in Sweetwater County. Earnings for these employees show up as earnings data for Sweetwater County. However, in the derivation of personal income by place of residence, an adjustment is made to reallocate these earnings as personal income for Sublette County. This residency adjustment for Sublette County is, therefore, the net effect of place-of-work versus place-of-residence discrepancies.

A third adjustment is made by appending dividends, interest (monetary and imputed), and rent income.

- Dividends are payments in cash or other assets, excluding stock, by for-profit corporations to non-corporate stockholders in the state.
- Interest is the monetary and imputed interest income of persons from all sources. Imputed interest income is an estimate of the value of the services (such as checking and record keeping) provided by commercial banks, mutual savings banks, savings and loan associations, credit unions, and regulated investment companies (excluding life insurance carriers) without an explicit charge which is included by BEA in personal interest income (BEA 2003b).
- Rental income is the monetary income of persons from the rental of real property, the imputed net rental income of owner-occupants of non-farm dwellings, and the royalties received by persons from patents, copyrights, and rights to natural resources. The net rental value of owner-occupied non-farm housing is included in the rental income of persons. The imputation assumes that the owner-occupants are in the rental business and that they are renting the houses in which they live to themselves: As tenants, they pay rent to the landlords (that is, to themselves); as landlords, they collect rent from their tenants (that is, from themselves), they incur expenses, and they may have a profit or a loss from the rental business (BEA 2003b).

The fourth and final adjustment is the addition of transfer payments. Transfer payments (benefits from government social insurance funds and certain other programs) are income payments to persons, generally in monetary form, for which they do not render current services. As a component of personal income, they are payments by governments and businesses to individuals and nonprofit institutions.

Once these four adjustments to the earnings by place of work component are made, the result is total personal income by place of residence. Personal income effectively measures the size of consumer markets. When presented by industry of origin, as in this report, earnings can also be interpreted as a measure of the size of industrial markets.

Per Capita Personal Income. Per capita personal income (PCPI) is calculated by dividing total personal income of the area by the total population of the area (BEA 2003d). (PCPI is distinguished from the personal per capita income calculated by the U.S. Census Bureau and described in Section 3.1.3.) PCPI as computed by BEA is a useful tool to compare income across regions, states, and counties. PCPI can be used to track income growth over time. It is also useful in that it removes the effect of population growth on total personal income.

3.2.1 United States

In 2000, the U.S. had a TPI of $8.4 trillion, an increase of 73.7% (2.8% average annual growth) from 1980 (see Table 3.17). In 2000, net earnings from labor accounted for 68.2% of TPI (compared with 71.4% in 1980); dividends, interest, and rent accounted for 19.0% (compared with 16.5% in 1980); and transfer payments accounted for 12.7% (compared with 12.1% in 1980). From 1990 to 2000, net earnings increased 31.6%; dividends, interest, and rent increased 23.0%; and transfer payments increased 36.6%.

In 2000, the U.S. had a PCPI of $29,760 (see Table 3.17), which is an increase of 39.8% from 1980 (1.7% average annual increase). The average wage in the U.S. has also steadily increased, from $29,254 (Year 2000 dollars adjusted for inflation) in 1980 to $34,647 in 2000 (18% increase; 0.8% average annual increase), while the number of jobs for the same period increased by a total of 46% (BEA 2002, 2003a, 2003d).

3.2.2 Wyoming

In 2000, Wyoming had a TPI of $13.8 billion (see Table 3.17), which ranked Wyoming 51st in the U.S. (ranking includes the District of Columbia), down from 1980, when the TPI of $11.6 billion (in 1980 dollars) ranked 49th in the U.S. The 2000 TPI reflected an increase of 18.5% since 1980 (0.9% average annual growth). In 2000, net earnings from labor accounted for 61.1% of TPI (compared with 76.3% in 1980); dividends, interest, and rent accounted for 27.3% (compared with 16.7% in 1980); and transfer payments accounted for 11.6% (compared with 7.0% in 1980).

Personal income from investments and transfer payments in Wyoming between 1980 and 2000 grew by 94.3% and 95.5%, respectively, while labor income decreased by 5.1% over this same time period. This change in how individuals earn income is similar to national trends. A trend common in many areas in the Intermountain West, is the influx of individuals of retirement age choosing to reside in the region, thus resulting in an increasing dependence of the local economy on investment income (BLM 2003b).

In 2000, Wyoming had a PCPI of $27,941, compared to $24,561 in 1980 (see Table 3.17). This reflects a 13.8% increase over the 20-year study period, or 0.6% average annual growth. Wyoming's PCPI is 93.9% of the national average.

3.2.3 Lincoln County

In 2000, Lincoln County had a TPI of $308 million, an increase of 26.7% (1.2% average annual growth) since 1980 (see Table 3.17). In 2000, net earnings from labor accounted for 56.5% of TPI (compared with 74.4% in 1980); dividends, interest, and rent accounted for 30.5% (compared with 17.1% in 1980); and transfer payments accounted for 12.9% (compared with 8.6% in 1980).

In 2000, Lincoln County had a PCPI of $21,041, up 7.3% (0.4% average annual growth) from 1980 (see Table 3.17). The Lincoln County PCPI is 70.7% of the national average.

3.2.4 Sublette County

In 2000, Sublette County had a TPI of $165 million (see Table 3.17). The 2000 TPI reflected an increase of 42.0% (1.8% average annual growth) from 1980, higher than the state change but remaining lower than the national change. In 2000, net earnings from labor accounted for 52.2% of TPI (compared with 69.3% in 1980); dividends, interest, and rent were 37.7% (compared with 24.7% in 1980); and transfer payments were 10.1% (compared with 6.0% in 1980).

In 2000, Sublette County had a PCPI of $27,741, up 10.1% (0.5% average annual growth) from 1980 (see Table 3.17). The Sublette County PCPI is 93.2% of the national average.

According to the EPS community profile, non-labor income sources are the fastest growing sector in Sublette County. Individuals in this segment of the income population are likely attracted by the quality of life and pristine beauty of the surrounding area (personal communication, December 2004, with Roy Allen, Economist, BLM Wyoming State Office, Cheyenne).This trend could slow due to the increase in oil and gas development activities.

3.2.5 Sweetwater County

In 2000, Sweetwater County had a TPI of $1.1 billion. This reflected a 0.7% decrease from 1980 (0.04% average annual decrease). In 2000, net earnings from labor accounted for 69.4% of TPI (compared with 84.7% in 1980); dividends, interest, and rent were 21.3% (compared with 9.8% in 1980); and transfer payments were 9.3% (compared with 5.5% in 1980).

In 2000, Sweetwater County had a PCPI of $29,811, up 11.9% (0.6% average annual growth) from 1980 (see Table 3.17). The Sweetwater County PCPI is more than 100% of the national average.

3.3 INDUSTRY AND ECONOMY

3.3.1 Overview

Gross state product (GSP) is the value added in production by the labor and property located in a state (BEA 2003f). The BEA calculates GSP for a state as the sum of gross state product originating (GSPO) by industry for all industries. This measure of GSP is the state counterpart of the nation's gross domestic product by industry from the national income and product accounts (BEA 2003f).

The GSPO by industry is the contribution of each industry, including government, to GSP. An industry's GSPO, often referred to as its "value added," is equal to its gross output (sales or receipts and other operating income, plus inventory change) minus its intermediate inputs (consumption of goods and services purchased from other industries or imported).

For each industry, the estimate of gross product is composed of four components (estimated below in Year 2000 dollars): 1) compensation of employees; 2) proprietor income with inventory valuation adjustment and capital consumption allowances; 3) indirect business tax and non-tax liability; and 4) other, mainly capital-related charges. Most of the compensation and proprietor income components of GSP are based primarily on BEA estimates of earnings by place of work, an aggregate in the state personal income series (BEA 2003c). The IBT component of GSP reflects liabilities

charged to business expenses, most of which are sales and property taxes levied by state and local governments. The capital charges component of GSP comprises corporate profits with IVA, corporate capital consumption allowances, business transfer payments, net interest, rental income of persons, and subsidies less current surplus of government enterprises.

The industry classifications represent groupings in accordance with the revised *1987 Standard Industrial Classification Manual*, published by the OMB (OMB 1987). The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by the type of activity in which they are engaged, for the purposes of facilitating the collection, tabulation, presentation, and analysis of data relating to establishments and for promoting uniformity and comparability. These 10 major industrial sectors (one-digit SIC codes) are 1) agriculture; 2) mining; 3) construction; 4) manufacturing; 5) transportation, communication, and public utilities (TCPU); 6) wholesale trade; 7) retail trade; 8) finance, insurance, and real estate (FIRE); 9) services; and 10) government. For purposes of this classification, an establishment is an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed (BEA 2003f).

Each establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product (or group of products) produced or distributed or services rendered. Ideally, the principal product or service is determined by its relative share of "value added" at the establishment. In practice, however, it is rarely possible to obtain this measure for individual products or services. Typically, the BEA adopts some other criterion that may be expected to give approximately the same results in determining the primary activity of an establishment (BEA 2003f).

3.3.2 Wyoming Industry

The BEA calculates income and gross state product information at the SIC two-digit level. The data for GSP (Table 3.18) are presented at the simplified one-digit SIC code level for the purposes of this report, with the exceptions of mining (coal, metal, and non-mineral) separated from oil and gas and government divided into federal civilian, federal military, and state and local. Data presented in this technical support document are in Year 2000 dollars, adjusted for inflation (see Table B.1 in Appendix B). Table 3.19 provides employee compensation data to provide a comparison of statewide income growth in relation to GSP changes.

In 2000, the greatest percentage of GSP came from oil and gas (16.2%) and TCPU (13.1%), followed closely by FIRE (12.0%) and services (11.5%) (see Table 3.18). In contrast, in 1980, the greatest contributors to GSP were also from oil and gas (28.8%) and mining (14.0%), followed by TCPU (9.9%) and FIRE (9.0%) (see Table 3.19). In 2000, combined mineral extraction (mining plus oil and gas) contributed 23.7% of GSP, down from 42.8% in 1980 (a combined decline of more than 53.2% over the 20-year period) (see Table 3.18).

In 2000, the greatest percentage of employee compensation came from state and local government (19.1%), followed by services (17.2%) (see Table 3.19). In contrast, in 1980, the greatest contributor to compensation came from mining (14.0%) and state and local government (13.4%), followed closely by oil and gas (11.6%) and construction (11.4%) (see Table 3.19). Combined mineral extraction (mining plus oil and gas) contributed 13.6% of employee compensation in 2000, down from a combined total of 25.6% in 1980 (a combined decline of more than 50.9% over the 20-year period) (see Table 3.19). This implies that economic development is resulting in job and revenue diversification within Wyoming.

Table 3.18. Wyoming Gross State Product. [1]

Industry	Gross State Product (GSP)						Growth (%)		
	1980		1990		2000				
	GSP	% of GSP	GSP	% of GSP	GSP	% of GSP	1980–1990	1990–2000	1980–2000
Agriculture	619	2.7	510	2.9	468	2.4	-17.6	-8.2	-24.3
Mining (metal, coal, nonmetallic)	3,162	14.0	1,920	10.9	1,437	7.5	-39.3	-25.1	-54.6
Oil and Gas	6,499	28.8	4,215	23.8	3,089	16.2	-35.2	-26.7	-52.5
Construction	1,601	7.1	573	3.2	1,015	5.3	-64.2	77.1	-36.6
Manufacturing	917	4.1	779	4.4	1,335	7.0	-15.1	71.4	45.5
TCPU	2,236	9.9	2,661	15.0	2,510	13.1	19.0	-5.7	12.2
Wholesale Trade	802	3.6	505	2.9	773	4.0	-37.1	53.2	-3.7
Retail Trade	1,273	5.6	1,053	6.0	1,403	7.3	-17.3	33.3	10.2
FIRE	2,023	9.0	1,648	9.3	2,285	12.0	-18.5	38.6	13.0
Services	1,500	6.7	1,505	8.5	2,202	11.5	0.3	46.4	46.8
Government									
Federal Civilian	391	1.7	427	2.4	501	2.6	9.2	17.4	28.2
Federal Military	196	0.9	246	1.4	277	1.4	25.4	12.4	41.0
State and Local	1,312	5.8	1,650	9.3	1,817	9.5	25.7	10.2	38.4
Total Gross State Product	22,532	100.0	17,690	100.0	19,112	100.0	-21.5	8.0	-15.2

[1] Source: BEA (2003f), millions of Year 2000 dollars, adjusted for inflation.

Table 3.19. Compensation of Employees [1]

Industry	Compensation Paid to Employees ($000,000) from Gross State Product (GSP)[1]						Growth (%)		
	1980		1990		2000				
	Paid	% of Total Paid	Paid	% of Total Paid	Paid	% of Total Paid	1980–1990	1990–2000	1980–2000
Agriculture	148	1.7	100	1.5	132	1.6	-32.5	31.8	-12.4
Mining (metal, coal, nonmetallic)	1,220	14.0	655	9.6	518	6.4	-46.3	-20.9	-135.6
Oil and Gas	1,014	11.6	426	6.3	580	7.2	-58.0	36.3	-74.8
Construction	997	11.4	402	5.9	642	7.9	-59.7	59.8	-55.3
Manufacturing	422	4.8	364	5.3	461	5.7	-13.9	26.8	8.4
TCPU	932	10.7	780	11.5	762	9.4	-16.3	-2.3	-22.3
Wholesale Trade	416	4.8	250	3.7	299	3.7	-39.8	19.4	-39.1
Retail Trade	775	8.9	622	9.1	799	9.9	-19.8	28.5	3.0
FIRE	255	2.9	237	3.5	308	3.8	-7.0	29.9	17.2
Services	832	9.5	895	13.2	1,393	17.2	7.6	55.7	40.3
Government									
Federal Civilian	380	4.4	398	5.9	443	5.5	4.6	11.3	14.1
Federal Military	173	2.0	217	3.2	226	2.8	25.3	4.0	23.3
State and Local	1,166	13.4	1,455	21.4	1,547	19.1	24.7	6.4	24.6
Total Gross State Product	8,731	100.0	6,798	100.0	8,108	100.0	-22.1	19.3	-7.7

[1] Source: BEA (2003c), Year 2000 dollars adjusted for inflation.

3.3.3 Industry Employment

The BEA estimates annual employment and earnings for counties throughout the U.S. Total annual employment includes both full-time and part-time jobs so that individuals with more than one job will be counted twice. The employment estimates include those that are employed by businesses and public entities, as well as individuals that are self-employed. Data were obtained from BEA regarding total annual employment by industry for each county and for Wyoming for 1980, 1990, and 2000 to examine trends over the 20-year study period. These data are presented in Table 3.20.

3.3.3.1 Wyoming

Over the 20-year study period (1980–2000), all employment categories in Wyoming added a total of 48,882 jobs, an increase of 17.5% (0.8% average annual growth) (see Table 3.20). Between 2000 and 2003, 13,831 new jobs were added, an increase of 4.2% over the 4-year period.

Over the 20-year study period (1980–2000), services provided the greatest *number* of new jobs (34,724). This represented a 71.7% (2.7% average annual growth) increase in the number of service jobs, providing 25.3% of all jobs in 2000 compared to 17.3% in 1980. Between 2000 and 2003, Services continued to provide the largest number of new jobs (27,567). In 2003, services provided 32.3% of all jobs in the State of Wyoming (see Table 3.20).

Over the 20-year study period (1980–2000), agriculture services, forestry, and fisheries experienced the greatest *percentage* (186.2%; 5.4% average annual growth) of job growth, with 3,753 new jobs, and provided 1.8% of all Wyoming jobs in 2000 compared to 0.7% in 1980 (see Table 3.20). Between 2000 and 2003, the service sector experienced the highest growth in jobs, increasing by 33.1%.

Over the 20-year study period (1980–2000), the greatest number (-19,136) and highest percentage (-49.7%; -3.4% average annual loss) of job losses occurred in mining, and mining provided 5.9% of all Wyoming jobs in 2000 compared to 15.8% in 1980 (see Table 3.20). From 2000 to 2003, job losses were seen in a number of sectors, including retail trade, wholesale trade, transportation and utilities, and manufacturing.

The average weekly wages in the private and government sectors in Wyoming in the first quarter of 2003 were $547 and $598, respectively. Mining had the highest average weekly wage at $1,104, followed by utilities at $1,044, and management at $1,001. The greatest percentage of employee compensation statewide in the first quarter of 2003 came from government (27.2%), followed by total mineral extraction (14.7%) (WDERP 2003).

3.3.3.2 Lincoln County

Over the 20-year study period (1980–2000), all employment categories in Lincoln County added 1,534 jobs from, an increase of 23.3% (1.1% average annual growth) (see Table 3.20). From 2000 to 2003, 1,186 new jobs were added, an increase of 14.6%.

Over the 20-year study period (1980–2000), services provided the greatest *number* of new jobs (702). This represented a 121.9% (4.1% average annual growth) increase in the number of service jobs, providing 15.7% of all jobs in 2000 compared to 8.7% in 1980. Between 2000 and 2003, construction provided the largest number of new jobs (763), providing 17.5% of all jobs in 2003 in Lincoln County (see Table 3.20).

Table 3.20. Employment by Industry[1]

Industry	Number of Jobs															
	Wyoming				Lincoln County				Sublette County				Sweetwater County			
	1980	1990	2000	2003	1980	1990	2000	2003	1980	1990	2000	2003	1980	1990	2000	2003
Farm employment	14,504	12,476	12,624	12,192	851	733	698	671	429	402	412	385	266	220	205	197
Agriculture services, forestry, fishing and other	2,016	3,353	5,769	3,155	32	77	149	100	27	83	132	99	48	81	188	(D)
Mining (coal, metal, nonmetal, oil and gas)	38,523	20,840	19,387	20,881	1,359	667	517	642	276	315	325	645	7,318	4,989	3,717	(D)
Construction	25,805	15,782	24,879	27,544	575	444	863	1,626	388	261	427	502	3,282	1,533	1,509	(D)
Manufacturing	10,512	11,203	13,583	10,940	467	614	530	345	31	(D)[2]	91	(D)	494	745	1,649	1,232
Transportation and public utilities	19,169	16,583	17,084	14,070	503	568	582	223	176	145	108	116	2,208	1,987	1,785	1,173
Wholesale trade	10,055	7,633	8,812	8,000	196	80	133	(D)	25	(D)	55	16	773	648	615	(D)
Retail trade	43,998	47,252	57,824	39,577	821	1,083	1,389	983	499	409	603	461	3,743	3,739	4,447	2,946
Finance, insurance, and real estate	16,334	17,167	21,303	23,367	287	307	471	601	147	184	228	284	693	1,125	1,127	1,304
Services	48,437	61,294	83,161	110,728	576	1,040	1,278	1,785	395	599	905	977	3,605	3,760	4,749	5,133
Federal, civilian	7,539	7,589	7,400	7,482	117	146	110	127	62	91	96	107	304	262	266	250
Federal, military	6,335	6,311	6,204	6,349	63	75	84	84	39	28	41	41	214	228	215	206
State government	10,988	13,150	13,820	14,570	109	136	126	133	54	74	72	(D)	203	278	269	287
Local government	25,435	31,838	36,682	38,706	635	903	1,195	1,299	264	364	470	(D)	2,352	3,261	3,540	3,463
Total full-time and part-time employment	279,650	272,471	328,532	342,363	6,591	6,873	8,125	9,311	2,812	2,955	3,965	4,704	25,503	22,856	24,281	25,017

[1] Source: BEA (2003b).
[2] (D) = not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals. BEA does not provide this information.

Over the 20-year study period (1980–2000), agriculture services, forestry, and fisheries experienced the greatest *percentage* of job growth (365.6%; 8% average annual growth), with 117 new jobs, and provided 1.8% of all Lincoln County jobs in 2000 compared to less than 0.5% in 1980 (see Table 3.20). Between 2000 and 2003, construction showed the greatest percentage of job growth (88.4%), followed by services (39.7%), finance (27.6%), and mining (24.2%).

Over the 20-year study period (1980–2000), the greatest number (-842) and highest percentage (-62.0%; -4.7% average annual loss) of job losses occurred in mining from 1980 to 2000 (see Table 3.20). Mining provided 6.4% of all Lincoln County jobs in 2000 compared to 20.6% in 1980. Between 2000 and 2003, the largest number of jobs (-406) was lost in retail trade, while the highest percentage of job loss (-61.7%) was in the TCPU sector.

The average weekly wages in the private and government sectors in Lincoln County in the first quarter of 2003 were $660 and $495, respectively. Heavy and civil engineering construction had the highest average weekly wage at $1,439, followed by oil and gas at $1,243 and utilities at $1,051. Construction provided 29.5% of total income generated in Lincoln County in the first quarter of 2003 and government provided 22.2% (WDERP 2003).

3.3.3.3 Sublette County

Over the 20-year study period (1980–2000), employment in Sublette County added 1,153 new jobs, an increase of 41.0% (1.7% average annual growth) (see Table 3.20). Between 2000 and 2003, 739 new jobs were added in Sublette County, an increase of 18.6%.

Over the 20-year study period (1980–2000), services provided the greatest *number* of new jobs (510). This represented a 129.1% (4.2% average annual growth) increase in the number of service jobs, providing 22.8% of all jobs in 2000 compared to 14.0% in 1980. From 2000 to 2003, mining accounted for the largest increase in the number of jobs (320), providing 13.7% of all jobs in 2003 in Sublette County. Construction and services also had significant increases in recent years.

Over the 20-year study period (1980–2000), agriculture services, forestry, and fisheries experienced the greatest *percentage* of growth (388.9%; 8.3% average annual growth), adding 105 new jobs (see Table 3.20). This sector provided 3.3% all Sublette County jobs in 2000 compared to less than 1.0% in 1980. Between 2000 to 2003, mining showed the greatest percentage of growth (98.5%).

Over the 20-year study period (1980–2000), the greatest number (-68) and highest percentage (-38.6%; -2.4% average annual loss) of job losses occurred in TCPU (see Table 3.20). TCPU provided 2.7% of all Sublette County jobs in 2000 compared to 6.3% in 1980. Between 2000 and 2003, the retail trade sector experienced the largest decline in jobs (-142), and wholesale trade experienced the great percentage of job loss (-70.9%).

The average weekly wages in the private and government sectors in Sublette County in the first quarter of 2003 were $559 and $529, respectively. Oil and gas had the highest average weekly wage at $1,846, followed by finance/insurance at $964 and federal government at $719. Oil and gas extraction (plus support activities) provided 30.3% of total income generated in Sublette County and government provided 27.3% in the first quarter of 2003 (WDERP 2003).

3.3.3.4 Sweetwater County

Over the 20-year study period (1980–2000), employment in Sweetwater County declined by 1,222 jobs, a decrease of 4.8% (0.2% average annual decrease) (see Table 3.20). Between 2000 and 2003, 736 new jobs were added, an increase of 3%.

Over the 20-year study period (1980–2000), local government provided the greatest *number* of new jobs (1,188), representing a 50.5% (2.1% average annual growth) increase in the number of local government jobs from 1980 to 2000, providing 14.6% of all jobs in 2000 compared to 9.2% in 1980. Between 2000 and 2003, the services sector providing the greatest number of new jobs (384) and 20.5% of all jobs in 2003 in Sweetwater County.

Over the 20-year study period (1980–2000), agriculture services, forestry, and fisheries experienced the greatest *percentage* of growth (291.7%; 7.1% average annual growth), adding 140 new jobs (see Table 3.20). This category provided 0.8% of all Sublette County jobs in 2000 compared to 0.2% in 1980. Between 2000 and 2003, the finance sector showed the largest percentage increase in employment (15.7%), providing 5.2% of all jobs in Sweetwater County.

Over the 20-year study period (1980–2000), the greatest number (-3,601) and highest percentage of job losses (-49.2%; -3.3% average annual loss) occurred in mining from 1980 to 2000 (see Table 3.20). Mining provided 15.3% of all Sublette County jobs in 2000 compared to 28.7% in 1980. Between 2000 and 2003, the greatest number (-1,501) and highest percentage of job losses (-33.8%) occurred in retail trade.

The average weekly wages in the private and government sectors in Sweetwater County in the first quarter of 2003 were $744 and $580, respectively. Oil and gas had the highest average weekly wage at $1,728, followed by chemical manufacturing at $1,485 and mining (exclusive of oil and gas) at $1,346. The greatest percentage of employee compensation countywide came in the first quarter of 2003 from mining (20.0%), followed by local government (14.7%) (WDERP 2003).

3.3.4 Industry Earnings

Total earnings by industry for counties in the study area and Wyoming for 1980, 1990, and 2000 were obtained from BEA (Table 3.21) (BEA 2003a). Data gaps and disclosure restrictions (e.g., income figures at the 2- and 3-digit SIC levels) often occur because data are not available for some regions or for certain years due to confidentiality restrictions. Data gaps may occur in both labor and income data. Data containing disclosure restrictions were estimated using the constant share of total method. Constant share of total calculations assume the category's share of the total in previous years remains the same during the missing years.

3.3.4.1 Wyoming

Wyoming experienced a loss in total gross earnings for all industries (private non-farm, farm, and government) of 5.0% from 1980 to 2000. In 1980, total mineral extraction was the largest source of industry earnings in Wyoming (25.0%), and government (federal civilian, military, state, and local government) provided 17.4% of income (see Table 3.21). Mining (metal, coal, nonmetallic) led the individual categories (13.4% of all income) in 1980, followed by services (12.5%), construction (11.9%), oil and gas extraction (11.6%), and TCPU (9.8%).

Table 3.21. Earnings by Industry

Income Item	Wyoming (Thousands of $)			County (Thousands of $)								
				Lincoln			Sublette			Sweetwater		
	1980	1990	2000	1980	1990	2000	1980	1990	2000	1980	1990	2000
Farm[2]	179,991	191,042	95,760	6,685	5,559	2,675	5,935	8,228	1,969	1,229	1,785	292
Nonfarm agricultural services, forestry, fishing, and other[3]	30,425	50,777	77,999	403	513	1,165	357	677	892	713	726	1,665
Mining (metal, coal, nonmetallic)[4]	1,265,969	637,410	589,053	56,356	28,946	15,921	50	3,043	1,720	322,982	262,370	151,984
Oil and gas extraction[5]	1,102,210	673,330	750,850	20,493	5,747	10,688	16,551	10,934	13,919	116,820	83,967	124,438
Construction	1,131,352	498,755	768,822	23,211	15,296	25,949	15,425	7,686	11,937	177,174	59,118	56,754
Manufacturing[5]	433,727	365,436	478,173	12,825	17,514	12,887	610	1,481	1,135	21,824	34,714	106,835
Transportation and public utilities	924,125	740,282	751,189	24,867	29,076	29,519	8,071	5,503	3,245	109,418	99,300	91,285
Wholesale trade[5]	414,417	250,765	302,921	6,654	2,038	2,289	1,003	773	913	32,990	22,068	20,396
Retail trade	875,953	695,019	840,999	16,725	15,501	16,062	9,143	5,823	8,061	77,068	57,889	66,061
Finance, insurance, and real estate	290,903	247,437	446,611	5,124	4,182	6,131	1,989	1,457	3,932	15,076	13,448	25,631
Services	1,180,316	1,206,898	1,796,451	11,832	14,783	19,792	11,245	10,601	18,032	109,094	73,273	105,933
Federal government, civilian	374,702	382,042	421,904	4,942	6,000	5,538	2,610	4,126	5,566	16,261	14,954	15,720
Military	164,959	206,034	215,018	508	925	1,178	792	357	904	1,735	2,834	3,016
State government	372,796	437,358	435,192	4,017	4,556	4,183	2,102	2,486	2,362	7,881	9,560	9,058
Local government	740,096	947,968	1,035,117	16,685	26,319	32,837	7,057	9,478	11,944	69,143	97,879	104,199
Total Earnings	9,481,940	7,530,552	9,006,059	211,327	176,954	186,814	82,942	70,402	86,531	1,079,406	833,885	883,267

Wyoming's mining and minerals sector contributes more to GSP than any other sector of the economy (Foulke et al. 2001). Minerals (including oil and gas) accounted for 23.7% of Wyoming's GSP, or over $4.5 billion in 2000 (see Table 3.18) and supported approximately 19,387 full-time wage earners, or 5.9% of Wyoming's employment base (see Table 3.20) (BEA 2003e).

In 2000, government produced the most industry income, providing 23.4% of income, followed by services (20.0%), retail trade (9.3%), construction (8.5%), and TCPU (8.3%) (see Table 3.21).

In real terms, for the 20-year study period, Wyoming industry income fell in farm, mining, oil and gas, construction, TCPU, wholesale trade, and retail trade. The most industry income growth occurred in non-farm agricultural services (156.4%; 4.8% average annual growth) and government (27.5%; 1.2% average annual growth) (see Table 3.21).

3.3.4.2 Lincoln County

In 1980, total mineral extraction was the greatest source of industry income (36.4% of all income) in Lincoln County (see Table 3.21). All government categories constituted 12.4% of total industry income in Lincoln County, followed by TCPU (12.8%), construction (11.0%), oil and gas extraction (9.7%), and retail trade (7.9%).

In 2000, all government categories led industry income (23.4%), followed by TCPU (15.8%), construction (13.9%), services (10.6%); and retail trade (8.6%). Total mineral extractions provided 14.2% of industry income (see Table 3.21).

Over the 20-year study period (1980–2000), non-farm agricultural services led industry growth (188.1%; 5.4% average annual growth), followed by services (67.3%; 2.6% average annual growth), total government (67.2%; 2.6% average annual growth) (note that military increased by 131.9% and local government increased by 96.8% over the 20-year study period), FIRE (19.6%), and TCPU (18.7%) (see Table 3.21). Losses occurred in total mineral extraction (-65.4%) and farm income (-60.0%).

3.3.4.3 Sublette County

In 1980, total mineral extraction provided 20.0% (oil and gas provided 20.0%, mining provided less than 0.1%) of Sublette County industry earnings, while construction provided 18.6%, followed by all government categories (15.1%), and services (13.6%) (see Table 3.21).

In 2000, all government categories provided the most industry income to Sublette County (24.0%), followed by services (20.8%), total mineral extraction (18.1%), construction (13.8%), and retail trade (9.3%) (see Table 3.21).

Industry income in Sublette County grew during the 20-year study period from 1980 to 2000 by 4.3% (0.2% annually) (see Table 3.21). Mining (metal, coal, nonmetallic) in Sublette County demonstrated a boom/bust cycle, going from an average annual growth rate of 50.8% from 1980 to 1990 to a declining average annual rate of 5.5% from 1990 to 2000; thus, while the industry overall grew by 3,340.0% (19.3% annual average growth) over the 20-year study period, it provided only 2.0% of all Sublette County industry earnings in 2000. Non-farm agricultural services, forestry, fishing, and other was the next leading growth industry (149.9%; 4.7% average annual growth), followed by FIRE (97.7%), manufacturing (86.1%), and total government (65.4%; 2.5% annual average growth) (federal civilian government grew 113.3% and local government grew 69.3% during

the study period). Farm industry income decreased a total of 66.8%, followed by TCPU (-59.8%), construction (-22.6%), and oil and gas extraction (-15.9%). Overall, mineral extraction provided a total of 18.1% of all Sublette County industry earnings in 2000 compared to 20.0% in 1980 (average annual a loss of 0.3%) (see Table 3.21).

3.3.4.4 Sweetwater County

In 1980, total mineral extraction provided 40.7% (mining provided 29.9%, and oil and gas provided 10.8%) of Sweetwater County industry earnings, while construction provided 16.4%, followed by TCPU and services (10.1% each) (see Table 3.21).

In 2000, total mineral extraction provided 31.3% (oil and gas provided 14.1%, and mining provided 17.2%) of Sweetwater County industry earnings, while total government provided 14.9%, followed by manufacturing (12.1%), and services (12.0%) (see Table 3.21).

Total earnings in Sweetwater County fell 18.2% (1.0% annual average loss) over the 20-year study period. Government industry income grew 38.9% (1.7% annual average growth) (military grew 73.8%, local government grew 50.7%, and state government grew 14.9%, while federal civilian fell 3.3%) (see Table 3.21). Manufacturing grew 389.5% (8.3% annually), followed by non-farm agricultural services (133.5%) and FIRE (70.0%). Farm fell 76.2%, followed by construction (-68.0%); wholesale trade (-38.2%), total mineral extraction (-37.1%; mining fell 52.9%, oil and gas grew 6.5%).

3.4 TAXES AND REVENUES

3.4.1 Wyoming Overview

According to the Tax Reform 2000 Committee (1999), the reporting and collecting of mineral taxes in the state is confusing and time-consuming. Mineral producers must report the same production three times for severance, mineral property, and the oil and gas conservation taxes. These procedures are costly for both the taxpayers and the administrators. Owners of mineral interest pay property taxes on minerals as much as 2 years after production. County treasurers sometimes have difficulty collecting mineral property taxes and often must initiate collection procedures against mineral interest owners who may be scattered throughout the nation or, worse, whose company may no longer be in business.

For this reason, only those revenues that are clearly and concisely reported by the state (i.e., severance taxes, ad valorem production and property taxes, federal royalties, and PILT) are discussed in detail in this technical support document. Historical information on the same types of revenues expected to occur as a result of the proposed project are provided in Year 2000 dollars, adjusted for inflation (see Table B.1 in Appendix B). Where available, revenue information was reported at the county and city level; however, information of this type is limited.

In Wyoming, minerals are taxed after they are produced and a value has been established (Wyoming Energy Commission 2003). Minerals remaining in the ground are not taxed and generate no revenue (however, undeveloped mineral leases do collect lease rentals and up-front bonus payments). Given a consistent price, the larger the volume of the produced mineral, the larger the amounts that will be subject to taxation and the greater the revenue for the state. At the extreme, if all production ceased, Wyoming would receive no tax or royalty revenues.

Produced minerals are classified as personal property. The two principal production taxes paid by mineral producers are (1) the county property (ad valorem) tax and (2) the state severance tax. As a result, produced minerals are the only class of property in the state on which two direct taxes are levied.

In addition to the production taxes paid on the assessed value of the produced mineral, producers also pay county property (ad valorem) taxes on plants, refineries, mining and well head equipment, pipelines, and other facilities used in the mineral production and transportation operations. Mill levies applied against mineral facilities and structures are the same as those applied against all other property in the taxing jurisdiction. Property associated with mineral production is classified as industrial property and thus has a higher assessment ratio than commercial, agricultural, or residential property.

Mineral producers also pay royalties, bonuses, rentals, and fees to the owner of the mineral for the right to obtain a lease and produce the mineral. Minerals are owned by the federal government, whereby the federal government receives a share of the revenues from the mineral production, or annual rentals are paid on mineral leases that are not producing. The same is true for minerals owned by the state government. In the case of federal royalty payments, the state receives a share of those payments through a federal revenue-sharing provision. Mineral disbursements to states are based on percentage share of royalties, rents, bonuses, and other mineral revenue collections.

To obtain a mineral lease from the state or federal government, the lessee must pay a bonus. This "bonus" is the amount that the successful winner of the lease (i.e., highest bidder) pays to acquire the lease. The state retains the entire bonus bid to acquire state leases. One-half of the federal lease bonus proceeds for federal land leases are returned to the state.

The Permanent Wyoming Mineral Trust Fund (PWMTF) is a fund that holds 25% of severance taxes currently received by the state and acts like a savings account for the state. The fund balance was $1.9 billion in June 2002 (Lummis et al. 2002). As reported by Lummis et al. (2002), during the previous fiscal year, over $74 million in severance taxes were added to the fund. Natural gas alone contributed 46.8% of severance taxes or more than $34.7 million to the PWMTF. Gas, oil, and associated products contributed more than $45.5 million (61.4%) of all severance added to the PWMTF. The principal of the PWMTF is inviolate but may be loaned to political subdivisions. The interest on the PWMTF goes to the state's general fund for the legislature to allocate to current programs.

The minerals industry accounts for a substantial share of revenues to the state and to local governments in Wyoming. Revenues that contributed to the general fund, including those from the minerals industry, from 1980 to 2000 are listed in Table 3.22. Ad valorem production revenues are the single largest source of state revenue and provided 96.5% of revenue in 1980, 94.6% in 1990, and 94.5% in 2000. The second and third largest sources of revenue in 1980 were sales and use tax (1.8%) and severance tax (0.6%). In 1990, sales and use tax (1.5%) was the secondmost important source of revenue, followed by PWMTF income (1.3%). Total general fund revenues fell nearly 16.6% from 1980 to 2000, with the greatest losses occurring in sales and service charges (-40.3%), followed by ad valorem production (-18.3%) and pooled income (-13.9%). Increases over the 20-year study period were seen in PWMTF income (368.8%), penalties (289.7%), and all other sources (201.8%). However, market effects were markedly pronounced in 2000, as the significance of price increases in the natural gas industry became apparent as total revenues climbed 40.3% from 1998 to 2000. This growth was led by all other (269.8%), revenue from others (134.8%), and ad valorem production revenues (42.0%). BP America, one of the project proponents, was the number one

taxpayer by taxable value rank for 2002 mineral production, contributing more than 10% of taxable mineral value in 2002 (Wyoming Department of Revenue 2003a) (Table 3.22).

Declines from 1998 to 2000 occurred in charges-sales and services (-2.1%), franchise taxes (-3.2%), and federal aid and grants (-26.6%).

Ad valorem production revenues were not available for 2004; however, in 2003 they continued to provide the great majority of state revenue (95.6%), an increase of 21.4% over 2000 (see Table 3.22). Sales and use tax continued to be the second most important source of revenue in 2003, representing 2.1% of state revenue, an increase of 7.4% over 2000. Revenues from sales and use tax continued to grow in 2004 (see Table 3.22).

3.4.1.1 Severance Taxes

A severance tax is an excise tax imposed on the present and continuing privilege of removing, extracting, severing, or producing any mineral in Wyoming. Severance taxes are distributed according to Wyoming Statute (WS) 39-14-801 as presented in Table 3.23. Severance distributions to all Wyoming counties and cities and to those counties and cities in the study area are summarized in Table 3.24.

In 1980, Wyoming received $79.3 million in severance taxes compared to $83.6 million in 2000, an increase of 5.5% (see Table 3.22). While overall growth occurred over the 20-year study period, there was a large increase (22.7%) from 1980 to 1990, then a drop of more than 14.1% from 1990 to 2000. Natural gas prices rose in 2000 due to tighter supplies, lower storage stocks, and market perceptions (Energy Information Administration [EIA] 2001). Increased exploration and lease auctions drove up the bonus payment component in the last several years. With renewed market pressure in late 1999, the value of production increased, as did corresponding tax revenues. Those effects were markedly pronounced in 2000 as the significance of the price increase became clear. In 2004, Wyoming received $168,106 million in severance taxes, an increase of 101% over 2000 (see Table 3.22).

Mineral Severance Tax Distribution. In 2000, Wyoming distributed $275.1 million in mineral severance taxes (down 16.9% from 1990), including $8.6 million to all counties (down 0.8% from 1990) (see Table 3.24). Cities and towns received $21.5 million in 2000, a decrease of 16.9% from 1990. In 2004, Wyoming distributed $513.7 million in mineral severance taxes (up 86.7% from 2000), including $5.7 million to all counties (down 33% from 2000). Cities and towns received $13.7 million in 2004, a decrease of 36.4% from 2000 (see Table 3.24).

In 1980, 36.1% of mineral severance taxes went to the general fund, 38.7% to PWMTF, 8.7% to the highway fund, 5.8% to water, 2.4% to the school foundation, 0.8% to community colleges, and 7.6% to other (Table 3.25). No funds were distributed to the budget reserves; cities and towns; counties; cities, towns, counties, and special districts; capital construction; or state aid. In 2000, 30% went to the general fund, 25% to the PWMTF, 14% to the budget reserve account, 8% to cities and towns, 9% to water, 4% to other, 3% each to the highway fund and counties, 2% each to capital construction for cities, counties, and special districts, and state aid to county roads, and 1% to the school foundation. In 2004, 32.7% went to the general fund; 30.4% to the budget reserve account; 24.2% to the PWMTF; 4.1% to water; 2.7% to cities and towns; 1.9% to other; 1.4% to the highway fund; 1.1% to counties; and 0.8% each to capital construction for cities, counties, and special districts, and state aid to county roads. No funds went to the school foundation or community colleges.

Table 3.22. Wyoming General Fund Revenues, Fiscal Year Collections by Source

Fiscal Year	Ad Valorem (Production)	Severance Tax	Sales & Use Tax	PWMTF Income	Pooled Income[2]	Charges-Sales and Services	Franchise Tax	Revenue from Others [3]	Penalties[4]	Federal Aid and Grants	All Other[5,6]	Total
1980	12,907,248	79,282	245,683	25,061	30,410	31,495	15,746	10,131	1,491	9,464	21,444	13,377,455
1981	15,367,554	90,952	267,396	34,650	29,553	31,587	16,067	7,943	2,056	9,826	20,182	15,877,767
1982	14,162,407	201,201	293,965	46,613	37,622	17,129	10,296	13,356	2,304	2,806	21,938	14,809,638
1983	13,737,084	190,796	224,897	78,946	53,131	16,971	15,007	16,229	2,788	442	40,612	14,376,904
1984	13,903,877	181,963	200,116	93,578	48,802	15,005	14,169	13,363	1,976	3,840	29,000	14,505,689
1985	12,532,055	182,560	196,486	108,030	52,254	13,681	14,484	18,681	2,501	3,858	42,055	13,166,647
1986	9,384,099	169,940	196,322	113,788	57,582	17,242	18,627	14,206	1,273	707	26,932	10,000,718
1987	8,934,607	104,407	154,576	112,297	36,053	15,142	30,329	21,040	1,432	1,273	31,046	9,442,200
1988	8,340,254	96,495	150,859	105,738	25,878	14,398	15,197	11,271	1,181	756	22,310	8,784,337
1989	8,435,621	90,777	138,466	98,671	21,377	15,829	14,580	13,149	1,691	1,406	20,005	8,851,573
1990	8,415,025	97,318	134,719	113,515	67,982	13,997	14,336	9,724	3,642	977	22,153	8,893,390
1991	7,653,645	99,741	140,803	119,046	50,717	13,195	16,843	10,913	4,386	3,244	22,080	8,134,614
1992	7,579,071	83,109	142,873	113,807	66,214	16,555	15,162	14,060	5,093	5,504	14,362	8,055,810
1993	7,497,211	78,431	149,419	105,277	31,049	17,424	15,267	10,088	3,938	8,781	12,857	7,929,742
1994	7,240,946	75,800	217,771	99,976	26,045	17,785	14,739	16,551	5,381	9,062	38,561	7,762,616
1995	7,257,937	63,816	236,956	96,731	30,693	18,128	15,593	4,600	10,779	11,944	13,641	7,760,818
1996	7,842,694	67,661	229,365	94,964	29,839	18,286	13,759	4,389	2,203	12,194	15,166	8,330,520
1997	7,983,933	76,075	230,870	98,944	25,997	19,093	14,439	5,577	6,010	12,731	13,225	8,486,894
1998	7,422,008	73,484	247,974	106,994	24,687	19,197	14,073	6,317	7,148	11,153	17,499	7,950,534
1999	8,162,297	60,905	242,616	110,437	26,174	21,017	11,823	7,245	6,070	10,639	20,143	8,679,364
2000	10,542,096	83,616	262,339	117,485	26,192	18,799	13,629	14,830	5,809	8,189	64,712	11,157,696
Total Growth (%) (1980–2000)	-18.32	5.47	6.78	368.79	-13.87	-40.31	-13.45	46.39	289.74	-13.48	201.77	-16.59
2001	10,860,274	135,256	288,143	94,684	33,886	20,001	14,614	9,807	6,430	10,643	20,712	11,494,450
2002	9,897,515	112,170	299,678	86,637	27,869	19,966	16,368	7,210	6,088	8,498	26,159	10,508,158
2003	12,802,262	139,958	281,654	54,887	17,982	19,155	18,341	7,673	9,482	9,911	25,580	13,386,885
2004	Not Available	168,106	297,749	89,437	26,178	22,116	19,823	4,846	8,233	10,622	31,620	-
Total Growth (%) (2000–2004)	-	101.0	13.5	-23.9	-0.5	17.6	45.4	-67.3	41.7	29.7	51.1	-

Table 3.23. Statutory Distribution of Severance Taxes (WS 39-14-801)

Recipient	Portion of Distribution	Basis/Authority
Subsection (b) mandatory distributions		WS 39-14-801(b)
Corrective action account[1]	As needed	To bring account balance to $10 million/WS 39-14-801(c)
Environmental pollution financial responsibility account[1]	As needed	To bring account balance to $1 million/WS 39-14-801(c)
Subsection (d) distributions[2]		Remaining severance taxes, not to exceed $155 million
General fund	62.26%	WS 39-14-801(d)(i)
Water Development Account I	12.45%	Purposes specified in WS 41-2-124(a)(i)/WS 39-14-801(d)(ii)
Water Development Account II	2.1%	Purposes specified in WS 41-2-124(a)(ii)/ WS 39-14-801(d)(iii)
Highway fund	4.33% or as needed	To maintain a minimum balance of $500,000 in the state park road account/WS 24-14-102
Counties	0.78%	County purposes/WS 39-14-801(d)(v)
Population based portion (1/2 of 0.78%)	50% of 0.78%	Proportion that the population of the county bears to the population of the state as determined by the most recent decennial census/ WS 39-14-801(d)(v)(A)
Assessed valuation portion (1/2 of 0.78%)	50% of 0.78%	Inverse of the assessed valuation of each county as computed under subparagraph WS 39-14-801(d)(vii)(C)/ WS 39-14-801(d)(v)(B)
Counties	3.1%	County purposes; proportion which the population of the county bears to total state population, population to be determined by resort to the latest federal census as periodically updated by the Census Bureau/WS 39-14-801(d)(vi)
Road construction funds of various counties	2.9%	Purposes specified in WS 24-2-110/WS 39-14-801(d)(vii)
Population based (1/3 of 2.9%)	≈33.3% of 2.9%	Ratio that the population of the county bears to total state population based on the most recent decennial federal census/ WS 39-14-801(d)(vii)(A)
Road mileage based (1/3 of 2.9%)	≈33.3% of 2.9%	Ratio that the mileage of county roads in the county bears to total county roads in Wyoming/ WS 39-14-801(d)(vii)(B)
Assessment based (1/3 of 2.9%)	≈33.3% of 2.9%	Divide the inverse of each county percentage of total state-assessed valuation by the total sum of the inverses of all county percentages of state-assessed valuation/ WS 39-14-801(d)(vii)(C)
Cities and Towns	9.25%	Proportion which the population of the city or town bears to the population of all cities and towns in Wyoming, population to be determined by resort to the latest federal census as periodically updated by the Census Bureau/ WS 39-14-801(d)(viii)
Capital Construction Account	2.83%	Purposes specified in WS 9-4-604(k)(ii)/ WS 39-14-801(d)(ix)
Total Severance Distributions	100%	Not to exceed $155 million

[1] WS 39-14-801(c) requires that distributions under subsection (b) of this section be made prior to any distributions under subsection (d) of this section. The amount of distributions under subsection (d) of this section shall not exceed $155 million in any fiscal year.

[2] To the extent that distributions under subsection (d) of this section would exceed $155 million in any fiscal year, the excess shall be credited as follows: (i) one-third (1/3) to the general fund and (ii) two-thirds (2/3) to the budget reserve account.

Table 3.24. Summary of Mineral Severance Taxes Received by Wyoming and Directly Distributed to All Wyoming Counties and Cities and Project-Affected Counties and Cities in the Study Area

Tax and Distribution Entity	Distributions (Thousands of $)[1]						
	1980	1990	2000	2001	2002	2003	2004
Total Received by Wyoming[2]	219,889	331,196	275,123	434,534	287,457	401,606	513,744
Amount Distributed to All Counties[2]	--	8,628	8,559	15,171	6,081	5,743	5,737
Lincoln County[3]	--	--	159	405	231	164	155
Sublette County[3]	--	--	61	159	94	63	68
Sweetwater County[3]	--	--	489	1,175	595	499	298
Amount Distributed to All Cities[2]	--	25,885	21,506	32,136	14,498	13,691	13,678
LaBarge[4]	--	--	27	53	22	18	17
Big Piney[4]	--	--	25	49	21	17	16
Marbleton[4]	--	--	35	74	37	30	29
Pinedale[4]	--	--	65	140	72	60	56
Rock Springs[4]	--	--	1,056	2,121	959	789	744

[1] In Year 2000 dollars, adjusted for inflation; -- = data not available.
[2] Source: CREG (2003, 2005). Total direct disbursements to cities and counties, not including capital construction or other funds.
[3] Sources: Lummis et al. (2000, 2001, 2002, 2003, 2004). Distributions to counties. Total distributions reported by Lummis et al. do not add to the total reported as revenue received in CREG (2003, 2005).
[4] Source: Lummis et al. (2000, 2001, 2002, 2003, 2004). Distributions to towns and cities. Total distributions reported by Lummis et al. do not add to the total reported as revenue received in CREG (2003, 2005).

Crude oil contributed 40.5% of all distributed mineral severance taxes in 1980, while natural gas contributed only 10.1% of distributed mineral severance taxes (Table 3.26). By 2000, natural gas contributed 43.8% (a 445.4% increase from 1980; 8.9% average annual growth) of all mineral severance taxes distributed, while crude oil dropped 35.6%, to contribute only 20.8% of mineral severance tax distributions. In 2004, natural gas contributed 62% of all mineral severance taxes distributed (a 164% increase from 2000), while crude oil contributed 12.7% of mineral severance tax distributions (a 13.6% increase from 2000). CREG (2003) anticipates that natural gas will continue to provide a substantial portion of annual revenues, nearly 50% in 2008, while all other minerals are expected to decline in importance.

3.4.1.2 Royalties

A mineral royalty is the amount of money the owner of the mineral resource receives as a payment or royalty from the mineral producer. Wyoming receives a base royalty of 16.7% of the value of production from state-owned minerals. The federal government receives a royalty of 12.5% of the value of production for federal minerals. Fifty percent of federal mineral royalties are returned to the state. Unlike severance taxes, royalties are based on the value of the products of production, not just what leaves the ground. For example, natural gas royalties are based on the value of the methane, helium, carbon dioxide, nitrogen, and liquids—not just the volume of raw gas.

In 1999, the Wyoming Legislature addressing a projected $200 million shortfall in the state budget. Two years later, a surplus of over $600 million was projected. The difference came from skyrocketing natural gas and oil prices in 2000, which brought with them significant increases in all forms of mineral revenue, including those from coalbed methane production. In the late 1990s, these

Table 3.25. Yearly Mineral Severance Taxes

Fiscal Year	Distributions (Thousands of Dollars)													
	General Fund	Budget Reserve Account[2]	PWMTF[3]	Water I	Water II	Highway Fund[4,5,6]	Cities and Towns	Counties[5]	School Foundation[4,6,7]	Community Colleges[4]	Cities, Towns, Counties, and Special Districts Capital Construction[5]	State Aid County Roads[5]	Other[8,9]	Totals[10]
Historical:														
1980	79,282	0	85,015	12,820	0	19,117	0	0	5,285	1,762	0	0	16,609	219,889
1981	90,952	0	99,641	16,213	0	23,694	0	0	6,442	2,147	0	0	22,059	261,149
1982	201,201	0	227,632	35,284	3,637	85,484	53,763	17,921	9,865	3,288	0	0	34,631	672,705
1983	190,796	0	215,378	27,910	12,557	88,110	56,506	18,835	9,638	3,213	0	0	34,069	657,013
1984	181,963	0	204,736	28,652	11,667	85,351	52,502	17,501	9,790	3,263	0	0	34,475	629,901
1985	182,560	0	210,348	28,342	12,200	87,198	54,898	18,299	9,563	3,188	0	0	38,547	645,143
1986	169,940	0	195,725	29,125	10,995	83,295	49,476	16,492	9,736	3,245	0	0	39,690	607,719
1987	104,407	0	94,694	24,802	5,900	56,760	26,552	8,851	8,213	2,738	0	0	60,192	393,110
1988	96,495	3,956	85,325	21,732	5,752	52,009	25,885	8,628	7,269	2,423	0	0	24,786	334,260
1989	90,777	39,377	70,530	21,562	5,332	50,702	23,995	7,998	7,384	2,461	0	0	0	320,118
1990	97,318	41,535	74,240	20,386	5,752	43,343	25,885	8,628	7,310	2,437	0	0	4,360	331,196
1991	99,741	42,042	75,268	20,515	5,914	43,809	26,615	8,872	7,224	2,408	0	0	0	332,407
1992	83,109	38,575	65,338	25,221	4,631	42,236	20,841	6,947	7,956	2,652	0	0	3,565	301,071
1993	78,431	53,598	63,614	19,255	4,630	25,761	20,836	6,945	19,166	2,347	0	0	8,066	302,649
1994	75,800	45,396	60,379	18,443	4,413	21,183	19,858	6,619	0	0	0	0	9,182	261,274
1995	63,816	29,917	49,012	17,711	3,192	11,659	14,364	5,557	110	37	1,770	2,767	8,283	208,195
1996	67,661	32,752	53,508	18,785	3,423	7,412	15,405	6,344	40	13	5,352	4,350	8,374	223,421
1997	76,075	35,941	60,884	18,134	4,193	8,124	18,870	7,656	13	4	5,724	4,918	9,211	249,748
1998	73,484	35,022	57,974	20,912	3,593	7,520	16,167	6,745	118	39	3,479	4,741	10,584	240,378
1999	60,905	29,111	50,300	18,733	2,846	0	12,805	5,500	4,977	4	3,510	4,588	9,784	203,063
2000	83,616	39,082	69,720	18,040	4,779	9,109	21,506	8,559	1,415	1	4,347	4,898	10,051	275,123
2001	134,931	56,178	109,606	20,160	9,109	27,674	32,136	15,171	23	3	4,833	5,426	19,284	434,534
2002	112,498	37,700	69,378	18,547	3,298	7,138	14,498	6,081	0	0	4,211	4,315	9,792	287,457
2003	140,576	98,998	98,409	18,088	3,125	6,533	13,751	5,768	0	0	4,136	4,230	9,765	403,379
2004	173,344	161,155	127,942	18,667	3,208	7,254	14,104	5,916	0	0	4,123	4,225	9,813	529,753
Projected:														
2005	121,200	49,400	73,700	19,300	3,300	6,700	14,300	6,000	0	0	4,400	4,500	10,800	313,600
2006	123,400	53,800	75,000	19,300	3,300	6,700	14,300	6,000	0	0	4,400	4,500	11,100	321,800
2007	125,600	58,200	76,500	19,300	3,300	6,700	14,300	6,000	0	0	4,400	4,500	11,400	330,200
2008	127,200	61,300	77,900	19,300	3,300	6,700	14,300	6,000	0	0	4,400	4,500	11,700	336,600

1 Source: CREG (2003, 2005). Presented in year 2000 dollars.
2 The FY93 actual total included an additional $5.4 million, and the FY94 actual total included an additional $5.2 million in penalty and interest from pre-1990 production.
3 Chapter 62, 2002 Session Laws made permanent the diversion of PWMTF revenues to the Severance Tax Distribution Account, and repealed the language of Chapter 99, 2000 Session Laws requiring a larger proportion of coal bed methane revenues to be deposited into the PWMTF.
4 The drop in revenues to these accounts in FY94 was due to the expiration of the Capital Facilities Tax on coal and trona.
5 Impacted by the PILT Restoration Act, beginning in March of FY95. This act effectively diverted federal mineral royalty revenue from the Counties; Cities, Towns, Counties, and Special Districts Capital Construction; and State Aid to County Roads accounts to the Highway Fund; and replaced that revenue with an equal amount of Highway Fund coal severance tax.
6 In FY99 and FY00, mineral severance taxes and federal mineral royalties were diverted from the Highway Fund to the School Foundation Program account until a total of $20 million was received. This revenue diversion from the Highway fund was offset with additional fuel tax revenue. In FY01 and FY02, the diversion of revenues from these sources continued, however, the amount was not limited to a fixed dollar amount, rather it was a dollar for dollar swap in the amount raised by the fuel tax.
7 The FY93 total includes a one-time diversion of approximately $10.6 million from the Highway Fund.
8 Beginning in FY92, the totals shown in this column have included diversions from the Highway Fund to the LUST accounts (Financial Responsibility and Corrective Action accounts). Approximately $10.0 million a year will continue to be diverted to these accounts. An additional $1.4 million was diverted from the Highway Fund to the Compensation Reserve Account during FY94.
9 This column includes $5.5 million of Municipal Mineral Trust Fund monies in FY01. These funds are diverted from the Cities and Towns portion of Severance Taxes when the total Severance Taxes to those entities exceeds $24 million in any year, under the distribution formulas in place prior to Chapter 97, 2000 Session Laws.
10 FY98 coal revenues include $8.0 million in protest severance taxes which were from prior production years.

Table 3.26. Proportion of Mineral Severance Taxes to All Wyoming Accounts by Mineral[1]

Fiscal Year	Mineral Revenues (Thousands of $)[1]					Total[5]
	Crude Oil[2]	Natural Gas[2]	Coal[3,4]	Trona[4]	Others	
1980	89,014	22,101	89,726	9,171	9,877	219,889
1981	92,527	34,564	113,906	11,345	8,807	261,149
1982	361,693	99,054	188,760	14,065	9,133	672,705
1983	321,389	123,791	195,368	11,216	5,250	657,013
1984	285,801	128,100	200,567	10,418	5,015	629,901
1985	290,892	141,495	201,140	7,904	3,712	645,143
1986	267,133	123,103	206,981	8,767	1,736	607,719
1987	131,738	77,447	175,044	7,774	1,107	393,110
1988	140,962	61,246	122,382	8,734	936	334,260
1989	108,375	77,485	123,767	7,624	2,868	320,118
1990	133,694	66,171	117,402	12,591	1,338	331,196
1991	134,992	66,697	118,112	11,361	1,246	332,407
1992	103,334	55,455	127,420	13,980	883	301,071
1993	92,155	70,456	119,586	12,619	1,393	302,649
1994	77,003	81,659	87,370	8,421	738	261,274
1995	64,218	49,007	84,515	9,563	891	208,195
1996	69,210	52,886	89,460	11,003	861	223,421
1997	69,249	81,551	86,558	11,323	1,067	249,748
1998	45,491	84,882	98,234	10,763	1,009	240,378
1999	30,658	76,413	88,202	6,768	1,022	203,063
2000	57,323	120,540	85,164	10,960	1,157	275,123
Total Growth (%) (1980–2000)	-35.60	445.41	-5.08	19.50	-88.29	25.13
Average Annual Growth (%) (1980–2000)	-2.18	8.85	-0.26	0.89	-10.17	1.13
2001	72,425	258,648	94,554	8,083	825	434,534
2002	52,415	122,951	105,323	5,772	997	287,457
2003	64,039	216,174	114,979	7,087	1,100	403,379
2004	65,117	318,195	121,351	7,060	1,122	512,846
Total Growth (%) (2000–2004)	-10.1	23.0	28.3	-12.7	36.0	18.0
Average Annual Growth (%) (2000–2004)	-1.2	23.5	8.7	-2.1	11.0	11.2

1 Source: CREG (2003, 2005). Year 2000 dollars, adjusted for inflation.
2 Condensate from natural gas production is included in crude oil.
3 The drop in revenues that occurred in FY99 was due, in part, to the reduced taxation rates put in place by Chapter 168 of the 1999 Session Laws, "Oil Producers Recovery - 2."
4 FY98 coal revenues include $8.0 million in protest severance taxes that were from prior years' productions.
5 The drop in revenues that occurred in FY94 was due to the expiration of the Capital Facilities Tax on coal and trona.
6 The total for FY93 includes $5.4 million in penalty and interest from pre-1990 production. The FY94 total contains an additional $5.2 million in penalty and interest from oil and gas audit settlements on pre-1990 production.

sources of income had declined as prices for gas and oil were depressed. With renewed market pressure in late 1999, the value of production increased, as did corresponding taxes. Natural gas prices rose in 2000 due to tighter supplies, lower storage stocks, and market perceptions (EIA 2001a). Federal royalties are distributed by the State of Wyoming according to WS 9-4-601 as presented in Table 3.27. Federal royalty distributions to all counties , all cities, and specific cities in the project-affected area are shown in Table 3.28. State mineral royalties received for production of state minerals are presented in Table 3.29.

Table 3.30 shows historical and projected federal mineral royalties and distributions. Federal royalties increased from $222 million in 1990 (Year 2000 dollars, adjusted for inflation) to $309 million in 2000. Distributions of federal mineral royalties in 1980 went to the school foundation (38%), the highway fund (26%), cities, towns, counties, and special districts capital construction and other (10% each), cities and towns (8%), the University of Wyoming (7%), and the highway fund for county roads (2%); no funds were distributed to the remaining accounts (Table 3.30). In 2000, 33% to the school foundation, 18% to the highway fund, 15% to Legislative Royalty Impact Assistance Account (LRI), 9% to school capital construction, 6% each to the University of Wyoming and to cities and towns, 4% to cities, towns, counties, and special districts capital construction, 2% each to highway fund for county roads, the transportation enterprise, and other, and 1% to community college.

From 2000 to 2004, federal royalties increased from $309 million (Year 2000 dollars, adjusted for inflation) to $405.5 million (see Table 3.30). Reflecting a major change in the distribution of federal mineral royalties, the Legislative Royalty Impact Assistance account received 36.9% of all federal mineral royalties compared to 15.2% in 2000, an increase of 296.8%. All other categories received a smaller proportion of the royalties or minor increases (school foundation and general fund administrative).

3.4.1.3 Payments in Lieu of Taxes (PILT)

The federal government owns and manages 49% of Wyoming lands. Federal lands are not subject to property taxes that support county governments and education; yet, local communities play an important role in supporting the management of federal lands. In 1976, Congress authorized federal land management agencies to share income with states and counties and provided a PILT program to help offset lost tax revenue (31 USC 6901–6907 [Public Law 103-397, October 22, 1994; Public Law 104-333, November 12, 1996; and Public Law 105-83, November 14, 1997];43 CFR Part 1880 [65 *Federal Register* 51229–51234, August 23, 2000, effective September 22, 2000]). PILT payments are federal payments to local governments that help offset losses in property taxes due to nontaxable federal lands within their boundaries. PILT payments are administered by the BLM (Coupal et al. 2003).

PILT payments are based on three factors:

- eligible federal acres in the county,
- federal revenue-sharing going to the county the prior year, and
- county population up to the predetermined ceiling.

These factors are used in two calculations: a standard and a minimum. The different calculations are compared to one another in an approach similar to that of federal income taxes. Instructions direct the use of the smaller or larger of two numbers. The Minimum Method Calculation is used in cases where significant revenue sharing in the previous year would mean no PILT in the current year for

Table 3.27. Statutory Distribution of Federal Mineral Royalties (WS 9-4-601)

Recipient	Portion of Distribution	Basis/Authority/Use
Subsection (a) distributions	All royalties less subsection (b) distributions	Distributed to trust and agency accounts; first $200 million to be distributed according to Subsection (a)
Highway Fund	2.25%	WS 9-4-601(a)(i) Permanent construction or maintenance work in counties to which the royalties are attributable with priority given to roads and highways impacted by mineral development
	26.25%	WS 9-4-601 (a)(iii) Except as provided by WS 9-4-605(a); subject to purposes specified in WS 9-4-606 and 9-4-607
	1.25%	WS 9-4-601(a)(vi)
	2.25%	WS 9-4-601(a)(ix)
	0.625%	WS 9-4-601(a)(x)
Public School Foundation Program Account	44.8%	Subject to WS 9-4-605
University of Wyoming Trust And Agency Fund	6.75%	WS 9-4-601(a)(iv) When authorized by legislature for actual and necessary expenses of constructing, equipping, and furnishing new buildings; repair of existing buildings; purchasing of improved or unimproved real estate; payment of principal and interest on securities used to finance these projects or refund previously issued securities
Incorporated Cities and Towns	9.375%	WS 9-4-601(a)(v) Planning, construction, or maintenance of public facilities or providing public services
Population 325 or Less	$12,000	WS 9-4-601(a)(v)(A)
Population Greater Than 325	$15,000	WS 9-4-601(a)(v)(A)
Remainder Based on Population	Balance of 9.375%	WS 9-4-601(a)(v)(B) Amount proportionate to percentage obtained by dividing average daily membership (WS 21-13-101) of all school districts within each county by the total average daily population of all school districts in the state. Distribution made in proportion that the population of the city or town bears to the total population of all cities and towns in the county.

Table 3.27. (Continued)

Recipient	Portion of Distribution	Basis/Authority/Use
Capital Construction Account	3.75%	WS 9-4-601(a)(vi) Purposes specified in WS 9-4-605(k)(i) or to fund bonds under WS 9-4-604(g); priority given to state subdivisions socially or economically impacted directly or indirectly by federal mineral development. Amounts not to exceed: 1. $40 million to be loaned or granted to incorporated towns and cities (voter-approved projects necessary for health, safety, and welfare of inhabitants 2. $20 million loaned or granted to counties or special districts (hospital, fire protection, sanitary and improvement, solid waste disposal, service and improvement, water and sewer) Excess to earmarked revenue fund
Public School Capital Construction Account	2.7%	WS 9-4-601(a)(vii) Purposes specified in WS 21-15-111(a)(i)
Subsection (b) distributions[2]		WS 9-4-601(b) All bonus payments from the federal government attributable to coal, oil shale, or geothermal leases of federal land within Wyoming
Construction and Highway	50%	WS 9-4-601(b)(i) Not to exceed $200 million; less WS 9-4-601(b)(v) distributions
Business Ready Community Account	Stipulated amount	WS 9-4-601(b)(v) If the school capital construction account is projected by CREG to have a positive balance at the end of the fiscal year, then 1. Fiscal Year 2004, $7.5 million 2. Fiscal Year 2005, $10.0 million 3. Excess to be deposited to school capital construction account
Capital Construction Accounts	75% of first 50%	WS 9-4-601(b)(i)(A) Less amounts distributed under (b)(v); purposes specified in WS 9-4-604(k)(i) to fund bonds under WS 9-4-604(g)
Highway Fund	25% of first 50%	WS 9-4-601(b)(i)(B) Less amounts distributed under (b)(v);
Community College Commission Revenue Fund Account	10% of second 50%	WS 9-4-601(b)(iv)(A) for fiscal years 2004 and 2005; not to exceed $1.6 million in accordance with and in addition to WS 21-18-205(c) appropriations; excess to school capital construction account; and any remainder after end of biennial budget period to school capital construction account
Business Ready Community Account	40% of second 50%	WS 9-4-601(b)(iv)(B) for fiscal years 2004 and 2005 in accordance with WS 9-4-601(b)(v); thereafter to school capital construction account
School Foundation Program	1/3 of any amount exceeding $200 million	WS 9-4-601(d)(iii)
Budget Reserve Account	2/3 of any amount exceeding $200 million	WS 9-4-601(d)(iv)

Table 3.28. Summary of Federal Mineral Royalties Received by Wyoming and Directly Distributed to All Counties and Cities and Project-Affected Counties and Cities[1,2]

Tax and Distribution Entity	Distributions (Thousands of $)[3]						
	1980	1990	2000	2001	2002	2003	2004
Total Received by Wyoming[4]	198,742	222,188	309,093	434,676	334,703	447,693	504,474
Amount Distributed to Counties[4]	ND	1,389	ND	ND	ND	ND	ND
Amount Distributed to Cities[4]	--	20,830	19,588	21,678	20,007	17,449	16,892
LaBarge[5]	--	--	61	60	55	68	65
Big Piney[5]	--	--	66	64	55	67	65
Marbleton[5]	--	--	86	88	86	108	104
Pinedale[5]	--	--	147	152	154	198	190
Rock Springs[5]	--	--	1,010	1,002	994	1,622	1,533

1 Includes coal lease bonuses.
2 FY98 coal revenues include $8.0 million in protest severance taxes that were from prior production years.
3 In Year 2000 dollars, adjusted for inflation; -- = data not available; ND = no distribution.
4 Consensus Revenue Estimating Group (CREG) (2003). Total direct disbursements to cities and counties, not including capital construction or other funds.
5 Source: Lummis et al. (2000, 2001, 2002, 2003, 2004). Distributions to towns and cities. Total distributions reported by Lummis et al. do not add to the total reported as revenue received in CREG (2003, 2005).

the county. The main difference between the Standard and Minimum Method Calculations is that the Minimum Method uses a different per-acre rate and does not take into account the prior year's revenue sharing payments (see Coupal et al. [2003] for detailed calculations for each county).

Between 1998 and 2003, PILT payments received by the State of Wyoming have increased by 63.9% (Table 3.31). The three-county study area has experienced a similar increase. Lincoln County PILT payments have increased 74.2%, Sublette County payments increased 58.9%, and Sweetwater County PILT payments increased 58.0%.

Table 3.29. Summary of State of Wyoming Mineral Royalties

Fiscal Year	Thousands of $[1]
1980	--
1990	--
2000	34,099
2001	56,021
2002	35,455
2003	52,821

1 Historical data for state-owned mineral royalties are not readily available and are generally not included in socioeconomic analyses prepared by Wyoming state agencies. Source: WDAI (2002a, 2004).

3.4.1.4 Property Taxes (Ad Valorem Taxes)

An ad valorem tax is a tax levied on a commodity as a percentage of its value. Ad valorem taxes on gas and oil in Wyoming go directly to the county in which the commodity is produced. Wyoming ad valorem taxes can be divided into two groups: production and property. Production taxes are levied on the assessed valuation of the amount of the commodity produced. Production ad valorem taxes are based on a percent of assessed value of production, the mineral, and the source (type of well or mine).

Property taxes are levied on wells and producing equipment. The property tax rates are levied in mills (thousandths of a percent) set by each county. The overall state average for 2000 was 75.357 mills based on assessed valuation of the property (Foulke et al. 2001).

Table 3.30. Federal Mineral Royalties

Fiscal Year	Distributions (Thousands of Dollars)														
	University of Wyoming[2]	School Foundation[3]	Highway Fund[3,4,5]	Highway Fund County Roads	Cities and Towns	Cities, Towns, Counties, and Special Districts Capital Construction [4,5,6]	Capital Construction School Dist[5,6]	Counties[4]	State Aid to County Roads[4]	LRI[2,7]	Community Colleges[5]	Other	Transportation Enterprise[8]	General Fund Administrative	Totals[9]
Historical															
1980	13,415	74,528	52,170	4,472	14,906	19,377	0	0	0	0	0	19,874	0	0	198,742
1981	15,143	84,125	58,888	5,048	16,825	21,879	0	0	0	6	0	22,433	0	0	224,347
1982	17,589	97,716	68,401	5,863	19,543	25,913	14,868	0	0	507	11,189	0	0	0	261,590
1983	19,682	109,346	76,542	6,561	21,869	39,787	16,621	0	0	11,357	12,538	0	0	0	314,303
1984	17,263	95,905	67,134	5,754	19,181	33,871	14,578	0	0	8,935	10,997	0	0	0	273,618
1985	23,202	120,987	90,228	7,734	25,779	30,478	27,502	0	7,734	4,699	14,780	0	0	0	353,123
1986	20,299	96,479	73,408	6,292	20,974	28,495	24,329	0	6,292	7,521	12,025	0	0	0	296,114
1987	12,402	63,389	48,231	4,134	13,780	21,810	15,985	0	4,134	8,029	7,901	0	0	0	199,796
1988	15,527	107,121	60,383	5,176	17,252	18,878	0	0	5,176	1,626	2,143	0	0	0	233,282
1989	16,410	108,916	63,818	5,470	22,792	12,925	6,564	1,519	5,470	769	0	0	0	0	244,655
1990	14,998	99,540	58,324	4,999	20,830	11,109	5,999	1,389	4,999	0	0	0	0	0	222,188
1991	18,599	123,444	64,753	6,200	25,832	14,820	7,440	1,722	13,777	1,042	0	915	0	0	278,544
1992	15,153	99,306	52,091	4,987	20,781	11,184	5,985	1,385	11,083	1,828	0	247	0	0	224,031
1993	13,685	90,830	53,221	4,562	19,007	18,099	5,474	1,267	4,562	11,536	0	3,575	0	0	225,818
1994	13,954	92,613	54,265	4,651	19,380	18,448	5,582	1,292	4,651	11,598	0	3,486	0	0	229,920
1995	14,675	97,398	62,376	4,892	20,382	20,146	5,870	590	2,124	8,837	2,209	0	0	0	239,498
1996	13,051	86,617	61,663	4,350	18,126	16,057	5,220	0	0	9,394	2,348	0	0	0	216,826
1997	15,917	97,929	69,389	4,918	20,493	17,171	5,902	0	0	20,105	2,393	1,505	0	0	255,722
1998	15,866	94,404	64,775	4,741	19,753	10,538	8,145	0	0	14,890	614	2,127	0	0	235,852
1999	13,871	101,810	49,959	4,624	19,265	13,520	29,439	0	0	0	1,654	0	4,651	0	238,795
2000	19,886	101,996	56,432	4,902	19,588	13,796	29,155	0	0	46,950	1,600	7,545	7,242	0	309,093
2001	16,277	127,363	48,709	5,426	20,397	14,499	36,141	0	0	137,398	1,552	19,888	7,025	1,940	434,676
2002	12,830	127,049	33,657	4,277	17,820	12,528	70,218	0	0	45,917	1,536	0	6,952	1,920	334,703
2003	12,563	146,887	58,296	4,188	17,449	12,267	65,688	0	0	126,972	1,504	0	0	1,880	447,693
2004	12,162	173,893	56,436	4,054	16,892	11,876	39,598	0	0	186,288	1,456	0	0	1,820	504,474
Projected															
2005	13,400	122,300	62,000	4,500	18,600	13,100	43,200	0	0	67,200	1,600	0	0	2,000	347,900
2006	13,400	125,000	62,000	4,500	18,600	13,100	34,200	0	0	72,600	1,600	0	0	2,000	347,000
2007	13,400	128,000	60,100	4,500	18,600	7,400	5,200	0	0	78,600	0	0	0	2,000	317,800
2008	13,400	130,400	60,100	4,500	18,600	7,400	5,200	0	0	83,400	0	0	0	0	325,000

1 Source: CREG (2003, 2005). In Year 2000 dollars.
2 Under the distribution formula in place for FY00, 6.75% of all mineral royalties in excess of $200 million would normally flow to the University when that entity's bonded indebtedness necessitated the expenditure of those funds. Because the University's bonds issued under this provision of law were retired, the Legislative Royalty Impact Assistance (LRI) account received the amount that otherwise would have flowed to the University, approximately $12.2 million.
3 In FY99 and FY00, mineral severance taxes and federal mineral royalties were diverted from the Highway Fund to the School Foundation Program account until a total of $20 million was received. This revenue diversion from the Highway fund was offset with additional fuel tax revenue. In FY01 and FY02, the diversion of revenues from these sources continued, however, the amount was not limited to a fixed dollar amount, rather it was a dollar for dollar swap in the amount raised by the fuel tax.
4 Impacted by the PILT Restoration Act, beginning in March of FY95. This act effectively diverted federal mineral royalty revenue from the Counties; Cities, Towns, Counties, & Special Districts Capital Construction; and State Aid to County Roads accounts to the Highway Fund; and replaced that revenue with an equal amount of Highway Fund coal severance tax.
5 Since FY93, the state has been receiving approximately $30.0 million per year in coal lease bonus revenue, which has been earmarked for these specific funds. The projected coal lease bonuses for the forecast period are $74.0 million in FY03, $47.3 million in FY04, $47.1 million in FY05, and $38.0 million in FY06.
6 In FY94, a total of $3.0 million of the revenues received by this account was redistributed to cities, towns, and counties in accordance with the sales tax distribution formula. Also in FY94, $4.1 million was redistributed to the General Fund.
7 Beginning in FY98, coal lease bonus revenues normally flowing to the Legislative Royalty Impact Assistance Account have been diverted to the School District Capital Construction Account.
8 In FY99, $4.5 million of Highway Fund federal mineral royalties were diverted to the Transportation Enterprise Account. In FY00, 01, and 02, $7.2 million in highway FMR funds were diverted to this account.
9 The FY95 total includes approximately $9.0 million in additional revenue, which was received as the result of an oil and gas audit settlement.

Table 3.31. Total PILT Payments and Total Acres[1]

Location	PILT Payments/Acres					
	1998	1999	2000	2001	2002	2003
Wyoming						
Payment ($)	8,118,173	8,208,280	8,318,110	11,828,099	12,392,400	13,304,416
Acres	29,917,112	29,893,541	29,885,632	29,884,922	29,889,764	29,877,970
Lincoln County						
Payment ($)	384,723	406,667	418,646	598,093	617,577	670,171
Acres	1,946,836	1,946,805	1,946,765	1,946,631	1,947,558	1,947,558
Sublette County						
Payment ($)	258,703	247,508	256,483	360,764	376,237	411,150
Acres	2,432,160	2,432,000	2,431,960	2,431,960	2,431,305	2,431,305
Sweetwater County						
Payment ($)	910,456	929,377	949,649	1,281,416	1,333,882	1,438,845
Acres	4,609,862	4,606,891	4,606,891	4,606,888	4,606,888	4,606,799

[1] Source: Coupal et al. (2003) and BLM (2003c), in Year 2000 dollars, adjusted for inflation.

An ad valorem tax is based on the taxable value of the property, which is the fair market value of the property multiplied by a taxation rate. The taxation rate depends on how the property is classified. Properties are classified in one of three areas:

- gross production of minerals and mine products (taxed on 100% of value);
- property used for industrial purposes (taxed on 11.5% of value); and
- all other property, real (i.e., land and property permanently attached to the land) and personal (i.e., movable property [e.g., mobile homes, construction equipment, mineral production]) (taxed on 9.5% of value).

Once the taxable valuation has been calculated, it is multiplied by the mill levy (1/10 of $0.01 or $1 per $1,000 of taxable value) to determine the amount of taxes due. The number of mills in a tax district depends on how many mills each taxing entity requests. Wyoming state law limits most entities on how many mills they can levy. For example, the county can request a maximum of 8 mills, cities and towns get 8 mills to run their governments, and school districts are limited to 12 mills.

Mill levies vary depending on what tax district the property is in. For example, rural tax districts have levies for rural fire protection, and districts in the city limits have levies for running the city government. Unified school districts (elementary, junior high, and high school) and non-unified school districts (kindergarten through eighth grade) are mandated to collect a 25 mill levy for school purposes (WS 21-13-102(i) and (ii). Some of these levies may be subject to recapture by the state based on average daily membership calculations. Counties are mandated to collected a 6 mill levy for school purposes (WS 21-13-201(a)).

Over the 20-year study period (1980–2000), the taxable valuation of all mineral production in Wyoming fell 18% from $12.9 billion to $10.5 billion (-1.1% average annual decline) (Year 2000 dollars adjusted for inflation) (Wyoming Department of Revenue 2002). Foulke et al. (2001) believe that gas production, particularly, will drive future revenues higher for the foreseeable future. Assessed production values are presented in Table 3.32.

Table 3.32. Total State-Assessed Mineral Production Valuations[1]

Mineral Type	Taxable Valuation (Thousands of $)					
	1980	1990	2000	2001	2002	2003
Oil	4,847,711	2,561,672	1,438,976	1,047,618	1,068,000	1,169,559
Natural Gas	1,402,442	1,057,631	3,365,841	3,765,627	1,894,848	4,949,226
Coal	1,616,744	1,487,154	1,336,116	1,461,147	1,500,000	1,736,164
Trona	290,327	236,359	206,219	202,916	203,520	183,491
All Other Minerals	256,679	52,660	59,909	59,256	57,600	60,619
Total Mineral Taxable Valuation	8,413,904	5,395,476	6,407,060	6,536,564	4,723,968	8,099,061
Other Property	4,493,344	3,019,549	4,135,036	4,297,663	4,466,016	4,759,703
Total	12,907,248	8,415,025	10,542,096	10,834,228	9,189,984	12,858,764

[1] Source: CREG (2003, 2005), thousands of Year 2000 dollars, adjusted for inflation.

Wyoming Department of Revenue reports on property tax values indicate that in 2002 natural gas production contributed the greatest proportion of taxable value to the state (34.8%), followed by residential land and improvements (18.5%), mining production (15.9%), and oil production (9.7%) (Table 3.33). In 2004 natural gas production continued to contribute the greatest proportion of taxable value to the state (38.5%), again followed by residential land and improvements (17.8%), mining production (15.4%), and oil production (9.1%) (see Table 3.33).

3.4.1.5 Sales and Use Tax

Wyoming has had sales and use taxes since 1935. Sales taxes apply to the retail sale of personal property or services within the state. A use tax is levied on any sale of any property outside the state of Wyoming for use, storage, or consumption inside the state of Wyoming.

Wyoming counties, cities, and towns benefit from sales and use tax collections. Each month, the treasurer's office in each county sends the sales tax collections to the Wyoming Department of Revenue, who distributes the money. Currently, two-thirds of the 4% sales tax collections go to the state general fund, and one-third (minus 1% for state administrative purposes) is returned to the cities, towns, and counties. The money returned to the cities and counties is based on where the purchase occurred and the population of the city or county (which is based on the last federal census). Counties that have 1% optional sales taxes or a 1% capital facilities tax keep 100% of the additional 1% collected, less state-imposed administrative costs. The state's share of the sales tax revenue is distributed to the General Fund. The portion returned to the counties and municipalities is distributed based on population. Beginning in 1973, Wyoming counties were granted the option to impose an additional 1% sales tax through public election. During fiscal year 2002, all counties except Fremont, Goshen, Park, Sublette, and Washakie were imposing this optional sales tax. The optional sales tax revenue, less state-imposed administrative costs, is returned to the county of origin.

In addition to the aforementioned county optional tax, any county, through public election, may impose an additional excise tax of up to 1% on retail sales made within the county. The revenue generated from this tax is designated solely for the planning, construction, furnishing, equipping, and debt servicing for any capital improvement project as authorized through public election. This tax is referred to as the 1% capital facilities option tax. During fiscal year 2002, Albany, Goshen, Laramie,

Table 3.33. Proportionate Taxable Valuation of Various Classes of Property in Wyoming, 1998–2004

Property	Proportion of Taxable Value[1] (Ranked Highest to Lowest According to 2002 Proportions)						
	1998	1999	2000	2001	2002	2003	2004
Natural gas production	19.2%	18.6%	20.6%	31.9%	34.8%	24.30%	38.50%
Residential lands and improvements	19.9%	22.6%	22.0%	18.5%	18.5%	21.80%	17.80%
Mining (coal, minerals, and non-minerals)	20.0%	41.6%	19.5%	15.2%	15.9%	19.60%	15.40%
Oil production	14.7%	8.8%	11.5%	13.7%	9.7%	10.50%	9.10%
Industrial and manufacturing property	8.9%	9.8%	8.7%	7.1%	7.4%	8.10%	6.40%
Commercial lands and improvements	1.5%	5.6%	5.2%	4.2%	4.4%	4.90%	4.00%
Railroads	1.7%	2.0%	2.2%	1.7%	1.8%	2.00%	1.60%
Electric/gas-privately owned	2.5%	2.6%	2.3%	1.6%	1.6%	1.80%	1.60%
Commercial personal property	1.5%	1.7%	1.6%	1.3%	1.3%	1.60%	1.30%
Agricultural lands	1.9%	2.0%	1.8%	1.3%	1.3%	1.50%	1.30%
Natural gas pipelines	0.9%	1.1%	1.1%	0.8%	1.0%	1.20%	0.90%
Electric-cooperatives	1.5%	1.1%	1.0%	0.7%	0.6%	0.80%	0.60%
Major telecommunications	0.7%	0.7%	0.807%	0.7%	0.6%	0.50%	0.30%
Residential personal property	0.6%	0.6%	0.572%	0.4%	0.4%	0.40%	0.30%
Liquid pipelines	0.6%	0.7%	0.672%	0.4%	0.4%	0.50%	0.30%
Rural telecommunications	0.2%	0.3%	0.232%	0.2%	0.2%	0.20%	0.20%
Cellular/reseller telecommunications[2]	<0.1%	0.1%	0.162%	0.1%	0.2%	0.20%	0.10%
Airlines	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	0.05%	0.03%
Electric-municipal	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	0.06%	0.04%

[1] Columns may not total to 100% due to rounding. Source: Wyoming Department of Revenue (1998, 1999, 2000, 2001, 2002, 200b, 2004).
[2] Designated as radio-telephones in 1998.

Niobrara, Sheridan, Teton, and Uinta Counties were imposing the 1% capital facilities option tax, while Campbell and Sweetwater Counties chose to impose 0.25% and 0.5%, respectively. Effective tax rates for the study area as of 2002 are listed in Table 3.34.

To derive an estimate of county gross sales, the specific county tax collection can be divided by the corresponding tax rate. County sales tax rates can fluctuate from year to year because county option taxes originate and expire at varying times; therefore, only the total state-imposed sales tax (4%) is used for this analysis.

Table 3.34. Sales, Use, and Lodging Tax Rates by County (Effective April 1, 2003)[1]

Tax Rate	Lincoln	Sublette	Sweetwater
State Sales Tax Rate	4.0%	4.0%	4.0%
General Purpose Option Tax	1.0%	--	1.0%
Specific Purpose Option Tax	--	--	0.5%
Subtotal Sales and Use Tax Option	5.0%	4.0%	5.5%
Lodging Tax	2.0%[2]	3.0%	2.0%
Total Tax Rate	7.0%	7.0%	7.5%

[1] Source: Wyoming Department of Revenue (2003a).
[2] Lodging tax is imposed only in Afton (i.e., not countywide).

3.4.1.6 Use Tax

State use tax is imposed on purchases made outside a taxing jurisdiction for first use, storage, or other consumption within that jurisdiction. Thus, the use tax prevents sales tax avoidance or the payment of a lesser tax rate by making purchases outside of the taxing jurisdiction where first use, storage, or other consumption will occur. Wyoming taxing jurisdictions are the State of Wyoming and/or each Wyoming county. Use tax is a complement of sales tax. Effective January 1, 1981, the adoption of an optional sales tax required a change in the use tax rate of equal amount. State use tax is shared between state government and the county of origin (i.e., county where the tax was imposed) on the same distribution basis as sales tax. Therefore, the revised rate and allocation, as mentioned earlier in the sales tax description, applies here as well.

3.4.1.7 Lodging Tax

Cities, towns, and counties, by voter approval, may impose a lodging excise tax of up to 4% on all sleeping accommodations for guests staying less than 30 days. This tax extends to mobile accommodations such as tents, trailers, and campers, as well. All collections (less a 2% state administrative cost during the first year the tax is imposed and 1% thereafter) are distributed to the cities, towns, and counties of origin. At least 90% of the tax distributions must be used to promote travel and tourism within the county, city, or town imposing the tax. The amount remaining, not to exceed 10% of the total amount distributed, may be used for general revenue within the governmental entity imposing the tax.

3.4.2 Study Area Overview

3.4.2.1 Availability of Information

Reporting of tax and revenue information has evolved with the development of the internet and the ease of publishing large volumes of information. Most state agencies in Wyoming now distribute reports via the internet, and a significant number publish only on the internet (i.e., no hard copies are produced). This evolution has led to an unavailability of certain reports and information that predate 1998 (personal communication, July 8, 2003, with Christie Yurek, Validation Supervisor, Wyoming Department of Revenue, Administrative Services Division). Therefore, the information presented below covers the years 1998–2002.

Oil and gas field operations support employment in many industries. Firms whose primary activity is operating oil and gas wells, exploring for oil and gas, or providing oil and gas field services are included in SIC 13, mining - oil and gas extraction. But many employers in other industries such as wholesale trade and transportation, communications, and public utilities (TCPU) depend on business from oil and gas service companies (WDERP 1999). According to Bullard in WDERP (1999:Table 1 and Map 1), the Sublette and Sweetwater County economies are highly dependent on oil and natural gas extraction (15.2% and 5.8%, respectively), while Lincoln County is moderately dependent (4.2%) on the oil and gas industry.

While it is not possible to determine the proportion of funds each city and county spends on each item of infrastructure and services derived from oil and gas revenues, example budgets for Big Piney, Pinedale, and Sublette County are presented to illustrate the distribution proportions of all revenues and expenditures (Tables 3.35–3.37). The budget for the town of Marbleton was not available and was stipulated to have insufficient detail to provide the information presented for the other communities (personal communication, May 21, 2004, Alice Griggs, Marbleton Town Clerk). According to Ms. Griggs, all funds received by Marbleton are distributed to infrastructure (streets), the fire department, and the Sheriff's Department. Funds received by Sublette County in recent years have been used for capital improvements, such as a new courthouse, jail, land fill, senior centers, and public clinic upgrade. Surpluses have been placed in reserve accounts to develop savings for future requirements (personal communication, May 20, 2004, with Mary Langford, Sublette County Clerk). Funds received in Big Piney in excess of normal operating costs have also gone to capital improvements (personal communication, May 20, 2004, with Vickie Brown, Big Piney Town Clerk).

3.4.2.2 State Royalties

In total, royalties in Wyoming arising from natural gas production on state lands increased by nearly 62.0% from 1998 to 2002 (Table 3.38) (Wyoming Office of State Lands and Investments [WOSLI] 2002). Oil royalties have been variable, although generally growing. Overall, oil royalties grew 6% from 1998 to 2002. Between 2002 and 2004, natural gas royalties in Wyoming increased 148.9% and oil royalties increased 40.7%.

In Lincoln County, royalties from natural gas production on state lands fell 21.5% from 1998 to 2002 (WOSLI 2002) (see Table 3.38). Oil royalties have risen and fallen in Lincoln County, but generally declined (-17.3%) from 1998 to 2002. The only other mineral royalty paid to Lincoln County in 2001 and 2002 from state lands was for sand and gravel (WOSLI 2002). Between 2002 and 2004, natural gas royalties in Lincoln County increased 75.8%, while oil royalties decreased 2.3%.

In contrast, Sublette County has experienced significant increases in royalties from natural gas and oil production on state lands. Royalties from natural gas increased by 81.9% from 1998 to 2002 (see Table 3.38) (WOSLI 2002). Oil royalties increased even more dramatically (155.9%) from 1998 to 2002. The only other mineral royalty paid to Sublette County in 2001 and 2002 from state lands was for sand and gravel (WOSLI 2002). Between 2002 and 2004, natural gas royalties in Sublette County increased 124.4%. Oil royalties increased only 4.9%.

Royalties from natural gas production on state lands increased by more than 17.1% (3.2% annual average growth) from 1998 to 2002 (see Table 3.38) (WOSLI 2002). Oil royalties also increased (20.6%) in Sweetwater County from 1998 to 2002. Sweetwater County received most of its royalties (and is the only county in Wyoming to receive royalties) from trona mining, but also received royalties from coal (2000, 2001, 2002), limestone (2000), uranium (2002), and sand and gravel (2001, 2002).

Table 3.35. Big Piney Example Budgets

Government/ Line Item	Fiscal Year Revenues/Disbursements ($)									
	1999–2000		2000–2001		2001–2002		2002–2003		2003–2004 (Estimated[2])	
	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total
REVENUES										
Taxes										
Property Taxes	9,500	1.5	9,500	1.1	17,000	2.0	14,000	1.5	NA	--
Gasoline Tax	12,262	2.0	14,249	1.7	16,833	2.0	11,501	1.2	NA	--
Sales and Use Tax	225,000	36.1	170,072	20.4	303,436	35.7	414,080	44.1	NA	--
Electric Franchise	3,000	0.5	3,000	0.4	3,000	0.4	3,000	0.3	NA	--
Telephone Franchise	1,000	0.2	1,000	0.1	1,000	0.1	1,000	0.1	NA	--
Cable TV Franchise	600	0.1	600	0.1	600	0.1	600	0.1	NA	--
Special Fuels Tax	2,228	0.4	1,920	0.2	2,267	0.3	2,364	0.3	NA	--
Severance Tax	21,335	3.4	41,959	5.0	17,411	2.1	17,397	1.9	NA	--
Mineral Royalty Allocation	62,670	10.1	67,026	8.0	53,263	6.3	53,418	5.7	NA	--
Cigarette Tax	4,042	0.6	4,508	0.5	4,338	0.5	4,288	0.5	NA	--
Motor Vehicle Tax	6,000	1.0	6,000	0.7	5,000	0.6	5,000	0.5	NA	--
Municipal Trust (1 time)	0	0.0	117,744	14.1	0	0.0	0	0.0	NA	--
Total Tax Revenues	347,637	55.8	437,578	52.4	424,148	49.9	526,648	56.1	526,648	56.1
Licenses and Permits										
Business Licenses	1,200	0.2	1,200	0.1	1,500	0.2	500	0.1	NA	--
Building Permits	40	0.0	40	0.0	100	0.0	50	0.0	NA	--
Animal Licenses	50	0.0	50	0.0	50	0.0	50	0.0	NA	--
Totals Licenses and Permits	1,290	0.2	1,290	0.2	1,650	0.2	600	0.1	600	0.1
Other Revenues										
Liquor License Fees	3,750	0.6	3,750	0.4	3,750	0.4	3,750	0.4	3,750	0.4
Fines and Forfeitures	1,500	0.2	1,500	0.2	1,000	0.1	1,000	0.1	1,000	0.1
Interest Earnings	13,000	2.1	20,000	2.4	20,000	2.4	20,000	2.1	NA	--
Rents and Concessions	0	0.0	0	0.0	0	0.0	0	0.0	NA	--
PP&L Collection Services	600	0.1	600	0.1	600	0.1	600	0.1	NA	--
Sale of Fixed Assets	0	0.0	0	0.0	0	0.0	0	0.0	NA	--
Sundry Revenues	100	0.0	100	0.0	100	0.0	100	0.0	NA	--
Miscellaneous	--	--	--	--	--	--	--	--	20,700	2.2
Contributions and Transfers	254,723	40.9	369,511	44.3	398,000	46.9	386,102	41.1	386,102	41.1
Total Other Revenues	273,673	44.0	395,461	47.4	423,450	49.9	411,552	43.8	411,552	43.8
Total Revenues	**622,600**	**100.0**	**834,329**	**100.0**	**849,248**	**100.0**	**938,800**	**100.0**	**938,800**	**100.0**
EXPENDITURES										
Legislative	4,915	0.8	3,715	0.4	4,715	0.6	3,715	0.4	3,715	0.4
Court	6,760	1.1	7,560	0.9	8,215	1.0	8,240	0.9	8,240	0.9
Administrative	53,270	8.6	102,145	12.2	98,123	11.5	104,560	11.1	104,560	11.1
Social Services/Holidays	19,880	3.2	20,100	2.4	23,550	2.8	33,578	3.6	33,678	3.6
Buildings	10,435	1.7	20,735	2.5	25,112	2.9	28,637	3.1	28,637	3.1
Time and Temperature	100	0.0	600	0.1	100	0.0	200	0.0	200	0.0
Parks	3,000	0.5	10,000	1.2	10,000	1.2	18,077	1.9	18,077	1.9
Health and Safety	6,130	1.0	5,130	0.6	5,090	0.6	5,696	0.6	5,696	0.6
Police Department[3]	62,975	10.1	56,080	6.7	61,034	7.2	68,855	7.3	68,866	7.3
Fire Protection[4]	17,000	2.7	17,000	2.0	17,000	2.0	17,000	1.8	17,000	1.8
Airport Board	4,000	0.6	4,000	0.5	4,000	0.5	4,000	0.4	4,000	0.4
Streets	166,075	26.7	167,348	20.1	168,075	19.7	146,545	15.6	146,545	15.6
Capital Expenditures	266,026	42.7	391,390	46.9	420,417	49.3	484,296	51.6	484,296	51.6
Unexpended funds	2,037	0.3	28,527	3.4	6,818	0.8	15,401	1.6	15,401	1.6
Total Expenditures	**622,603**	**100.0**	**834,330**	**100.0**	**852,249**	**100.0**	**938,800**	**100.0**	**938,911**	**100.0**
WATER FUND										
Fund Revenue	69,500	--	76,500	--	76,500	--	76,500	--	76,500	--
Fund Expenses										
Payroll	11,360	16.3	9,796	12.8	700	0.9	13,876	18.1	19,878	24.1
Administrative	4,315	6.2	4,615	6.0	6,700	8.8	4,700	6.1	4,700	5.7
Operation	43,900	63.2	53,600	70.1	61,615	80.5	56,569	73.9	56,569	68.6
Unexpended Funds	9,925	14.3	8,489	11.1	7,485	9.8	1,355	1.8	1,355	1.6
Total Fund Expenses	69,500	100.0	76,500	100.0	76,500	100.0	76,500	100.0	82,502	100.0
SEWER FUND										
Fund Revenue	30,400	--	30,400	--	31,000	--	31,875	--	31,875	--
Fund Expenses										
Payroll	14,360	47.2	12,126	39.9	835	2.7	13,876	43.5	13,876	43.5
Administrative	2,245	7.4	2,445	8.0	4,230	13.6	2,480	7.8	2,480	7.8
Operation	6,550	21.5	14,650	48.2	18,600	60.0	15,519	48.7	15,519	48.7
Unexpended Funds	7,245	23.8	1,179	3.9	7,335	23.7	0	0.0	0	0.0
Total Fund Expenses	30,400	100.0	30,400	100.0	31,000	100.0	31,875	100.0	31,875	100.0

1 Source: Town of Big Piney budget reports.
2 Totals are as presented on http://www.bigpiney.com/government/bigpiney/budget4.htm (accessed May 20, 2004).
3 All law enforcement is provided by the Sublette County Sheriff's Department.
4 Volunteer Fire Department.

Table 3.36. Pinedale Example Budgets

Government/ Line Item	Fiscal Year Revenues/Disbursements ($)									
	1999–2000		2000–2001		2001–2002		2002–2003		2003–2004	
	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total
REVENUES										
Motor Vehicle Tax	16,150	1.6	18,700	1.8	24,700	2.2	24,700	1.5	37,000	1.8
Sales and Use Tax	500,000	50.5	500,000	48.9	588,580	53.0	1,065,510	65.0	1,433,043	68.3
Cigarette Tax	16,700	1.7	12,246	1.2	5,000	0.5	5,394	0.3	6,400	0.3
Gasoline Tax	14,800	1.5	17,423	1.7	53,887	4.9	50,300	3.1	42,127	2.0
Mineral Royalties	137,000	13.8	139,000	13.6	143,697	12.9	147,420	9.0	147,420	7.0
Mineral Severance	41,100	4.2	45,800	4.5	60,340	5.4	60,256	3.7	60,256	2.9
Farm Loan grant	45,000	4.5	45,000	4.4	0	0.0	50,000	3.1	0	0.0
L & WCF Grant	0	0.0	0	0.0	0	0.0	0	0.0	15,000	0.7
WY Highway Park Development	40,200	4.1	13,181	1.3	0	0.0	13,181	0.8	5,000	0.2
State Forestry Division	0	0.0	0	0.0	1,500	0.1	1,500	0.1	3,000	0.1
Property Tax	70,000	7.1	80,000	7.8	80,000	7.2	85,000	5.2	107,000	5.1
Dog Licenses[2]	1,500	0.2	1,700	0.2	1,700	0.2	1,700	0.1	2,500	0.1
Dog Impound Fees[2]	900	0.1	500	0.0	700	0.1	700	0.0	0	0.0
Building Permits	2,000	0.2	2,000	0.2	2,000	0.2	2,500	0.2	5,000	0.2
Liqour Licenses	10,900	1.1	10,280	1.0	10,919	1.0	11,135	0.7	12,200	0.6
Franchise Fees	20,000	2.0	23,500	2.3	30,000	2.7	35,000	2.1	30,000	1.4
Court Costs and Fines	11,245	1.1	13,745	1.3	13,745	1.2	13,745	0.8	10,100	0.5
Interest	50,000	5.1	56,000	5.5	56,000	5.0	37,500	2.3	37,500	1.8
Fire Department	8,800	0.9	39,785	3.9	34,660	3.1	30,000	1.8	140,120	6.7
Miscellaneous	3,000	0.3	3,000	0.3	3,000	0.3	3,000	0.2	3,000	0.1
Total Revenues	**989,295**	**100.0**	**1,021,860**	**100.0**	**1,110,428**	**100.0**	**1,638,541**	**100.0**	**2,096,666**	**100.0**
EXPENDITURES										
Administration	217,220	24.6	223,030	21.3	242,544	21.1	311,200	23.1	325,255	21.0
Municipal Court	13,950	1.6	14,090	1.3	15,183	1.3	15,298	1.1	15,874	1.0
Animal Control	31,127	3.5	28,550	2.7	30,716	2.7	30,984	2.3	52,312	3.4
Police Department[2]	162,636	18.4	163,817	15.6	197,080	17.1	198,215	14.7	227,237	14.7
Fire Protection[3]	50,250	5.7	85,625	8.2	86,950	7.6	82,790	6.1	194,060	12.5
Streets	147,248	16.7	257,976	24.6	243,840	21.2	371,340	27.6	381,840	24.6
Pest	14,641	1.7	14,641	1.4	13,841	1.2	9,468	0.7	25,137	1.6
Recreation	17,000	1.9	12,000	1.1	11,000	1.0	11,000	0.8	11,000	0.7
Parks	44,424	5.0	47,424	4.5	77,320	6.7	55,820	4.1	56,900	3.7
Planning	2,000	0.2	2,000	0.2	3,000	0.3	4,500	0.3	4,500	0.3
Maintenance	133,597	15.1	131,853	12.6	110,800	9.6	140,800	10.5	219,500	14.2
Airport	27,500	3.1	36,240	3.5	56,100	4.9	112,200	8.3	32,500	2.1
Sanitation	22,000	2.5	32,000	3.0	62,000	5.4	3,500	0.3	3,000	0.2
Total Expenditures	**883,593**	**100.0**	**1,049,246**	**100.0**	**1,150,374**	**100.0**	**1,347,115**	**100.0**	**1,549,115**	**100.0**
WATER FUND										
Revenue[4]	1,063,871		489,500		1,912,064		638,975		400,332	
Expenses	237,749		429,500		846,852		302,016		334,745	
SEWER FUND										
Revenue	150,000		150,500		260,500		459,500		493,899	
Expenses	150,000		150,500		103,500		118,800		123,080	

1 Source: Town of Pinedale annual appropriation ordinances.
2 Dog licenses/impound fees were combined in the 2003-2004 appropriation ordinance.
3 All law enforcement is provided by the Sublette County Sheriff's Department.
4 Volunteer Fire Department.
5 1999–2000 revenue included a water development loan ($575,246). 2001-2002 water revenues and expenses were subsequently amended to reflect a loan from the Wyoming State Loan and Investment Board and associated reallocations of funds.

Table 3.37. Sublette County Example Budgets

Government/ Line Item	Fiscal Year Revenues/Disbursements ($)									
	1999–2000		2000–2001		2001–2002		2002–2003		2003–2004 (Estimated--Approved by Board)	
	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total
NON-PROPERTY TAX REVENUES										
Gas Tax	**217,092**	5.5	**187,709**	3.7	**242,976**	3.7	**268,475**	4.0	**275,000**	4.1
Forest Service	145,752	3.7	146,270	2.9	177,842	2.7	180,680	2.7	187,202	2.8
Severance Tax	61,616	1.6	152,838	3.0	97,554	1.5	51,410	0.8	64,016	1.0
PILT	240,300	6.1	256,483	5.0	391,914	5.9	442,097	6.6	410,577	6.1
County Attorney	23,000	0.6	23,000	0.5	0	0.0	46,000	0.7	23,000	0.3
URESA	0	0.0	1,008	0.0	0	0.0	0	0.0	0	0.0
Emergency Management & S&R	19,414	0.5	32,643	0.6	31,124	0.5	15,422	0.2	25,000	0.4
County Clerk Fees	68,699	1.7	78,013	1.5	70,877	1.1	124,041	1.9	120,000	1.8
Clerk of Court Fees	9,296	0.2	12,976	0.3	27,000	0.4	17,213	0.3	12,000	0.2
Planning and Zoning Fees	13,850	0.4	16,132	0.3	15,779	0.2	19,574	0.3	19,500	0.3
Sheriff's Fees	29,393	0.7	16,824	0.3	18,200	0.3	23,412	0.4	24,000	0.4
Sales and Use Tax	1,247,050	31.6	2,221,341	43.5	3,142,099	47.5	3,027,793	45.3	3,000,000	44.8
Cigarette Tax	4,059	0.1	3,975	0.1	5,005	0.1	3,602	0.1	4,098	0.1
Interest	308,981	7.8	456,225	8.9	291,118	4.4	380,627	5.7	300,000	4.5
Liquor Licenses	418	0.0	12,735	0.2	563	0.0	13,065	0.2	6,750	0.1
Big Piney & Pinedale Metro	286,960	7.3	273,810	5.4	385,009	5.8	341,248	5.1	352,882	5.3
Miscellaneous Fees	69,658	1.8	27,992	0.5	255,163	3.9	209,740	3.1	30,000	0.4
Special Fuel	274,986	7.0	255,610	5.0	316,517	4.8	369,791	5.5	350,000	5.2
5%	15,123	0.4	26,762	0.5	23,000	0.3	25,418	0.4	20,000	0.3
Nurse	29,096	0.7	28,439	0.6	38,059	0.6	40,360	0.6	35,000	0.5
Motor Vehicles	1,948	0.0	210,633	4.1	290,852	4.4	288,672	4.3	250,000	3.7
Pinedale Preschool	10,395	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Business Licenses	0	0.0	200	0.0	0	0.0	280	0.0	200	0.0
Landfill	323,731	8.2	353,203	6.9	400,000	6.0	422,444	6.3	400,000	6.0
Federal Mineral Royalty	17,922	0.5	15,403	0.3	6,000	0.1	16,004	0.2	10,000	0.1
U.S. Forest-Law Enforcement	10,310	0.3	9,500	0.2	9,500	0.1	16,196	0.2	9,500	0.1
Contract-Prisoners from Other Counties	18,909	0.5	39,752	0.8	16,500	0.2	0	0.0	168,000	2.5
Car Rentals	0	0.0	4,916	0.1	2,200	0.0	0	0.0	0	0.0
Sales Tax Penalty	7,051	0.2	10,698	0.2	10,000	0.2	9,837	0.1	8,000	0.1
Fuel Reimbursement (W&P, Fair)	4,994	0.1	7,062	0.1	5,800	0.1	6,728	0.1	6,000	0.1
COPS Universal Grant	217,068	5.5	47,635	0.9	0	0.0	22,215	0.3	48,000	0.7
E-911 Reimbursement	25,448	0.6	26,057	0.5	28,100	0.4	32,925	0.5	30,000	0.4
Donations-SO and DARE	0	0.0	0	0.0	1,800	0.0		0.0	2,000	0.0
Search and Rescue	6,407	0.2	10,841	0.2	0	0.0		0.0	12,000	0.2
County Court Jury and Reimbursement	952	0.0	6,319	0.1	1,800	0.0	13,015	0.2	2,000	0.0
Vaccine	0	0.0	0	0.0	0	0.0		0.0	6,000	0.1
Family Planning	724	0.0	600	0.0	0	0.0		0.0	0	0.0
Health Fair	0	0.0	0	0.0	0	0.0		0.0	7,000	0.1
State-County Road Fund	183,000	4.6	0	0.0	287,910	4.3	252,762	3.8	298,688	4.5
CFM Funds	50,000	1.3	0	0.0	0	0.0	0	0.0	0	0.0
COPS Equipment Grant	0	0.0	16,825	0.3	0	0.0	0	0.0	0	0.0
COPS in School/Resource Officer	0	0.0	46,719	0.9	0	0.0	0	0.0	0	0.0
JAIBG 1998–1999	0	0.0	28,406	0.6	0	0.0	0	0.0	95,542	1.4
JAIBG-Resource Grant	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WDOT-Speed Grant	0	0.0	6,666	0.1	0	0.0	0	0.0	0	0.0
Sanatarian Inspection Fees	0	0.0	4,605	0.1	3,698	0.1	3,718	0.1	3,000	0.0
Historic Preservation	0	0.0	4,987	0.1	0	0.0	0	0.0	0	0.0
OJJDP Grant	0	0.0	0	0.0	10,640	0.2	0	0.0	0	0.0
WCCA Grant	0	0.0	14,598	0.3	0	0.0	0	0.0	0	0.0
Health Department Initiative	0	0.0	3,000	0.1	0	0.0	0	0.0	0	0.0
Historic Preservation	0	0.0	4,987	0.1	0	0.0	0	0.0	0	0.0
LLEBG Grant	0	0.0	0	0.0	14,249	0.2	0	0.0	25,242	0.4
Fire Board Reimbursement	0	0.0	0	0.0	0	0.0	0	0.0	10,000	0.1
Jobs & Growth Reconciliation Distribution	0	0.0	0	0.0	0	0.0	0	0.0	28,729	0.4
VEST Grant	0	0.0	0	0.0	0	0.0	0	0.0	1,500	0.0
Drinking Enforcement Grant	0	0.0	0	0.0	0	0.0	0	0.0	11,000	0.2
Total Revenue Other than Property Taxes [3]	3,943,602	100.0	5,104,397	100.0	6,618,848	100.0	6,684,764	100.0	6,691,426	100.0
PROPERTY TAX REVENUES										
General Fund	3,428,191	60.0	4,616,279	45.2	8,721,419	66.3	10,466,887	79.6	9,616,995	85.7
Fair	112,452	2.0	176,921	1.7	191,156	1.5	293,312	2.2	276,436	2.5
Airport	64,629	1.1	70,244	0.7	101,138	0.8	95,000	0.7	115,500	1.0
Library	349,843	6.1	396,500	3.9	370,291	2.8	517,720	3.9	520,495	4.6
Museum	136,841	2.4	69,495	0.7	105,736	0.8	147,085	1.1	198,865	1.8
Recreation	112,301	2.0	94,645	0.9	251,348	1.9	548,573	4.2	0	0.0
Fire	335,679	5.9	285,989	2.8	466,320	3.5	1,081,648	8.2	487,688	4.3
Total Revenue from Taxes	5,710,073	100.0	10,207,408	100.0	13,150,225	100.0	13,150,225	100.0	11,215,979	100.0
GENERAL FUND APPROPRIATIONS										
Specific Appropriations										
County Commissioners	107,175	1.4	194,486	2.7	181,531	1.6	127,410	0.8	204,700	1.2
County Clerk	128,559	1.7	137,216	1.9	132,612	1.2	134,125	0.8	169,615	1.0
County Treasurer	101,674	1.3	104,790	1.5	130,549	1.2	142,931	0.9	160,378	1.0

Table 3.37. (Continued)

Government/ Line Item	Fiscal Year Revenues/Disbursements ($)									
	1999–2000		2000–2001		2001–2002		2002–2003		2003–2004 (Estimated--Approved by Board)	
	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total	Revenue/ Expense	% of Total
County Assessor	171,607	2.3	147,454	2.1	193,893	1.8	200,770	1.3	230,503	1.4
County Attorney	141,772	1.9	148,409	2.1	152,461	1.4	196,732	1.2	214,807	1.3
Clerk of Court	113,383	1.5	108,509	1.5	115,422	1.0	101,164	0.6	174,547	1.1
Recycling	0	0.0	0	0.0	0	0.0	0	0.0	123,672	0.8
GIS	30,868	0.4	32,570	0.5	43,012	0.4	38,314	0.2	48,171	0.3
County Engineer	4,063	0.1	5,058	0.1	3,300	0.0	9,247	0.1	10,000	0.1
Courthouse and Jail[2]	233,229	3.1	508,689	7.1	3,517,643	32.0	4,326,957	27.3	3,382,200	20.6
Election	2,964	0.0	24,383	0.3	1,880	0.0	28,692	0.2	2,225	0.0
Zoning and Land Planning	81,929	1.1	89,853	1.3	99,206	0.9	118,037	0.7	120,168	0.7
Detention	311,607	4.1	348,275	4.9	342,937	3.1	507,005	3.2	1,278,212	7.8
Communication	245,688	3.3	247,180	3.5	298,268	2.7	250,209	1.6	315,363	1.9
Law Enforcement[2]	1,145,521	15.2	1,208,411	16.9	1,242,653	11.3	1,342,391	8.5	1,843,227	11.2
County Coroner	8,476	0.1	15,768	0.2	19,523	0.2	24,005	0.2	26,857	0.2
County Health	73,454	1.0	75,471	1.1	94,455	0.9	96,415	0.6	124,147	0.8
Health Officer and Sanitarian	26,370	0.3	27,901	0.4	33,461	0.3	33,190	0.2	86,740	0.5
Road and Bridge	1,702,815	22.6	1,987,383	27.9	2,215,692	20.1	2,693,890	17.0	3,651,063	22.2
Transfer Station	61,398	0.8	63,000	0.9	70,426	0.6	108,110	0.7	48,200	0.3
Sanitary Landfill	272,275	3.6	435,992	6.1	501,337	4.6	723,872	4.6	735,023	4.5
Drug Court	0	0.0	0	0.0	0	0.0	0	0.0	91,500	0.6
Emergency Management	33,147	0.4	29,403	0.4	58,109	0.5	51,431	0.3	108,112	0.7
County Extension Office	38,677	0.5	34,440	0.5	59,098	0.5	66,832	0.4	96,484	0.6
Total Specific Appropriations	5,036,651	66.8	5,974,641	83.7	9,507,468	86.4	11,321,729	71.3	13,245,914	80.6
Other General Fund Appropriations										
Financial Administration	31,726	0.4	43,072	0.6	49,174	0.4	59,820	0.4	60,000	0.4
Wyoming Business Council	0	0.0	0	0.0	2,064	0.0	2,064	0.0	0	0.0
FICA, Insurance, Retirement	649,991	8.6	688,882	9.7	1,006,478	9.1	1,149,481	7.2	1,200,000	7.3
County Officer's Expense	7,966	0.1	9,429	0.1	14,311	0.1	19,988	0.1	20,000	0.1
Printing and Publication	36,765	0.5	35,943	0.5	38,654	0.4	30,209	0.2	40,000	0.2
Postage	19,610	0.3	20,120	0.3	20,190	0.2	24,101	0.2	27,000	0.2
Telephone	3,704	0.0	2,882	0.0	2,801	0.0	2,760	0.0	4,000	0.0
CPA Audit	19,700	0.3	20,400	0.3	21,400	0.2	23,497	0.1	22,500	0.1
Grant-Historic Survey	4,824	0.1	2,716	0.0	2,807	0.0	0	0.0	10,023	0.1
Senior Citizens-Big Piney	20,000	0.3	27,470	0.4	31,500	0.3	35,000	0.2	35,000	0.2
Senior Citizens-Pinedale	20,000	0.3	25,000	0.4	30,000	0.3	35,000	0.2	45,000	0.3
Retirement Center	0	0.0	0	0.0	0	0.0	7,569	0.0	0	0.0
SAFV Task Force	9,471	0.1	7,321	0.1	10,000	0.1	10,883	0.1	13,950	0.1
Office Rent	1,968	0.0	5,728	0.1	1,968	0.0	1,968	0.0	1,968	0.0
Worker's Compensation	46,147	0.6	36,371	0.5	83,295	0.8	99,038	0.6	125,000	0.8
Unemployment Compensation	9,920	0.1	1,908	0.0	6,006	0.1	9,680	0.1	10,000	0.1
Pre-School Grant	21,395	0.3	16,000	0.2	10,000	0.1	15,000	0.1	15,000	0.1
Community Food Closet	0	0.0	0	0.0	0	0.0	0	0.0	6,000	0.0
McKenzie Meningitis Foundation	0	0.0	0	0.0	0	0.0	0	0.0	6,000	0.0
Learning Center	107,100	1.4	0	0.0	0	0.0	0	0.0	20,000	0.1
Discovery Center	0	0.0	0	0.0	0	0.0	0	0.0	10,100	0.1
Scholarship	0	0.0	0	0.0	0	0.0	0	0.0	3,100	0.0
Wyoming Community Foundation	0	0.0	0	0.0	0	0.0	4,287	0.0	0	0.0
Skyline Drive Plowing	747	0.0	0	0.0	0	0.0	0	0.0	0	0.0
MAD #2	0	0.0	1,418	0.0	0	0.0	0	0.0	0	0.0
Library Addition	0	0.0	0	0.0	42,444	0.4	1,460,707	9.2	340,000	2.1
Hockey Rink	0	0.0	0	0.0	0	0.0	62,530	0.4	800,000	4.9
Museum Projects	0	0.0	0	0.0	0	0.0	24,063	0.2	38,450	0.2
PDR Working Group	0	0.0	0	0.0	0	0.0	26,161	0.2	30,000	0.2
Industrial Site Road Project	0	0.0	0	0.0	0	0.0	97,500	0.6	0	0.0
Recycling Buildings	0	0.0	0	0.0	0	0.0	128,568	0.8	0	0.0
Mosquito Research	0	0.0	0	0.0	0	0.0	1,258	0.0	50,000	0.3
New Fork Willow Creek Road	0	0.0	0	0.0	0	0.0	1,038	0.0	0	0.0
CDBG-The Learning Center	250,000	3.3	0	0.0	0	0.0		0.0		0.0
Victim Assistance	1,000	0.0	8,000	0.1	11,022	0.1	11,000	0.1	0	0.0
Multi-purpose Building/Ag. Center	920,550	12.2	101,713	1.4	876	0.0	0	0.0	20,000	0.1
Soil Conservation	63,696	0.8	55,379	0.8	76,310	0.7	86,441	0.5	164,000	1.0
County Court Jury	1,545	0.0	4,404	0.1	2,188	0.0	764	0.0	2,000	0.0
Fine Arts	0	0.0	5,000	0.1	0	0.0	0	0.0	0	0.0
Shelter Park Sewer Line	0	0.0	41,101	0.6	218	0.0	0	0.0	0	0.0
Senior Citizens Facilities	0	0.0	0	0.0	37,709	0.3	1,125,659	7.1	68,000	0.4
CDBG-The Learning Center	250,000	3.3	0	0.0	0	0.0	0	0.0	0	0.0
Total Other General Fund Appropriations	2,497,825	33.2	1,160,257	16.3	1,501,415	13.6	4,556,034	28.7	3,187,091	19.4
Total General Fund Appropriations	7,534,476	100.0	7,134,898	100.0	11,008,883	100.0	15,877,763	100.0	16,433,005	100.0

[1] Source: Sublette County annual budget reports.
[2] All law enforcement in Sublette County is provided by the Sublette County Sheriff's Department.
[3] Official county budget records indicated a different total for fiscal years 1999-2000 ($3,943,601) and 2000-2001 ($5,081,812).
[4] "Civil Defense" prior to 2000-2001.

Table 3.38. Schedule of Oil and Natural Gas Royalties from State Lands Received by State and Counties, 1998–2004[1,2]

Location	Royalties (Thousands of $)						
	1998	1999	2000	2001	2002	2003	2004
Natural Gas							
Wyoming	12,711	11,717	15,906	37,641	20,587	36,842	51,232
Lincoln County	1,815	1,572	1,753	3,280	1,424	1,873	2,503
Sublette County	2,736	2,450	3,036	7,125	4,978	9,934	11,173
Sweetwater County	2,592	2,702	3,276	5,891	3,036	4,879	11,963
Oil							
Wyoming	8,467	5,307	10,348	11,590	8,937	13,261	12,576
Lincoln County	156	135	162	169	129	156	126
Sublette County	333	258	454	734	852	1,971	894
Sweetwater County	257	199	437	428	310	689	298

[1] Source: WOSLI (2002, 2004), Year 2000 dollars, adjusted for inflation.
[2] Royalty amounts include sales of by products (i.e., natural gas liquids, sulfur, carbon dioxide, and helium) and prior period adjustments.

Between 2002 and 2004, natural gas royalties in Sweetwater County increased 294%, while oil royalties decreased 3.9%.

3.4.3 Ad Valorem Valuation and Taxes Levied

Due to changes in agency reporting methods, information from 1980 and 1990 was only minimally available; therefore, information for a 5-year study period, 1998–2002, is presented in this section. Ad valorem valuations for the study area are presented in Table 3.39, and actual ad valorem taxes levied for 5-year study period are presented in Table 3.40. Taxes and actual mills for sample year 2003 are presented in Tables 3.41–3.47 to illustrate source and allocation of ad valorem taxes in 2003. These actual taxes were not adjusted for inflation.

3.4.3.1 Wyoming

Between 1980 and 2000, the total gross real and personal property valuation in Wyoming fell 44.6% (see Table 3.39). However, from 1998 to 2002, the 5-year study period for this section, total gross real and personal property valuation increased 45.7%. From 1980 to 2000, assessed mineral valuation fell 23.1%; however, from 1998 to 2002, there was an increase of 51.9%. Between 1980 and 2000, non-mineral assessments dropped by 84.8%. In contrast to the recovery seen in other areas, non-mineral assessments only increased 5.1% from 1998 to 2002 (see Table 3.39).

In Wyoming, total ad valorem taxes levied in the state increased 30.9% between 1998 and 2002 (see Table 3.40). Total county levies increased 35.5% from 1998 to 2002; total municipal levies increased 9.5%; total special district levies increased 23.7%; and total education levies increased 31.0%.

3.4.3.2 Lincoln County

Lincoln County experienced dramatic changes in valuations during the 1998 to 2002 period (see Table 3.39). Mining valuations (mineral, coal, non-metal) fell 52.1%, although total state-assessed minerals in Lincoln County increased by 30.8%. Oil and gas were not reported in Lincoln County

until 2001; however, there was a 10.7% increase from 2001 to 2002. Assessment for agricultural land fell 10.3% from 1998 to 2002. Commercial land, improvements, and personal property increased by 52.2% during that same period. Total gross valuation for Lincoln County increased 21.5% from 1998 to 2002, while LaBarge's municipal valuation actually fell by 14.8% (see Table 3.39).

In Lincoln County, total ad valorem taxes levied grew a total of 13.2% between 1998 and 2002 (see Table 3.40). County levies increased 20.5%; municipal levies increased 16.8%; total special district levies fell 23.1%; and total education levies increased 17.4%. LaBarge levies fell a total of 21.3% during the 5-year study period.

3.4.3.3 Sublette County

Sublette County experienced dramatic changes in valuations during the 5-year study period (see Table 3.39). The gross valuation of all real and personal property in Sublette County increased 164.0% from 1998 to 2002. Sublette County has no mining (mineral, coal, non-metal) properties to consider in either local- or state-assessed valuations. Only oil and gas properties are included in state-assessed mineral valuations in Sublette County, and they increased 211.2% from 1998 to 2002. Total local assessments increased 22.9%, although agricultural land fell 4.1%. Non-mineral industrial properties increased 67.1% from 1998 to 2002. Residential lands with improvements increased 28.2%, and commercial lands with improvements increased 19.1%. Total gross valuation for Sublette County increased a total 31.7% from 1998 to 2002. Municipal valuations increased in Big Piney (10.4%), Marbleton (9.7%), and Pinedale (18.1%) over the 5-year period.

In Sublette County, total ad valorem taxes levied increased 153.3% between 1998 and 2002 (see Table 3.40). County levies increased 181.7%; municipal levies increased by only 0.8%; special district levies increased 121.4%; and education levies increased 149.4%. Over the same period, Big Piney's municipal levies increased 7.8%; Marbleton's municipal levies dropped by 3.1%; and Pinedale's municipal levies increased 13.5%.

3.4.3.4 Sweetwater County

Gross valuation of all real and personal property in Sweetwater County increased 8.9% from 1998 to 2002 (see Table 3.39). State-assessed mineral valuations increased 16.7% over the same period. Locally assessed oil and gas had the greatest overall increase (40.0%). Sweetwater County has mining (mineral, coal, non-metal) properties that decreased (-20.2%) in value over the 5-year study period. Total gross valuation for Sweetwater County declined 43.3% from 1998 to 2002, while Rock Springs municipal valuations increased 0.9%.

In Sweetwater County, total ad valorem taxes levied increased 6.2% between 1998 and 2002 (see Table 3.40). County levies increased 8.9%; municipal levies fell 2.8%; special district levies decreased by 10.0%; and education levies increased 6.8%. Rock Springs municipal levies declined 1.2% from 1998 to 2002.

3.4.4 Sales Tax Collections

Sales tax collection information for the 5-year study period (1998–2002) was obtained from WDAI (2002c) and is presented for Wyoming and the three-county study area in Table 3.48.

Table 3.39. Assessed Property Valuations for the State and Study Area[1]

Location	Assessed Property Values (Thousands of $)						
	1980[2]	1990[2]	1998	1999	2000	2001	2002
Wyoming							
Agricultural Land	--	--	147,586	145,384	145,954	137,954	136,668
Commercial Land, Improvements, and Personal Property	--	--	518,249	525,600	534,245	563,080	609,808
Residential Land, Improvements, and Personal Property	--	--	1,615,472	1,678,735	1,779,786	1,937,840	2,031,913
Mining (Mineral, Coal, Non-metal)	--	--	281,160	289,140	256,793	241,247	248,932
Oil and Gas	--	--	135,894	134,468	158,016	173,707	207,408
Non-mineral Industrial	--	--	282,022	286,232	273,231	308,805	336,917
Total Locally Assessed	--	--	2,980,384	3,059,559	3,148,024	3,362,633	3,571,647
State Assessed Mineral	8,413,904	5,395,476	4,258,668	4,168,881	6,407,060	6,536,564	6,469,177
State Assessed Non-mineral	4,493,344	3,019,549	648,907	637,903	673,778	648,352	681,711
Gross Valuation Real and Personal Property	12,907,248	8,415,025	4,907,575	4,806,784	7,080,838	7,184,916	7,150,888
Gross Motor Vehicle Valuation	--	--	1,198,589	1,432,888	1,283,250	1,287,081	1,372,412
Private Railroad Cars Valuation	--	--	28,353	30,908	34,800	35,948	36,291
Total Gross Valuation	--	--	6,134,517	6,270,580	8,398,889	8,507,945	8,559,591
Lincoln County							
Agricultural Land	--	--	5,001	3,604	4,830	4,392	4,484
Commercial Land, Improvements, and Personal Property	--	--	7,015	8,556	8,986	10,326	10,680
Residential Land, Improvements, and Personal Property	--	--	48,738	49,907	51,424	56,159	62,721
Mining (Mineral, Coal, Non-metal)	--	--	12,215	6,793	5,753	5,646	5,848
Oil and Gas	--	--	--	--	--	4,040	4,471
Non-mineral Industrial	--	--	72,249	72,770	70,395	68,276	66,664
Total Locally Assessed	--	--	145,218	141,630	141,389	148,839	154,868
State Assessed Mineral	--	--	290,834	258,845	262,227	377,441	380,409
State Assessed Non-mineral	--	--	35,727	36,082	34,192	30,575	32,746
Gross Valuation Real and Personal Property	--	--	471,779	400,475	437,808	556,855	568,024
Gross Motor Vehicle Valuation	--	--	34,495	33,913	42,433	43,194	46,942
Private Railroad Cars Valuation	--	--	1,249	1,267	1,432	1,443	1,497
Total Gross Valuation	--	--	507,523	1,965,516	481,672	601,492	616,462
LaBarge Municipal Valuation	--	--	2,547	2,537	1,888	2,260	2,170
Sublette County							
Agricultural Land	--	--	4,316	4,334	4,292	4,081	4,140
Commercial Land, Improvements, and Personal Property	--	--	8,415	7,479	7,979	8,814	10,026
Residential Land, Improvements, and Personal Property	--	--	38,896	42,346	44,031	46,756	49,882
Mining (Mineral, Coal, Non-metal)	--	--	--	--	--	--	--
Oil and Gas	--	--	37,585	36,598	38,154	40,883	42,861
Non-mineral Industrial	--	--	6,217	5,577	5,335	7,497	10,387
Total Locally Assessed	--	--	95,429	96,334	99,791	108,031	117,296
State-assessed Mineral	--	--	299,812	290,820	372,714	714,807	933,125
State-assessed Non-mineral	--	--	3,714	3,500	3,332	2,926	2,840
Gross Valuation Real and Personal Property	--	--	398,955	390,654	475,836	825,763	1,053,261
Gross Motor Vehicle Valuation	--	--	24,706	25,108	26,373	31,645	30,483
Private Railroad Cars Valuation	--	--	--	--	--	--	--
Total Gross Valuation	--	--	822,615	415,762	502,209	857,408	1,083,744
Big Piney Municipal Valuation	--	--	1,471	1,524	1,515	1,500	1,624
Marbleton Municipal Valuation	--	--	2,119	2,019	2,075	2,144	2,325
Pinedale Municipal Valuation	--	--	9,254	9,259	9,344	9,878	10,930
Sweetwater County							
Agricultural Land	--	--	3,371	2,946	2,868	3,012	3,003
Commercial Land, Improvements, and Personal Property	--	--	30,269	30,507	30,769	31,226	32,174
Residential Land, Improvements, and Personal Property	--	--	95,452	96,787	92,833	106,741	91,783
Mining (Mineral, Coal, Non-metal)	--	--	108,911	105,681	95,569	88,691	86,865
Oil and Gas	--	--	32,155	33,996	39,107	40,896	45,031
Other Industrial	--	--	27,627	27,668	23,356	24,258	23,617
Total Locally Assessed	--	--	297,785	297,584	284,502	294,824	282,473
State Assessed Mineral	--	--	812,202	716,344	372,714	950,780	948,146
State Assessed Non-mineral	--	--	127,543	125,279	3,332	119,164	117,481
Gross Valuation Real and Personal Property	--	--	1,237,531	1,529,861	660,547	1,364,767	1,348,101
Gross Motor Vehicle Valuation	--	--	96,049	98,862	102,166	103,111	107,785
Private Railroad Cars Valuation	--	--	4,168	4,228	4,564	4,600	4,770
Total Gross Valuation	--	--	2,575,279	1,632,951	767,277	1,472,479	1,460,655
Rock Springs Municipal Valuation	--	--	74,581	76,125	74,326	89,821	75,212

[1] Thousands of Year 2000 dollars, adjusted for inflation. Cities with no reported values/taxes are omitted from this table, including Bondurant, Boulder, Cora, and Daniel in Sublette County and Eden and Farson in Sweetwater County.
[2] CREG (2003). Due to changes in reporting methods, only gross state totals are available for 1980 and 1990.
[2] Wyoming Department of Revenue (1998).
[3] Wyoming Department of Revenue (1999).
[4] Wyoming Department of Revenue (2000).
[5] Wyoming Department of Revenue (2001).
[6] Wyoming Department of Revenue (2002).

Table 3.40. Total Ad Valorem Taxes Levied, State and Study Area[1]

Location	Taxes Levied (Thousands of $)				
	1998[2]	1999[3]	2000[4]	2001[5]	2002[6]
Wyoming					
County Taxes Levied	90,917	83,503	91,246	117,658	123,233
Municipal Taxes Levied	9,984	9,932	10,189	10,630	10,931
Special District Taxes Levied	36,402	33,682	35,821	43,607	45,034
Education Taxes Levied	393,282	362,048	392,166	503,162	515,317
Total Ad Valorem Taxes Levied	530,585	489,164	529,422	675,057	694,515
Lincoln County					
County Taxes Levied	4,420	4,036	4,128	5,202	5,326
Municipal Taxes Levied	197	202	206	221	230
Special District Taxes Levied	3,544	2,867	2,346	2,263	2,724
Education Taxes Levied	22,719	20,908	21,144	26,366	26,680
Total Ad Valorem Taxes Levied	30,879	28,013	27,824	34,051	34,960
LaBarge Total Taxes Levied	188	183	132	154	148
Sublette County					
County Taxes Levied	4,482	4,676	5,702	9,902	12,624
Municipal Taxes Levied	118	102	103	108	119
Special District Taxes Levied	1,117	1,082	1,310	2,025	2,473
Education Taxes Levied	18,948	17,963	21,762	37,484	47,265
Total Ad Valorem Taxes Levied	24,664	23,824	28,877	49,519	62,482
Big Piney Total Taxes Levied	103	107	105	103	111
Marbleton Total Taxes Levied	163	142	144	148	158
Pinedale Total Taxes Levied	628	615	625	655	713
Sweetwater County					
County Taxes Levied	14,850	13,670	13,516	16,377	16,177
Municipal Taxes Levied	1,103	1,044	1,039	1,226	1,072
Special District Taxes Levied	4,007	3,682	3,516	3,714	3,605
Education Taxes Levied	64,256	59,317	58,555	69,751	68,611
Total Ad Valorem Taxes Levied	84,216	77,713	76,626	91,068	89,465
Rock Springs Total Taxes Levied	5,354	5,428	5,293	6,340	5,290

[1] Thousands of Year 2000 dollars, adjusted for inflation. Cities with no reported values/taxes are omitted from this table, including Bondurant, Boulder, Cora, and Daniel in Sublette County and Eden and Farson in Sweetwater County.
[2] Wyoming Department of Revenue (1998).
[3] Wyoming Department of Revenue (1999).
[4] Wyoming Department of Revenue (2000).
[5] Wyoming Department of Revenue (2001).
[6] Wyoming Department of Revenue (2002).

Table 3.41. Levies for K-12 Education, 2003[1]

Education Item[2]	All Wyoming ($)	Counties		
		Lincoln ($)	Sublette ($)	Sweetwater ($)
State Foundation Program 12-Mills	124,081,042	5,376,113	11,216,138	13,928,904
6-Mill Mandatory County School Levy	62,040,519	2,688,057	5,608,069	6,964,452
25-Mill Mandatory Level	258,502,173	11,200,235	23,366,955	29,018,550
Boards of Cooperative Education	5,025,437	198,980	512,451	668,766
Vocational and Adult Education[3]	541,880	--	--	73,793
Recreation	6,263,948	296,818	467,339	49,196
Bonds and Interest	15,433,873	1,745,476	849,225	2,920,056
Total K-12 Education	471,888,872	21,505,679	42,020,177	53,623,717

1 Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.
2 None of the study area counties levied taxes for additional operating, capital facilities repair, or building fund in 2003.
3 -- = no tax levy in 2003 for this item.

Table 3.42. Levies for Community Colleges, 2003[1]

	Community College Levy Taxes Received ($)					
	Operating (4-mill)	Operating (up to 1 Mill Board Approved)	BOCES (0.5 Mills)	Operating (up to 5 Mills Voter Approved)	Bonds & Interest	Total
Lincoln County	-[2]	-	-	-	-	-
Sublette County	-	-	-	-	-	-
Sweetwater County	4,642,968	1,160,742	-	-	-	5,803,710
Wyoming	13,538,043	3,384,511	654,514	-	1,353,293	18,930,361

1 Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.
2 -- = no tax levy in 2003 for this item.

Table 3.43. County Taxes Levied, 2003[1]

Levy	County[2,3]					
	Lincoln		Sublette		Sweetwater	
	Mills Levied	Amount of Taxes Received ($)	Mills Levied	Amount of Taxes Received ($)	Mills Levied	Amount of Taxes Received ($)
Airport Operations	--	--	0.124	$115,900	0.200	$232,148
Civil Defense	--	--	0.330	$30,844	--	--
Fair Operation	0.872	$269,344	0.296	$263,736	1.253	$276,665
County Fire Protection	--	--	0.522	$478,507	--	--
Other General Fund Levy	8.817	$3,950,099	9.110	$8,514,918	4.197	$4,871,170
Library Operation	1.339	$599,885	0.557	$520,616	1.995	$2,315,448
Museum Operation	--	--	0.213	$199,086	0.229	$265,462
Public Health Purposes	--	--	0.027	$25,236	0.897	$1,040,721
Recreation System	--	--	--	--	0.315	$365,286
Road and Bridge Purpose Levy	--	--	1.118	$1,044,970	2.916	$3,384,607
Total Under 12-Mill Limit	11.028	$4,940,648	12.297	$11,206,742	12.000	$13,928,903
Total County Levies	11.028	$4,940,648	12.297	$11,206,742	12.000	$13,928,903

1 Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.
2 -- = no tax levy for this item.
3 None of the study area counties levied taxes for building fund, hospital operation, public assistance and social services, or total county bond and interest.

Table 3.44. County and Statewide Average 2003 Mill Levies Applied to 2002 Mineral Production and Taxes Assessed[1]

	Average Mineral 2003 Mill Levies	Total Ad Valorem Production Tax Assessed	Percentage of Total Ad Valorem Production Taxes Assessed in Wyoming
Lincoln County	63.542	$14,875,737	4.22
Sublette County	59.571	$47,432,192	13.46
Sweetwater County	66.458	$49,006,739	13.91
Wyoming	66.065	$352,376,219	100.00

[1] Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.

Table 3.45. Municipal Taxes Levied for the Year 2003[1]

	Total Municipal Taxes Under 8-Mill Limit ($)	Bonds and Interest ($)	Grand Total Municipal Levies ($)	Special County District Taxes Levied for the Year 2003					
				Special Weed and Pest Levies		Special County Fire District Taxes ($)	Other Special County District		Total Special District Taxes Amount ($)
				Mills	Amount ($)		Taxes ($)	District Types[3]	
Lincoln County	251,113	--[2]	251,113	0.785	351,687	259,937	2,077,679	G,H,J,L,O	2,733,620
Sublette County	132,488	--	132,488	0.300	280,403	198,170	2,152,670	C,K	2,433,073
Sweetwater County	1,156,772	--	1,156,772	0.349	405,099	8,329,177	2,461,913	A,C,G,J	3,661,487
Wyoming [4]	12,016,991	187,414	n/a		7,499,369	n/a	31,032,344	n/a	46,860,890

[1] Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.
[2] -- = no tax levy for this item.
[3] District Types:

A – Hospital	I - Weed and Pest
B – Fire	J - Solid Waste Disposal
C – Cemetery	K - Rural Health Care
D – Museum	L - Conservation
E – Recreation	M - Sanitary and Improvement
F - Water Conservancy	N - Flood Control
G - Water and Sewer	O - Downtown Development
H - Improvement and Services	P - Senior Citizens' Service

[4] n/a = not applicable.

Table 3.46. City- and Town-Assessed Valuation and Taxes Levied, 2003[1]

City/Town	Municipal Valuation	County Tax Levy			School Tax Levy Including Foundation		Municipal Tax Levy		Total Tax Levy	
		Mills	Special District[2]	Amount ($)	Mills	Amount ($)	Mills	Amount ($)	Mills	Amount ($)
Big Piney	1,905,850	14.330	C,I,K	27,311	47.965	91,414	8.000	15,247	70.295	133,972
LaBarge	2,299,884	15.330	A,C,I	35,257	47.965	110,314	8.000	18,399	71.295	163,970
Marbleton	2,875,951	14.330	C,I,K	41,212	47.965	137,945	4.000	11,504	66.295	190,661
Pinedale	13,217,084	13.934	C,I,K	184,167	44.000	581,552	8.000	105,737	65.934	871,456
Rock Springs	81,327,144	13.899	I,J	1,130,366	48.600	3,952,499	8.000	650,617	70.499	5,733,482

[1] Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.
[2] District Types:

A – Hospital	I - Weed and Pest
B – Fire	J - Solid Waste Disposal
C – Cemetery	K - Rural Health Care
D – Museum	L - Conservation
E – Recreation	M - Sanitary and Improvement
F - Water Conservancy	N - Flood Control
G - Water and Sewer	O - Downtown Development
H - Improvement and Services	P - Senior Citizens' Service

Table 3.47. Total All Taxes Levied, 2003[1]

	Total County Levies		Total Municipal Levies ($)	Total Special District Taxes ($)	Total All Education ($)	Total All Taxes Levied ($)	Average Mill Levy
	Mills	Amount ($)					
Lincoln County	11.028	4,940,648	251,113	2,733,620	21,505,679	29,431,060	65.693
Sublette County	12.297	11,206,742	132,488	2,433,073	42,020,177	55,792,480	59.692
Sweetwater County	12.000	13,928,903	1,156,772	3,661,487	59,427,427	78,174,589	67.349
Wyoming		119,082,631	12,204,405	46,860,890	490,819,233	668,967,159	64.696

[1] Source: Wyoming Department of Revenue (2003a). In Year 2003 dollars, not adjusted for inflation.

Table 3.48. Sales Tax Collections in State and Study Area[1]

Location/Industrial Sector	Sales Tax Collections (Thousands of $)				
	1998	1999	2000	2001	2002
Wyoming[2]					
Agriculture	1,399	1,358	1,374	1,347	1,257
Mining[3]	28,651	19,694	22,259	34,163	46,358
Construction	10,228	12,325	11,198	12,136	14,828
Manufacturing	22,877	22,085	22,854	22,127	22,124
Transportation	30,063	30,734	31,708	37,249	37,866
Wholesale Trade	37,060	39,477	43,602	48,086	52,365
Retail Trade	171,014	179,324	190,610	191,510	199,673
Finance	1,611	1,059	1,134	1,009	762
Services	53,876	57,672	60,014	66,634	75,901
Public Administration	31,942	36,609	33,883	38,216	42,589
Total	388,721	400,336	418,635	452,478	493,723
Lincoln County[4]					
Agriculture	55	52	45	50	38
Mining[3]	1,234	944	690	818	1,273
Construction	188	186	165	155	170
Manufacturing	705	768	870	670	565
Transportation	844	942	821	833	871
Wholesale Trade	1,933	1,385	2,312	1,782	2,135
Retail Trade	3,112	3,381	3,659	3,389	3,712
Finance	47	45	53	36	24
Services	933	1,148	948	1,185	1,394
Public Administration	710	732	783	797	954
Total Collected	9,761	9,583	10,345	9,716	11,135
Approximate Amount Returned to County	3,221	3,162	3,413	3,206	3,674
Sublette County[5]					
Agriculture	27	27	28	26	26
Mining[3]	2,538	2,844	2,591	5,988	9,078
Construction	110	89	125	139	173
Manufacturing	527	396	381	882	1,047
Transportation	383	404	481	459	483
Wholesale Trade	956	1,034	1,145	1,201	1,557
Retail Trade	1,691	1,629	1,923	2,289	2,575
Finance	13	14	13	8	5
Services	927	1,257	1,209	2,457	3,471
Public Administration	460	407	452	451	648
Total	7,632	8,102	8,348	13,901	19,063
Approximate Amount Returned to County	2,518	2,674	2,755	4,587	6,291
Sweetwater County[6]					
Agriculture	45	40	34	33	42
Mining[3]	4,868	3,361	3,514	5,683	7,165
Construction	1,379	1,304	1,109	1,008	952
Manufacturing	3,751	3,118	2,916	2,548	2,722
Transportation	3,041	2,773	3,753	3,171	3,620

Table 3.48. (Continued)

Location/Industrial Sector	Sales Tax Collections (Thousands of $)				
	1998	1999	2000	2001	2002
Wholesale Trade	6,333	5,687	5,449	6,701	7,023
Retail Trade	14,572	14,680	14,552	14,514	15,673
Finance	173	120	128	108	64
Services	5,777	5,829	5,908	6,748	8,192
Public Administration	3,038	3,416	3,180	3,461	3,441
Total	42,975	40,328	40,544	43,975	48,894
Approximate Amount Returned to County	14,182	13,308	13,380	14,512	16,135

[1] Source: WDAI (2002c). Year 2000 dollars, adjusted for inflation.
[2] Note: Penalty and interest monies are excluded; collections amounted to $1,751,376 in FY02.
[3] Includes oil and gas.
[4] Note: Penalty and interest monies are excluded; collections amounted to $39,384 in FY02.
[5] Note: Penalty and interest monies are excluded; collections amounted to $27,109 in FY02.
[6] Note: Penalty and interest monies are excluded; collections amounted to $134,973 in FY02.

3.4.4.1 Wyoming

Total sales tax collections for Wyoming increased 27.0% from 1998 to 2002 (see Table 3.48). Increases in the mining (61.8%), construction (45.0%), and wholesale trade (41.3%) sectors were the most substantial. Collections from the retail trade sector, which reflects consumers' daily spending, increased 16.8% during the 5-year study period. The retail trade sector is the largest of the industrial sectors in Wyoming, and provided 40.4% of all sales tax collections in 2002, followed by services (15.4%), wholesale trade (10.6%), and mining (9.4%). The collections reported in the public administration sector (8.6% of all sales tax collections) were primarily composed of taxes generated through automobile sales (WDAI 2002c).

3.4.4.2 Lincoln County

Total sales tax collections in Lincoln County increased 14.1% from 1998 to 2002 (see Table 3.48). Collections from the retail trade sector, which reflects consumers' daily spending, increased 19.3%. The largest increases were seen in services (49.4%) and public administration (34.3%). Losses occurred in finance (48.8%), agriculture (31.6%), manufacturing (19.9%), and construction (9.6%).

In 2002, the retail trade sector was the largest of the industrial sectors, providing 33.3% of all sales tax collections in Lincoln County, followed by wholesale trade (19.2%), services (12.5%), and mining (11.4%) (see Table 3.48).

3.4.4.3 Sublette County

Total sales tax collections in Sublette County increased 149.8% from 1998 to 2002 (see Table 3.48). The largest overall increase during that term was seen in services, which expanded by 274.5%, followed by mining (257.7%) and manufacturing (98.5%). Finance and agriculture experienced declines (63.9% and 2.6% respectively) in sales taxes collected over the 5-year study period.

Mining provided 47.6% of sales tax collections in Sublette County in 2002, followed by services (18.2%) and retail trade (13.5%) (see Table 3.48).

3.4.4.4 Sweetwater County

Over the 5-year study period from 1998 to 2002, Sweetwater County's total sales tax collection increased by 13.8% (see Table 3.48). The largest overall increase during that term was seen in mining (47.2%), followed by services (41.8%), and transportation (19.0%). Finance (-62.9%), construction
(-30.9%), manufacturing (-27.4%), and agriculture (-5.1%) experienced declines in sales taxes collected over the 5-year study period.

In 2002, the retail trade sector was the largest of the industrial sectors, providing 32.1% of all sales tax collections in Sweetwater County, followed by services (16.8%), mining (14.7%), and wholesale trade (14.4%) (see Table 3.48).

3.4.5 Use Tax Collections

Information on use tax collections was obtained from WDAI (2002c) and is presented in Table 3.49.

Table 3.49. Use Tax Collections in the State and Study Area[1]

Industrial Sector/Location	Use Tax Collections ($)				
	1998	1999	2000	2001	2002
Wyoming					
Agriculture	93,382	111,663	127,039	152,240	111,850
Mining[2]	8,139,021	10,074,628	7,232,766	8,643,343	11,220,244
Construction	10,532,112	6,717,700	10,488,778	9,951,474	12,265,909
Manufacturing	2,963,424	2,818,252	3,342,641	2,138,754	1,978,751
Transportation	6,624,357	6,319,928	7,385,411	7,501,867	8,316,000
Wholesale and Retail Trade	3,822,364	5,142,008	6,048,701	4,978,284	6,197,634
Finance	49,164	43,066	31,621	37,531	30,230
Services	1,186,334	853,229	871,877	1,374,900	2,241,715
Public Administration	12,788,608	13,208,328	14,312,741	15,920,514	17,454,299
Total	46,198,767	45,288,804	49,841,575	50,698,909	59,816,633
Lincoln County					
Agriculture	555	0	0	20	11
Mining[2]	644,320	799,954	888,052	444,472	1,292,002
Construction	208,598	170,128	599,236	120,078	157,138
Manufacturing	3,337	3,362	6,476	12,436	11,747
Transportation	372,195	406,785	315,849	374,900	572,565
Wholesale and Retail Trade	50,998	135,608	127,355	99,442	116,337
Finance	3,223	3,603	2,746	2,205	3,299
Services	5,951	12,804	6,248	7,587	8,948
Public Administration	630,704	626,041	791,122	643,870	812,841
Total	1,919,880	2,158,285	2,737,084	1,705,013	2,974,888
Sublette County					
Agriculture	639	452	903	763	420
Mining[2]	218,581	227,655	209,822	520,867	373,000
Construction	25,641	41,591	43,908	147,526	53,054
Manufacturing	876	1,727	6,928	2,663	9,570
Transportation	34,361	-1,653	10,592	85,822	24,937

Table 3.49. (Continued)

Industrial Sector/Location	Use Tax Collections ($)				
	1998	1999	2000	2001	2002
Wholesale and Retail Trade	16,529	41,742	40,722	42,935	114,937
Finance	5	6	-6	-1	0
Services	747	1,601	237	1,164	2,463
Public Administration	277,764	246,362	265,268	362,521	390,185
Total	575,143	559,482	578,375	1,164,262	968,565
Sweetwater County					
Agriculture	4,374	4,000	3,082	3,144	2,559
Mining[2]	3,874,717	3,837,244	2,397,057	3,348,485	4,080,921
Construction	3,049,513	885,748	1,050,060	1,108,792	492,216
Manufacturing	793,646	535,044	758,768	386,144	394,046
Transportation	1,022,135	1,003,434	1,175,935	1,086,599	1,128,749
Wholesale and Retail	158,663	159,346	546,294	615,474	495,225
Finance	3,499	406	940	412	2,199
Services	33,534	59,357	136,868	418,210	431,734
Public Administration	950,775	909,189	877,057	959,182	1,092,998
Total	9,890,855	7,393,770	6,946,061	7,926,441	8,120,645

[1] Source: WDAI (2002c). In Year 2000 dollars, adjusted for inflation.
[2] Includes oil and gas.

3.4.5.1 Wyoming

Use tax collections increased nearly 29.5% from 1998 to 2002 (see Table 3.49). Seven of the nine major sectors[3] realized increases during the 5-year study period. Use tax collections usually fluctuate considerably from year to year, and from one sector to another. Unlike collections for sales tax, the goods-producing sectors (mining, construction, and manufacturing) typically cover a large portion of use tax collections. Public administration is the largest of the industrial sectors in terms of use tax, accounting for 29.2% of all Wyoming use tax collections in 2002. From 1998 to 2002, the service sector exhibited the largest increase (89.0%), followed by wholesale/retail trade (62.1%), mining (37.9%), and public administration (36.5%). The manufacturing and finance sectors suffered declines of 33.2% and 38.5%, respectively. Annual total use tax collections for 16 Wyoming counties increased over previous year levels, while collections in the remaining counties decreased.

3.4.5.2 Lincoln County

Over the 5-year study period (1998–2002), total use tax collections in Lincoln County increased by 55.0% (see Table 3.49). Manufacturing led sector growth over the 5-year period, with a 252% increase, followed by wholesale/retail trade (128.1%), and mining (100.5%). Agriculture showed the greatest decline (-97.9%), followed by construction (-24.7%). Mining was the largest of the industrial sectors in terms of use tax in 2002, with 43.4% of all Lincoln County use tax collections, followed by public administration (27.3%) and transportation (19.3%).

[3] Wholesale and retail trade sectors are combined and counted as one for use tax reporting.

3.4.5.3 Sublette County

Over the 5-year study period (1998–2002), total use tax collections in Sublette County increased by 68.4% (see Table 3.49). Manufacturing led sector growth over the 5-year period, with a 992.7% increase, followed by wholesale/retail trade (595.4%) and services (229.7%). Finance (-100.0%), agriculture (-34.3%), and transportation (-27.4%) declined over the 5-year study period. In 2002, public administration provided the greatest percentage (40.3%) of use tax collections in Sublette County, followed by mining (38.5%) and wholesale/retail trade (11.9%).

3.4.5.4 Sweetwater County

Over the 5-year study period (1998–2002), total use tax collections in Sweetwater County decreased by 17.9% (see Table 3.49). Services led sector growth over the 5-year period, with a 1,187.5% increase from 1998 to 2002, followed by wholesale/retail trade (212.1%) and public administration (15.0%). The greatest declines over the 5-year period occurred in construction (-83.9%), manufacturing (-50.3%), agriculture (-41.5%), and finance (-37.2%). In 2002, mining contributed the greatest percentage (50%) of total use tax collections in Sweetwater County, followed by TCPU (14%) and public administration (13%).

3.4.6 Lodging Tax Collections

Lodging tax information was derived from WDAI (2002c), and data for the study area are presented in Table 3.50. All data are provided in Year 2000 dollars, adjusted for inflation. All lodging taxes are returned to the city/county of origin, and no tax is imposed at the state level; therefore, Wyoming is not shown in Table 3.50. Lincoln County does not have a countywide lodging tax, and the towns within Lincoln County that charge a lodging tax are outside the study area; therefore, Lincoln County is not shown in Table 3.50.

Table 3.50. Lodging Tax Collections by County and Local Entity, 2002[1]

Collecting Entity	Lodging Tax Collections ($)				
	1998[2]	1999[2]	2000[2]	2001	2002
Sublette County	NA	NA	NA	2,028	12,641
Big Piney	NA	NA	NA	261	4,069
Marbleton	NA	NA	NA	2,176	11,609
Pinedale	0	0	0	4,236	71,321
Total	0	0	0	8,701	99,640
Sweetwater County	63,904	57,619	39,936	41,051	42,336
Rock Springs	196,257	197,293	204,703	235,747	243,063
Total	260,161	254,912	239,744	276,798	285,399

[1] Source: WDAI (2002c). In Year 2000 dollars, adjusted for inflation.
[2] NA = no information available.

3.4.6.1 Sublette County

Sublette County reinstated a lodging tax in 2001. Lodging taxes collected in Sublette County increased 523.2% from 2001 to 2002 (see Table 3.50). Collections in Big Piney increased 1,461.5%;

Marbleton increased 433.5%; and Pinedale increased 1,583.5%. Total collections for the county and municipalities combined increased 1,045.1% from 2001 to 2002.

3.4.6.2 Sweetwater County

A lodging tax was imposed in Sweetwater County for the duration of the 5-year study period. Lodging tax collections in 2002 were down 33.8% from 1998 (see Table 3.50). However, Rock Springs lodging tax collections increased by 23.8% over the same period. Total collections for the county and municipalities combined increased 9.7% from 1998 to 2002.

3.5 RECREATION ECONOMICS

Recreation information is not collected on a countywide basis in the three-county study area. Recreational activities in Lincoln and Sweetwater Counties are unlikely to be affected by the proposed project. The JIDPA lies primarily within the PFO area, and project activities are not expected to affect recreation on any portion of the RSFO area; therefore, recreation economics are evaluated only within the PFO area.

3.5.1 Nonconsumptive Recreation

The volume of nonconsumptive recreational use within the region of the projects was taken from BLM (2003b). In BLM (2003b), recreational use was estimated using recreational visitor days (RVDs) as a unit of measure (a recreational visitor day is defined as a 12-hour period). The RVDs for the planning area (PFO) were estimated with data from BLM's Recreational Management Information System (RMIS) (BLM 2003b). In this system, the BLM tracks recreational use for several areas within Wyoming including the PFO area. Using this data, Table 3.51 was constructed, which shows the RVDs per activity for the PFO for a 4-year period from 1998 to 2002. During this time, over 300,000 RVDs occurred annually within the PFO area. The most popular recreational activities were float or raft trips, fishing, camping, and hiking/walking/running. Hunting is addressed separately in Section 3.5.2.

3.5.2 Hunting

Hunting is also popular within the PFO area. Much of this activity occurs on BLM-managed lands, which provide habitat for many species, including big game, small game, and upland game birds. Big game hunting was estimated from WGFD data because this agency regulates the sport and keeps data on hunting use by animal and by area throughout Wyoming. Hunting days reported in this section are not directly comparable with BLM recreation days, given the differences in estimation procedures and the definition of a recreation day.

BLM (2003b) used WGFD's Annual Report of Big Game Harvest (published from 1991 to 2000), to estimate the average hunting days by big game species over a 10-year period. The WGFD data were adjusted by the percentage of acreage within each hunt area contained within the PFO area. The adjusted data indicate that, on an average annual basis, residents and nonresidents of Wyoming spend an estimated 40,000 days hunting in the PFO area (Table 3.52) (BLM 2003b). Over the 10-year period (1991–2000), BLM estimated that hunters in the PFO area from Wyoming accounted for over 80% of the hunting days on average.

Table 3.51. Estimated Annual Recreational Visitor Days, PFO Area[1]

Activity	Annual Recreational Visitor Days	Percent of Total Activity
Archery	760	0.24
Backpacking	4,118	1.29
Bicycling, Mountain	5,066	1.58
Bicycling, Road	16	0.01
Camping	35,168	10.99
Climbing, Mountain/Rock	458	0.14
Driving for Pleasure	4,182	1.31
Environmental Education	55	0.02
Fishing	73,227	22.89
Hiking/Walking/Running	30,581	9.56
Horseback Riding	732	0.23
Nature Study	880	0.28
Off-highway vehicles (OHVs) and All-terrain vehicles (ATVs)	1,268	0.40
OHVs (Cars/Trucks/Sport Utility Vehicles)	155	0.05
Pack Trips	2,746	0.86
Photography	880	0.28
Picnicking	1,366	0.43
Power Boating	789	0.25
Row/Float/Raft	138,630	43.32
Skiing, Cross Country	2,123	0.66
Snowmobiling	12,368	3.87
Staging/Comfort Stop	829	0.26
Swimming/Water Play	854	0.27
Viewing Wildlife	2,727	0.85
Total Recreational Visitor Days	319,978	100.00

[1] Source: BLM (2003b). Source: Annual average of data collected October 1, 1998–September 30, 2002 by RMIS.

Table 3.52. BLM-Estimated Big Game Hunter-Days, PFO Area[1]

Hunter Designation	Big Game Hunter-Days per Year					Hunter-Days
	Pronghorn	Mule Deer[2]	Elk	Moose	Bighorn sheep	
Residents	1,318	11,414	19,811	539	11	33,093
Nonresidents	433	3,359	3,142	96	2	7,032
Total Hunter-days	1,751	14,773	22,953	635	13	40,125

[1] Based on 10-year average (1991–2000). Source: BLM (2003b).
[2] Averages for mule deer are for 2000 only.

Big Game Animals. Elk was the most popular species hunted within the PFO area—nearly 23,000 hunting days—followed by mule deer, pronghorn antelope, moose, and then bighorn sheep (BLM 2003b). Pronghorn is the only big game species likely to occur on the JIDPA (BLM 2004c). The JIDPA is not within the WGFD-designated ranges for elk, mule deer, moose, or big horn sheep (BLM 2004c); therefore, recreational activity related to these big game species is unlikely to occur in the JIDPA.

The JIDPA is entirely encompassed within the Sublette Antelope Herd Unit, which occupies approximately 10,546 square miles (Table 3.53) (BLM 2004b, BLM 2004c). BLM is responsible for managing 64% of the surface of the Sublette Antelope Herd Unit; the USFS is responsible for managing 4% of the surface; 4% is managed by the Bureau of Reclamation; and 26% is in state and private ownership. Approximately 85,000 acres (1.3%) of the Sublette Antelope Herd Unit have been disturbed by wells, roads, towns, etc. Table 3.54 presents a summary of big game hunting in the Sublette Antelope Herd Unit.

Table 3.53. Herd Unit and Landownership in the JIDPA[1]

Herd Unit Name	Total Acres	Ownership/Management (acres)		Disturbed within Unit (acres)
		Federal	State/Private	
Sublette Antelope Herd Unit	6,749,440	4,994,586	1,754,854	85,000

[1] Source: BLM (2004b).

Table 3.54. Summary of Hunters and Hunter-Days for Potentially Project-Affected Big Game Species in the PFO Area, 2002[1]

Species	Wyoming						Sublette Antelope Herd Unit[2]					
	Hunters per Year[3]			Hunter-Days per Year[3,4]			Hunters per Year[3]			Hunter-Days per Year[3,4]		
	Total	Resident	Non-resident	Total	Resident	Non-resident	Total	Resident	Non-resident	Total	Resident	Non-resident
Pronghorn	33,569	15,776	17,793	101,989	51,208	50,781	4,382	2,881	1,501	13,490	9,356	4,134

[1] Source: WGFD (2003a).
[2] The proposed project area is encompassed within the Sublette Antelope Herd Unit.
[3] Calculated from Harvest, Hunting Pressure, Hunter Success by Hunt Area 2002 reports for each species. Totals may not match statewide summary tables.
[4] WGFD defines a "hunter-day" as any day hunting occurred, regardless of actual time spent hunting. These data are based on licensed hunter survey reports.

Furbearers, Small Game, Upland Birds, and Waterfowl. The JIDPA lies entirely within Small Game Management Area 7 (WGFD 2003b); however, due to habitat limitations, only greater sage-grouse and desert cottontail are likely to occur and be hunted on the JIDPA. The WGFD has not collected hunter expenditure information for all small game species that may potentially occur and may occasionally be hunted and trapped on the JIDPA (WGFD 2003d); therefore, impact analysis is provided only for cottontail and greater sage-grouse.

Waterfowl Area 5B encompasses the JIDPA, and duck and goose may be hunted in the vicinity of the project area (BLM 2004b, 2004c). The WGFD has not collected hunter expenditure information for the waterfowl species that may potentially occur and may occasionally be hunted on the JIDPA (WGFD 2003d); therefore, these species are not addressed further herein. Table 3.55 presents a summary of small game and upland bird hunting in the area that may potentially be impacted by the proposed project.

Table 3.55. Summary of Potentially Project-Affected Small Game and Upland Bird Hunters and Hunter-Days in the JIDPA, 2002[1]

Species	Total Wyoming		Area 7[2] (Eden)		Waterfowl Area 5B[2,3] (Upper Green River Basin)	
	Hunters per Year	Hunter-Days per Year	Hunters per Year	Hunter-Days per Year	Hunters per Year	Hunter-Days per Year
Cottontail	5,814	25,566	316	1,981	-	-
Greater sage-grouse	2,947	7,164	271	938	-	-
Totals	8,761	32,730	587	2,919	-	-

[1] Source: WGFD (2003b).
[2] Encompasses the JIDPA in its entirety.

3.5.3 Value of Recreational Use

Recreational activities (nonconsumptive and hunting) have important economic value both in terms of the satisfaction provided to local residents and visitors and the economic activity it generates for the regional economy. Recreation generates additional spending in the local economy that supports jobs and income. Economic stimuli occur as nonresidents visit the area and spend money in the local economy, which in turn generates additional spending by local residents. It is assumed that if local residents were not participating in recreation, they probably would be spending their money on something else in the region's economy. Thus, expenditures by local residents are seen as a shifting of dollars from one sector to another within the local economy and not a net gain to the region. However, dollars that remain within the community when local residents have satisfactory recreational opportunities are important. Keeping dollars within the local economy helps maintain jobs, thus reducing employment and income fluctuations that may result if those dollars are spent outside the local economy. Outdoor recreation in general is important to the region both in terms of satisfaction to residents and economic stimulus for the regional economy.

3.5.3.1 Value of Nonconsumptive Recreation

The value of recreation was estimated using the methods developed for the SWREE (UWAED 1997) and JMHCAP (UWAED 2003, BLM 2003a). Nonconsumptive recreation was derived from UWAED (1997), and is presented in Year 2000 dollars adjusted for inflation. The estimated per day value of recreation in the PFO is summarized in Table 3.56.

Table 3.56. Value of Recreation, PFO Area, 1997[1]

Recreation Activity	Value per Visitor-Day ($)
General recreation	10.18
Developed camping	15.73
Primitive camping	19.85
Day hiking	33.01
Picnicking	14.32
Sightseeing	16.68
Gathering forest products	15.17
Wilderness recreation	14.45
Big game hunting	77.25
Trout fishing	30.04
Wildlife watching	30.04
Snowmobiling	51.50
Average value per visitor day	27.35

[1] In Year 2000 dollars, adjusted for inflation. Source: UWAED (1997). Categories defined by this source vary from RMIS categories; therefore, some differences may exist in actual value per visitor day.

3.5.3.2 Value of Hunting

The method used to determine the value of hunting is based on that used by UWAED (1997), updated with 2002 hunting and hunter expenditure data from WGFD (2003a, 2003b, 2003c), and is presented in Year 2000 dollars, adjusted for

inflation. The JIDPA is fully encompassed by the Sublette Antelope Herd Unit, and for the purposes of this report, pronghorn antelope are assumed to be evenly hunted across the herd unit because it is not possible to derive from existing data exactly where any individual hunts. This method results in a conservative overestimate of the value of hunting in a particular area because in actual practice, hunting likely does not occur evenly across all areas of a hunt unit. The value of hunting for each species managed for hunting and potentially occurring on the proposed project area (pronghorn antelope, desert cottontail, and greater sage-grouse) is presented in Table 3.57.

The value per hunter-day was established by dividing the total estimated hunter expenditures per species by total hunter-days (see Table 3.57). The total value of hunter expenditures attributable to the potentially affected hunt unit was determined for each species by multiplying the hunter-days for each species in the potentially affected hunt units by the value per hunter-day for that species. According to WGFD (2003a, 2003b, 2003c), the percentage of hunter expenditures contributed to all hunter expenditures in Wyoming by each species in the potentially affected hunt units were pronghorn antelope (13.2%), cottontail (9.8%), and greater sage-grouse (21.7%). The potentially affected hunting areas contributed 10.0% of all hunting expenditures in Wyoming.

The value attributable to each project area was determined by multiplying the percent of the hunt unit occurring on the project area (Table 3.58) by the number of hunter-days for the entire unit. That number was multiplied by the average value/hunter-day for a particular species to arrive at the potential value of hunting for a particular species likely to be hunted on the project area. The value was not calculated for species unlikely to occur or to be hunted on the project area.

JIDPA Hunting Value

Because elk, mule deer, and moose are unlikely to occur on the JIDPA, there is no value attributable to the project area for those species. Pronghorn antelope occur on the JIDPA, and an estimated 61.0 hunter-days (0.4% of the Sublette Antelope Herd Unit hunter-days) are attributed to the JIDPA. At a value of approximately $381.30/hunter-day, approximately $23,244 of hunter expenditures for pronghorn annually is attributable to hunting on the JIDPA. Approximately 1.0% of hunting in Small Game Management Area 7 for cottontail and greater sage-grouse each are attributable to hunting on the JIDPA. Cottontail account for 26.4 hunter-days for a value of approximately $4,569.84 of hunter expenditures attributable to annual cottontail hunting on the JIDPA. Greater sage-grouse account for 16.3 hunter-days for a value of approximately $2,123.78 of hunter expenditures attributable to greater sage-grouse hunting annually on the JIDPA.

Table 3.57. Value of Hunting of Species Potentially Occurring on the Study Area, Wyoming and Study Area, 2002

Species[5]	Wyoming					Attributable to Potentially Affected Hunt Areas					
	Hunter-Days[1,2]			Hunter Expenditures[3] ($)	Average Value/ Hunter-day ($)	Hunter-Days			Hunter Expenditures ($)		
	Total	Resident	Nonresident			Total	Resident	Nonresident	Total	Resident	Nonresident
Antelope	101,989	51,208	50,781	38,888,895	381.30	13,490	9,356	4,134	5,143,737	3,567,443	1,576,294
Cottontail[5]	25,566	n/a	n/a	4,424,464	173.06	2,516	n/a	n/a	435,419	--	--
Greater sage-grouse[4]	7,164	n/a	n/a	933,437	130.30	1,553	n/a	n/a	202,356	--	--
Total	134,719	51,208	50,781	44,246,796	684.66	17,559	9,356	4,134	5,781,512	3,567,443	1,576,294

1 Source: WGFD (2003a, 2003b). Calculated from Harvest, Hunting Pressure, Hunter Success By Hunt Area 2002 reports for each species. Totals may not match statewide summary tables or WGFD (2003c).
2 WGFD defines a "hunter-day" as any day hunting occurred, regardless of actual time spent hunting. These data are based on licensed hunter survey reports.
3 Source: WGFD (2003c). In Year 2000 dollars, adjusted for inflation. WGFD does not distinguish between resident and nonresident expenditures.
4 WGFD does not separate resident and nonresident hunter-days for small and upland game.

Table 3.58. Contribution of JIDPA to Hunting Revenues[1]

Species	Hunt Unit Name	Total Acres	Hunter-Days Attributable to Unit	Average Value/ Hunter-Day ($)	Project Area (acres)	% Acres of Unit in Project Area	Hunter-Days in Project Area	Annual Value Attributable to Hunting on Project Area ($)
Antelope	Sublette Antelope Herd Unit	6,749,440	13,490	381.30	30,500	0.5%	61.0	23,244.00
Cottontail	Small Game Management Area 7	2,906,068	2,516	173.06	30,500	1.0%	26.4	4,569.84
Greater sage-grouse	Small Game Management Area 7	2,906,068	1,553	130.30	30,500	1.0%	16.3	2,123.78
Total	--	12,561,576	17,559	684.66	30,500	--	103.7	29,937.62

1 In Year 2000 dollars, adjusted for inflation.

4.0 JONAH INFILL DRILLING PROJECT ECONOMIC IMPACT ANALYSIS

EnCana Oil and Gas (USA), Inc. (EnCana), BP America Production Company, and other companies (collectively referred to as "Operators") propose to expand existing Jonah Field natural gas drilling and development operations in south-central Sublette County approximately 32 miles southeast of Pinedale, 28 miles northwest of Farson, and 1.5 to 11 miles west of U.S. Highway 191. Expanded development is proposed in portions of Townships (T) 28 and 29 North (N), Range (R) 107, 108, and 109 West (W). The proposed project is described in detail in BLM (2004c).

4.1 PROPOSED ACTION AND ALTERNATIVE DESCRIPTIONS

The No Action Alternative, Proposed Action, and alternative action alternatives in the JIDP EIS are evaluated in this document:

- the No Action Alternative assumes production from 533 existing wells on 497 well pads, with a total surface disturbance of 4,209 acres and life of project (LOP) disturbance of 1,409 acres.

- The Proposed Action assumes up to 3,100 new wells (2,825 conventional, 275 directional), with total disturbance on up to 20,409 acres (existing disturbance of 4,209 acres plus new disturbance of 16,200 acres) and LOP disturbance on up to 6,040 acres (existing disturbance of 1,409 acres plus new disturbance of 4,631 acres). Estimated pace of development: 250 wells per year.

- Alternative A (maximum recovery) assumes up to 3,100 new wells (all conventional) from 3,100 new well pads with total disturbance on up to 20,409 acres (existing disturbance of 4,209 acres plus new disturbance of 16,200 acres) and LOP disturbance on up to 6,040 acres (existing disturbance of 1,409 acres plus new disturbance of 4,631 acres). Estimated pace of development: 250 wells per year.

- Alternative B (minimum disturbance) assumes up to 3,100 new wells (all directional) from the existing 497 well pads, with total disturbance on up to 7,431 acres (existing disturbance of 4,209 acres plus new disturbance of 3,222 acres) and LOP disturbance on up to 2,602 acres (existing disturbance of 1,409 acres plus new disturbance of 1,193 acres). Estimated pace of development: 75 wells per year.

- The Preferred Alternative assumes up to 3,100 new wells, with total disturbance on 14,030–20,334 acres (existing disturbance of 4,209 acres plus new disturbance of 9,821–16,125 acres), and LOP disturbance on 4,257–6,020 acres (existing disturbance of 1,409 acres and new disturbance of 2,848 acres). Estimated pace of development: 250 wells per year.

The following alternatives were evaluated in the Draft Socioeconomic Technical Support Document but eliminated from further consideration after public review of the Draft JIDP EIS. The rationale for eliminating these alternatives is found in the Final JIDP EIS.

- Alternative C assumed up to 1,250 new wells (975 conventional, 275 directional) from a maximum of 1,250 new well pads.
- Alternative D assumed up to 2,200 new wells (1,925 conventional, 275 directional) from a maximum of 2,200 new well pads, respectively.
- Alternative E assumed up to 3,100 new wells (266 conventional, 2,834 directional) on up to 266 new well pads.
- Alternative F assumed up to 3,100 new wells (1,028 conventional, 2,072 directional) on up to 1,028 new well pads.
- Alternative G assumed up to 3,100 new wells (2,553 conventional, 547 directional) on up to 2,553 new well pads.

A detailed description of the Proposed Action and alternatives is provided in the JIDP EIS.

BLM (1999) criteria stipulate that impacts to socioeconomic resources would be considered potentially significant if any of the following were to occur:

- increased demand for housing resulting from project activities that exceeds supply;
- short- or long-term increases in demand for local government facilities or services that exceed existing capacity and are not offset by adequate revenues from continued exploration and development; or
- a 10% change in county government or in countywide employment.

BLM generally defines a significant change as one that would result in a 10% or greater change of any affected factor. The following analyses show that the Proposed Action and the action alternatives are compatible with BLM management objectives. Socioeconomic impacts are anticipated as a result of increased local taxes and revenues. Under the No Action Alternative, the effects of increased employment, economic activity, and substantial federal, state, local, and county revenues would not occur; therefore, this alternative would not be in accord with BLM, state, and local land use plans. Cumulative impacts are likely to have some economic and social conditions in the Cumulative Impact Assessment Area (CIAA).

Depending upon the number of wells developed per year, project construction, drilling, completion, and production, from 40 to 82 years would be required to complete the project (the LOP), without taking into account reclamation. The fewer the number of wells and the faster the pace of development, the shorter the LOP. The estimated number of years to complete the project under each alternative is shown in Table 4.1. The economic impact calculations do not take into account post-development reclamation; however, in the draft version of this socioeconomic technical support document, it was conjectured that post-development reclamation would last 3 years.

Production for the LOP could range from 3,366 billion cubic feet (BCF) under the No Action Alternative (no new development) to 8,191 BCF under the Alternative A (3,100 new wells and new well pads). The anticipated gas and condensate recovery volumes are shown in Table 4.2.

The economic impact of the Proposed Action, alternatives, and cumulative actions on the study-area economy were analyzed in two phases using the methods developed for the SWREE (UWAED 1997) and JMHCAP (UWAED 2003, BLM 2003a). Phase I was the development phase, which considered the economic impacts associated with drilling and completion of infill wells. Due to the large price fluctuations in natural gas, the economic impacts of production were estimated based on cost of production rather than total output. Phase II considered the economic impact of natural gas and condensate production as a result of the production from the wells completed under Phase I.

Table 4.1. Estimated Years to Complete Project, All Alternatives

Project Duration	No Action Alternative	Proposed Action 3,100 Wells/ 2,825 Pads (250 wells/yr)	Alternative A (Maximum Recovery) 3,100 Wells/ 3,100 Pads (250 wells/yr)	Alternative B (Minimum Disturbance) 3,100 Wells/ No New Pads (75 wells/yr)	Preferred Alternative 3,100 Wells/ 2,825 Pads (250 wells/yr)
Development	NA	12.5	12.5	42.0	12.5
Production	40.0	40.0	40.0	40.0	40.0
Life of Project (LOP)	40.0	52.5	52.5	82.0	52.5

Table 4.2. Anticipated Gas and Condensate Recovery Volumes for Each Alternative, Jonah Infill Drilling Project, Sublette County, Wyoming, 2005[1]

Alternative	Approximate Natural Gas Recovered (billion cubic feet [BCF])[2]	Approximate Condensate (Oil) Recovered[2] (millions of barrels)
No Action	3,366	31.98
Proposed Action[3]	7,947	75.50
Alternative A (Maximum Recovery)	8,191	77.81
Alternative B[3]	6,124	58.18

[1] Data provided by EnCana.
[2] Based on estimated gas in place, estimated ultimate recoveries (EURs) per well, and other variables. 1 BCF corresponds to the annual use by approximately 13,700 residences (EIA 2004).
[3] Assumes 10% of directional wells do not reach total depth and 1,000 ft of formation cannot be developed. Does not fully account for losses/unrecovered resources associated with undeveloped wells (assumed uneconomic).

In the long term, all alternatives would likely result in economic impacts. Population figures are not likely to be affected over the LOP, with the possible exception that there may be short-term (development phase) population impacts as a result of cumulative impacts from in-migration associated with this project in combination with other regional projects (e.g., Pinedale Anticline). Secondary employment AJEs may occur locally (i.e., within the study area), but would be distributed throughout the state, region, and nation, depending on the patterns of production and distribution associated with the secondary activity.

4.2 ECONOMIC ANALYSIS OVERVIEW

The economic study area for this analysis includes the counties and communities most likely to be affected, including LaBarge in Lincoln County; Pinedale, Big Piney, Marbleton, and Boulder in Sublette County; and Eden, Farson, and Rock Springs in Sweetwater County.

An area's economic base is composed of industries that are primarily responsible for bringing outside income into the local economy. These industries typically export their goods and services outside the region and in turn support ancillary industries such as retail trade, housing construction, and personal services within the region. The location of important industries in certain areas has traditionally been tied to such factors as natural resource base, cost factors (transportation and labor), and existing transportation infrastructure. However, technology has affected these location factors.

Existing documents, as well as documents in preparation, used to estimate potential and cumulative economic impacts for the study area included the following:

- Southwest Wyoming Resource Evaluation Socio/Economic Evaluation (SWREE) (UWAED 1997);
- the economic effect analysis developed for the Jack Morrow Hills Coordinated Activity Plan (JMHCAP) (UWAED 2003);
- the JMHCAP Draft EIS (BLM 2003a);
- BLM's *Socioeconomic Profile-Pinedale* (BLM 2003b);
- the economic impact analysis currently being prepared for the PFO RMP (UWAED [2004]);
- BLM's reasonable foreseeable development information; and
- existing county planning documents (SCBC and SCPC 2003).

Additional information was obtained from BLM and Operators as necessary.

The economic impacts of the JIDP and alternatives on the economic study area were analyzed using IMPLAN, which is an input/output (I/O) modeling system. More information about IMPLAN and the overall methodology used to assess socioeconomic impacts can be found in Chapter 2, Section 2.2, of this document and in Appendix B.

4.2.1 Economic Analysis Assumptions

4.2.1.1 Labor

The estimated direct-hire labor force is presented in Table 4.3. An estimated 16,863 worker-years of direct employment would be provided by the proposed project during the LOP.

Table 4.3. Estimated Work Force Requirements, All Alternatives, JIDP, Sublette County, Wyoming, 2005[1]

Employment Category	Worker-Days per Well	Worker-Years for 3,100 Wells[2]
Well Construction and Development		
Well pad and Access Road Construction (4 days × 4 workers)	16	191
Rig Transportation/Setup (5 days × 15 workers)	75	895
Drilling[3] (Straight Hole) (22 days × 11 workers × 2 shifts)	528	6,296
Completion Testing (17 days × 11 workers)	187	2,230
Pipeline Construction (4 days × 6 workers)	24	287
Total Well Construction and Development	830	9,899
Production and Maintenance Activities		
Production[4,5]	305	3,863
Workovers[6] (every 10 to 20 years) (10 days × 7 workers)	210	2,504
Total Production and Maintenance Activities	515	6,367
Abandonment and Reclamation (5 days × 10 workers)	50	597
Total	**1,395**	**16,863**

1 Assumes all wells are drilled and completed as producers.
2 260 worker-days = 1 worker-year.
3 Assumes all vertical (straight) wells.
4 Assumes 1 pumper can visit 20 wells/day, all pads are visited every 3 days, and a productive well life of 40 years.
5 Assumes six full-time production foremen and six full-time field clerks in addition to pumpers.
6 Assumes three workovers per well.

4.2.1.2 Natural Gas Drilling and Completion Assumptions

For this analysis, it was assumed that all wells would be drilled and completed and there would be no dry holes. The cost of drilling, completing, and setting production equipment is shown in Table 4.4. The total estimated cost to drill and complete a conventional well in the JIDPA is $2,186,684. Directional drilling adds an estimated $243,610 to the cost of drilling and completion; thus, the total estimated cost to drill and complete a directionally drilled well in the JIDPA is $2,430,294.

Table 4.4. Average Per Well Drilling and Completion Costs of Natural Gas Development, JIDP, Sublette County, Wyoming[1,2]

Cost Item	Cost to Drill (Dry Hole without Pipe) ($)	Cost to Complete Well[3] ($)
INTANGIBLE DRILLING COSTS		
Surveys, permits, and fees	5,000	--
Location and roads	42,620	--
Drilling contractor services	260,834	--
Drilling rig, mob/demob	59,250	--
Drill bits	43,100	--
Surface cementing service and equipment	16,000	--
BOP testing	1,500	--
Open hole logging	18,000	--
Contract supervision	18,900	--
Company supervision	6,000	--
Mud logging and geology	10,500	--
Drilling mud and chemicals	43,290	--
Surface rentals	19,660	--
Downhole rentals	31,500	--
Casing crews	4,500	--
Drilling water	20,000	--
Contract labor	5,000	--
Drilling admin overhead	7,500	--
Transportation and hauling	7,000	--
Total Drilling Intangible Costs	$620,154	--
INTANGIBLE COMPLETION COSTS		
Completion rig and auxiliary services	--	16,225
Snubbing unit	--	18,000
Contract supervision	--	12,500
Professional services	--	12,000
Cased hole slick line service	--	3,000
Casing crews	--	17,010
Cementing service and equip	--	50,000
Cased hole e-line services	--	82,000
Pumping services	--	36,000
Stimulation	--	860,048
Transportation and hauling	--	5,000
Location and roads	--	4,500
Completion water	--	106,752
Installation labor (battery construction)	--	8,500
Surface rentals	--	43,525

Table 4.4. (Continued)

Cost Item	Cost to Drill (Dry Hole without Pipe) ($)	Cost to Complete Well[3] ($)
Downhole rentals	--	32,800
Frac flowback	--	30,000
Miscellaneous	--	1,000
Total Intangible Completion Costs	--	$1,338,860
TANGIBLE COSTS (DRILLING AND COMPLETION)		
Tubulars		
Surface[4]	$ 29,500	--
Production[5]	--	63,180
Tubing[6]	--	19,320
Wellhead equipment	3,920	23,000
Flowline	--	6,500
Storage tanks	--	12,500
Treating equipment (gas dehydrator and separator)	--	62,750
Combustors - emission controls	--	7,000
Total Tangible Costs	33,420	194,250
Total drilling cost	$653,574	--
Total completion cost	--	1,533,110
Total Cost (Drilling + Completion) for Conventional Wells	--	**$2,186,684**
Directional Drilling (average additional cost per well)		$243,610
Total Cost (Drilling + Completion) for Directionally Drilled Wells		**$2,430,294**

1 Source: Operators. Presented in Year 2000 dollars, adjusted for inflation.
2 Source: Operators. Enumerated costs are for conventional drilling. Directional drilling would increase the total by an average of $243,610 per well.
3 Average assumed depth of 9,000 ft.
4 2,500 ft of 9 5/8-inch pipe at $11.80/ft.
5 11,700 ft of 4 1/2-inch pipe at $5.40/ft.
6 8,000 ft of 2 3/8-inch pipe at $2.30/ft.

4.2.1.3 Natural Gas Production Assumptions

Natural gas economic activity will depend upon three primary authorizations: 1) total number of wells authorized, 2) total number of pads on which wells can be placed, and 3) rate of development. Total recovery will depend upon the number of wells drilled and the number of pads on which they are placed. Some combinations of conventional/directional drilling may make full recovery uneconomical. The fewer the number of wells and the faster the pace of development, the shorter the LOP (see Table 4.4). An estimated 12,800 billion cubic feet (BCF) of natural gas[4] and 99.8 million barrels (MBO) of Jonah Field condensate (oil) are assumed to be present beneath the JIDPA. No alternative anticipates total recovery of all natural gas or condensate resources present in the field. Total annual per well cost of operation is estimated to be $229,548 (includes $16,831 of direct labor costs), or approximately $0.32/thousand cubic feet (MCF) of natural gas (Table 4.5).

[4] When the Draft Technical Support Document and Draft EIS were completed, the gas in place was estimated to be 10,500 BCF, but subsequent engineering and petrophysical data indicate that this estimate was low. The increased estimate of gas in place does not change the estimated recoveries, however, because they are based on well performance of more than 600 producing wells in the area. The annual field-wide production estimates remain the same.

Table 4.5. Annual Cost of Natural Gas Production, JIDP, Sublette County, Wyoming, 2005[1]

Annual Production Operating Costs	Annual Cost per Well
Annual Production (MCF)	717,232
Direct Labor and Overhead	16,831
Non-labor Annual Costs	
Fuel, Chemicals, and Disposal	9,850
Surface Maintenance	5,847
Subsurface Maintenance	5,979
Electricity	--
Gas Compression Costs	--
Gas Transportation Costs	191,041
Non-labor Annual Costs	212,717
Total Annual Costs	**229,548**
Total Annual Cost Per MCF	$0.32
Non-labor Cost Per MCF	$0.30

[1] Source: EnCana. Assumes natural gas recovery costs include recovery of condensate.

4.3 NATURAL GAS DEVELOPMENT AND PRODUCTION ECONOMIC ACTIVITY

Estimates of the economic activity resulting from oil and gas development on the southwest Wyoming economy in terms of total direct expenditures, secondary (non-project-required) labor earnings, and secondary job creation were based on the updated calibrated county-specific model from the SWREE and JMHCAP reports. The employment estimates were expressed as AJEs, based on BEA methodology (personal communication, February 20, 2004, with David T. Taylor, Professor, UWAED) (see Section 2.1.1). Activity is described both in terms of nominal dollars and real dollars (i.e., present value calculated by discounting) (see Section 2.2).

4.3.1 Drilling and Completion

As shown in Table 4.6, expenditures made to drill and complete one conventional well ($2,186,684), would generate economic activity (direct and secondary) of $2,719,091 (includes $532,407 of secondary labor earnings) and would generate 16.7 AJEs (does not include project-required labor [see Table 4.1]). Expenditures made to drill and complete one directionally drilled well ($2,430,294) would generate economic activity (direct and secondary) of $3,051,586 (includes $621,292 of secondary labor earnings) and would generate 19.4 AJEs (does not include project-required jobs). This activity is assumed to remain constant across all alternatives on a per well basis. The timing of economic activity would depend on the approved number of wells and the rate of development. Tables 4.7 and 4.8 show both the nominal and present value of annual and LOP activity anticipated from each development rate scenario. Alternatives are summarized in Table 4.9.

4.3.1.1 No Action Alternative

Under the No Action Alternative, no additional development would occur. This would reduce the number of drilling rigs, crews, and associated services operating in the project area. In 1996–2002, an estimated 59.3% of all exploration and production oilfield service fees paid in the state were spent

on services in the Jonah Field (Schlumberger Oil Field Services Companies 2003). These services and associated jobs would likely be reduced or eliminated under this alternative. No additional economic activity from development would occur; no additional secondary labor earnings or jobs would be created, and no additional taxes or revenues from development would be realized. Over the 40-year LOP, the No Action Alternative would generate a nominal value of up to $15,255.9 million ($11,028.5 million present value) and 13,947 AJEs. All action alternatives would have impacts greater than those described for the No Action because of increased development and longer LOP.

Table 4.6. Per Well Economic Activity from Natural Gas Development, JIDP, Sublette County, Wyoming

Estimated Activity	Conventional Well	Directionally Drilled Well
Direct Expenditures[1,2]		
Drilling ($)	$653,574	$897,184
Completion ($)	$1,533,110	$1,533,110
Total Direct Expenditures ($)	$2,186,684	$2,430,294
Secondary Labor Earnings		
Drilling ($)	$239,402	$328,287
Completion ($)[2]	$293,005	$293,005
Total Secondary Labor Earnings ($)	$532,407	$621,292
Total Economic Activity per Well	**$2,719,091**	**$3,051,586**
Annual Job Equivalents (AJEs)		
Drilling	7.3	3.3
Completion[2]	9.4	1.2
Total AJEs per Well[3]	16.7	19.4
Average Earnings Per Created Job[4] ($)	$31,881	$32,025

1 Includes project-required labor costs.
2 Completion includes the cost of completion plus the setting of production equipment (see Table 4.2).
3 AJEs are jobs indirectly created as a result of the activity. Project-required jobs are presented in Table 4.1.
4 This estimated average annual starting wage per job would not necessarily be the actual wage paid for each created job. Actual wages are determined on an individual basis by employers as influenced by market forces.

4.3.1.2 Proposed Action

Under the Proposed Action, up to 3,100 new wells (assumed at 2,825 conventional and 275 directional) would be developed at a rate of 250 wells per year (12.5 years). The nominal value of development would total $8,588.6 million ($6,631.8 million present value; $687.1 million annually), including $1,688.2 million secondary labor income ($135.1 million annually) and 52,930 AJEs for the development period (4,234.4 AJEs annually) (see Table 4.7).

4.3.1.3 Alternative A (Maximum Recovery)

Under Alternative A, up to 3,100 new conventional wells would be developed at a rate of 250 wells per year (12.5 years). Economic activity of natural gas development from Alternative A would be less than that expected from the Proposed Action due to the removal of directional drilling. The nominal value of development would total $8,497.2 million ($6,561.2 million present value; $679.8 million annually), including $1,663.8 million secondary labor income ($133.1 million annually). The number of AJEs would be 52,187.5 for the development period (4,175 AJEs annually) (see Table 4.8).

Table 4.7. Economic Activity Resulting from Natural Gas Development Under the Proposed Action and the Preferred Alternative, JIDP, Sublette County, Wyoming, 2005

Development Rate	Years to Develop Field	Economic Activity Resulting from 3,100 New Wells on 2,825 New Pads					
		2,825 Conventional Wells Drilled		275 Directional Wells Drilled		Total	
		Annual	LOP	Annual	LOP	Annual	LOP
NOMINAL VALUE OF ECONOMIC ACTIVITY							
250 Wells/Year (228 conventional/22 directional)[1]	12.5						
Direct Economic Activity from Development[2] (millions of $)		498.6	6,232.0	53.5	668.3	552.0	6,900.4
Secondary Labor Earnings[3] (millions of $)		121.4	1,517.4	13.7	170.9	135.1	1,688.2
Total Economic Activity (millions of $)		620.0	7,749.4	67.1	839.2	687.1	8,588.6
AJEs[4]		3,807.6	47,595.0	426.8	5,335.0	4,234.4	52,930.0
PRESENT VALUE OF ECONOMIC ACTIVITY[5]	Years	Annual Activity	Present Value	Annual Activity	Present Value	Annual Activity	Present Value
250 Wells/Year (millions of $)	12.5	620.0	5,983.8	67.1	648.0	687.1	6,631.8

1 The total number of conventional and directional wells may not exactly match the number of wells/year under the different development rates due to rounding. Operators propose the 250 wells/year development rate; however, BLM may require an alternate development rate.
2 Based on costs presented in Table 4.2.
3 Non-project labor earnings resulting from secondary economic activity induced by development. These earnings do not include actual development labor earnings. See Table 4.2 for development wages included in direct costs.
5 Non-project-required jobs resulting from secondary economic activity induced by development. These do not include project-required jobs. See Table 4.1 for estimated project workforce requirements. Average earnings per job would be approximately $31,881 for conventional drilling-induced jobs and $32,025 for directional drilling-induced jobs.
5 See Section 2.2 for a discussion of discounting. The discount rate used for this analysis was 3.5%. Conservatively assumes revenues are received as a lump sum at year end.

Table 4.8. Economic Activity Resulting from Natural Gas Development Under Alternative A (Maximum Recovery) and Alternative B (Minimum Disturbance), JIDP, Sublette County, Wyoming, 2005

Development Rate	Years to Develop Field	Economic Activity Resulting from Alternative A (Maximum Recovery) (3,100 Conventional Wells)		Economic Activity Resulting from Alternative B (Minimum Disturbance) (3,100 Directionally Drilled Wells)	
		Annual	LOP	Annual	LOP
NOMINAL VALUE OF ECONOMIC ACTIVITY					
75 Wells/Year	42.0				
Direct Economic Activity from Development[2] (millions of $)		--	--	182.3	7,655.4
Secondary Labor Earnings[3] (millions of $)		--	--	46.6	1,957.1
Total Economic Activity (millions of $)		--	--	228.9	9,612.5
Annual Job Equivalents (AJEs)[4]		--	--	1,455.0	61,110.0
250 Wells/Year	12.5				
Direct Economic Activity from Development[2] (millions of $)		546.7	6,833.4	--	--
Secondary Labor Earnings[3] (millions of $)		133.1	1,663.8	--	--
Total Economic Activity (millions of $)		679.8	8,497.2	--	--
AJEs[4]		4,175.0	52,187.5	--	--
PRESENT VALUE OF ECONOMIC ACTIVITY[5]	Years	Annual Activity	Present Value	Annual Activity	Present Value
75 Wells/Year (millions of $)	42.0	--	--	228.9	4,997.3
250 Wells/Year (millions of $)	12.5	679.8	6,561.2	--	--

1 The total number of conventional and directional wells may not exactly match the number of wells/year under the different development rates due to rounding.
2 Based on costs presented in Table 4.2.
3 Non-project labor earnings resulting from secondary economic activity induced by development. These earnings do not include actual development labor earnings. See Table 4.2 for development wages included in direct costs.
5 Non-project-required jobs resulting from secondary economic activity induced by development. These do not include project-required jobs. See Table 4.1 for estimated project workforce requirements. Average earnings per job would be approximately $31,881 for conventional drilling-induced jobs and $32,025 for directional drilling-induced jobs.
5 See Section 2.2 for a discussion of discounting. The discount rate used for this analysis was 3.5%. Conservatively assumes revenues are received as a lump sum at year end.

Table 4.9. Summary of Economic Activity Resulting from Natural Gas Development under Each Alternative over the Life of Project, JIDP, Sublette County, Wyoming, 2005

Development Rate[2]	Economic Activity Resulting from Development				
	No Action Alternative[1]	Proposed Action	Alternative A (Maximum Development)	Alternative B (Minimum Recovery)	Preferred Alternative
NOMINAL VALUE OF ECONOMIC ACTIVITY[6]					
75 Wells/Year					
Direct Economic Activity from Development[3] (millions of $)	--	--	--	7,655.4	--
Secondary Labor Earnings[4] (millions of $)	--	--	--	1,957.1	--
Total Economic Activity (millions of $)	--	--	--	9,612.5	--
Annual Job Equivalents (AJEs)[5]			--	61,110.0	--
250 Wells/Year					
Direct Economic Activity from Development[3] (millions of $)	--	6,900.4	6,833.4	--	6,900.4
Secondary Labor Earnings[4] (millions of $)	--	1,688.2	1,663.8	--	1,688.2
Total Economic Activity (millions of $)	--	8,588.6	8,497.2	--	8,588.6
AJEs[5]	--	52,930.0	52,187.5	--	52,930.0
PRESENT VALUE OF ECONOMIC ACTIVITY[6]					
75 Wells/Year (millions of $)	--	--	--	4,997.3	--
250 Wells/Year (millions of $)	--	6,631.8	6,561.2	--	--

[1] Assumes no new development would occur under the No Action Alternative. Operator propose the 250 well/year development rate; however, BLM may require an alternate development rate.
[2] See Table 4.3 for development rates for each alternative. Also see Tables 4.7–4.8.
[3] Based on costs presented in Table 4.2. Also see Tables 4.7–4.8.
[4] Non-project labor earnings resulting from secondary economic activity induced by development. These earnings do not include actual development labor earnings. See Table 4.2 for development wages included in direct costs. Also see Table 4.7–4.8.
[5] Non-project-required jobs resulting from secondary economic activity induced by development. These do not include project-required jobs. See Table 4.1 for estimated project workforce requirements. Average earnings per job would be approximately $31,881 for conventional drilling-induced jobs and $32,025 for directional drilling-induced jobs.
[6] See Section 2.2 for a discussion of discounting. The discount rate used for this analysis was 3.5%. Conservatively assumes revenues are received as a lump sum at year end.

4.3.1.4 Alternative B (Minimum Disturbance)

Under Alternative B, up to 3,100 new directionally drilled wells would be developed at a rate of 75 wells/year (42 years). Economic activity of natural gas development from Alternative B would be more than that expected from the Proposed Action due to the increased amount of directional drilling. The nominal value of development for Alternative B would be $9,612.5 million ($4,997.3 million present value; $228.9 million annually), including $1,957.1 million secondary labor income ($46.6). The number of AJEs would be 61,110 (1,455 AJEs annually) (see Table 4.8).

4.3.1.5 Preferred Alternative

Under the Preferred Alternative, up to 3,100 new wells would be developed at a rate of 250 wells per year (12.5 years). Economic activity of natural gas development from the Preferred Alternative would be similar to that described for the Proposed Action (see Table 4.7).

4.3.2 Natural Gas Production Impacts

The value of natural gas production is based on revenues less cost of operation. Table 4.10 shows that production from one BCF of natural gas would generate total economic activity (direct and secondary) of $3,632,083 (includes $132,083 of secondary labor earnings) and would create 3.92 AJEs.

Table 4.10. Gas Production Impacts from One BCF of Natural Gas and One MBO, JIDP, Sublette County, Wyoming, 2005

Resource	Economic Activity
Natural Gas	Activity per BCF
Revenue[1]	$3,500,000
Secondary Labor Earnings	$132,083
Total Economic Activity per BCF	$3,682,083
AJEs	3.92
Condensate	Activity per MBO
Revenue[2]	$21,000,000
Secondary Labor Earnings	$792,498
Total Economic Activity per MBO	$21,792,498
AJEs	23.52

[1] Price is $3.50/MCF based on CREG (2004). The value of production is based on revenues less cost of operation.
[2] Price is $21/bbl based on CREG (2004). Assumes natural gas recovery costs include recovery of condensate.

One million barrels of condensate are assumed to generate total economic activity (direct and secondary) of $21,792,498 (includes $792,498 of secondary labor earnings) and would create 23.52 AJEs. The economic activity associated with condensate production is likely conservatively underestimated because condensate from the Jonah Field is of particularly high quality and generally sells for a price higher than the price of crude oil. Assumed production rates, decline curves, and discounting tables are presented in Appendix A.

4.3.2.1 No Action Alternative

Under the No Action Alternative, 533 currently authorized wells would be expected to produce 3,366 BCF of natural gas and 31.98 MBO, which would result in nominal economic activity of $12,922.5 million (including $469.9 million of secondary labor earnings) and 13,947 AJEs (Table 4.11). Production would result in $9,275.7 million present value economic activity (including $319.8 million in labor earnings) to the local economy over the LOP (see Table 4.11). The anticipated LOP for the No Action Alternative could be up to 40 years (excluding reclamation).

It would be likely that, under the No Action Alternative, Jonah Operators also would produce at a slower pace. This would further reduce the number of crews and associated services employed in the area. Employment would likely be decreased, and these changes in employment might serve to decrease the population in the study area as disaffiliated workers might seek to leave the area in search of new employment. A potential decline in population due to fewer employment opportunities would result in less demand in housing. Potential increases in taxes and revenues would not be realized, and population-based disbursements, such as some royalties, severance, and PILT payments based on county and city populations, would likely decrease. Production impacts from all action alternatives would be higher than those described for the No Action Alternative due to the increased number of wells, higher production volume rates, and extended LOP.

4.3.2.2 Proposed Action

Under the Proposed Action, production of natural gas over the LOP would be up to 7,947 BCF of natural gas and 75.50 MBO, which would result in nominal economic activity of $30,509.5 million ($17,963.8 million present value), including $1,109.5 million of secondary labor earnings ($619.3 million present value) and 32,928 AJEs (see Table 4.11). The LOP (excluding final reclamation) for the Proposed Action could be up to 52.5 years (12.5 years to develop, 40-year life of well). This alternative would have more nominal economic activity in terms of production than the No Action Alternative because of the higher level of resource recovery.

4.3.2.3 Alternative A (Maximum Recovery)

Under Alternative A, it is assumed that recovery for the LOP would be up to 8,191 BCF of natural gas and 77.81 MBO. This would result in nominal economic activity of $31,446.1 million ($18, 511.2 million present value), including $1,143.6 million of secondary labor earnings ($638.1 million present value) and 33,939 AJEs (see Table 4.11). The LOP (excluding reclamation) could be up to 52.5 years (12.5 years to develop, 40-year life of well). Alternative A would have more nominal economic activity in terms of production than the Proposed Action because of the higher level of resource recovery.

4.3.2.4 Alternative B (Minimum Disturbance)

Under Alternative B, it is assumed that recovery for the LOP would be up to 6,124 BCF of natural gas and 58.18 MBO. This would result in nominal economic activity of $23,510.8 million, ($9, 325.1 million present value), including $855.0 million of secondary labor earnings ($321.5 million present value) and 25,374 AJEs (see Table 4.11). The LOP, excluding final reclamation, for Alternative B could be up to 82 years (42 years to develop, 40-year life of well). This alternative would have less nominal economic activity in terms of production than the Proposed Action because of the lower level of resource recovery.

Table 4.11. Economic Activity Resulting from Natural Gas Production Over the Life of Project, JIDP, Sublette County, 2005

Impact	No Action Alternative[1]	Proposed Action[2]	Alternative A (Maximum Development)[2]	Alternative B (Minimum Recovery)[2]	Preferred Alternative[2]
Total Anticipated Natural Gas Recovery over the LOP (BCF)	3,366	7,947	8,191	6,124	7,947
Total Anticipated Condensate Recovery over the LOP (million bbls)	31.98	75.50	77.81	58.18	75.50
NOMINAL VALUE OF ECONOMIC ACTIVITY					
Value of Natural Gas Production[3] (millions of $)	11,781.0	27,814.5	28,668.5	21,434.0	27,814.5
Value of Condensate Production[4] (millions of $)	671.6	1,585.5	1,634.0	1,221.8	1,585.5
Secondary Labor Earnings[5] (millions of $)	469.9	1,109.5	1,143.6	855.0	1,109.5
Total Economic Activity (millions of $)	12,922.5	30,509.5	31,446.1	23,510.8	30,509.5
AJEs	13,947	32,928	33,939	25,374	32,928
Average Earnings Per Job	$47,173	$47,173	$47,173	$47,173	$47,173
PRESENT VALUE OF ECONOMIC ACTIVITY[6]					
75 Wells Per Year Development Rate[1]					
Value of Natural Gas Production[3] (millions of $)	8,473.0	--	--	8,518.1	--
Value of Condensate Production[4] (millions of $)	483.0	--	--	485.5	--
Secondary Labor Earnings[5] (millions of $)	319.8	--	--	321.5	--
Total Economic Activity (millions of $)	9,275.7	--	--	9,325.1	--
250 Wells Per Year Development Rate[1]					
Value of Natural Gas Production[3] (millions of $)	8,473.0	16,409.2	16,909.2	--	16,409.2
Value of Condensate Production[4] (millions of $)	483.0	935.3	963.8	--	935.3
Secondary Labor Earnings[5] (millions of $)	319.8	619.3	638.1	--	619.3
Total Economic Activity (millions of $)	9,275.7	17,963.8	18,511.2	--	17,963.8

[1] All wells under the No Action Alternative are currently under production, therefore, the rate of development will not affect the production values. Well life is assumed to be 40 years.
[2] Includes wells currently in production (i.e., No Action Alternative wells).
[3] Price is $3.50/MCF of natural gas based on CREG (2004). The value of production is based on revenues less cost of operation.
[4] Price is $21.00/bbl of condensate based on CREG (2004). No additional cost of operation and no additional labor earnings or employment are attributable to condensate.
[5] Non-project labor earnings resulting from secondary economic activity induced by production. These earnings do not include actual production labor earnings. See Table 4.5 for production wages included in direct costs.
[6] Based on annual production calculated using decline curves provided by Operators. All wells are assumed to have a 40-year life. See Appendix B for decline curves and expected annual production. Present value is the real value of production with discounting applied. See Section 2.2 for a discussion of discounting.

4.3.2.5 Preferred Alternative

Under the Preferred Alternative, recovery and economic impacts from production for the LOP would be similar to those described for the Proposed Action.

4.3.3 Government Revenues

The project would generate revenues for state, county, and local governments, as well as area school districts, through state sales tax, federal income tax, ad valorem taxes, severance taxes, federal minerals royalties, and other taxes on facilities and production. The assumed severance tax rates for both natural gas (base rate) and condensate is 6%, and approximately 4.2% of production is expected to come from state lands and would result in revenues from severance tax. The other 95.8% of production would be from federal lands and would result in revenues from federal mineral royalties at the rate of 12.5%. Secondary labor earnings would be subject to federal income tax at an assumed rate of 15% based on estimated average wages and Internal Revenue Service tax rate tables.

The estimated revenues and taxes resulting from the project, as well as their present value for the LOP, are presented in Table 4.12. Table 4.13 shows the likely distribution of those funds to the U.S., State of Wyoming, and affected counties, cities, and towns based on current statutes and distribution trends presented in Chapter 3. For the purposes of this analysis, the rate of development and an average decline curve for individual well production was used to estimate total annual field production; well life was assumed to be 40 years (see Appendix A). Increases in taxes and revenues would have the effect of providing counties and communities with more discretionary dollars to develop infrastructure and provide for the needs of residents.

Table 4.12. Government Taxes and Revenues Resulting from the JIDP (Life of Project), Sublette County, Wyoming, 2005

Development Rate[1]	Economic Activity Resulting from Development (LOP)				
	No Action Alternative[3]	Proposed Action[2]	Alternative A (Maximum Recovery)[2]	Alternative B (Minimum Disturbance)[2]	Preferred Alternative
NOMINAL VALUE OF TAX REVENUES FROM ECONOMIC ACTIVITY					
75 Wells/Year					
State Sales Taxes from Development[3] (millions of $)	0.0	--	--	294.0	--
Federal Income Tax from Development Labor[4] (millions of $)	0.0	--	--	45.9	--
Taxes from Secondary Development Labor Earnings[4] (millions of $)	0.0	--	--	293.6	--
Severance Revenues from Production[5] (millions of $)	31.4	--	--	57.1	--
Federal Mineral Royalties from Production[5] (millions of $)	1,491.2	--	--	2,713.0	--
Ad Valorem Taxes on Production[6] (millions of $)	741.8	--	--	1,349.6	--
Federal Income Taxes from Secondary Production Labor Earnings[4] (millions of $)	70.5	--	--	128.2	--
Total Taxes and Revenues[7] (millions of $)	2,334.9	--	--	4,881.4	--
250 Wells/Year					
State Sales Taxes from Development[3] (millions of $)	0.0	265.0	262.4	--	265.0
Federal Income Tax from Development Labor[4] (millions of $)	0.0	41.4	41.0	--	41.4
Taxes from Secondary Development Labor Earnings[4] (millions of $)	0.0	253.2	249.6	--	253.2
Severance Revenues from Production[5] (millions of $)	31.4	74.1	76.4	--	74.1
Federal Mineral Royalties from Production[5] (millions of $)	1,491.2	3,520.7	3,628.7	--	3,520.7
Ad Valorem Taxes on Production[6] (millions of $)	741.8	1,751.4	1,805.1	--	1,751.4
Federal Income Taxes from Secondary Production Labor Earnings[4] (millions of $)	70.5	166.4	171.5	--	166.4
Total Taxes and Revenues[7] (millions of $)	2,334.9	6,072.1	6,234.7	--	6,072.1
PRESENT VALUE OF REVENUES AND TAXES FROM ECONOMIC ACTIVITY[8]					
75 Wells/Year					
State Sales Taxes from Development (millions of $)	0.0	--	--	160.5	--
Federal Income Tax from Development Labor (millions of $)	0.0	--	--	25.1	--
Taxes from Secondary Development Labor Earnings (millions of $)	0.0	--	--	160.2	--
Severance Revenues from Production (millions of $)	22.6	--	--	22.7	--
Federal Mineral Royalties from Production (millions of $)	1,072.5	--	--	1,078.2	--

Table 4.12. (Continued)

Development Rate[1]	Economic Activity Resulting from Development (LOP)				
	No Action Alternative[3]	Proposed Action[2]	Alternative A (Maximum Recovery)[2]	Alternative B (Minimum Disturbance)[2]	Preferred Alternative
Ad Valorem Taxes on Production (millions of $)	533.5	--	--	536.3	--
Federal Income Taxes from Secondary Production Labor Earnings (millions of $)	125.1	--	--	125.1	--
Total Taxes and Revenues (millions of $)	1,753.7	--	--	2,108.1	--
250 Wells/Year					
State Sales Taxes from Development (millions of $)	0.0	63.9	63.3	--	63.9
Federal Income Tax from Development Labor (millions of $)	0.0	10.0	9.9	--	10.0
Taxes from Secondary Development Labor Earnings (millions of $)	0.0	61.1	60.2	--	61.1
Severance Revenues from Production (millions of $)	22.6	43.7	45.0	--	43.7
Federal Mineral Royalties from Production (millions of $)	1,072.5	2,077.0	2,140.3	--	2,077.0
Ad Valorem Taxes on Production (millions of $)	533.5	1,033.2	1,064.7	--	1,033.2
Federal Income Taxes from Secondary Production Labor Earnings (millions of $)	125.1	185.8	191.4	--	185.8
Total Taxes and Revenues (millions of $)	1,753.7	3,474.7	3,574.9	--	3,474.7

[1] Assumes no new development.
[2] Includes wells currently in production (i.e., No Action Alternative wells).
[3] Based on costs presented in Table 4.2. Assumes 96% of development cost is materials and supplies subject to state sales tax. Assumes state sales tax rate is 4%. Counties where materials are purchased may impose additional sales tax.
[4] Non-project labor earnings resulting from secondary economic activity are assumed to be taxed at a federal income tax rate of 15% (rate for head of household in 2004 for average wage of $37,228).
[5] Assumes 4.2% of production is from state minerals with severance taxes at a rate of 6% on production value; 95.8% of production is from federal minerals and with federal royalty at a rate of 12.5% on production value.
[6] Assumes 59.57 mills levied as ad valorem tax rate on production in Sublette County.
[7] This analysis does not present an exhaustive analysis of all possible taxes and revenues but is an estimate of most likely consistent taxes and revenues.
[8] See Section 2.2 for a discussion of discounting. The discount rate used for this analysis was 3.5%. Conservatively assumes revenues are received as a lump sum at year end.

All counties in the study area would benefit from increased revenues from federal royalties, severance taxes, sales taxes, and other indirect taxes such as use and lodging taxes. Development and production occurring within Sublette County would directly relate to increases in ad valorem production and property taxes. This would impact only Sublette County and its communities. Ad valorem taxes on production have been estimated; however, real property values are likely to change if the populations fluctuate, which could result in fluctuating receipts from ad valorem taxes on property. Real property value changes are beyond the scope of this analysis and are not addressed further.

4.3.3.1 No Action Alternative

Under the No Action Alternative, total nominal taxes and royalties would amount to $2,334.9 million over the LOP (see Table 4.12). These returns would provide $741.92 million to Sublette County (see Table 4.13). Based on a population of 6,654 (Year 2004), this would be equivalent to the county receiving funds of $111,484 (approximately $2,787 annually) for each person in the county over the LOP. This alternative would generate approximately $20.13 million for the school capital account to be distributed by the state (see Table 4.13).

This alternative would result in a lower recovery of resources and a lower supply of natural gas over the long term than under the Proposed Action and other alternatives and may result in higher consumer prices and increased dependence on foreign supplies over the long term. The additional taxes and revenues generated by the Proposed Action and other alternatives would remain unrealized. Local community government operating budgets would likely remain essentially static under this alternative.

Revenues from development would not be realized under the No Action Alternative; therefore, of all the alternatives, No Action would return the least amount of revenue ($2,334.9 million nominal; $1,753.7 million present value) to affected governments (see Table 4.12).

4.3.3.2 Proposed Action

Under the Proposed Action, total nominal taxes and royalties would amount to $6,072.1 million ($3,474.7 million present value) over the LOP (see Table 4.12). Nominal taxes and royalties to Sublette County would be $1,839.08 million (see Table 4.13). Based on a population of 6,654 (Year 2004), this would be equivalent to the county receiving funds of $276,387 (approximately $5,264 annually) for each person in the county. This alternative would generate approximately $47.53 million for the school capital account to be distributed by the state (see Table 4.13).

Property tax revenues would likely increase due to the increased tax base resulting from capital improvements in the JIDPA. Additional natural gas production could affect consumers because retail prices for natural gas are driven by supply and demand. As supply increases in relation to demand, prices of natural gas tend to fall. Reduced energy costs would also affect the local, state, and national economies. While, conceptually, changes in production for this field could impact pricing of natural gas for consumers, given the size of the market it is not likely that a measurable change in market price would be associated with this alternative.

Table 4.13. Taxes and Revenues Received by Governments from the Jonah Infill Drilling Project (Life of Project), Sublette County, Wyoming, 2005

Development Rate/Government	Taxes and Revenues Received by Governments				
	No Action Alternative	Proposed Action	Alternative A (Maximum Recovery)	Alternative B (Minimum Recovery)	Preferred Alternative
75 Wells/Year					
Federal					
Federal Income Tax from All Labor (millions of $)	70.49	--	--	467.74	--
Federal Mineral Royalties from Production (millions of $)	1,491.20	--	--	2,713.03	--
Total Federal Taxes and Revenues	1,561.69	--	--	3,180.77	--
State		--	--		
State Sales Taxes from Development[2] (millions of $)	0.00	--	--	293.97	--
Severance Revenues from Production (millions of $)	31.38	--	--	57.09	--
Federal Mineral Royalties from Production Returned to State (millions of $)	745.60	--	--	1,356.51	--
Total State Taxes and Revenues	776.98	--	--	1,707.58	--
Sublette County		--	--		
State Sales Taxes from Development Returned to County[2] (millions of $)	0.00	--	--	97.01	--
Severance Revenues from Production Returned to County[3] (millions of $)	0.02	--	--	0.03	--
Ad Valorem Taxes on Production[5] (millions of $)	741.80	--	--	1,349.60	--
Total County Taxes and Revenues	741.82	--	--	1,446.65	--
Lincoln County		--	--		
Severance Revenues from Production Returned to County[3] (millions of $)	0.05	--	--	0.08	--
Sweetwater County		--	--		
Severance Revenues from Production Returned to County[3] (millions of $)	0.12	--	--	0.22	--
LaBarge		--	--		
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.10	--	--	0.19	--
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.20	--	--	0.35	--
Total Town Taxes and Revenues	0.30	--	--	0.55	--
Big Piney		--	--		
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.10	--	--	0.18	--
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.19	--	--	0.35	--
Total Town Taxes and Revenues	0.29	--	--	0.53	--
Marbleton		--	--		
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.18	--	--	0.32	--
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.30	--	--	0.55	--
Total Town Taxes and Revenues	0.48	--	--	0.87	--
Pinedale					
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.34	--	--	0.62	--
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.54	--	--	0.98	--
Total Town Taxes and Revenues	0.88	--	--	1.60	--
Rock Springs		--	--		
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	4.56	--	--	8.30	--
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	3.47	--	--	6.32	--
Total Town Taxes and Revenues	8.04	--	--	14.62	--
Federal Mineral Royalties from Production Allocated to School Capital Account[4] (millions of $)	20.13	--	--	36.63	--
250 Wells/Year					
Federal					
Federal Income Tax from All Labor (millions of $)	70.49	461.06	462.10	--	461.06
Federal Mineral Royalties from Production (millions of $)	1,491.20	3,520.65	3,628.73	--	3,520.65
Total Federal Taxes and Revenues	1,561.69	3,981.71	4,090.83	--	3,981.71
State				--	
State Sales Taxes from Development[2] (millions of $)	0.00	264.97	262.40	--	264.97
Severance Revenues from Production (millions of $)	31.38	74.09	76.36	--	74.09
Federal Mineral Royalties from Production Returned to State(millions of $)	745.60	1,760.33	1,814.36	--	1,760.33
Total State Taxes and Revenues	776.98	2,099.39	2,153.13	--	2,099.39
Sublette County				--	
State Sales Taxes from Development Returned to County[2] (millions of $)	0.00	87.44	86.59	--	87.44
Severance Revenues from Production Returned to County[3] (millions of $)	0.12	0.28	0.29	--	0.28
Ad Valorem Taxes on Production[5] (millions of $)	741.80	1,751.36	1,805.12	--	1,751.36
Total County Taxes and Revenues	741.92	1,839.08	1,892.00	--	1,839.08
Lincoln County				--	
Severance Revenues from Production Returned to County[3] (millions of $)	0.05	0.11	0.11	--	0.11

Table 4.13. (Continued)

Development Rate/Government	Taxes and Revenues Received by Governments				
	No Action Alternative	Proposed Action	Alternative A (Maximum Recovery)	Alternative B (Minimum Recovery)	Preferred Alternative
Sweetwater County				--	
Severance Revenues from Production Returned to County[3] (millions of $)	0.12	0.28	0.29	--	0.28
LaBarge				--	
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.00	0.01	0.01	--	0.01
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.20	4.60	4.75	--	4.60
Total Town Taxes and Revenues	0.20	4.61	4.76	--	4.61
Big Piney				--	
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.10	0.01	0.24	--	0.01
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.19	4.54	4.68	--	4.54
Total Town Taxes and Revenues	0.29	4.55	4.92	--	4.55
Marbleton				--	
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.18	0.02	0.43	--	0.02
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.30	7.10	7.31	--	7.10
Total Town Taxes and Revenues	0.48	7.11	7.74	--	7.11
Pinedale				--	
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	0.34	0.01	0.26	--	0.01
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	0.54	4.60	4.75	--	4.60
Total Town Taxes and Revenues	0.88	4.61	5.00	--	4.61
Rock Springs				--	
Severance Revenues from Production Returned Cities and Towns[3] (millions of $)	4.56	0.01	0.26	--	0.01
Federal Mineral Royalties from Production Returned to Cities and Towns[4] (millions of $)	3.47	4.60	4.75	--	4.60
Total Town Taxes and Revenues	8.04	4.61	5.00	--	4.61
Federal Mineral Royalties from Production Allocated to School Capital Account[4] (millions of $)	20.13	47.53	48.99	--	47.53

[1] This analysis does not present all possible taxes and revenues; it is an estimate of the most likely taxes and revenues. See Table 4.12 for present value of taxes.
[2] Sales tax returns to the county of origin. It is likely that some taxable development costs will occur in other counties; for purposes of this analysis, all sales taxes are attributed to Sublette County.
[3] Based on 2003 proportions. Counties would also receive a percentage of severance for road construction funds (see Table 3.23).
[4] Based on 2003 proportions. See Table 3.27 for distribution formulas. For the purposes of this analysis all revenues are allocated to Sublette County; however, actual distribution is likely to vary.
[5] Assumes 59.57 mills levied as ad valorem tax rate on production in Sublette County.

4.3.3.3 Alternative A (Maximum Recovery)

Under Alternative A, nominal taxes and royalties would most likely amount to $6,234.7 million ($3,574.9 million present value) over the LOP (see Table 4.12). Nominal taxes and royalties to Sublette County would be $1,892.00 million (see Table 4.13). Based on a population of 6,654 (Year 2004), this would be equivalent to the county receiving funds of $284,340 (approximately $5,416 annually) for each person in the county. This alternative would generate approximately $48.99 million for the school capital account to be distributed by the state (see Table 4.12).

Property tax revenues would likely be higher under this alternative than under the Proposed Action due to the greater amount of construction involved with development, which would result in an increased tax base resulting from capital improvements in the JIDPA. Because Alternative A maximizes resource recovery, benefits to consumers and local, state, and national economies would likely be higher than under the Proposed Action. Local area government operating budgets would likely increase, but be less under this alternative than under the Proposed Action due to reduced development expenditures. Alternative A would generate the most overall taxes and revenues ($6,234.7 million) and the most funds ($48.99 million) for the school capital account over the LOP compared to the other alternatives (see Table 4.13).

4.3.3.4 Alternative B (Minimum Disturbance)

Under Alternative B, nominal taxes and royalties would most likely amount to $4,881.4 million ($2,108.1 million present value) over the LOP (see Table 4.12). Nominal taxes and royalties to Sublette County would be $1,446.56 million (see Table 4.13). Based on a population of 6,654 (Year 2004), this would be equivalent to the county receiving funds of $217,398 (approximately $2,651 annually) for each person in the county. This alternative would generate approximately $36.63 million for the school capital account to be distributed by the state (see Table 4.13).

Property tax revenues would increase due to the increased tax base resulting from capital improvements in the JIDPA but at a lower amount than under the Proposed Action due to the decreased number of well pads. However, this alternative would result in a lower recovery of resources and a lower supply of natural gas over the long term than under the Proposed Action. Conceptually, this may result in higher consumer prices and increased dependence on foreign supplies, although given the size of the market it is not likely that a measurable change in market price would be associated with this alternative due to the length of the LOP. Local area government operating budgets would likely increase but be less under this alternative than under the Proposed Action due to reduced development expenditures and lower recovery of resources.

4.3.3.5 Preferred Alternative

Under the Preferred Alternative, impacts from increased taxes and revenues on local governments would be similar to those described under the Proposed Action

4.4 RECREATION IMPACTS

4.4.1 Nonconsumptive Recreation

No developed recreation sites or facilities are located in or immediately adjacent to the JIDPA; therefore, no impacts to recreation sites or facilities are anticipated under the Proposed Action or any of the alternatives.

Some non-quantifiable long-term displacement or elimination of existing dispersed recreation would be likely due to an increased level of gas field development activities, but since development activities have been taking place in the area for several years, much of this impact may have already occurred. For example, potential recreational visitors may already avoid the JIDPA because of a perceived reduction in the quality of the recreational experience in the area.

Information on the number of resident versus nonresident nonconsumptive recreational visitors is not collected for the JIDPA. Economic losses could result if recreationists were displaced from the JIDPA and moved their activities out of the study area. Losses would be proportional to the number of displaced recreationists. For the purposes of this analysis, it is assumed that all recreation would be lost from the JIDPA for the LOP. It is also likely that most of this loss has already occurred due to existing development effects.

Direct impacts from displaced nonconsumptive recreationists (per visitor day) could result in a loss of $29.62 per RVD, including $6.80 of labor income and 0.000518 AJEs per RVD (Table 4.14). If all 3,396 RVDs (see Table 3.43) were lost (regardless of the alternative), there would be an annual loss in direct expenditures of $100,590 (including $23,093 labor earnings) and an annual loss of 1.8 AJEs for the LOP (Table 4.15).

Table 4.14. Economic Activity per RVD from Nonconsumptive Recreation, JIDP, Sublette County, Wyoming, 2005

Item	Economic Activity per RVD
Direct Expenditures	$22.82
Secondary Labor Earnings	$6.80
Total Economic Activity per RVD	$29.62
AJEs per RVD	0.000518

It is likely that most recreationists who would avoid the JIDPA as a result of natural gas development would relocate their activities to other places in the vicinity that provide similar recreational opportunities. Individuals may experience impacts in terms of lessened enjoyment and satisfaction from relocated recreational activities.

4.4.1.1 No Action Alternative

Under the No Action Alternative, no change in economic activity from current conditions for recreation would be expected. No additional development would occur; therefore, current recreationists would not likely relocate their activities more than they do now (see Table 4.15). Impacts to economic activity related to recreation from all action alternatives would be higher than those described for the No Action Alternative due to the increased disturbance and extended LOP.

Table 4.15. Economic Activity from Nonconsumptive Recreation for the Life of Project, JIDP, Sublette County, Wyoming, 2005

Economic Activity	No Action Alternative	Proposed Action	Alternative A (Maximum Recovery)	Alternative B (Minimum Disturbance)	Preferred Alternative
Affected RVDs (Assumed Lost for LOP)		3,396	3,396	3,396	3,396
Economic Activity/RVD					
Direct Expenditures ($)	22.8	22.8	22.8	22.8	22.8
Secondary Labor Earnings ($)	6.8	6.8	6.8	6.8	6.8
Total Economic Effect ($)	29.6	29.6	29.6	29.6	29.6
Total AJEs	0.000518	0.000518	0.000518	0.000518	0.000518
Annual Economic Activity	--				
Direct Expenditures ($)	--	77,496.7	77,496.7	77,496.7	77,496.7
Secondary Labor Earnings ($)	--	23,092.8	23,092.8	23,092.8	23,092.8
Total Economic Effect ($)	--	100,589.5	100,589.5	100,589.5	100,589.5
Total Annual AJEs	--	1.8	1.8	1.8	1.8
NOMINAL VALUE OF LOP RECREATION					
75 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	--	--	6.4	--
Secondary Labor Earnings (millions of $)	--	--	--	1.9	--
Total Economic Effect (millions of $)	--	--	--	8.2	--
Total LOP AJEs	--	--	--	144.2	--
250 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	4.1	4.1	--	4.1
Secondary Labor Earnings (millions of $)	--	1.2	1.2	--	1.2
Total Economic Effect (millions of $)	--	5.3	5.3	--	5.3
Total LOP AJEs	--	92.4	92.4	--	92.4
PRESENT VALUE OF LOP RECREATION[2]					
75 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	--	--	2.1	--
Secondary Labor Earnings (millions of $)	--	--	--	0.6	--
Total Economic Effect (millions of $)	--	--	--	2.7	--
250 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	1.8	1.8	--	1.8
Secondary Labor Earnings (millions of $)	--	0.5	0.5	--	0.5
Total Economic Effect (millions of $)	--	2.4	2.4	--	2.4

4.4.1.2 Proposed Action

Under the Proposed Action, if it is assumed that all 3,396 RVDs are removed for the LOP, reduced recreation economic activity would amount to a nominal value of $5.3 million ($2.4 million present value), including $1.2 million secondary labor earnings ($0.5 million present value) and up to 92.4 AJEs (see Table 4.15).

4.4.1.3 Alternative A (Maximum Recovery)

Under Alternative A, losses to economic activity from recreation would be the same as those described for the Proposed Action (see Table 4.15).

4.4.1.4 Alternative B (Minimum Disturbance)

Under Alternative B, losses to economic activity from recreation would be greater than for the Proposed Action due to the longer LOP for Alternative B. Reduced recreation economic activity would amount to a nominal value of $8.2 million ($2.7 million present value), including $1.9 million secondary labor earnings ($0.6 million present value) and up to 144.2 AJEs (see Table 4.15).

4.4.1.5 Preferred Alternative

Under the Preferred Alternative, changes to economic activity would be similar to those described for the Proposed Action.

4.4.2 Hunting

Economic activity from hunting could be reduced if hunters were displaced from the JIDPA and moved their activities out of the study area. Losses would be proportional to the number of displaced hunters. Under the Proposed Action and alternatives, populations of pronghorn antelope and/or greater sage-grouse, which are the two principal species hunted on the JIDPA, would likely be displaced to such an extent that recreational hunting on the JIDPA may no longer occur. Cottontail rabbits are also hunted on the JIDPA, but are unlikely to be displaced. However, it is likely that hunters already avoid the area due to existing development. Lands adjacent to the JIDPA may absorb displaced hunting activities since displaced wildlife (most notably pronghorn antelope and greater sage-grouse) may also move to adjacent lands; thus, no economic loss may result from loss of hunting due to the project. However, for the purposes of this economic analysis, it is conservatively assumed that all hunting on the JIDPA would be lost for the LOP.

Only pronghorn antelope, cottontail, and greater sage-grouse are likely to be hunted on the JIDPA. WGFD does not collect resident versus nonresident information for those hunting cottontail and greater sage-grouse; therefore, it will be conservatively assumed for the purposes of this analysis that all hunters are nonresident. Direct impacts from displaced pronghorn hunters (61.0 hunter-days per year attributable to JIDPA lands) could result in a loss of $536.46/hunter-day (including $155.16 of secondary labor earnings) and 0.005486 AJEs each (Table 4.16). Direct impacts from displaced greater sage-grouse hunters (16.3 hunter-days per year) could result in a loss of $183.32 (including $53.02 of secondary labor earnings) and 0.004131 AJEs each. If all hunters relocate their activities away from the JIDPA, the impact could be an annual economic activity loss of $42,140 ($12,188 of secondary labor earnings) and an annual loss 0.95 AJEs (Table 4.17).

Table 4.16. Economic Activity per Hunter-day, JIDP, Sublette County, Wyoming, 2005

Item	Economic Activity from Hunting			
	Pronghorn	Cottontail	Greater Sage-grouse	Total
Economic Activity Per Hunter-day				
Direct Expenditures	$381.30	$173.06	$130.30	$684.66
Secondary Labor Earnings	$155.16	$70.42	$53.02	$278.60
Total Economic Activity per Hunter-day	$536.46	$243.48	$183.32	$963.26
AJEs	0.012087	0.005486	0.004131	0.021704
Annual Economic Activity				
No. Hunter-days	61.0	26.4	16.3	103.70
Direct Expenditures	$23,259	$4,569	$2,124	$29,952
Secondary Labor Earnings	$9,465	$1,859	$864	$12,188
Total Annual Economic Activity	$32,724	$6,428	$2,988	$42,140
AJEs	0.7	0.1	0.1	0.95

Table 4.17. Economic Activity Resulting from Hunting over the Life of Project, JIDP, Sublette County, Wyoming, 2005

Economic Activity	No Action Alternative	Proposed Action	Alternative A (Maximum Recovery)	Alternative B (Minimum Disturbance)	Preferred Alternative
Affected Hunter-days[1] (Assumed Lost for LOP)	--	103.7	103.7	103.7	103.7
Economic Activity Per Hunter-day					
Direct Expenditures ($)	684.66	684.66	684.66	684.66	684.66
Secondary Labor Earnings ($)	278.60	278.60	278.60	278.60	278.60
Total Economic Effect ($)	963.26	963.26	963.26	963.26	963.26
Total AJEs	0.021704	0.021704	0.021704	0.021704	0.021704
Annual Economic Activity					
Direct Expenditures ($)	--	29,952.0	29,952.0	29,952.0	29,952.0
Secondary Labor Earnings ($)	--	12,188.0	12,188.0	12,188.0	12,188.0
Total Economic Effect ($)	--	42,140.0	42,140.0	42,140.0	42,140.0
Total Annual AJEs	--	0.95	0.95	0.95	0.95
NOMINAL VALUE OF LOP HUNTING					
75 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	--	--	2.5	--
Secondary Labor Earnings (millions of $)	--	--	--	1.0	--
Total Economic Effect (millions of $)	--	--	--	3.5	--
Total Annual AJEs	--	--	--	77.9	--
250 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	1.6	1.6	1.6	1.6
Secondary Labor Earnings (millions of $)	--	0.6	0.6	0.6	0.6
Total Economic Effect (millions of $)	--	2.2	2.2	2.2	2.2
Total Annual AJEs	--	49.9	49.9	49.9	49.9

Table 4.17. (Continued)

Economic Activity	No Action Alternative	Proposed Action	Alternative A (Maximum Recovery)	Alternative B (Minimum Disturbance)	Preferred Alternative
PRESENT VALUE OF LOP HUNTING					
75 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	--	--	0.8	--
Secondary Labor Earnings (millions of $)	--	--	--	0.3	--
Total Economic Effect (millions of $)	--	--	--	1.1	--
250 Wells/Year Development Rate					
Direct Expenditures (millions of $)	--	0.7	0.7	--	0.7
Secondary Labor Earnings (millions of $)	--	0.3	0.3	--	0.3
Total Economic Effect (millions of $)	--	1.0	1.0	--	1.0

[1] Includes pronghorn, cottontail, and greater sage-grouse (assumed lost for LOP) (see Table 4.16).

4.4.2.1 No Action Alternative

Under the No Action Alternative, no change in economic activity from current conditions for hunting would be expected. No additional development would occur; therefore, hunters currently using the area would not likely relocate their activities more than has already occurred (see Table 4.17). Impacts to hunting from all action alternatives would be higher than those described for the No Action Alternative due to the increased disturbance and extended LOP.

4.4.2.2 Proposed Action

Under the Proposed Action, if it is assumed that all 103.7 hunter-days per year are relocated for the LOP, reduction in economic activity from hunting expenditures would likely amount to a nominal value of $2.2 million ($1.0 million present value), including $0.6 million secondary labor earnings ($0.3 million present value)and up to 49.9 AJEs (see Table 4.17).

4.4.2.3 Alternative A (Maximum Recovery)

Under Alternative A, changes to economic activity from hunting would likely be the same as those described for the Proposed Action (see Table 4.17).

4.4.2.4 Alternative B (Minimum Disturbance)

Under Alternative B, impacts would be greater than for the Proposed Action due to the longer LOP for Alternative B. If it is assumed that all 103.7 hunter-days per year are relocated for the LOP, reduction in economic activity from hunting would likely amount to a nominal value of $3.5 million ($1.1 million present value), including $1.0 million secondary labor earnings ($0.3 million present value). AJEs would total 77.9 (see Table 4.17).

4.4.2.5 Preferred Alternative

Under the Preferred Alternative, changes to economic activity from hunting would be similar to those described for the Proposed Action (see Table 4.17).

4.5 POPULATION AND LABOR ACTIVITY

4.5.1 No Action Alternative

Under the No Action Alternative, no additional induced development would occur and the pace of production would likely be slowed, resulting in a reduction in the number of drilling rigs, crews, and associated services currently operating in the area. Services and associated jobs would likely be reduced or eliminated under the No Action Alternative. No additional secondary labor earnings or jobs would occur from development under this alternative; minimal additional secondary labor and jobs may be created from production activities, but this employment is not expected to affect population in the study area.

4.5.2 Proposed Action

Under the Proposed Action, project-required direct employment is not expected to appreciably affect population in the study area. Project-required natural gas workers would likely be primarily obtained from the existing pool of workers employed in the area because drilling and production in the JIDPA continues year-round, thus providing continuous employment for these workers. Increased potential for employment from secondary (non-project-required) jobs created as a result of the project may attract out-of-area job seekers, which could affect population in the study area; however, it is likely that these job seekers would already live in the area but work in adjoining counties, thus population changes are anticipated to be minimal. Additionally, secondary employment AJEs would likely be distributed throughout the study area, state, region, and nation. If population increases would occur, pressure for additional housing would likely increase, which could induce additional residential construction and development in the study area.

4.5.3 Alternative A (Maximum Recovery)

Population changes from secondary employment would likely be similar to but reduced from that described for the Proposed Action because only conventional wells would be drilled; therefore, fewer AJEs would be created to attract new workers. The potential for population changes from secondary employment would likely be lowest under Alternative A when compared to the other action alternatives.

4.5.4 Alternative B (Minimum Disturbance)

Population changes from secondary employment would likely be similar to but increased from that described for the Proposed Action because all wells would be directionally drilled; therefore, more AJEs would be created to attract new workers.

4.5.5 Preferred Alternative

Population changes from secondary employment would likely be similar to those described for the Proposed Action.

4.6 SUMMARY OF ECONOMIC ACTIVITY

4.6.1 No Action Alternative

The No Action Alternative would cause the least amount of change in economic activity when compared to the other alternatives; no increased economic activity from additional development would occur. Production would be limited to the life of currently producing wells; therefore, only up to 3,366 BCF of gas and 31.98 MBO would be recovered under this alternative (Table 4.18). Over the LOP, the No Action Alternative would generate a nominal value of up to $15,257.4 million ($11,029.4 million present value) and 13,947 AJEs, with an average wage of $47,173 (see Table 4.18). Up to $2,334.9 million nominal value ($1,753.7 million present value) in taxes and revenues would be realized over the LOP (Table 4.18). No effect would be expected to occur on recreation or hunting resources. The least total economic activity would occur under the No Action Alternative when compared to the other alternatives, and this alternative would create the least number of AJEs. Impacts from all action alternatives would likely be higher than those described under the No Action Alternative due to increased development and production, increased disturbance, and longer LOP.

4.6.2 Proposed Action

Under the Proposed Action, change in economic activity from current conditions would be expected from the development of up to 3,100 wells and the recovery of up to 7,947 BCF of gas and 75.50 MBO (see Table 4.18). Over the LOP of 52.5 years (excluding reclamation), the nominal value of economic activity would be $45,162.7 million ($28,066.9 million present value), including $6,072.1 million nominal value ($3,474.7 million present value) in taxes and revenues (see Table 4.18). The number of AJEs created in the study area is estimated at 85,715.7, with an average wage ranging from $31,881 to $47,173 (see Table 4.18). This action could result in a loss of economic activity from recreation of $5.3 million nominal value ($2.4 million present value) and hunting of $2.2 million nominal value ($1.0 million present value) over the LOP (see Table 4.18).

4.6.3 Alternative A (Maximum Recovery)

Under Alternative A, change in economic activity from current conditions would be expected from the development of up to 3,100 wells and the recovery of up to 8,191 BCF of gas and 77.81 MBO. Economic activity would have a nominal value of $46,170.5 million ($28,643.9 million present value), including $6,234.7 million in taxes and revenues ($3,574.9 million present value) (see Table 4.18). The number of AJEs created in the study area is estimated at 85,984.2, with an average wage ranging from $31,881 to $47,173 (see Table 4.18). This alternative could result in the same loss of economic activity from recreation and hunting as the Proposed Action (see Table 4.18).

4.6.4 Alternative B (Minimum Disturbance)

Under Alternative B, change in economic activity from current conditions would be expected from the development of up to 3,100 wells and the recovery of up to 6,124 BCF of gas and 58.18 MBO (see Table 4.18). LOP would be 82 years (excluding reclamation). Economic activity would be $37,993.0 million ($16,426.8 million present value), including $4,881.4 million in taxes and revenues ($2,108.2 million present value) (see Table 4.18). The number of AJEs created in the study area is estimated at 86,261.9, with an average wage ranging from $31,881 to $47,173 (see Table 4.18). This alternative could result in a loss of economic activity from recreation of $8.2 million nominal value ($2.7 million present value) and hunting of $3.5 million nominal value ($1.1 million present value) over the LOP (see Table 4.18).

Table 4.18. Summary of Economic Activity Resulting from Natural Gas Development and Production Over the Life of Project, JIDP, Sublette County, Wyoming, 2005

Economic Effect	Economic Activity Resulting from Development (LOP)				
	No Action	Proposed Action	Alternative A (Maximum Development)	Alternative B (Minimum Recovery)	Preferred Alternative
Total Anticipated Natural Gas Recovery over the LOP (BCF)	3,366	7,947	8,191	6,124	7,947
Total Anticipated Condensate Recovery over the LOP (million bbls)	31.98	75.50	77.81	58.18	75.50
Potential Change in Employment					
Secondary Development Employment (AJEs)	--	52,930	52,187.5	61,110	52,930
Average Earnings Per Job	--	$31,881 to $32,025	$31,881 to $32,025	$31,881 to $32,025	$31,881 to $32,025
Secondary Production Employment (AJEs)	13,947	32,928	33,939	25,374	32,928
Average Earnings Per Job	$47,173	$47,173	$47,173	$47,173	$47,173
Recreation AJEs	--	-92.4	-92.4	-144.2	-92.4
Hunting AJEs	--	-49.9	-49.9	-77.9	-49.9
Potential Change in Employment (AJEs)	13,947	85,715.7	85,984.2	86,261.9	85,715.7
NOMINAL VALUE OF ECONOMIC ACTIVITY					
75 Wells Per Year Development Rate					
Value of Development[1] (millions of $)	0.0	--	--	9,612.5	--
Value of Production[1,2] (millions of $)	12,922.5	--	--	23,510.8	--
Taxes/royalties from proposed project (millions of $)	2,334.9	--	--	4,881.4	--
Recreation (millions of $)	0.0	--	--	-8.2	--
Hunting (millions of $)	0.0	--	--	-3.5	--
Total Nominal Economic Activity (millions of $)	15,257.4	--	--	37,993.0	--
250 Wells Per Year Development Rate					
Value of Development[1] (millions of $)	0.0	8,588.6	8,497.2	--	8,588.6
Value of Production[1,2] (millions of $)	12,922.5	30,509.5	31,446.1	--	30,509.5
Taxes/royalties (millions of $)	2,334.9	6,072.1	6,234.7	--	6,072.1
Recreation (millions of $)	0.0	-5.3	-5.3	--	-5.3
Hunting (millions of $)	0.0	-2.2	-2.2	--	-2.2
Total Nominal Economic Activity (millions of $)	15,257.4	45,162.7	46,170.5	--	45,162.7

Table 4.18. (Continued)

Economic Effect	Economic Activity Resulting from Development (LOP)				
	No Action	Proposed Action	Alternative A (Maximum Development)	Alternative B (Minimum Recovery)	Preferred Alternative
PRESENT VALUE OF ECONOMIC ACTIVITY[3]					
75 Wells Per Year Development Rate					
Value of Development[2] (millions of $)	0.0	--	--	4,997.3	--
Value of Production[2] (millions of $)	9,275.7	--	--	9,325.1	--
Taxes/royalties (millions of $)	1,753.7	--	--	2,108.2	--
Recreation (millions of $)	0.0	--	--	-2.7	--
Hunting (millions of $)	0.0	--	--	-1.1	--
Total Present Value of Economic Activity (millions of $)	11,029.4	--	--	16,426.8	--
250 Wells Per Year Development Rate					
Value of Development[2] (millions of $)	0.0	6,631.8	6,561.2	--	6,631.8
Value of Production[2] (millions of $)	9,275.7	17,963.8	18,511.2	--	17,963.8
Taxes/royalties (millions of $)	1,753.7	3,474.7	3,574.9	--	3,474.7
Recreation (millions of $)	0.0	-2.4	-2.4	--	-2.4
Hunting (millions of $)	0.0	-1.0	-1.0	--	-1.0
Total Present Value of Economic Activity (millions of $)	11,029.4	28,066.9	28,643.9	--	28,066.9

[1] Includes non-project labor earnings resulting from secondary economic activity induced by project activities. These earnings do not include project labor earnings.
[2] Natural gas plus condensate; Proposed Action and the other action alternatives wells currently in production (i.e., No Action Alternative wells); natural gas price is assumed at $3.50/mcf and condensate price is assumed at $21/bbl.
[3] Number of years to develop varies for each alternative; well life is assumed to be 40 years; see Section 2.2 for a discussion of discounting. The discount rate used for this analysis was 3.5%. Conservatively assumes revenues are received as a lump

4.6.5 Preferred Alternative

Under the Preferred Alternative, impacts to overall economic activity would likely be similar to those described for the Proposed Action.

4.7 CUMULATIVE IMPACTS

The cumulative impacts assessment area for socioeconomics includes Sublette, Lincoln, and Sweetwater Counties. All these counties depend upon the oil and gas industry for a portion of their economic activity and tax base (refer to Section 3.0). The JIDP, along with other oil and gas developments, would increase employment opportunities, expand the tax base, and improve the ability of the counties to maintain and increase services and infrastructure for residents. Increased oil and gas development results in impacts related to employment, tax base/revenues, and general economic health. Wells developed as part of this project would add proportionately to the economic benefits realized from the area. Local communities would experience economic impacts from an increase in consumption of local goods and services and increased sales tax revenues. For instance, construction of well pads and roads is usually contracted to local construction companies, and it is likely that many employees would spend some of their payroll in these communities. Actual impacts would depend on the rate of development and the number of wells authorized.

Increases in regional oil and gas development activity in a short period can cause notable changes in employment and income. These variables can also cause changes in population trends, which could have impacts on community services, social structures, and lifestyles. Under all alternatives, increased oil and gas development is expected to cause an increase in taxes and revenues to all governments in the study area. Increases to ad valorem taxes would be expected to occur in Sublette County. Conversely, under the No Action Alternative, these increases would not be realized, which could result in negative impacts to local governments. Additional revenues would accrue to the U.S. in the form of personal and corporate income taxes. Wyoming, and especially Sublette, Sweetwater, and Lincoln Counties are highly dependent on mineral revenues, and the revenue anticipated from the proposed project would add to those revenues.

Where the surface is in private ownership and the minerals are in federal ownership, a lease holder has the right of ingress and egress on the private surface and the right to disturb whatever is reasonably necessary to recover the minerals. This does not prevent the private owner and the lease holder from entering into mutually acceptable terms regarding surface use to facilitate the process. When both the surface and minerals are in private ownership, negotiations for a lease, including financial considerations, are between the private owner and the potential lessee, and the terms of the lease, financial and otherwise, are negotiated by the two parties. It is typical for the private mineral owner to share in the profits from the recovery of the mineral resource.

A portion of the resident population, as well as many nonresidents, place great value on preserving the character of the area and are not in favor of the high level of oil and gas development proposed in JIDPA. These individuals may be affected on a personal aesthetic and moral level by the proposed project.

5.0 SOCIAL IMPACTS

Baseline social and economic factors, including population, personal income, quality of living, and education described in Chapter 3.0 were compared to expected changes in the economy that would affect a typical family in the study area. Impacts were evaluated against the potential for changes in quality of life factors and the ability of residents to maintain or improve the current quality of life as a result of the proposed project and alternatives.

5.1 POPULATION

The project could result in some increases in population in Sublette, Lincoln, and Sweetwater Counties as a result of job seekers from other localities moving to the area in search of employment, although existing industry expertise and services in the three counties is generally adequate to support additional oil and gas development. While the initial analysis assumed that adequate support services existed, the Operators have indicated (despite State of Wyoming reports to the contrary when data were collected for this analysis) that insufficient numbers of rigs are available for meeting drilling schedules, and the number of current employees is insufficient to staff the rigs that are available. The existing labor shortage, which is already impacting the study area, may be incrementally increased by the JIDP.

5.2 INCOME, POVERTY, AND UNEMPLOYMENT

The average wage in the study area ranged from 25,050 to $33,748 in 2000 (see Table 3.16). The estimated annual average earnings per job for jobs created indirectly from development on the JIDPA would range from $31,881 to $32,025. The estimated average earnings per job from JIDP production would be $47,173. These estimated annual wages are higher than the average wages reported in 2000. Thus, there would likely be beneficial impacts on income and poverty reduction as a result of the Proposed Action and action alternatives. These benefits would not be realized under the No Action Alternative.

It is not anticipated that the JIDP will result in a notable in-migration of workers to the study area. With an estimated 1,713 available workers in the study area and 12,000 available workers in Wyoming (see Table 3.5), the estimated number of laborers that would be directly employed as a result of the projects would be readily available. The JIDP Proposed Action would directly provide up to 9,899 worker-years and up to 52,930 AJEs during development and up to 6,367 new worker-years and 32,928 new AJEs from production. The duration of these impacts, and therefore the number of jobs, would depend on the rate of development. Some of these jobs would be existing jobs that would continue as a result of continued development and operations that would otherwise have been lost; some jobs would be newly created parallel or transitional jobs. These jobs would likely reduce unemployment in the study area and the state. The projects would result in beneficial impacts to local employment—both to the workforce directly involved in oil and gas development and to the general service economy—especially during construction and drilling.

5.3 QUALITY OF LIVING

Quality of life could cumulatively be impacted by oil and gas development and production in the area. Likely beneficial effects include increased affluence and reduced poverty, more health care

providers, and improved schools and other tax-supported services and amenities (e.g., libraries, streets, parks). Increased economic activity could enhance the availability of goods, services, and cultural, educational, and certain recreational opportunities. However, some individuals would likely perceive a lowering of quality of life in the area. The increasing conversion of large tracts of land from rangeland to gas development is seen by some as industrialization and a diminishment of the characteristics they most value in the region: its natural beauty and quiet, vast reaches of unpopulated and undeveloped open space, fresh air, and wildlife. Displacement of ranching activity by gas extraction is seen by some as a loss of cultural heritage. While the JIDP is unlikely to result in significant increases in population from increased employment directly related to the project, the JIDP in combination with other oil and gas projects, plus the general growth in economic activity associated with these projects, may attract individuals to the area and result in cultural changes. For those who value the intimacy, security, and pace of small towns, population growth with its attendant increases in traffic, crowding, pressure on housing availability and costs, noise, crime, and the presence of strangers may be considered a lowering of the quality of life.

5.3.1 Crime

Crime may increase in the study area if the population grows directly or indirectly as a result of the JIDP. New residents without roots in the community, without social connections, and with a limited choice of leisure activities may contribute to existing and growing unlawful behavior related to alcohol and illicit drug use. An influx of job seekers attracted by the increased level of development in the area but who fail to find jobs could also result in some increased crime.

5.3.2 Health Care

Increased affluence in the study area could attract additional health care providers to the area or encourage existing health care providers to remain in the area. This would likely be a beneficial impact to the study area society. However, impacts already being experienced by the healthcare community may be incrementally increased by the JIDP as a result of increases in population from laborers attracted by jobs.

5.3.3 Housing

Population in the study area may increase as a result of increased employment opportunities generated both directly and indirectly by the JIDP, affecting the availability of housing. To illustrate the point, both Sublette and Sweetwater Counties are facing a housing shortage, and any additional pressure would exacerbate an already tight housing market (Saxton 2005, Gearino 2005). Housing in LaBarge, Lincoln County, is considered available but limited (Woodward 2005). Moreover, if population were to increase, the increased demand for housing would likely put even more upward pressure on already high housing prices (rental costs and home sales prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This could make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges.

To meet the housing demand, new subdivisions are currently being planned and built. In Sublette County, several new rural subdivisions are under construction or have been platted in Pinedale, and a new subdivision is being developed in Big Piney. In Sweetwater County, it is expected that 500 new housing units will be constructed by next year.

5.3.4 Cost of Living and Inflation

Increased cost of living and inflation already being experienced by the affected communities may be incrementally increased by the JIDP.

5.4 EDUCATION

Increased revenues to schools as a result of increased ad valorem and other taxes and revenues would be a beneficial impact to the school systems, allowing the purchase of higher-quality teaching materials and potentially increasing the wages of teachers, which could attract teachers with better credentials than would otherwise seek positions within the study area. Any increases in population would likely aid in offsetting the current trend toward school closures/consolidations in some communities. Additionally, increased funding would provide schools with more options to improve education and raise performance test scores, thus increasing the overall education level and improving the overall quality of the workforce in the study area. Increases in population may help reduce impacts already being experienced by schools in affected communities that have resulted in school closures.

6.0 ENVIRONMENTAL JUSTICE

The Environmental Protection Agency's (EPA's) Office of Environmental Justice defines environmental justice as "[t]he fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group[s] should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies." Meaningful involvement means that: (1) community residents in the potential impact area have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; (2) the public's contribution can influence the regulatory agency's decision; (3) the concerns of all participants involved will be considered in the decision-making process; and (4) the decision makers seek out and facilitate the involvement of those in the potential impact area (EPA 2003). Environmental justice is achieved when everyone, regardless of race, culture, or income, enjoys the same degree of protection from environmental and health hazards and has equal access to the decision-making process to have a healthy environment in which to live, learn, and work (EPA 2003).

Executive Order (EO) 12898 (February 11, 1994) and its accompanying memorandum have the primary purpose of ensuring that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…." To meet this goal, EO 12898 specified that each agency develop an agency-wide environmental justice strategy.

The Presidential Memorandum that accompanied EO 12898 calls for a variety of actions. Four specific actions were directed at National Environmental Policy Act (NEPA)-related activities, including the following.

1. Each federal agency must analyze environmental effects (i.e., human health, economic and social effects) of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA.

2. Mitigation measures outlined or analyzed in environmental assessments, EISs, or RODs, whenever feasible, should address significant and adverse environmental effects of proposed federal actions on minority communities and low-income communities.

3. Each federal agency must provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving accessibility of public meetings, official documents, and notices to affected communities.

4. In reviewing other agencies' proposed actions under Section 309 of the Clean Air Act, the EPA must ensure that the agencies have fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects.

6.1 DEFINING MINORITY AND/OR LOW-INCOME POPULATION

6.1.1 Minority Communities

Minority or low-income communities that may be addressed in the scope of NEPA analysis are generally considered as follows:

- Minority - Individual(s) classified by OMB Directive No. 15 as Black/African American, Hispanic, Asian and Pacific Islander, American Indian, Eskimo, Aleut, and other non-white persons.
- Minority Population - Minority populations should be identified where either:
  - the minority population of the affected area exceeds 50% or
  - the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

In identifying minority communities, agencies may consider as a community either: (1) a group of individuals living in geographic proximity to one another, or (2) a geographically dispersed/transient set of individuals (such as migrant workers or American Indians), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

6.1.2 Low-Income Population

Two of the tests available for identifying low-income populations in an affected area are:

(a) the Department of Health and Human Services poverty guidelines or

(b) the Department of Housing and Urban Development statutory definition for "very low-income" for the purposes of housing benefits programs.

In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effects.

6.1.3 Disproportionately High and Adverse Human Health Effects

According to EO 12898, when determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

(a) whether the health effects, which may be measured in risks and rates, are significant, unacceptable, or above generally accepted norms (adverse health effects may include bodily impairment, infirmity, illness, or death.);

(b) whether the risk or rate of hazard exposure by a minority population or low-income population to an environmental hazard is significant and appreciably exceeds or is likely to

appreciably exceed the risk or rate to the general population or other appropriate comparison group; and

(c) whether health effects occur in a minority or low-income population affected by cumulative or multiple adverse exposures from environmental hazards.

6.2 PROJECT STUDY AREA

6.2.1 Minority Communities

No minority communities as defined by EPA guidelines would be affected by the proposed project. About 2.5% of the Lincoln County population, 3.2% of the Sublette County population, and 11% of the Sweetwater County population is minority, as compared to 8.9% for the State of Wyoming (EPA 2003). No potentially affected communities within the study area have minority populations exceeding 50%, nor are there any population clusters where the minority population percentage is meaningfully greater than the percentage in the general population. The proposed project, therefore, would not unduly affect minority populations (email from Karen Kellen [acting director], Environmental Justice, Region 8, EPA, on February 20, 2003).

6.2.2 Low-Income Population

Approximately 10.8% of the Lincoln County population, 8.4% of the Sublette County population, and 8.0% of the Sweetwater County population lives below the poverty level as compared to 11.9% for the State of Wyoming (EPA 2003).

No low-income populations have been identified as a community (i.e., a group of individuals living in geographic proximity to one another) or as a geographically dispersed/transient set of individuals (e.g., migrant workers or Native Americans), that would experience common conditions of environmental exposure or effects. Development would not unduly affect low-income individuals in the study area (email from Karen Kellen [acting director]), Environmental Justice, Region 8, EPA, on February 20, 2003).

6.2.3 Disproportionately High and Adverse Human Health Effects

It is not anticipated that development of the projects would result in any health effects (i.e., bodily impairment, infirmity, illness, or death), which could be measured in risks and rates, that would be significant, unacceptable, or above generally accepted norms. No risk or rate of hazard exposure by a minority population or low-income population to an environmental hazard would be significant or appreciably exceed or be likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group. No health effects would occur in a minority or low-income population as a result of exposures from environmental hazards related to the proposed project.

7.0 ABBREVIATIONS AND GLOSSARY

7.1 ABBREVIATIONS

AJE	Annual job equivalent
AUM	Animal unit months
BCF	Billion cubic feet of natural gas
BEA	U.S. Department of Commerce, Bureau of Economic Analysis
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
CFR	Code of Federal Regulations
Companies	Infinity Oil and Gas of Wyoming, Inc. and Williams Production RMT Company
CPI	Consumer price index
CREG	Consensus Revenue Estimating Group
DCI	Division of Criminal Investigation
EIA	Energy Information Administration
EIS	Environmental impact statement
EnCana	EnCana Oil and Gas (USA), Inc.
EO	Executive Order
EPA	Environmental Protection Agency
EPS	Sonoran Institute Economic Profile System
FIRE	Finance, insurance, and real estate
GSP	Gross state product
GSPO	Gross state product originating
I/O	Input/output
I-80	Interstate 80
IBT	Indirect business tax and non-tax liability
IMPLAN®	Impact Analysis for Planning; IMPLAN Professional® 2.0 software
Infinity	Infinity Oil and Gas of Wyoming, Inc.
JIDP	Jonah Infill Drilling Project
JIDPA	JIDP area
JMHCAP	*Jack Morrow Hills Coordinated Activity Plan*
LOP	Life of project
LRI	Legislative Royalty Impact Assistance Account
MBO	Million barrels of condensate (oil)
MCF	Thousand cubic feet of natural gas
MIG	Minnesota IMPLAN Group, Inc.
MMCF	Million cubic feet of natural gas
N	North
NCES	National Center of Education Statistics
NEPA	National Environmental Policy Act
OMB	Office of Management and Budget

Operators	EnCana Oil and Gas (USA), Inc. and BP America
PAWG	Pinedale Anticline Working Group
PCPI	Per capita personal income
PFO	Pinedale Field Office
PILT	Payments in lieu of taxes
PWMTF	Permanent Wyoming Mineral Trust Fund
R	Range
REIS	Regional Economic Information System
RMIS	Recreational Management Information System
ROD	Record of Decision
RSFO	Rock Springs Field Office
RVD	Recreational visitor day
SCBC	Sublette County Board of Commissioners
Schlumberger	Schlumberger Oil Field Services
SCPC	Sublette County Planning Commission
SIC	Standard Industrial Classification
SSI	Supplemental Security Income
SSSI	Supplemental Social Security Income
SWCA	SWCA Environmental Consultants
SWREE	*Southwest Wyoming Resource Evaluation Socio/Economic Evaluation*
T	Township
TCPU	Transportation, communication, and public utilities
TPI	Total personal income
TRC Mariah	TRC Mariah Associates Inc.
UCR	Uniform Crime Reporting
USC	United States Code
USDI	U.S. Department of the Interior
USFS	U.S. Department of Agriculture, Forest Service
UWAED	University of Wyoming, College of Agriculture, Cooperative Extension Service, Agricultural Economics Department
W	West
WS	Wyoming Statute
WDAI	Wyoming Department of Administration and Information
WDERP	Wyoming Department of Employment, Research, and Planning
WGFD	Wyoming Game and Fish Department
WHDP	Wyoming Housing Database Partnership
Williams	Williams Production RMT Company
WOSLI	Wyoming Office of State Lands and Investments
WyCAS	Wyoming Comprehensive Assessment System

7.2 GLOSSARY

ad valorem: Tax levied on property or production according to assessed value.

allotment: An area of land where one or more permittees graze their livestock. Generally consists of public land but may include parcels of private or State lands. The number of livestock and season of use are stipulated for each allotment. An allotment may consist of several pastures or be only one pasture.

annual job equivalent (AJE): An AJE represents 12 months of employment. For example, one AJE could represent one job for 12 months or two jobs for 6 months or three jobs for 4 months. For the purposes of this analysis, a job is defined as 260 worker-days = 1 worker-year, a person year is 365 days; therefore, there are approximately 1.4 worker-years per person year (i.e., one AJE = 1.4 person years).

animal unit month (AUM): The amount of forage necessary for the sustenance of one cow/calf pair for 1 month.

annual growth rate formulas:

Between two consecutive years (e.g., 1999–2000):
([Y2 data -Y1 data]/Y1 data) × 100 = annual growth where Y = year.

Annualized growth rate over a period of time (e.g., 1980 to 1990):
$[(\text{Y2 data/Y1 data})^{(1/[\text{Y2-Y1}])} - 1] \times 100$ = average annual growth where Y = year.

commercial well: A well capable of producing profitably.

completion: The activities and methods to prepare a well for production. Includes installation of equipment for production from an oil or gas well.

condensate (gas condensate): Hydrocarbons contained in the natural gas stream and removed by condensation.

consumer price index (CPI): A measure of the average change in prices over time in a market basket of goods and services.

directional drilling: The intentional deviation of a wellbore from vertical to reach subsurface areas off to one side from the drilling site.

discount factor formula: 1/(1+i)t where i is the interest rate and t is the year.

displacement: As applied to recreation and hunting, forced shifts in the patterns of land use, either in location or timing of use.

environment: The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

environmental impact statement (EIS): An analysis of alternative actions and their predictable environmental impacts, including physical, biological, economic, and social consequences and their interactions; short- and long-term impacts; direct, indirect, and cumulative impacts.

entropy: a process of degradation or running down or a trend to disorder (i.e., chaos, disorganization, randomness).

federal lands: All lands and interests in lands owned by the U.S. that are subject to the mineral leasing laws, including mineral resources or mineral estates reserved to the U.S. in the conveyance of a surface or non-mineral estate.

gross state product: GSP is the value added in production by the labor and property located in a state. GSP for a state is derived as the sum of the gross state product originating in all industries in a state. In concept, an industry's GSP, referred to as its "value added," is equivalent to its gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus its intermediate inputs (consumption of goods and services purchased from other U.S. industries or imported). Thus, GSP is often considered the state counterpart of the nation's gross domestic product (GDP), BEA's featured measure of U.S. output. In practice, GSP estimates are measured as the sum of the distributions by industry and state of the components of gross domestic income (GDI)—that is, the sum of the costs incurred and incomes earned in the production of GDP.

gross state product calculation: The sum of gross state product originating by industry of all industries.

impacts: These include: a) Direct impacts, which are caused by the action and occur at the same time and place; b) Indirect impacts, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing impacts and other impacts related to induced changes in the pattern of land use, population density or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Impacts include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historical , cultural, economic, social, or health, whether direct, indirect, or cumulative. Impacts may also include those resulting from actions which may have both beneficial and detrimental impacts, even if on balance the agency believes that the impact will be beneficial (40 CFR 1508.8).

industry compensation of employees: GSP estimates of compensation of employees are the sum of employee wages and salaries and supplements to wages and salaries.

Wages and salaries are measured on an accrual, or "when earned" basis, which may be different from the measure of wages and salaries measured on a disbursement, or "when paid" basis.
Wages and salaries and supplements of Federal military and civilian government employees stationed abroad are excluded from the measure of GSP.

- Employee wages and salaries: The monetary remuneration of employees. This remuneration includes the compensation of corporate officers; commissions, tips, and bonuses; voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans; and receipts in kind, or pay-in-kind. Wages and salaries are measured before deductions, such as social security contributions and union dues.
- Supplements to wages and salaries consist of employer contributions for social insurance and other labor income.

- **Employer contributions for social insurance** consist of employer payments under the following programs:
  - old age, survivors, and disability insurance ("Social Security"),
  - hospital insurance,
  - unemployment insurance,
  - railroad retirement,
  - pension benefit guaranty,
  - veterans' life insurance,
  - publicly-administered workers' compensation,
  - military medical insurance, and
  - temporary disability insurance.
  -

  Although these employer contributions to publicly-administered social insurance programs are treated as a cost of production, and are included in the calculation of GSP, they are not treated as part of income when accounting for personal income. Instead, the payments from the programs are counted as personal income when they are paid out to individuals.

- **Other Labor Income (OLI):** Consists of employer payments to government employee retirement and private pension and profit-sharing plans, private group health and life insurance plans, privately-administered workers' compensation plans, supplemental unemployment benefit plans, corporate directors' fees, and several minor categories of employee compensation, including judicial fees to juries and witnesses, compensation of prison inmates, and marriage fees to justices of the peace.

inflation calculations:

Inflation Factor = (Current Year CPI / Year "X" CPI)
Current Year Dollars = Year "X" Dollars x Inflation Factor

infrastructure: The basic framework or underlying foundation of a community including road networks, electric and gas distribution, water and sanitation services, and facilities.

irretrievable: A term that applies to the loss of production, harvest, or use of natural resources. For example, some or all of the timber production from an area is lost irretrievably while an area is serving as a winter sports site. The production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production.

irreversible: A term that describes the loss of future options. Applies primarily to the effects of use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity that are renewable only over long periods of time.

long-term impacts: For the purpose of this NEPA analysis, long-term impacts last for the life of the project or beyond.

mitigate: To lessen the severity.

mitigation measures: Actions taken to reduce or minimize potential impacts to the environment.

mitigation: Avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree of magnitude of the action and its implementation;

rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or compensating for the impact by replacing or providing substitute resources or environments.

modeling: A mathematical representation of an observable situation. In economics, models afford the ability to estimate the short- and long-term impacts of changes in industry on the local, regional, and/or national economy.

National Environmental Policy Act of 1969 (NEPA): The federal law established in 1969, which went into effect on January 1, 1970, that 1) established a national policy for the environment, 2) requires federal agencies to become aware of the environmental ramifications of their proposed actions, 3) requires full disclosure to the public of proposed federal actions and a mechanism for public input into the federal decision-making process, and 4) requires federal agencies to prepare an environmental impact statement for every major action that would significantly affect the quality of the human environment.

natural gas: Those hydrocarbons, other than oil and other than natural gas liquids separated from natural gas, that occur naturally in the gaseous phase in the reservoir and are produced and recovered at the wellhead in gaseous form.

No Action Alternative: The management direction, activities, outputs, and effects that are likely to exist in the future if the current plan would continue unchanged.

nominal value: Value of project activities is the simple calculation of dollars with no adjustments.

present value: Value of project activities after the discount rate has been applied over time (i.e., the real value of project activities).

production: Phase of commercial operation of an oil field.

public land: Lands or interests in lands owned by the United States and administered by the Secretary of Interior through the Bureau of Land Management, without regard to how the United States acquired ownership.

reclamation: Rehabilitation of a disturbed area to make it acceptable for designated uses. This normally involves regrading, replacement of topsoil, revegetation and other work necessary to restore it for use.

Record of Decision (ROD): A decision document for an environmental impact statement or Supplemental EIS that publicly and officially discloses the responsible official's decision regarding the actions proposed in the EIS and their implementation.

recreational visitor day (RVD): As a unit of measure, a recreational visitor day is defined as a 12-hour period.

short-term impacts: For the purpose of this NEPA analysis, short-term impacts are generally defined as those that would last for 10 years or less.

socioeconomics: Study of social and economic factors such as current and projected population, demographic characteristics, housing, economy, government, etc.

well pad: Relatively flat work area that is used for drilling a well and producing from the well once it is completed.

wellbore: The hole drilled from the surface to the gas-bearing formation.

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APPENDIX A

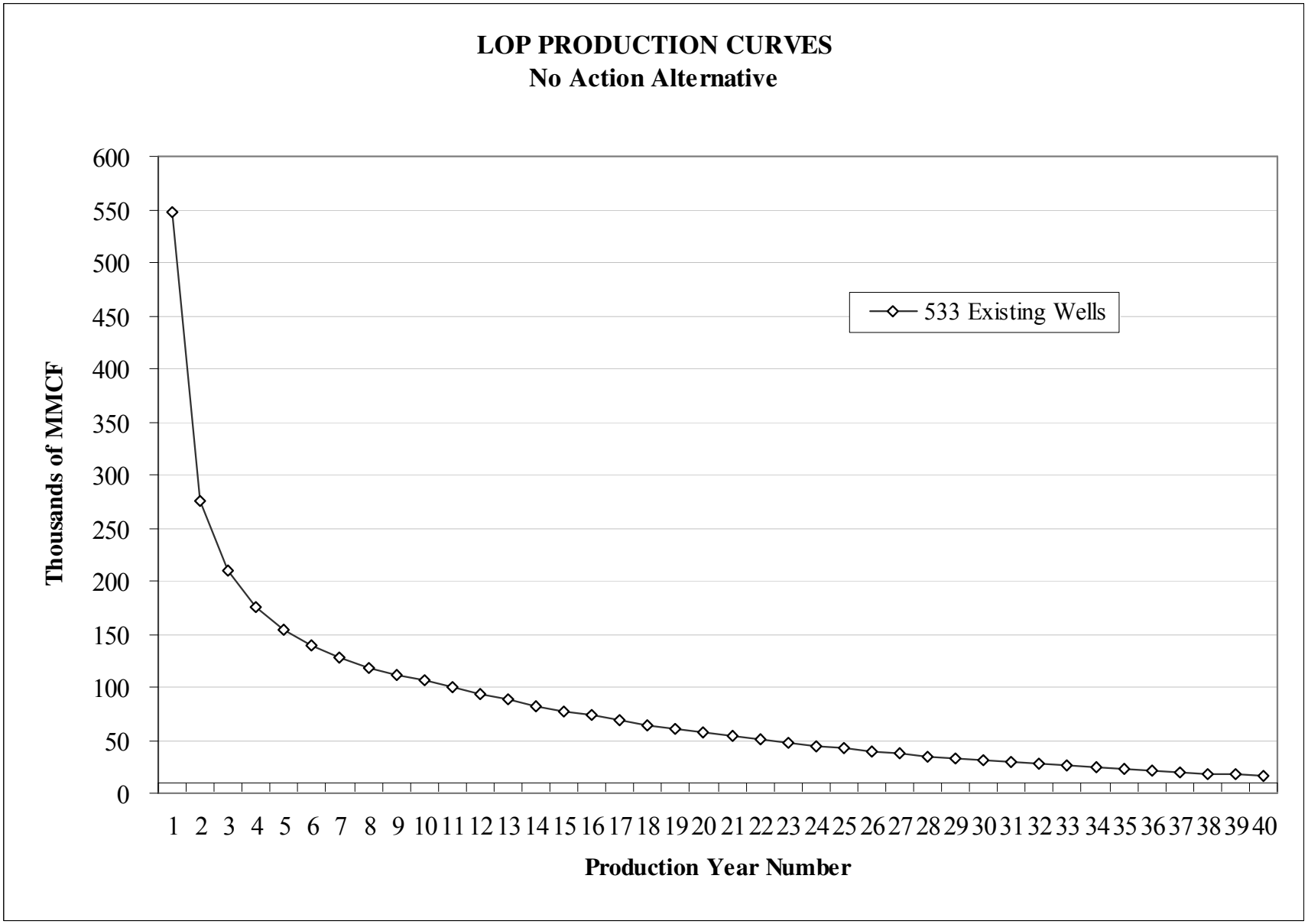
Assumed Production Rates, Decline Curves, and Discounting Tables for Each Alternative

No Action Alternative

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
548,121.39	1,918,424,869.79	5,207,153.22	$109,350,218	1	0.966183575	1,853,550,598.83	1	0.966183575	105,652,384.13	1	0.966183575	69,949,292.50
274,804.06	961,814,194.99	2,610,638.53	$54,823,409	2	0.9335107	897,863,842.79	2	0.9335107	51,178,239.04	2	0.9335107	33,883,585.70
209,928.43	734,749,493.86	1,994,320.05	$41,880,721	3	0.901942706	662,701,946.48	3	0.901942706	37,774,010.95	3	0.901942706	25,009,046.06
176,075.29	616,263,528.17	1,672,715.29	$35,127,021	4	0.871442228	537,038,061.83	4	0.871442228	30,611,169.52	4	0.871442228	20,266,742.38
154,422.64	540,479,226.42	1,467,015.04	$30,807,316	5	0.841973167	455,069,005.89	5	0.841973167	25,938,933.34	5	0.841973167	17,173,394.14
139,056.95	486,699,317.45	1,321,041.00	$27,741,861	6	0.813500644	395,930,208.33	6	0.813500644	22,568,021.87	6	0.813500644	14,941,614.20
127,431.82	446,011,353.71	1,210,602.25	$25,422,647	7	0.785990961	350,560,892.38	7	0.785990961	19,981,970.87	7	0.785990961	13,229,466.96
118,244.37	413,855,279.87	1,123,321.47	$23,589,751	8	0.759411556	314,286,482.13	8	0.759411556	17,914,329.48	8	0.759411556	11,860,543.26
112,172.62	392,604,176.12	1,065,639.91	$22,378,438	9	0.733730972	288,065,843.83	9	0.733730972	16,419,753.10	9	0.733730972	10,871,028.81
105,899.04	370,646,651.77	1,006,040.91	$21,126,859	10	0.708918814	262,758,384.68	10	0.708918814	14,977,227.93	10	0.708918814	9,915,975.92
99,545.10	348,407,867.43	945,678.50	$19,859,248	11	0.684945714	238,640,475.42	11	0.684945714	13,602,507.10	11	0.684945714	9,005,814.26
93,572.40	327,503,405.01	888,937.81	$18,667,694	12	0.661783298	216,736,283.57	12	0.661783298	12,353,968.16	12	0.661783298	8,179,193.87
87,958.05	307,853,166.97	835,601.45	$17,547,631	13	0.639404153	196,842,593.45	13	0.639404153	11,220,027.83	13	0.639404153	7,428,445.79
82,680.56	289,381,968.07	785,465.34	$16,494,772	14	0.61778179	178,774,910.31	14	0.61778179	10,190,169.89	14	0.61778179	6,746,607.57
77,719.73	272,019,049.25	738,337.42	$15,505,086	15	0.596890619	162,365,618.59	15	0.596890619	9,254,840.26	15	0.596890619	6,127,353.71
73,056.54	255,697,902.42	694,037.16	$14,574,780	16	0.576705912	147,462,491.94	16	0.576705912	8,405,362.04	16	0.576705912	5,564,939.52
68,673.15	240,356,007.92	652,394.88	$13,700,292	17	0.557203779	133,927,276.02	17	0.557203779	7,633,854.73	17	0.557203779	5,054,147.54
64,552.76	225,934,646.65	613,251.18	$12,878,275	18	0.53836114	121,634,433.83	18	0.53836114	6,933,162.73	18	0.53836114	4,590,240.26
60,679.59	212,378,559.54	576,456.09	$12,105,578	19	0.52015569	110,469,916.26	19	0.52015569	6,296,785.23	19	0.52015569	4,168,913.70
57,038.81	199,635,841.12	541,868.71	$11,379,243	20	0.502565884	100,330,163.06	20	0.502565884	5,718,819.29	20	0.502565884	3,786,259.69
53,616.48	187,657,686.77	509,356.58	$10,696,488	21	0.485570903	91,121,112.39	21	0.485570903	5,193,903.41	21	0.485570903	3,438,728.54
50,399.49	176,398,229.12	478,795.19	$10,054,699	22	0.469150631	82,757,340.46	22	0.469150631	4,717,168.41	22	0.469150631	3,123,096.51
47,375.52	165,814,325.21	450,067.45	$9,451,417	23	0.453285634	75,161,251.46	23	0.453285634	4,284,191.33	23	0.453285634	2,836,435.31
44,532.99	155,865,459.53	423,063.39	$8,884,331	24	0.437957134	68,262,389.93	24	0.437957134	3,890,956.23	24	0.437957134	2,576,086.07
41,861.01	146,513,531.82	397,679.59	$8,351,271	25	0.423146989	61,996,759.88	25	0.423146989	3,533,815.31	25	0.423146989	2,339,633.72
39,349.35	137,722,720.36	373,818.81	$7,850,195	26	0.408837671	56,306,236.21	26	0.408837671	3,209,455.46	26	0.408837671	2,124,884.74
36,988.39	129,459,357.93	351,389.69	$7,379,183	27	0.395012242	51,138,031.27	27	0.395012242	2,914,867.78	27	0.395012242	1,929,847.02
34,769.08	121,691,795.75	330,306.30	$6,936,432	28	0.38165434	46,444,202.04	28	0.38165434	2,647,319.52	28	0.38165434	1,752,711.30
32,682.94	114,390,282.11	310,487.91	$6,520,246	29	0.368748155	42,181,205.48	29	0.368748155	2,404,328.71	29	0.368748155	1,591,834.33
30,721.96	107,526,864.63	291,858.63	$6,129,031	30	0.356278411	38,309,500.43	30	0.356278411	2,183,641.52	30	0.356278411	1,445,723.93
28,878.64	101,075,246.77	274,347.10	$5,761,289	31	0.344230348	34,793,167.41	31	0.344230348	1,983,210.54	31	0.344230348	1,313,024.55
27,145.92	95,010,733.12	257,886.28	$5,415,612	32	0.332589709	31,599,592.04	32	0.332589709	1,801,176.75	32	0.332589709	1,192,505.40
25,517.17	89,310,088.99	242,413.10	$5,090,675	33	0.321342714	28,699,146.35	33	0.321342714	1,635,851.34	33	0.321342714	1,083,048.39
23,986.14	83,951,484.23	227,868.31	$4,785,235	34	0.310476052	26,064,925.37	34	0.310476052	1,485,700.75	34	0.310476052	983,638.15
22,546.97	78,914,397.06	214,196.22	$4,498,121	35	0.299976862	23,672,493.17	35	0.299976862	1,349,332.11	35	0.299976862	893,352.55
21,194.15	74,179,536.51	201,344.46	$4,228,234	36	0.289832717	21,499,656.58	36	0.289832717	1,225,480.43	36	0.289832717	811,354.04
19,922.50	69,728,764.41	189,263.79	$3,974,540	37	0.28003161	19,526,258.18	37	0.28003161	1,112,996.72	37	0.28003161	736,881.93
18,727.16	65,545,043.82	177,907.98	$3,736,067	38	0.270561942	17,733,994.36	38	0.270561942	1,010,837.68	38	0.270561942	669,245.48
17,603.53	61,612,344.73	167,233.51	$3,511,904	39	0.261412505	16,106,237.35	39	0.261412505	918,055.53	39	0.261412505	607,817.19
16,547.31	57,915,600.58	157,199.49	$3,301,189	40	0.252572468	14,627,886.19	40	0.252572468	833,789.51	40	0.252572468	552,027.17
-	-	-	$0	41	0.24403137	-	41	0.24403137	-	41	0.24403137	-

No Action Alternative

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
-	-	-	$0	42	0.235779102	-	42	0.235779102	-	42	0.235779102	-
-	-	-	$0	43	0.227805895	-	43	0.227805895	-	43	0.227805895	-
-	-	-	$0	44	0.220102314	-	44	0.220102314	-	44	0.220102314	-
-	-	-	$0	45	0.212659241	-	45	0.212659241	-	45	0.212659241	-
-	-	-	$0	46	0.205467866	-	46	0.205467866	-	46	0.205467866	-
-	-	-	$0	47	0.198519677	-	47	0.198519677	-	47	0.198519677	-
-	-	-	$0	48	0.191806451	-	48	0.191806451	-	48	0.191806451	-
-	-	-	$0	49	0.185320243	-	49	0.185320243	-	49	0.185320243	-
-	-	-	$0	50	0.179053375	-	50	0.179053375	-	50	0.179053375	-
-	-	-	$0	51	0.172998429	-	51	0.172998429	-	51	0.172998429	-
-	-	-	$0	52	0.167148241	-	52	0.167148241	-	52	0.167148241	-
-	-	-	$0	53	0.161495885	-	53	0.161495885	-	53	0.161495885	-
-	-	-	$0	54	0.156034672	-	54	0.156034672	-	54	0.156034672	-
-	-	-	$0	55	0.150758137	-	55	0.150758137	-	55	0.150758137	-
-	-	-	$0	56	0.145660036	-	56	0.145660036	-	56	0.145660036	-
-	-	-	$0	57	0.140734334	-	57	0.140734334	-	57	0.140734334	-
-	-	-	$0	58	0.135975202	-	58	0.135975202	-	58	0.135975202	-
-	-	-	$0	59	0.131377007	-	59	0.131377007	-	59	0.131377007	-
-	-	-	$0	60	0.126934306	-	60	0.126934306	-	60	0.126934306	-
-	-	-	$0	61	0.122641841	-	61	0.122641841	-	61	0.122641841	-
-	-	-	$0	62	0.118494533	-	62	0.118494533	-	62	0.118494533	-
-	-	-	$0	63	0.114487471	-	63	0.114487471	-	63	0.114487471	-
-	-	-	$0	64	0.110615914	-	64	0.110615914	-	64	0.110615914	-
-	-	-	$0	65	0.106875279	-	65	0.106875279	-	65	0.106875279	-
-	-	-	$0	66	0.10326114	-	66	0.10326114	-	66	0.10326114	-
-	-	-	$0	67	0.099769217	-	67	0.099769217	-	67	0.099769217	-
-	-	-	$0	68	0.096395379	-	68	0.096395379	-	68	0.096395379	-
-	-	-	$0	69	0.093135632	-	69	0.093135632	-	69	0.093135632	-
-	-	-	$0	70	0.089986118	-	70	0.089986118	-	70	0.089986118	-
-	-	-	$0	71	0.086943109	-	71	0.086943109	-	71	0.086943109	-
-	-	-	$0	72	0.084003004	-	72	0.084003004	-	72	0.084003004	-
-	-	-	$0	73	0.081162322	-	73	0.081162322	-	73	0.081162322	-
-	-	-	$0	74	0.078417703	-	74	0.078417703	-	74	0.078417703	-
-	-	-	$0	75	0.075765896	-	75	0.075765896	-	75	0.075765896	-
-	-	-	$0	76	0.073203765	-	76	0.073203765	-	76	0.073203765	-
-	-	-	$0	77	0.070728275	-	77	0.070728275	-	77	0.070728275	-
-	-	-	$0	78	0.068336498	-	78	0.068336498	-	78	0.068336498	-
-	-	-	$0	79	0.066025601	-	79	0.066025601	-	79	0.066025601	-
-	-	-	$0	80	0.063792852	-	80	0.063792852	-	80	0.063792852	-
-	-	-	$0	81	0.061635605	-	81	0.061635605	-	81	0.061635605	-
3,366,000.00	11,781,003,500	31,977,000.00	$671,517,000			8,473,010,816			482,961,617			319,754,482

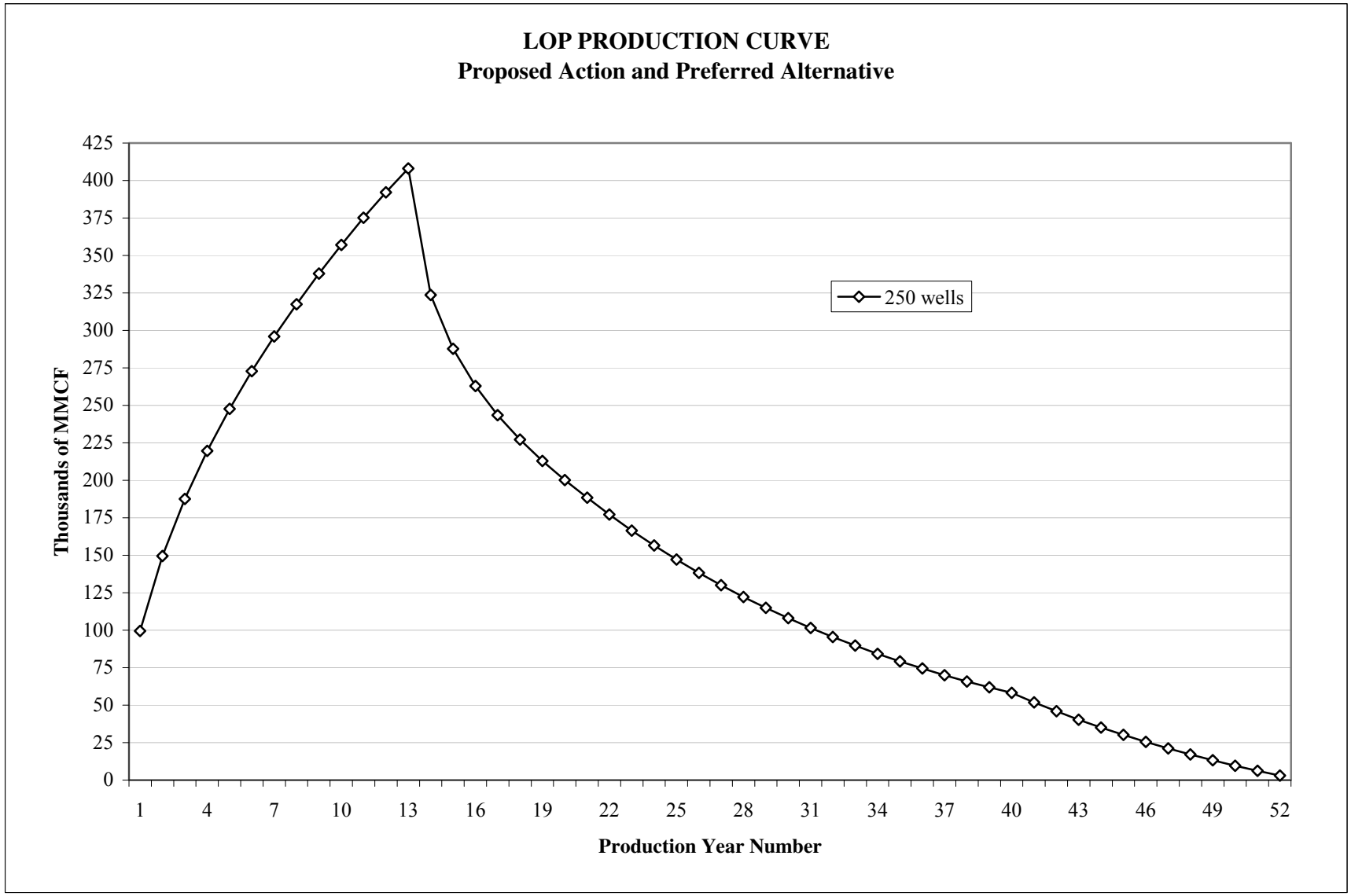

LOP PRODUCTION CURVES
No Action Alternative
Thousands of MMCF
600
550
500
450
400
350
300
250
200
150
100
50
0
533 Existing Wells
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
Production Year Number

Proposed Action and Preferred Alternative (250 Wells/Year Development Rate)

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
99,548.36	348,419,248.68	945,709.39	$19,859,897	1	0.966184	336,636,955.25	1	0.966184	19,188,306.45	1	0.966184	12,704,005.42
149,457.57	523,101,509.02	1,419,846.95	$29,816,786	2	0.933511	488,320,856.05	2	0.933511	27,834,288.79	2	0.933511	18,428,252.47
187,584.25	656,544,860.69	1,782,050.34	$37,423,057	3	0.901943	592,165,848.04	3	0.901943	33,753,453.34	3	0.901943	22,347,154.77
219,562.60	768,469,092.52	2,085,844.68	$43,802,738	4	0.871442	669,676,417.90	4	0.871442	38,171,555.82	4	0.871442	25,272,248.66
247,608.45	866,629,571.40	2,352,280.27	$49,397,886	5	0.841973	729,678,844.72	5	0.841973	41,591,694.15	5	0.841973	27,536,620.24
272,863.62	955,022,679.10	2,592,204.41	$54,436,293	6	0.813501	776,911,564.78	6	0.813501	44,283,959.19	6	0.813501	29,319,088.63
296,007.47	1,036,026,141.49	2,812,070.96	$59,053,490	7	0.785991	814,307,182.24	7	0.785991	46,415,509.39	7	0.785991	30,730,324.44
317,482.71	1,111,189,498.79	3,016,085.78	$63,337,801	8	0.759412	843,850,146.52	8	0.759412	48,099,458.35	8	0.759412	31,845,216.83
337,855.22	1,182,493,279.38	3,209,624.62	$67,402,117	9	0.733731	867,631,943.48	9	0.733731	49,455,020.78	9	0.733731	32,742,694.28
357,088.34	1,249,809,188.25	3,392,339.23	$71,239,124	10	0.708919	886,013,247.10	10	0.708919	50,502,755.08	10	0.708919	33,436,367.92
375,167.47	1,313,086,145.26	3,564,090.97	$74,845,910	11	0.684946	899,392,726.96	11	0.684946	51,265,385.44	11	0.684946	33,941,282.73
392,161.85	1,372,566,486.61	3,725,537.61	$78,236,290	12	0.661783	908,341,576.63	12	0.661783	51,775,469.87	12	0.661783	34,278,994.42
408,136.57	1,428,478,001.35	3,877,297.43	$81,423,246	13	0.639404	913,374,766.44	13	0.639404	52,062,361.69	13	0.639404	34,468,936.94
323,604.45	1,132,615,574.91	3,074,242.27	$64,559,088	14	0.617782	699,709,277.56	14	0.617782	39,883,428.82	14	0.617782	26,405,628.72
287,810.49	1,007,336,727.34	2,734,199.69	$57,418,193	15	0.596891	601,269,842.35	15	0.596891	34,272,381.01	15	0.596891	22,690,721.31
262,952.17	920,332,582.98	2,498,045.58	$52,458,957	16	0.576706	530,761,241.35	16	0.576706	30,253,390.76	16	0.576706	20,029,867.73
243,446.06	852,061,202.31	2,312,737.55	$48,567,489	17	0.557204	474,771,722.24	17	0.557204	27,061,988.17	17	0.557204	17,916,935.25
227,124.12	794,934,403.39	2,157,679.09	$45,311,261	18	0.538361	427,961,791.28	18	0.538361	24,393,822.10	18	0.538361	16,150,422.08
212,889.42	745,112,953.33	2,022,449.44	$42,471,438	19	0.520156	387,574,742.66	19	0.520156	22,091,760.33	19	0.520156	14,626,295.64
200,104.81	700,366,848.25	1,900,995.73	$39,920,910	20	0.502566	351,980,484.52	20	0.502566	20,062,887.62	20	0.502566	13,283,039.52
188,367.26	659,285,406.11	1,789,488.96	$37,579,268	21	0.485571	320,129,809.87	21	0.485571	18,247,399.16	21	0.485571	12,081,058.76
177,148.18	620,018,626.42	1,682,907.70	$35,341,062	22	0.469151	290,882,129.67	22	0.469151	16,580,281.39	22	0.469151	10,977,309.81
166,519.28	582,817,496.55	1,581,933.20	$33,220,597	23	0.453286	264,182,798.19	23	0.453286	15,058,419.50	23	0.453286	9,969,730.44
156,528.12	547,848,430.68	1,487,017.17	$31,227,361	24	0.437957	239,934,128.51	24	0.437957	13,676,245.32	24	0.437957	9,054,634.14
147,136.43	514,977,506.98	1,397,796.09	$29,353,718	25	0.423147	217,911,181.62	25	0.423147	12,420,937.35	25	0.423147	8,223,532.17
138,308.24	484,078,844.91	1,313,928.29	$27,592,494	26	0.408838	197,909,667.43	26	0.408838	11,280,851.04	26	0.408838	7,468,715.03
130,009.74	455,034,104.32	1,235,092.57	$25,936,944	27	0.395012	179,744,041.88	27	0.395012	10,245,410.39	27	0.395012	6,783,180.65
122,209.16	427,732,048.17	1,160,986.99	$24,380,727	28	0.381654	163,245,792.71	28	0.381654	9,305,010.18	28	0.381654	6,160,569.73
114,876.60	402,068,115.03	1,091,327.74	$22,917,883	29	0.368748	148,261,875.59	29	0.368748	8,450,926.91	29	0.368748	5,595,106.66
107,984.01	377,944,021.47	1,025,848.06	$21,542,809	30	0.356278	134,653,295.27	30	0.356278	7,675,237.83	30	0.356278	5,081,546.06
101,504.96	355,267,372.58	964,297.15	$20,250,240	31	0.34423	122,293,811.44	31	0.34423	6,970,747.25	31	0.34423	4,615,123.86
95,414.66	333,951,324.35	906,439.31	$19,035,225	32	0.33259	111,068,773.65	32	0.33259	6,330,920.10	32	0.33259	4,191,513.38
89,689.78	313,914,239.86	852,052.94	$17,893,112	33	0.321343	100,874,053.68	33	0.321343	5,749,821.06	33	0.321343	3,806,785.04
84,308.39	295,079,381.25	800,929.75	$16,819,525	34	0.310476	91,615,081.26	34	0.310476	5,222,059.63	34	0.310476	3,457,369.94
79,249.89	277,374,613.86	752,873.95	$15,810,353	35	0.299977	83,205,966.17	35	0.299977	4,742,740.07	35	0.299977	3,140,026.75
74,494.90	260,732,134.95	707,701.51	$14,861,732	36	0.289833	75,568,702.97	36	0.289833	4,307,416.07	36	0.289833	2,851,811.71
70,025.20	245,088,205.91	665,239.42	$13,970,028	37	0.280032	68,632,444.95	37	0.280032	3,912,049.36	37	0.280032	2,590,051.21
65,823.69	230,382,913.59	625,325.05	$13,131,826	38	0.270562	62,332,848.56	38	0.270562	3,552,972.37	38	0.270562	2,352,317.04
61,874.27	216,559,939.38	587,805.55	$12,343,917	39	0.261413	56,611,476.14	39	0.261413	3,226,854.14	39	0.261413	2,136,403.89
58,161.81	203,566,342.84	552,537.22	$11,603,282	40	0.252572	51,415,253.65	40	0.252572	2,930,669.46	40	0.252572	1,940,308.84
51,847.14	181,464,986.22	492,547.82	$10,343,504	41	0.244031	44,283,149.24	41	0.244031	2,524,139.51	41	0.244031	1,671,157.49
45,911.35	160,689,712.06	436,157.79	$9,159,314	42	0.235779	37,887,275.96	42	0.235779	2,159,574.73	42	0.235779	1,429,790.02

Proposed Action and Preferred Alternative (250 Wells/Year Development Rate)

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
40,331.70	141,160,954.45	383,151.16	$8,046,174	43	0.227806	32,157,297.62	43	0.227806	1,832,965.96	43	0.227806	1,213,552.10
35,086.84	122,803,923.39	333,324.93	$6,999,824	44	0.220102	27,029,427.75	44	0.220102	1,540,677.38	44	0.220102	1,020,036.54
30,156.66	105,548,313.98	286,488.28	$6,016,254	45	0.212659	22,445,824.33	45	0.212659	1,279,411.99	45	0.212659	847,060.52
25,522.30	89,328,041.16	242,461.83	$5,091,698	46	0.205468	18,354,041.96	46	0.205468	1,046,180.39	46	0.205468	692,644.84
21,166.00	74,080,984.60	201,076.96	$4,222,616	47	0.19852	14,706,533.13	47	0.19852	838,272.39	47	0.19852	554,995.15
17,071.07	59,748,751.10	162,175.18	$3,405,679	48	0.191806	11,460,195.91	48	0.191806	653,231.17	48	0.191806	432,484.87
13,221.84	46,276,451.01	125,607.51	$2,637,758	49	0.18532	8,575,963.13	49	0.18532	488,829.90	49	0.18532	323,639.70
9,603.57	33,612,488.91	91,233.90	$1,915,912	50	0.179053	6,018,429.56	50	0.179053	343,050.49	50	0.179053	227,123.49
6,202.39	21,708,363.57	58,922.70	$1,237,377	51	0.172998	3,755,512.81	51	0.172998	214,064.23	51	0.172998	141,725.54
3,005.28	10,518,485.12	28,550.17	$599,554	52	0.167148	1,758,146.29	52	0.167148	100,214.34	52	0.167148	66,348.92
-	-	-	$0	53	0.161496	-	53	0.161496	-	53	0.161496	-
-	-	-	$0	54	0.156035	-	54	0.156035	-	54	0.156035	-
-	-	-	$0	55	0.150758	-	55	0.150758	-	55	0.150758	-
-	-	-	$0	56	0.14566	-	56	0.14566	-	56	0.14566	-
-	-	-	$0	57	0.140734	-	57	0.140734	-	57	0.140734	-
-	-	-	$0	58	0.135975	-	58	0.135975	-	58	0.135975	-
-	-	-	$0	59	0.131377	-	59	0.131377	-	59	0.131377	-
-	-	-	$0	60	0.126934	-	60	0.126934	-	60	0.126934	-
-	-	-	$0	61	0.122642	-	61	0.122642	-	61	0.122642	-
-	-	-	$0	62	0.118495	-	62	0.118495	-	62	0.118495	-
-	-	-	$0	63	0.114487	-	63	0.114487	-	63	0.114487	-
-	-	-	$0	64	0.110616	-	64	0.110616	-	64	0.110616	-
-	-	-	$0	65	0.106875	-	65	0.106875	-	65	0.106875	-
-	-	-	$0	66	0.103261	-	66	0.103261	-	66	0.103261	-
-	-	-	$0	67	0.099769	-	67	0.099769	-	67	0.099769	-
-	-	-	$0	68	0.096395	-	68	0.096395	-	68	0.096395	-
-	-	-	$0	69	0.093136	-	69	0.093136	-	69	0.093136	-
-	-	-	$0	70	0.089986	-	70	0.089986	-	70	0.089986	-
-	-	-	$0	71	0.086943	-	71	0.086943	-	71	0.086943	-
-	-	-	$0	72	0.084003	-	72	0.084003	-	72	0.084003	-
-	-	-	$0	73	0.081162	-	73	0.081162	-	73	0.081162	-
-	-	-	$0	74	0.078418	-	74	0.078418	-	74	0.078418	-
-	-	-	$0	75	0.075766	-	75	0.075766	-	75	0.075766	-
-	-	-	$0	76	0.073204	-	76	0.073204	-	76	0.073204	-
-	-	-	$0	77	0.070728	-	77	0.070728	-	77	0.070728	-
-	-	-	$0	78	0.068336	-	78	0.068336	-	78	0.068336	-
-	-	-	$0	79	0.066026	-	79	0.066026	-	79	0.066026	-
-	-	-	$0	80	0.063793	-	80	0.063793	-	80	0.063793	-
-	-	-	$0	81	0.061636	-	81	0.061636	-	81	0.061636	-
7,947,216.72	27,815,262,020	75,498,558.84	$1,585,469,736			16,409,236,109			935,326,458			619,251,752

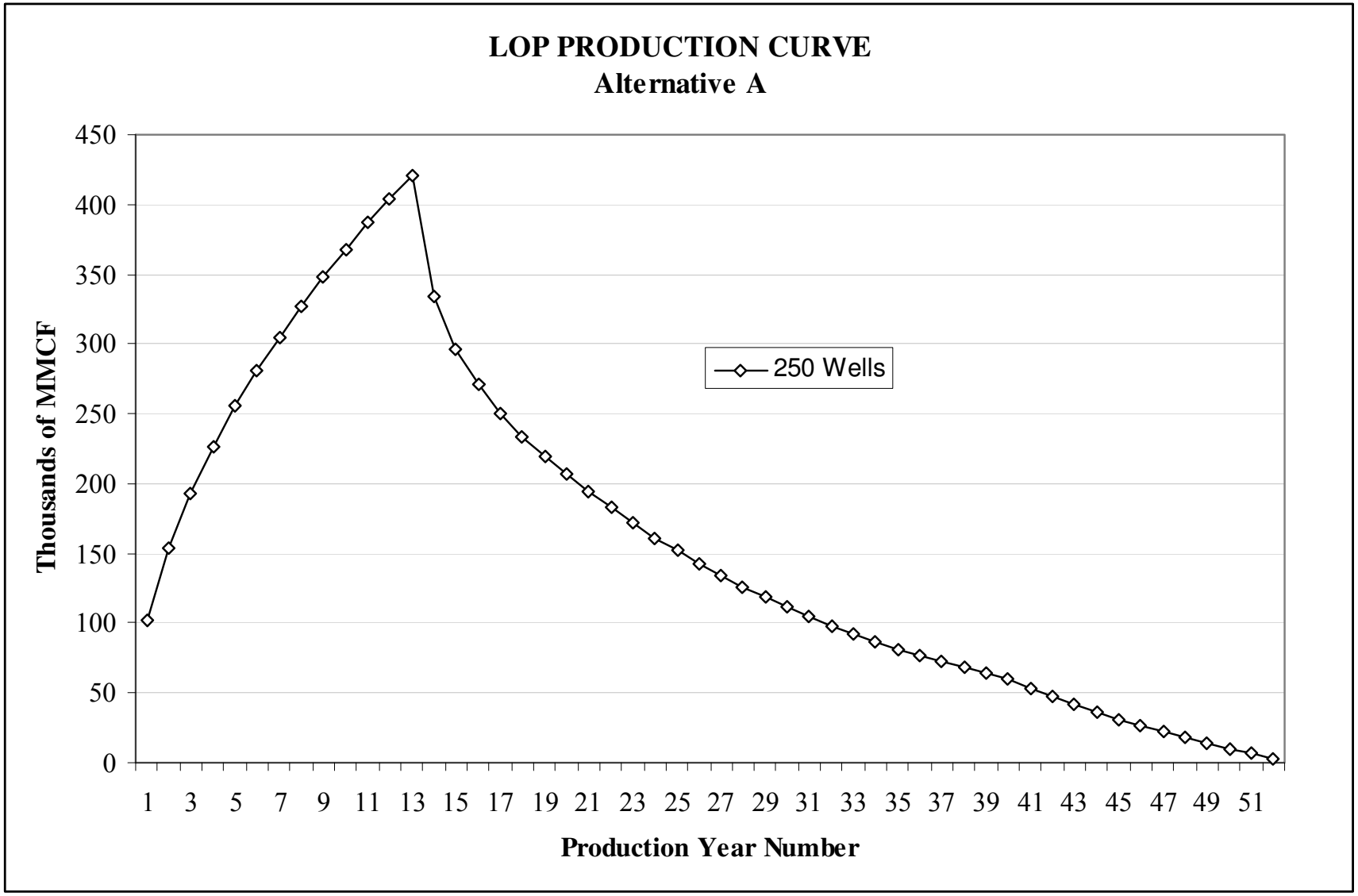

LOP PRODUCTION CURVE
Proposed Action and Preferred Alternative
Thousands of MMCF
425
400
375
350
325
300
275
250
225
200
175
150
125
100
75
50
25
0
250 wells
1
4
7
10
13
16
19
22
25
28
31
34
37
40
43
46
49
52
Production Year Number

Alternative A (250 Wells/Year Development Rate)

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
102,579.32	359,027,637.20	974,503.59	$20,464,575	1	0.966183575	346,886,605.99	1	0.966183575	19,772,536.54	1	0.966183575	13,090,806.74
154,073.65	539,257,775.91	1,463,699.68	$30,737,693	2	0.9335107	503,402,904.06	2	0.9335107	28,693,965.53	2	0.9335107	18,997,418.79
193,354.15	676,739,521.41	1,836,864.42	$38,574,153	3	0.901942706	610,380,274.97	3	0.901942706	34,791,675.67	3	0.901942706	23,034,530.82
226,280.54	791,981,901.74	2,149,665.16	$45,142,968	4	0.871442228	690,166,472.75	4	0.871442228	39,339,488.95	4	0.871442228	26,045,502.35
255,148.33	893,019,149.89	2,423,909.12	$50,902,092	5	0.841973167	751,898,161.69	5	0.841973167	42,858,195.22	5	0.841973167	28,375,132.83
281,138.21	983,983,718.45	2,670,812.95	$56,087,072	6	0.813500644	800,471,388.95	6	0.813500644	45,626,869.17	6	0.813500644	30,208,189.28
304,951.88	1,067,331,581.41	2,897,042.86	$60,837,900	7	0.785990961	838,912,975.04	7	0.785990961	47,818,039.58	7	0.785990961	31,658,897.85
327,046.31	1,144,662,086.96	3,106,939.95	$65,245,739	8	0.759411556	869,269,616.80	8	0.759411556	49,548,368.16	8	0.759411556	32,804,496.80
348,039.76	1,218,139,151.79	3,306,377.70	$69,433,932	9	0.733730972	893,786,424.10	9	0.733730972	50,945,826.17	9	0.733730972	33,729,712.07
367,870.15	1,287,545,535.90	3,494,766.45	$73,390,096	10	0.708918814	912,765,253.91	10	0.708918814	52,027,619.47	10	0.708918814	34,445,935.15
386,510.73	1,352,787,540.45	3,671,851.90	$77,108,890	11	0.684945714	926,586,027.41	11	0.684945714	52,815,403.56	11	0.684945714	34,967,503.50
404,032.87	1,414,115,027.86	3,838,312.22	$80,604,557	12	0.661783298	935,837,707.30	12	0.661783298	53,342,749.32	12	0.661783298	35,316,643.40
420,503.67	1,471,762,860.66	3,994,784.91	$83,890,483	13	0.639404153	941,051,285.24	13	0.639404153	53,639,923.26	13	0.639404153	35,513,393.40
333,406.91	1,166,924,185.42	3,167,365.65	$66,514,679	14	0.61778179	720,904,512.38	14	0.61778179	41,091,557.21	14	0.61778179	27,205,494.49
296,466.19	1,037,631,670.46	2,816,428.82	$59,145,005	15	0.596890619	619,352,609.69	15	0.596890619	35,303,098.75	15	0.596890619	23,373,128.78
270,866.08	948,031,290.59	2,573,227.79	$54,037,784	16	0.576705912	546,735,249.77	16	0.576705912	31,163,909.24	16	0.576705912	20,632,694.86
250,799.25	877,797,389.61	2,382,592.91	$50,034,451	17	0.557203779	489,112,023.07	17	0.557203779	27,879,385.31	17	0.557203779	18,458,109.53
234,019.46	819,068,111.77	2,223,184.87	$46,686,882	18	0.53836114	440,954,442.02	18	0.53836114	25,134,403.20	18	0.53836114	16,640,738.73
219,392.30	767,873,033.71	2,084,226.81	$43,768,763	19	0.52015569	399,413,527.98	19	0.52015569	22,766,571.09	19	0.52015569	15,073,067.72
206,259.57	721,908,489.72	1,959,465.90	$41,148,784	20	0.502565884	362,806,578.61	20	0.502565884	20,679,974.98	20	0.502565884	13,691,594.66
194,205.23	679,718,302.52	1,844,949.68	$38,743,943	21	0.485570903	330,051,429.83	21	0.485570903	18,812,931.50	21	0.485570903	12,455,480.86
182,649.47	639,273,136.96	1,735,169.94	$36,438,569	22	0.469150631	299,915,395.43	22	0.469150631	17,095,177.54	22	0.469150631	11,318,207.19
171,690.50	600,916,737.11	1,631,059.72	$34,252,254	23	0.453285634	272,386,923.91	23	0.453285634	15,526,054.66	23	0.453285634	10,279,337.73
161,389.06	564,861,716.50	1,533,196.09	$32,197,118	24	0.437957134	247,385,218.41	24	0.437957134	14,100,957.45	24	0.437957134	9,335,823.37
151,705.71	530,969,993.94	1,441,204.27	$30,265,290	25	0.423146989	224,678,354.33	25	0.423146989	12,806,666.20	25	0.423146989	8,478,911.74
142,603.37	499,111,780.22	1,354,731.97	$28,449,371	26	0.408837671	204,055,697.69	26	0.408837671	11,631,174.77	26	0.408837671	7,700,653.92
134,047.16	469,165,060.86	1,273,448.02	$26,742,408	27	0.395012242	185,325,942.71	27	0.395012242	10,563,578.73	27	0.395012242	6,993,830.43
126,004.33	441,015,145.88	1,197,041.11	$25,137,863	28	0.38165434	168,315,344.60	28	0.38165434	9,593,974.64	28	0.38165434	6,351,884.47
118,444.06	414,554,225.15	1,125,218.61	$23,629,591	29	0.368748155	152,866,105.66	29	0.368748155	8,713,368.02	29	0.368748155	5,768,861.10
111,337.42	389,680,964.37	1,057,705.47	$22,211,815	30	0.356278411	138,834,914.63	30	0.356278411	7,913,590.13	30	0.356278411	5,239,352.01
104,657.17	366,300,098.76	994,243.13	$20,879,106	31	0.344230348	126,091,610.62	31	0.344230348	7,187,221.81	31	0.344230348	4,758,445.20
98,377.74	344,322,087.37	934,588.52	$19,626,359	32	0.332589709	114,517,982.70	32	0.332589709	6,527,525.01	32	0.332589709	4,321,679.63
92,475.07	323,662,759.28	878,513.20	$18,448,777	33	0.321342714	104,006,669.37	33	0.321342714	5,928,380.15	33	0.321342714	3,925,003.69
86,926.57	304,242,992.75	825,802.41	$17,341,851	34	0.310476052	94,460,163.18	34	0.310476052	5,384,229.30	34	0.310476052	3,564,737.64
81,710.98	285,988,412.78	776,254.26	$16,301,340	35	0.299976862	85,789,906.54	35	0.299976862	4,890,024.67	35	0.299976862	3,237,539.49
76,808.32	268,829,109.36	729,679.01	$15,323,259	36	0.289832717	77,915,471.06	36	0.289832717	4,441,181.85	36	0.289832717	2,940,374.05
72,199.82	252,699,365.37	685,898.28	$14,403,864	37	0.28003161	70,763,810.19	37	0.28003161	4,033,537.18	37	0.28003161	2,670,484.67
67,867.83	237,537,407.17	644,744.39	$13,539,632	38	0.270561942	64,268,582.24	38	0.270561942	3,663,309.19	38	0.270561942	2,425,367.76
63,795.76	223,285,166.72	606,059.74	$12,727,255	39	0.261412505	58,369,534.67	39	0.261412505	3,327,063.48	39	0.261412505	2,202,749.50
59,968.02	209,888,059.47	569,696.16	$11,963,619	40	0.252572468	53,011,945.22	40	0.252572468	3,021,680.88	40	0.252572468	2,000,564.79
53,457.24	187,100,350.70	507,843.81	$10,664,720	41	0.24403137	45,658,354.95	41	0.24403137	2,602,526.23	41	0.24403137	1,723,055.00
47,337.12	165,679,905.80	449,702.60	$9,443,755	42	0.235779102	39,063,859.36	42	0.235779102	2,226,639.98	42	0.235779102	1,474,191.92

Alternative A (250 Wells/Year Development Rate)

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
41,584.20	145,544,687.23	395,049.87	$8,296,047	43	0.227805895	33,155,937.79	43	0.227805895	1,889,888.45	43	0.227805895	1,251,238.78
36,176.45	126,617,582.53	343,676.30	$7,217,202	44	0.220102314	27,868,822.95	44	0.220102314	1,588,522.91	44	0.220102314	1,051,713.64
31,093.17	108,826,103.42	295,385.14	$6,203,088	45	0.212659241	23,142,876.54	45	0.212659241	1,319,143.96	45	0.212659241	873,365.88
26,314.89	92,102,112.54	249,991.45	$5,249,820	46	0.205467866	18,924,024.48	46	0.205467866	1,078,669.40	46	0.205467866	714,154.84
21,823.30	76,381,560.72	207,321.38	$4,353,749	47	0.198519677	15,163,242.76	47	0.198519677	864,304.84	47	0.198519677	572,230.46
17,601.21	61,604,241.42	167,211.51	$3,511,442	48	0.191806451	11,816,090.92	48	0.191806451	673,517.18	48	0.191806451	445,915.64
13,632.45	47,713,560.58	129,508.24	$2,719,673	49	0.185320243	8,842,288.62	49	0.185320243	504,010.45	49	0.185320243	333,690.29
9,901.81	34,656,320.63	94,067.16	$1,975,410	50	0.179053375	6,205,331.16	50	0.179053375	353,703.88	50	0.179053375	234,176.79
6,395.00	22,382,513.97	60,752.54	$1,275,803	51	0.172998429	3,872,139.76	51	0.172998429	220,711.97	51	0.172998429	146,126.81
3,098.61	10,845,135.36	29,436.80	$618,173	52	0.167148241	1,812,745.30	52	0.167148241	103,326.48	52	0.167148241	68,409.38
-	-	-	$0	53	0.161495885	-	53	0.161495885	-	53	0.161495885	-
-	-	-	$0	54	0.156034672	-	54	0.156034672	-	54	0.156034672	-
-	-	-	$0	55	0.150758137	-	55	0.150758137	-	55	0.150758137	-
-	-	-	$0	56	0.145660036	-	56	0.145660036	-	56	0.145660036	-
-	-	-	$0	57	0.140734334	-	57	0.140734334	-	57	0.140734334	-
-	-	-	$0	58	0.135975202	-	58	0.135975202	-	58	0.135975202	-
-	-	-	$0	59	0.131377007	-	59	0.131377007	-	59	0.131377007	-
-	-	-	$0	60	0.126934306	-	60	0.126934306	-	60	0.126934306	-
-	-	-	$0	61	0.122641841	-	61	0.122641841	-	61	0.122641841	-
-	-	-	$0	62	0.118494533	-	62	0.118494533	-	62	0.118494533	-
-	-	-	$0	63	0.114487471	-	63	0.114487471	-	63	0.114487471	-
-	-	-	$0	64	0.110615914	-	64	0.110615914	-	64	0.110615914	-
-	-	-	$0	65	0.106875279	-	65	0.106875279	-	65	0.106875279	-
-	-	-	$0	66	0.10326114	-	66	0.10326114	-	66	0.10326114	-
-	-	-	$0	67	0.099769217	-	67	0.099769217	-	67	0.099769217	-
-	-	-	$0	68	0.096395379	-	68	0.096395379	-	68	0.096395379	-
-	-	-	$0	69	0.093135632	-	69	0.093135632	-	69	0.093135632	-
-	-	-	$0	70	0.089986118	-	70	0.089986118	-	70	0.089986118	-
-	-	-	$0	71	0.086943109	-	71	0.086943109	-	71	0.086943109	-
-	-	-	$0	72	0.084003004	-	72	0.084003004	-	72	0.084003004	-
-	-	-	$0	73	0.081162322	-	73	0.081162322	-	73	0.081162322	-
-	-	-	$0	74	0.078417703	-	74	0.078417703	-	74	0.078417703	-
-	-	-	$0	75	0.075765896	-	75	0.075765896	-	75	0.075765896	-
-	-	-	$0	76	0.073203765	-	76	0.073203765	-	76	0.073203765	-
-	-	-	$0	77	0.070728275	-	77	0.070728275	-	77	0.070728275	-
-	-	-	$0	78	0.068336498	-	78	0.068336498	-	78	0.068336498	-
-	-	-	$0	79	0.066025601	-	79	0.066025601	-	79	0.066025601	-
-	-	-	$0	80	0.063792852	-	80	0.063792852	-	80	0.063792852	-
-	-	-	$0	81	0.061635605	-	81	0.061635605	-	81	0.061635605	-
8,190,018.36	28,665,067,758	77,805,174.42	$1,633,908,663			16,909,230,759			963,826,153			638,120,550

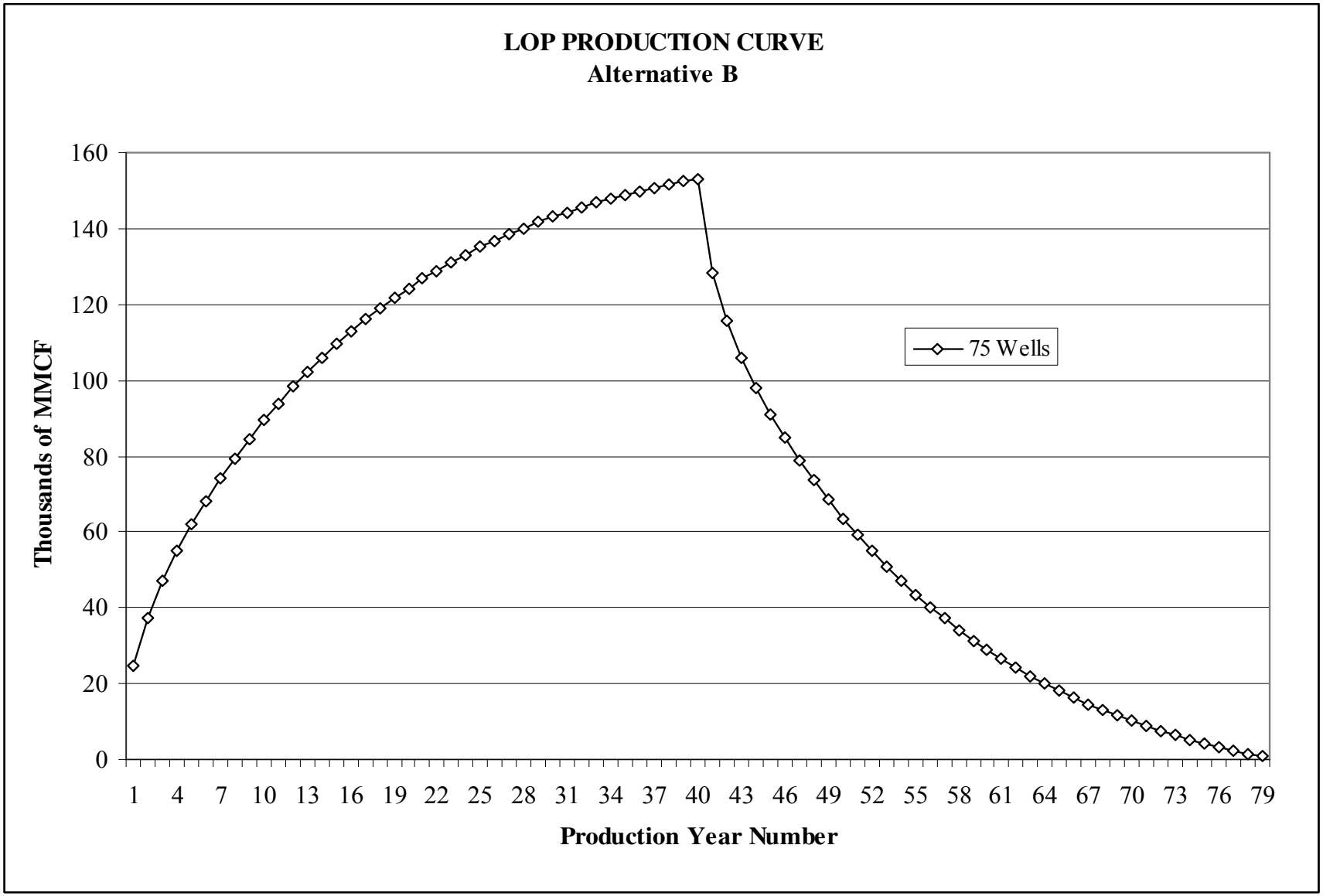

LOP PRODUCTION CURVE
Alternative A
Thousands of MMCF
450
400
350
300
250
200
150
100
50
0
250 Wells
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
Production Year Number

Alternative B (75 Wells/Year Development Rate)

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
24,931.03	87,258,622.01	236,844.83	$4,973,741	1	0.966184	84,307,847.35	1	0.966184	4,805,547.30	1	0.966184	3,181,609.54
37,430.36	131,006,254.73	355,588.41	$7,467,357	2	0.933511	122,295,740.61	2	0.933511	6,970,857.21	2	0.933511	4,615,196.66
46,978.85	164,425,962.98	446,299.04	$9,372,280	3	0.901943	148,302,797.93	3	0.901943	8,453,259.48	3	0.901943	5,596,650.99
54,987.54	192,456,396.70	522,381.65	$10,970,015	4	0.871442	167,714,631.08	4	0.871442	9,559,733.97	4	0.871442	6,329,214.75
62,011.38	217,039,819.73	589,108.08	$12,371,270	5	0.841973	182,741,704.35	5	0.841973	10,416,277.15	5	0.841973	6,896,306.44
68,336.31	239,177,090.79	649,194.96	$13,633,094	6	0.813501	194,570,717.46	6	0.813501	11,090,530.90	6	0.813501	7,342,709.74
74,132.48	259,463,690.43	704,258.59	$14,789,430	7	0.785991	203,936,115.31	7	0.785991	11,624,358.57	7	0.785991	7,696,141.12
79,510.77	278,287,687.35	755,352.29	$15,862,398	8	0.759412	211,334,885.73	8	0.759412	12,046,088.49	8	0.759412	7,975,355.92
84,612.88	296,145,089.37	803,822.39	$16,880,270	9	0.733731	217,290,824.33	9	0.733731	12,385,576.99	9	0.733731	8,200,121.13
89,429.65	313,003,764.76	849,581.65	$17,841,215	10	0.708919	221,894,257.60	10	0.708919	12,647,972.68	10	0.708919	8,373,845.49
93,957.41	328,850,920.30	892,595.36	$18,744,502	11	0.684946	225,245,028.32	11	0.684946	12,838,966.61	11	0.684946	8,500,296.88
98,213.50	343,747,246.95	933,028.24	$19,593,593	12	0.661783	227,486,186.87	12	0.661783	12,966,712.65	12	0.661783	8,584,873.72
102,214.23	357,749,792.47	971,035.15	$20,391,738	13	0.639404	228,746,703.01	13	0.639404	13,038,562.07	13	0.639404	8,632,443.08
105,974.91	370,912,184.85	1,006,761.64	$21,141,995	14	0.617782	229,142,793.59	14	0.617782	13,061,139.23	14	0.617782	8,647,390.74
109,509.95	383,284,833.65	1,040,344.55	$21,847,236	15	0.596891	228,779,121.47	15	0.596891	13,040,409.92	15	0.596891	8,633,666.49
112,832.89	394,915,123.35	1,071,912.48	$22,510,162	16	0.576706	227,749,886.26	16	0.576706	12,981,743.52	16	0.576706	8,594,825.21
115,956.46	405,847,594.74	1,101,586.33	$23,133,313	17	0.557204	226,139,813.66	17	0.557204	12,889,969.38	17	0.557204	8,534,064.29
118,892.61	416,124,117.81	1,129,479.75	$23,719,075	18	0.538361	224,025,054.26	18	0.538361	12,769,428.09	18	0.538361	8,454,257.50
121,652.59	425,784,049.12	1,155,699.56	$24,269,691	19	0.520156	221,473,996.02	19	0.520156	12,624,017.77	19	0.520156	8,357,985.66
124,246.97	434,864,384.33	1,180,346.19	$24,787,270	20	0.502566	218,548,003.92	20	0.502566	12,457,236.22	20	0.502566	8,247,564.57
126,685.69	443,399,899.25	1,203,514.01	$25,273,794	21	0.485571	215,302,089.39	21	0.485571	12,272,219.10	21	0.485571	8,125,070.25
128,978.08	451,423,283.43	1,225,291.77	$25,731,127	22	0.469151	211,785,518.16	22	0.469151	12,071,774.54	22	0.469151	7,992,361.88
131,132.93	458,965,264.11	1,245,762.86	$26,161,020	23	0.453286	208,042,360.53	23	0.453286	11,858,414.55	23	0.453286	7,851,102.60
133,158.49	466,054,725.66	1,265,005.68	$26,565,119	24	0.437957	204,111,991.89	24	0.437957	11,634,383.54	24	0.437957	7,702,778.35
135,062.52	472,718,819.51	1,283,093.94	$26,944,973	25	0.423147	200,029,545.25	25	0.423147	11,401,684.08	25	0.423147	7,548,714.98
136,852.31	478,983,067.76	1,300,096.90	$27,302,035	26	0.408838	195,826,321.77	26	0.408838	11,162,100.34	26	0.408838	7,390,093.73
138,534.70	484,871,461.14	1,316,079.68	$27,637,673	27	0.395012	191,530,163.10	27	0.395012	10,917,219.30	27	0.395012	7,227,965.30
140,116.16	490,406,550.89	1,331,103.50	$27,953,173	28	0.381654	187,165,788.71	28	0.381654	10,668,449.96	28	0.381654	7,063,262.53
141,602.72	495,609,534.99	1,345,225.88	$28,249,743	29	0.368748	182,755,101.61	29	0.368748	10,417,040.79	29	0.368748	6,896,812.02
143,000.10	500,500,340.01	1,358,500.92	$28,528,519	30	0.356278	178,317,465.65	30	0.356278	10,164,095.54	30	0.356278	6,729,344.52
144,313.63	505,097,696.46	1,370,979.46	$28,790,569	31	0.34423	173,869,956.03	31	0.34423	9,910,587.49	31	0.34423	6,561,504.40
145,548.35	509,419,211.58	1,382,709.29	$29,036,895	32	0.33259	169,427,587.14	32	0.33259	9,657,372.47	32	0.33259	6,393,858.28
146,708.98	513,481,435.78	1,393,735.33	$29,268,442	33	0.321343	165,003,517.97	33	0.321343	9,405,200.52	33	0.321343	6,226,902.76
147,799.98	517,299,926.56	1,404,099.80	$29,486,096	34	0.310476	160,609,238.80	34	0.310476	9,154,726.61	34	0.310476	6,061,071.45
148,825.52	520,889,307.98	1,413,842.41	$29,690,691	35	0.299977	156,254,739.88	35	0.299977	8,906,520.17	35	0.299977	5,896,741.37
149,789.52	524,263,326.66	1,423,000.46	$29,883,010	36	0.289833	151,948,664.17	36	0.289833	8,661,073.86	36	0.289833	5,734,238.69
150,695.69	527,434,904.22	1,431,609.03	$30,063,790	37	0.280032	147,698,445.52	37	0.280032	8,418,811.39	37	0.280032	5,573,843.94
151,547.48	530,416,187.37	1,439,701.08	$30,233,723	38	0.270562	143,510,433.85	38	0.270562	8,180,094.73	38	0.270562	5,415,796.75
152,348.17	533,218,593.69	1,447,307.61	$30,393,460	39	0.261413	139,390,008.07	39	0.261413	7,945,230.46	39	0.261413	5,260,300.12
153,100.82	535,852,855.48	1,454,457.75	$30,543,613	40	0.252572	135,341,678.30	40	0.252572	7,714,475.66	40	0.252572	5,107,524.26
128,169.78	448,594,233.47	1,217,612.92	$25,569,871	41	0.244031	109,471,065.47	41	0.244031	6,239,850.73	41	0.244031	4,131,219.07
115,670.46	404,846,600.75	1,098,869.34	$23,076,256	42	0.235779	95,454,367.84	42	0.235779	5,440,898.97	42	0.235779	3,602,256.93

Alternative B (75 Wells/Year Development Rate)

MMCF Natural Gas Total Production for Year	Price / MMCF 3,500.00	Condensate Production	Value/bbl $21	NG Production	Discount Factor	Natural Gas PV of LOP Production	Condensate	Discount Factor	Condensate PV of LOP Production	Labor Earnings	Discount Factor	Labor PV of LOP Labor
106,121.97	371,426,892.50	1,008,158.71	$21,171,333	43	0.227806	84,613,235.80	43	0.227806	4,822,954.44	43	0.227806	3,193,134.29
98,113.27	343,396,458.77	932,076.10	$19,573,598	44	0.220102	75,582,355.31	44	0.220102	4,308,194.25	44	0.220102	2,852,326.92
91,089.44	318,813,035.75	865,349.67	$18,172,343	45	0.212659	67,798,538.17	45	0.212659	3,864,516.68	45	0.212659	2,558,581.23
84,764.50	296,675,764.69	805,262.79	$16,910,519	46	0.205468	60,957,336.15	46	0.205468	3,474,568.16	46	0.205468	2,300,407.95
78,968.33	276,389,165.05	750,199.16	$15,754,182	47	0.19852	54,868,687.75	47	0.19852	3,127,515.20	47	0.19852	2,070,634.54
73,590.05	257,565,168.13	699,105.46	$14,681,215	48	0.191806	49,402,660.83	48	0.191806	2,815,951.67	48	0.191806	1,864,357.61
68,487.93	239,707,766.11	650,635.37	$13,663,343	49	0.18532	44,422,701.38	49	0.18532	2,532,093.98	49	0.18532	1,676,423.90
63,671.17	222,849,090.72	604,876.10	$12,702,398	50	0.179053	39,901,881.70	50	0.179053	2,274,407.26	50	0.179053	1,505,817.21
59,143.41	207,001,935.17	561,862.40	$11,799,110	51	0.172998	35,811,009.69	51	0.172998	2,041,227.55	51	0.172998	1,351,435.88
54,887.32	192,105,608.53	521,429.51	$10,950,020	52	0.167148	32,110,114.56	52	0.167148	1,830,276.53	52	0.167148	1,211,771.50
50,886.59	178,103,063.01	483,422.60	$10,151,875	53	0.161496	28,762,911.80	53	0.161496	1,639,485.97	53	0.161496	1,085,454.77
47,125.91	164,940,670.63	447,696.11	$9,401,618	54	0.156035	25,736,463.37	54	0.156035	1,466,978.41	54	0.156035	971,242.65
43,590.86	152,568,021.83	414,113.20	$8,696,377	55	0.150758	23,000,870.70	55	0.150758	1,311,049.63	55	0.150758	868,006.86
40,267.92	140,937,732.13	382,545.27	$8,033,451	56	0.14566	20,528,995.07	56	0.14566	1,170,152.72	56	0.14566	774,723.22
37,144.36	130,005,260.74	352,871.42	$7,410,300	57	0.140734	18,296,203.77	57	0.140734	1,042,883.61	57	0.140734	690,462.14
34,208.21	119,728,737.67	324,978.00	$6,824,538	58	0.135975	16,280,139.27	58	0.135975	927,967.94	58	0.135975	614,379.90
31,448.23	110,068,806.36	298,758.19	$6,273,922	59	0.131377	14,460,510.30	59	0.131377	824,249.09	59	0.131377	545,710.74
28,853.85	100,988,471.15	274,111.56	$5,756,343	60	0.126934	12,818,901.49	60	0.126934	730,677.38	60	0.126934	483,759.70
26,415.13	92,452,956.23	250,943.74	$5,269,819	61	0.122642	11,338,600.80	61	0.122642	646,300.25	61	0.122642	427,896.12
24,122.73	84,429,572.04	229,165.98	$4,812,486	62	0.118495	10,004,442.69	62	0.118495	570,253.23	62	0.118495	377,547.66
21,967.88	76,887,591.37	208,694.89	$4,382,593	63	0.114487	8,802,665.91	63	0.114487	501,751.96	63	0.114487	332,195.01
19,942.32	69,798,129.82	189,452.07	$3,978,493	64	0.110616	7,720,783.94	64	0.110616	440,084.68	64	0.110616	291,366.94
18,038.30	63,134,035.96	171,363.81	$3,598,640	65	0.106875	6,747,467.74	65	0.106875	384,605.66	65	0.106875	254,635.94
16,248.51	56,869,787.72	154,360.85	$3,241,578	66	0.103261	5,872,439.09	66	0.103261	334,729.03	66	0.103261	221,614.11
14,566.11	50,981,394.34	138,378.07	$2,905,939	67	0.099769	5,086,373.79	67	0.099769	289,923.31	67	0.099769	191,949.57
12,984.66	45,446,304.59	123,354.26	$2,590,439	68	0.096395	4,380,813.74	68	0.096395	249,706.38	68	0.096395	165,323.15
11,498.09	40,243,320.49	109,231.87	$2,293,869	69	0.093136	3,748,087.07	69	0.093136	213,640.96	69	0.093136	141,445.31
10,100.72	35,352,515.47	95,956.83	$2,015,093	70	0.089986	3,181,235.61	70	0.089986	181,330.43	70	0.089986	120,053.47
8,787.19	30,755,159.02	83,478.29	$1,753,044	71	0.086943	2,673,949.13	71	0.086943	152,415.10	71	0.086943	100,909.49
7,552.47	26,433,643.90	71,748.46	$1,506,718	72	0.084003	2,220,505.48	72	0.084003	126,568.81	72	0.084003	83,797.44
6,391.83	22,371,419.70	60,722.42	$1,275,171	73	0.081162	1,815,716.38	73	0.081162	103,495.83	73	0.081162	68,521.50
5,300.84	18,552,928.92	50,357.95	$1,057,517	74	0.078418	1,454,878.06	74	0.078418	82,928.05	74	0.078418	54,904.19
4,275.30	14,963,547.50	40,615.34	$852,922	75	0.075766	1,133,726.59	75	0.075766	64,622.42	75	0.075766	42,784.57
3,311.29	11,589,528.82	31,457.29	$660,603	76	0.073204	848,397.14	76	0.073204	48,358.64	76	0.073204	32,016.81
2,405.13	8,417,951.26	22,848.72	$479,823	77	0.070728	595,387.17	77	0.070728	33,937.07	77	0.070728	22,468.72
1,553.33	5,436,668.11	14,756.67	$309,890	78	0.068336	371,522.86	78	0.068336	21,176.80	78	0.068336	14,020.53
752.65	2,634,261.78	7,150.14	$150,153	79	0.066026	173,928.72	79	0.066026	9,913.94	79	0.066026	6,563.72
-	-	-	$0	80	0.063793	-	80	0.063793	-	80	0.063793	-
-	-	-	$0	81	0.061636	-	81	0.061636	-	81	0.061636	-
6,124,032.63	21,434,117,719	58,178,310.02	1,221,744,510			8,518,096,597			485,531,506			321,455,929


LOP PRODUCTION CURVE
Alternative B
Thousands of MMCF
160
140
120
100
80
60
40
20
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79
Production Year Number
75 Wells

APPENDIX B

Economic Analysis Methodology

ECONOMIC ANALYSIS METHODOLOGY

CPI AND INFLATION FACTORS

The U.S. Bureau of Economic Analysis reports data adjusted to current dollars using the Consumer Price Index (CPI). CPI data, a measure of the average change in prices over time for a variety of goods and services, were obtained from the U.S. Bureau of Labor Statistics (BLS) (2003, 2005). The BLS uses the following formula to compute the inflation factor and current year dollars.

Inflation Factor = (Current Year CPI / Year "X" CPI)
Current Year Dollars = Year "X" Dollars x Inflation Factor

The CPI values and inflation factors used by Sonoran Institute Economic Profile System and applied in this document are listed in Table B.1.

Table B.A.1. CPI and Inflation Factors, 1980–2004[1]

Year	CPI	Inflation Factor[2]	Year	CPI	Inflation Factor[2]
1980	82.4	2.09	1993	144.5	1.19
1981	90.9	1.89	1994	148.2	1.16
1982	96.5	1.78	1995	152.4	1.13
1983	99.6	1.73	1996	156.9	1.10
1984	103.9	1.66	1997	160.5	1.07
1985	107.6	1.60	1998	163.0	1.06
1986	109.6	1.57	1999	166.6	1.03
1987	113.6	1.52	2000[3]	172.2	1.00
1988	118.3	1.46	2001	177.1	0.97
1989	124.0	1.39	2002	179.9	0.96
1990	130.7	1.32	2003	184.0	0.94
1991	136.2	1.26	2004	188.9	0.91
1992	140.3	1.23			

[1] Data for 1980–2002 obtained from BLS (2003); data for 2003–2004 obtained from BLS (2005).
[2] Inflation Factor = CPI current year/year "X" CPI.
[3] 2000 is the current year (base year) for the purposes of this analysis (i.e., inflation factor = 1.00: the base year when $1 is worth $1).

GENERAL METHODS OF ECONOMIC ANALYSIS

Time Series and Cross-Sectional Analysis

In economic analysis, the two most commonly used tools are time series analysis and cross-sectional comparisons. Time series analysis, as the name implies, involves plotting data trends over time for one or more geographic areas or other units (e.g., industries) of analysis. Options for the nature of this analysis include nominal data (i.e., the actual numbers), percentage change over time from some base year (e.g., where the base year figure is converted to 100), and the ratio between two figures (e.g., a

state's per capita income as a percentage of the national figure). Time series analysis provides the basis for understanding how an economy is evolving over time, and in relation to other areas. While time series tracks trends over time, cross-sectional analysis examines the distribution of one variable in relation to other variables at one point in time. Typical visual tools include bar graphs and pie charts. Examples of cross-sectional analysis include the distribution of jobs by industry, of population by race, and of income by source. Cross-sectional analysis allows an understanding of the economic structure.

Location Quotient

Location quotients are used to measure the extent to which the contribution of one subgroup of economic factors (e.g., an industry, occupational group) to a regional economy is greater or lesser than the contribution of that subgroup to a larger, reference economy (usually, the U.S.). For instance, if the manufacturing sector provided 18% of all jobs in a region, and the U.S. figure was 15%, the location quotient would be 1.2 (i.e., 18/15). When used to measure industry concentration, a location quotient is taken as a rough indicator of a region's competitiveness in that industry. The higher the location quotient, the greater the competitive advantage a region appears to have. Plotting location quotients over time for key industries in an economic base is one visual way to gauge changes in relative competitiveness.

However, the location quotient can be spurious. For example, if a region suffers a major job loss with the closure of a large employer that is not replaced, other economic base industries' share of total jobs (and their location quotients) would rise even if their employment is stable, because the total number of jobs (the denominator) has fallen. In this case, an apparent increase in competitiveness is in fact illusory.

To assess the importance of major industries as a basic industry, BLM calculated location quotients on nine major industries as listed in Table B.2 (BLM 2003). A location quotient was calculated for both employment and income and compares each industry's share of total local employment or income (PFO area) to the industry's state or national share. This quotient yields a value generally between 0 and 2, where 1 indicates an equal share percentage between the local and state or national economies. Location quotients greater than 2 indicate a strong industry concentration while those less than 0.50 indicate a weak concentration. Table B.2 indicates the PFO area mirrors the state's economy as a whole in many ways. However, there are industries that show a stronger concentration in the area compared to the state's economy, including mining, manufacturing, and transportation and utilities.

Two industries that are weak in this area compared with the state are services and FIRE. When compared to the national economy, mining (includes oil and gas) shows an extremely high concentration in both employment and earnings. This is true for the earnings in the transportation and utilities sector as well. Alternatively, earnings for farm and agriculture services, manufacturing, trade, and FIRE for the area show a weak concentration compared to the national economy.

Shift-Share Analysis

Shift-share analysis is a means of attributing change in a region's economy (e.g., change in jobs or earnings) to various factors—change in the nation's economy, the particular industry mix in the region, and the competitiveness of the region's economic base industries compared to similar industries elsewhere. Shift-share analysis is complex and if insufficient data exist for particular economic factors, the analysis is meaningless.

Table B.2. Location Quotients, 2000[1]

Industry	Location Quotient			
	Employment		Earnings	
	Wyoming	U.S.	Wyoming	U.S.
Farm and Agricultural Services	1.12	1.53	0.43	0.23
Mining	2.22	26.20	2.09	182.63
Construction	1.17	1.53	0.99	1.80
Manufacturing	1.79	0.66	1.78	0.27
Transportation and Utilities	1.54	1.68	1.21	12.55
Trade	0.96	0.95	0.78	0.31
FIRE	0.76	0.65	0.59	0.38
Services	0.74	0.60	0.60	3.86
Government	0.90	1.30	0.71	1.53

[1] Source: BLM (2003).

Economic Modeling

Modeling encompasses a variety of analytic approaches, such as input-output (I/O) analysis and economic simulation, that forecast how an economy would behave under certain circumstances. These circumstances may be a specific event in the regional economy (e.g., opening of a new mill, closure of an old one, building of a convention center), a particular type of policy intervention (e.g., change in the property tax rate), or macroeconomic in nature (e.g., shift in the prime rate).

Economic impact analysis is defined as an assessment of change in overall economic activity as a result of some change in one or several economic activities. It involves applying a final demand change to a predictive I/O model, then analyzing the resulting changes in the economy. This study primarily utilizes I/O analysis performed by the UWAED.

IMPLAN® MODELING SYSTEM

IMPLAN® (IMpact Analysis for PLANning) was originally developed by the U.S. Department of Agriculture, Forest Service (USFS) in cooperation with the Federal Emergency Management Agency and the BLM to assist in land and resource management planning (Minnesota IMPLAN Group, Inc. 2000). IMPLAN® provides estimates of the additional economic activity associated with sales of goods or services. This methodology has been packaged, along with the necessary data files, as IMPLAN® Pro by the Minnesota IMPLAN Group, Inc. (MIG) of Stillwater, Minnesota, and is the basis for the analysis in this report. Some of the conventions used by IMPLAN® are discussed below.

Database Components

The IMPLAN® databases consist of two major parts: 1) national-level matrices and tables and 2) economic and physical data at the county and/or state level. The national matrices are combined with regional data to create a regional model which can be edited to reflect local conditions. For this analysis, UWAED used updated calibrated county-specific data to more accurately reflect activities in the study area.

The IMPLAN® data are divided into four main categories:

1. industry output,
2. employment,
3. value added (includes employee compensation), and
4. final demands.

Industry output represents the dollar value of an industry's total production. These data are derived from a number of sources including U.S. Census Bureau economic censuses and the BLS employment projections.

Employment is listed as a single number of jobs for each industry. Theses data are derived from ES202 employment security data supplemented by county business patterns and Regional Economic Information System (REIS) data. All IMPLAN® databases (after 1985) include both full-time and part-time workers in employment estimates.

Value added includes employee compensation, proprietor income, other property type income, and indirect business taxes. Employee compensation includes the total payroll costs (including benefits) of each industry in the region. Proprietary income consists of payments received by self-employed individuals (includes private business owners, doctors, and lawyers). Other property type income consists of payments from rents, royalties, dividends, and interest. Indirect business taxes consist primarily of excise and sales taxes paid by individuals to businesses.

Final demands are the dollar value of goods and services purchased by consumers and institutions (federal, state, and local government). Personal consumption expenditures are the largest component of final demand, and consists of payments by individuals/households to industries for goods and services used for personal consumption. IMPLAN® final demands are measured in terms of producer prices.

Multipliers

Each industry that produces goods and services generates demands for other goods and services. Other producers, in turn, purchase goods and services. These indirect purchases (indirect effects) continue until "leakage" from the region (imports, wages, profits, etc.) stop the cycle. These iterations are described by multipliers.

Each of these multiplier types can be calculated for output, employment, and income (value added). Output multipliers are derived by dividing the total (direct, indirect, and induced) output effects by the direct output. An output multiplier provides an indicator of the total output created (direct, indirect, and induced) for each dollar of direct output.

Income multipliers (or any of the value added components) are derived by dividing the total (direct, indirect, and induced) income effects by the direct income. An income multiplier provides an indicator of the total income created (direct, indirect, and induced) for each dollar of direct income.
Employment multipliers are created in the same manner as the income multiplier, but using employment rather than income. An employment multiplier provides an indicator of the total jobs (direct, indirect, and induced) for each direct job.

Key Assumptions

IMPLAN® bases I/O modeling on several assumptions (MIG 2000).

- Constant returns to scale. Production functions are considered linear; if additional output is required, all inputs increase proportionately.
- No supply constraints. An industry has unlimited access to raw materials and its output is limited only by the demand for its products.
- Fixed commodity input structure. Assumes that price changes will not cause a firm to buy substitute goods. This structure assumes that changes in the economy will affect the industry's output, but not the mix of commodities and services it requires to make its product.
- Homogenous sector output. The proportions of all the commodities produced by the industry remain the same, regardless of total output (i.e., an industry will not increase the output of one product without proportionately increasing the output of all its other products).
- Industry technology. An industry uses the same technology to produce all its products (i.e., an industry has a primary or main product and all other products are byproducts of the primary product).

Wyoming Data and Analysis Conventions

This analysis makes use of a data set representing Wyoming for the Year 2000. All impact amounts expressed in 2000 dollars were adjusted to 2002 dollars using IMPLAN deflators based on the BLS's CPI. Through IMPLAN, direct employment from the model was used to estimate all of the associated indirect and induced effects.

APPENDIX B REFERENCES CITED

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