Case file numbers
Argus WVES-50556
Rockspring WVES-50560

EAST LYNN LAKE COAL LEASE SOCIOECONOMIC BASELINE ASSESSMENT AND SOCIOECONOMIC IMPACT ANALYSIS

EIS-ES-030-2008-0004

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-A-

ADD	area development district (ARC)
amsl	above msl (mean sea level)
Applicants	Argus Energy WV, LLC and Rockspring Development, Inc.
ARC	Appalachian Regional Commission
Argus	Argus Energy WV, LLC, also referred to as “Applicant”

-B-

BBER	Bureau of Business and Economic Research (West Virginia University)
Bcf	billion cubic feet
BLM	U.S. Bureau of Land Management (Department of the Interior)
BLM-MFO	Milwaukee Field Office of the BLM
BTU	British thermal units

-C-

CBER	Center for Business and Economic Research
CFR	*Code of Federal Regulations*
CEQ	Council on Environmental Quality
CHIA	cumulative hydrologic impact assessment
CWA	*Clean Water Act*

-D-

DEIS	draft environmental impact statement
DLUA/DEIS	draft land use analysis/environmental impact statement

-E-

East Lynn Lake LUA/EIS	East Lynn Lake Coal Lease Land Use Analysis and Environmental Impact Statement
EIA	Energy Information Administration
EIS	environmental impact statement
EMT	emergency medical technician
EPA	see: U.S. Environmental Protection Agency

-F-

FCLAA	*Federal Coal Lease Amendments Act*
FERC	Federal Energy Regulatory Commission
FR	*Federal Register*

-G-

Golder	Golder Associates Inc.

-H-	
HADCO	Huntington Development Area Council
HRSA	U.S. Health Resources and Services Administration
HUD	U.S. Department of Housing and Urban Development
-I-	
IMPLAN	Impact Analysis for Planning
-K-	
KYOVA	KentuckY Ohio [West] VirginiA Interstate Planning Commission
-L-	
LBA	lease by application
LNG	liquefied natural gas
LUA	land use analysis
LUA/EIS	*Land Use Analysis*/*Environmental Impact Statement*
-M-	
MBOE	million barrels of oil equivalent
mcf	thousand cubic feet
MLA	*Mineral Leasing Act of 1920*
mmcf	million cubic feet
MSA	metropolitan statistical area
MSHA	U.S. Mine Safety and Health Administration (Department of Labor)
MUCBER	Marshall University Center for Business & Economic Research
MW	megawatt
-N-	
NAS	no action scenario
NASS	National Agricultural Statistical Service
NEPA	*National Environmental Policy Act*
NGOs	non-governmental organizations
NOI	notice of intent
-O-	
ORV	off-road vehicle
OSM	U.S. Office of Surface Mining, Reclamation, and Enforcement (Department of the Interior)
-R-	
RFDS	Reasonably Foreseeable Development Scenario
Rockspring	Rockspring Development, Inc., also referred to as “Applicant”
ROW	right of way

-S-

SMCRA	*Surface Mining Control and Reclamation Act*

-T-

TPI	total personal income
TOLSIA	Tug-Ohio-Levisa-Sandy-Improvement Association

-U-

UKYCBER	University of Kentucky Center for Business Economic Research
UMWA	United Mines Workers of America
U.S.	United States
USACE	U.S. Army Corps of Engineers (Department of the Army)
USBLM	see: BLM
USEPA	U.S. Environmental Protection Agency

-W-

WCC	Wayne County Commissioners
WV	West Virginia
WVAC	West Virginia Association of Counties
WVCA	West Virginia Coal Association
WVDEP	West Virginia Department of Environmental Protection
WVDHHR	West Virginia Department of Health and Human Resources
WVDMR	West Virginia Division of Mining and Reclamation
WVDNR	West Virginia Division of Natural Resources
WVDO	West Virginia Development Office
WVDOF	West Virginia Division of Forestry
WVGES	West Virginia Geological and Economic Survey
WVMHST	West Virginia Office of Miners' Health, Safety and Training
WVSCORP	*West Virginia Statewide Comprehensive Outdoor Recreation Plan*
WWV	Workforce West Virginia

1.0 INTRODUCTION

The U.S. Department of Interior Bureau of Land Management (BLM) Milwaukee Field Office (MFO) Solid Minerals Team—Rolla, MO is responding to two lease-by-applications (LBA) received from Argus Energy WV, LLC (Argus) and Rockspring Development, Inc. (Rockspring) for the leasing of federal coal that lies under nine tracts of land located on the U.S. Army Corps of Engineers (USACE) East Lynn Lake Project in Wayne County, West Virginia. In 1977, the U.S. Army Corps of Engineers (USACE) pursued ownership of the coal estate surrounding the lake, and finally acquired the coal estate in 1991. However, local coal companies indicated interest in leasing the federal coal. Eight years later, the *Water Resources Development Act of 1999* (WRDA) gave the BLM the responsibility of making coal leasing decisions for the USACE East Lynn Lake Project.

On July 14, 2005, the BLM published a *Notice of Intent to prepare an LUA/EIS to analyze Coal Lease Applications WVES-50556 and WVES-50560* (NOI) in the *Federal Register* (70 FR 134, pages 40723-40725). In August 2005 the BLM and the Applicants signed a memorandum of understanding (MOU) to outline the NEPA process and responsibilities. On September 8, 2005 the BLM issued a statement of work (SOW) to guide preparation of proposals and on September 23, 2005, the Applicants issued a request for proposals (RFP). The Applicants and the BLM reviewed the proposals and in July 2006 Golder Associates Inc. (Golder) was selected to develop the East Lynn Lake Coal Lease LUA/EIS under the direction of the BLM. Contracts between Golder and each of the Applicants were negotiated and signed in September 2006.

The BLM is preparing the *East Lynn Lake Coal Lease Land Use Analysis and Environmental Impact Statement* (East Lynn Lake Coal Lease LUA/EIS) to assess potential environmental and socioeconomic impacts of the proposed leasing and associated proposed underground coal mining. The federal coal that lies under the proposed lease tracts is some of the only federally owned coal in West Virginia. The BLM management actions regarding federal coal resources that lie under the proposed lease tracts are integrally connected with socioeconomics and are considered in compliance with the *National Environmental Protection Act* (NEPA) process. The socioeconomic baseline assessment and socioeconomic impact analysis for the East Lynn Lake Coal Lease LUA/EIS is presented in this report, and will be summarized in the East Lynn Lake Coal Lease LUA/EIS.

The purpose of this baseline assessment and analysis is:

- to document the socioeconomic conditions of the East Lynn Lake Coal Lease LUA/EIS planning area, and
- to provide an overview of how selection of the Proposed Action–which is to lease the federal coal and to implement the proposed mining methods described in the associated reasonably foreseeable development scenario (RFDS)–might affect regional social and economic conditions.

The planning area for this assessment and impact analysis is Wayne County. Specialists gathered and analyzed information on the social and economic conditions in a multi-state region, the state of West Virginia, and Wayne County for comparison purposes.

Estimating and evaluating impacts that could occur more than 20 years in the future is very difficult. Changes in social conditions, economic conditions, and environmental conditions can change dramatically over that time period. Therefore, the timeframe considered in this assessment and impact analysis is the next 20 years.

The East Lynn Lake Coal Lease LUA/EIS is described in section 1.1. The location in which the proposed underground mining would occur is described in section 1.2. The socioeconomic resources assessed in this impact analysis are described in section 1.3, and socioeconomic indicators are described in section 1.4. A summary of sources used to prepare this report is presented in section 1.5.

An introductory overview of socioeconomic conditions in the Appalachian region, in the state of West Virginia, and in Wayne County is presented in chapter 2.0. To further describe the socioeconomic setting, the economic aspects of coal mining are also introduced. Statistical information on human population characteristics such as population size, age, or gender is referred to as demographic information. This information can be used to identify the basic human needs of a community. Demographic information for West Virginia, Wayne County, and the local town of Wayne is presented in chapter 3.0.

A history of social values and attitudes, along with a description of existing social conditions in the Appalachian region, the state, and the county is presented in chapter 4.0. Social structure and values within Wayne County influence the demand for recreation and other opportunities provided by public lands, as well as the acceptability of proposed land management decisions. For the purposes of this analysis, public land includes all publicly owned land and resources such as those owned or administered by the BLM, USACE, and the State of West Virginia. Public land and mineral uses can affect the economies of local communities. Existing economic conditions in the county are described in chapter 5.0, and additional regional and state information is also provided where applicable for comparison purposes. Social and economic impacts of the Proposed Action and No Action Alternative are analyzed in chapter 6.0.

Executive Orders 12898 and 13045 and NEPA require that factors related to environmental justice and the protection of children, be addressed. Aspects of the regional and local conditions regarding environmental justice and protection of children are presented in chapter 7.0.

1.1 The East Lynn Lake Coal Lease Land Use Analysis and Environmental Impact Statement

The BLM-MFO Solid Minerals Team–Rolla, MO has received two applications to lease federal coal that lies under nine tracts of land within the U.S. Army Corps of Engineers (USACE) East Lynn Lake Project in Wayne County, West Virginia (figure 1.1-1). The proposed lease tracts are situated within the Williamson Coal Field on the Appalachian Plateau (Trapp and Horn 1997). Under the BLM regulations for competitive leasing (43 CFR 3425.1), the BLM is preparing the East Lynn Lake Coal Lease LUA/EIS to evaluate environmental and social impacts that would result from underground mining of federal coal.

The Proposed Action is to offer the nine tracts of land, totaling 13,089.55 acres, for competitive leasing in response to applications submitted by Argus Energy WV, LLC (Argus) and Rockspring Development, Inc. (Rockspring) under the LBA process detailed in 43 CFR 3425. The two coal companies are referred to as the Applicants. The nine proposed lease tracts would be offered with BLM's standard terms and conditions, along with special coal lease stipulations identified by the BLM and the USACE for the protection of natural resources consistent with applicable laws, BLM and USACE policies, and the USACE *Operational Management Plan* (USACE 2006).

If the Proposed Action is selected and the tracts are leased, the Reasonably Foreseeable Development Scenario (RFDS) associated with the Proposed Action would involve underground room-and-pillar mining of the federal coal using an approximately 50 percent extraction rate, with no second mining. The RFDS is based on proposed mining plans, and was developed to facilitate the NEPA process required for the Proposed Action. Prior to mining the federal coal, the successful bidder(s) would be required to submit mining plans and operations permit applications to federal and state agencies for approval. If necessary, additional analyses would be performed at that time, and the OSM and cooperating agencies would review the results in accordance with NEPA. If Argus and Rockspring are the successful bidders, these two companies would extend existing underground workings from these adjoining operations into the federal coal. Rockspring would produce roughly one million tons per year over a 10-year period, and Argus would produce approximately one million tons per year over a 15-year period.

The No Action Alternative is to not lease the federal coal. If the No Action Alternative is selected, the associated No Action Scenario (NAS) would involve mining of the private coal reserves that adjoin the nine proposed lease tracts, in accordance with existing West Virginia Division of Mining and Reclamation (WVDMR) operating permits and amendment and private leases.

The BLM considered numerous other alternatives and concluded that none of the other alternatives directly address the purpose and need or proposed project issues identified during the NEPA process. As a result, no other alternatives have been carried through the detailed evaluation process.

Argus' active Mine No. 8 and inactive Mine No. 3, and Rockspring's active Camp Creek coal mining complex are located adjacent to the nine proposed lease tracts, and as existing permitted facilities that will continue to function regardless of this action, are not a part of the East Lynn Lake Coal Lease LUA/EIS evaluation.

1.2 Location

The USACE East Lynn Lake Project is located in Wayne County, in southwestern West Virginia near the eastern borders of the states of Kentucky and Ohio. The proposed underground mining associated with the East Lynn Lake Coal Lease LUA/EIS would occur under lands surrounding the East Lynn Lake Project. Socioeconomic centers in the vicinity of the proposed lease tracts include the communities of East Lynn, Genoa, and Dunlow. As Robert Michael Thompson wrote recently in *East Lynn Booming*:

> East Lynn is … a small residential community. It is more of an area than a town. Since it is no longer incorporated, there are no official town limits. However, the area considered to be the community of East Lynn stretches from the boundary of the East Lynn Lake property, which is about one mile upstream of the mouth of Big Lynn Creek, to the end of Fry Bottom. Altogether the community extends about two and a half miles along Twelve Pole Creek.

The town of Wayne is located about 6 air miles to the northwest and is the county seat of Wayne County. Other larger cities in Wayne County include Kenova and Huntington, though the larger portion of Huntington is located in neighboring Cabell County. The socioeconomic planning area being considered encompasses all lands, regardless of ownership, within Wayne County, West Virginia (figure 1.1-1). This planning area was selected to address the socioeconomic effects that could occur under the RFDS.

The BLM does not manage any surface lands in Wayne County or the State of West Virginia. The West Virginia Division of Forestry (WVDOF) and the West Virginia Division of Natural Resources (WVDNR) Wildlife Resources Section cooperatively manage the Cabwaylingo State Forest, which is located southwest of the USACE East Lynn Lake Project and encompasses approximately 8,123 acres (WVDNR 2007c). The WVDNR Wildlife Resources Section also manages Beech Fork State Park, which is located north of the USACE East Lynn Lake Project and encompasses 3,144 acres (WVDNR 2007b).

1.3 Socioeconomic Resources

Socioeconomic resources are resources that provide social or economic value to, and are currently available to, regional and local communities. Examples include:

- heavy industrial businesses such as mining, forestry, or construction
- light industrial businesses such as transportation or warehousing

- agriculture
- commercial businesses such as retail stores
- services such as hospitals and other health care facilities, and tourism businesses
- developed natural resource uses such as flood control and recreation facilities, and
- social organizations such as churches, 4H, the Community Educational Outreach Service, and scouting organizations.

1.4 Socioeconomic Indicators

Socioeconomic indicators are factors that measure:

- the effects that proposed project alternatives may have on different resource conditions, and
- the magnitude of any change from current conditions.

Examples include:

- statistical characteristics of human populations (referred to as demographic information) such as population size, in-migration and out-migration, housing, and school information
- social values
- economic numbers concerning employment, income, and earnings
- federal, state, and county tax revenue, and
- community services.

Demographic information includes the number of residents in the area, population growth trends, and distribution by age and gender. Housing information includes numbers of housing units, ownership, and vacancy rate. School enrollment and capacity are important considerations in assessing the effects of potential growth on publicly supplied infrastructure.

Information on social conditions includes human geography, cultural traditions and values including faith, and politics. Information on economic conditions includes information on employment by geographic region and by labor sector, unemployment, and income. This information provides a measure of the relative health of the economy, the potential demand for public services and assistance, and the significance of different economic sectors.

1.5 Agency Involvement

Bureau of Land Management
The BLM-MFO is responsible for leasing federal coal in West Virginia, and must assess potential environmental and socioeconomic impacts associated with the proposed mining of the East Lynn

Lake federal coal. The BLM-MFO is a stakeholder group, and is serving as the lead agency in preparing the East Lynn Lake Coal Lease LUA/EIS.

U.S. Army Corps of Engineers

The land tracts proposed for leasing are situated within the boundaries of the USACE East Lynn Lake Project. As the surface management agency for those land tracts, the USACE is a stakeholder group, and is serving as a cooperating agency in the East Lynn Lake Coal Lease LUA/EIS preparation process. The USACE is concerned about the integrity of the lake, potential impacts to water quality and quantity, and potential impacts to the plants and animals that rely on the lands within the USACE East Lynn Lake Project boundary. The USACE considers the life of its East Lynn Lake Project to be 100 to 200 years, and has expressed concern regarding the proposed mining associated with the Proposed Action. The USACE is concerned about potential impacts to the integrity of the dam, the reservoir, and the land surface within the East Lynn Lake Project that could result from this relatively short-term project–expected to extend mining in the area around the lake by 10 to 15 years (Saunders 2008, Maggard 2007a). As part of the East Lynn Lake Coal Lease LUA/EIS, the BLM prepared the RFDS based on the coal lease applications received from Argus and Rockspring. The Applicants propose only 50 percent extraction, to minimize the potential for surface subsidence. The Applicants also propose to maintain a 200-ft barrier around East Lynn Lake, a 100-ft protective barrier in the vicinity of coal outcrops, and to avoid mining wherever overburden thickness is less than 100 ft.

Geologic and mineral resource specialists performed a preliminary subsidence assessment of the RFDS, and the specialists concluded that minimal subsidence would occur if the RFDS were implemented. Subsequently, resource specialists assessed the likelihood and significance of potential impacts to environmental resources, including geologic and mineral resources, water resources, soils, vegetation, and plants and animals. Based on available information, the specialists concluded that no significant short-term or long-term impacts would occur if the RFDS were implemented. Consequently, if the RFDS is implemented no short-term or long-term impacts are expected to occur at the USACE East Lynn Lake Project as a result of the RFDS.

Furthermore, if the Proposed Action is selected, the successful bidder(s) would be required to obtain operations permit(s) from the WVDMR in accordance with Article 3 of the *Surface Mining Control and Reclamation Act* (SMCRA). As part of the permitting process, the WVDEP would conduct a cumulative hydrologic impact assessment (CHIA) for each application to determine whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.

U.S. Office of Surface Mining, Reclamation, and Enforcement

The U.S. Office of Surface Mining, Reclamation, and Enforcement (OSM) has regulatory authority for the surface aspects of mining (roads, ponds, facilities), and the BLM has regulatory authority for the actual mining of federal coal. The OSM and the BLM are responsible for providing recommendations to the Secretary of the Interior regarding approval, disapproval, or conditional approval of mine plans on lands contained within federal lease areas. In this regard, the OSM reviews potential surface impacts and the BLM reviews mining plans prior to submittal of recommendations to the Secretary of the Interior. If the NEPA process determines that there may be surface impacts resulting from mining on the nine proposed lease tracts, the OSM, with input from the BLM and USACE, also would be responsible for providing recommendations to the Secretary of the Interior concerning the issuance of findings as to whether or not the proposed lease and mining areas contain significant recreational, timber, economic or other values that may be incompatible with the proposed mining activities. With these responsibilities, the OSM is a stakeholder group serving as a cooperating agency in the East Lynn Lake Coal Lease LUA/EIS preparation process.

West Virginia Department of Natural Resources

The West Virginia Department of Natural Resources manages a wildlife area within the USACE East Lynn Lake Project. This stakeholder group shares the USACE's concerns regarding potential impacts to the plants and animals, and is serving as a cooperating agency in the East Lynn Lake Coal Lease LUA/EIS preparation process.

U.S. Environmental Protection Agency and Council on Environmental Quality

The U.S. Environmental Protection Agency (USEPA) and the Council on Environmental Quality (CEQ) are responsible for overseeing the environmental analysis process mandated by the National Environmental Policy Act. These two stakeholder groups participated in the East Lynn Lake Coal Lease LUA/EIS preparation process by overseeing the process and reviewing the document.

West Virginia Division of Mining and Reclamation

If the Proposed Action is selected and the RFDS is implemented, the BLM will initiate the competitive bidding process. The successful bidder(s) will be required to submit application(s) for operations permits to the WVDMR in accordance with SMCRA Article 3. With responsibility for issuing operating permits, the WVDMR is a stakeholder group indirectly involved in the East Lynn Lake Coal Lease LUA/EIS.

West Virginia Department of Environmental Protection

The West Virginia Department of Environmental Protection (WVDEP) is responsible for monitoring and assessing the quality of state waters under the federal *Clean Water Act* (CWA). Numerous state waters are located in Wayne County, including East Lynn Lake and the streams within its watershed. In addition, if the Proposed Action is selected and the RFDS is implemented, the successful bidder(s) would be required to obtain operations permits from WVDMR. As part of the permitting process, the WVDEP would conduct a cumulative hydrologic impact assessment (CHIA) for each permit application to determine whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area. The NEPA documents also would be used to evaluate impacts, and to identify potential mitigation measures. With these responsibilities, the

WVDEP is a stakeholder group indirectly involved with the East Lynn Lake Coal Lease LUA/EIS process.

Wayne County Commission

The Wayne County Commission, which serves as the governing body of Wayne County, has a social and an economic interest in the proposed mining. While the commission is not a cooperating agency, the commissioners have expressed concern regarding potential environmental effects, including impacts to East Lynn Lake. In addition they are concerned with the economic health of the county and so are concerned with potential benefits such as royalties and severance tax revenues.

1.6 Information Sources

The following wide range of materials including formal statistics, planning documents, research analyses, published studies, and personal communications were used to complete this report:

- **National statistical agencies**
    - U.S. Census Bureau, various dates.
      Population statistics. Internet Web site.
    - Bureau of Economic Analysis. Internet Web site.
    - Federal Reserve Bank of Richmond.
      Socioeconomic data. Internet Web site.
    - National Center for Education Statistics. Internet Web site.
- **State and local planning documents** prepared by the State of West Virginia Development Office (WVDO) and Wayne County include:
    - *West Virginia Statewide Comprehensive Outdoor Recreation Plan* (WVDO 2003)
    - *State Appalachian Development Plan for the Appalachian Regional Commission* (WVDO 2005)
    - the *Land Use Master Plan, Wayne County, WV,* prepared by E.L. Robinson for the Wayne County Commission and dated April 14, 2004 (Wayne County 2004)
    - *Wayne County Profile; Workforce Investment Area 2* (Workforce West Virginia 2007).
- **Documents prepared by regional planning commissions**—West Virginia University's Regional Research Institute, Centers for Business and Economic Research (CBER) at Marshall University and the University of Kentucky, the KYOVA Interstate Planning Commission, and federal agencies, specifically the Appalachian Regional Commission (ARC), and the U.S. Environmental Protection Agency (USEPA), in the area include:
    - *Regional Data and Research Reports* (ARC 2007)

- *2007 West Virginia County Data Profiles: Wayne County* (West Virginia University, Bureau of Business and Economic Research 2007)
- *West Virginia Population Estimates and Projections* (West Virginia University, Regional Research Institute 2005)
- *A Study on the Current Economic Impacts of the Appalachian Coal Industry and its Future in the Region* [ARC](Thompson and others 2001)
- *Coal Production Forecasts and Economic Impact Simulations in Southern West Virginia* [Marshall University CBER] (Burton, Hicks and Kent 2001).
- *Long Range Transportation Plan.* (KYOVA Interstate Planning Commission 2002)
- *Draft Programmatic Environmental Impact Statement: Mountaintop Mining/Valley Fills in Appalachia* (USEPA 2003).

- **Local organizations and agencies**
  - Wayne County Economic Development Association.
    Internet Web site.
  - West Virginia Association of Counties. Internet Web site.
  - West Virginia Coal Association (WVCA). *West Virginia Coal Facts 2007.*
  - West Virginia Office of Miners' Health, Safety and Training.
  - The Huntington Regional Chamber of Commerce, serving Wayne and Cabell Counties.
  - West Virginia Geological and Economic Survey (WVGES).
    At a Glance–Wayne County 2007. Charleston, WV. Internet Web site.
  - West Virginia State Fire Marshal Office. Internet Web site.
  - St. Mary’s Medical Center. Internet Web site.
- **Newspaper**
  - *The Wayne County News.*
- **Personal communications** were used to verify local data that are not otherwise published.
  - Mark Barton, Chief Engineer, Rockspring Development Inc. regarding: Rockspring Development employment and financial information.
  - Randy Maggard, Manager, Argus Energy WV, LLC.

- Melissa May, Controller, Argus Energy and Becky Hall, Payroll Administrator, Argus Energy, regarding: Argus Energy employment and financial information.
- G. Michael Smith, Resource Manager, USACE regarding: recreational resources at USACE East Lynn Lake Project.
- Dale Stamper, U.S. Postmaster, Dunlow, WV.
- Anthony Carrico, West Virginia State Fire Marshal Office.
- City of Huntington Fire Department.
- Town of Wayne Police.
- West Virginia State Police.

2.0 SOCIOECONOMIC OVERVIEW

The socioeconomic conditions in the multi-state region, the state, and local planning area of Wayne County are introduced in sections 2.1 through 2.3, and are described in more detail in chapters 4.0 (Social Conditions) and 5.0 (Economic Conditions). A brief overview of the economic aspects of coal mining and processing is presented in section 2.4 (Overview of Coal Economics), and detailed information about coal mining in the state, the county, and the area in the vicinity of the proposed lease tracts is presented in chapter 5.0 (Economic Conditions).

2.1 Overview of the Region

Socially and economically, West Virginia and Wayne County are closely linked to the larger Appalachian region. The area defined as "Appalachia" depends on the focus of a given study and geographers over time have used slightly different boundaries. All definitions include the whole of West Virginia however, and the state is located at very nearly the center of every defined area (Raitz and Ulack 1984). A formal definition of the area was part of the legislation (PL 89-4) that created the Appalachian Regional Commission in 1965. Cultural and economic systems have developed in this area to reflect the rugged topography, humid climate, and the extensive coal resources that have been exploited over the past century and a half.

The Appalachian Regional Commission
The Appalachian Regional Commission (ARC) works in partnership with the states in the region to create opportunities for self-sustaining economic development and improved quality of life. Appalachia, as defined in the legislation from which the ARC derives its authority, is comprised of 410 counties, which includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. The Commission uses an index-based county economic classification system to identify and monitor the economic status of the Appalachian counties.

In Raitz and Ulack (1984), Wayne County is included in the southernmost part of the Northern subregion and adjacent to the Central subregion (figure 2.1-1). Raitz and Ulack (1984) report that whereas the Northern subregion of the ARC classification is described as "an old industrial-based economy undergoing modernization," Central Appalachia is characterized as the poorest of the subregions, with coal as its primary resource. The traditional economic base in Central Appalachian subregion counties is agrarian but is now in transition to an urban and industrial economy.

To apportion ARC funds most effectively, the organization ranks the 410 counties by five economic status designations—distressed, at-risk, transitional, competitive, and attainment–with counties designated as distressed being the counties most in need of improvement. The designations are based on a comparison of county and national averages for three economic indicators: three-year average unemployment rate, per capita market income, and poverty rate (Pollard 2003).

In 2006, Wayne County's risk level was downgraded from the transitional position it held in previous years (ARC 2007), and for the fiscal years 2006-2008, Wayne County is defined as being at the "at-risk" economic level. At-risk counties are those at risk of becoming economically distressed. They rank among the most distressed 10 to 25 percent of the nation's counties.

In a study prepared for ARC using 2000 Census data, Pollard (2003) identifies the ways in which the Appalachian region is distinct from the rest of the United States. The demographics indicate conditions common to the region:

- Although population increased by nearly 2 million persons between 1990 and 2000, the rate of growth remained slower than that of the rest of the nation.
- Racial and ethnic diversity remains virtually nonexistent in nearly half of Appalachia's counties.
- The population is aging earlier than the rest of the country—the median age is higher with fewer children and more elderly.
- Traditional families are less prevalent, likely as a result of this older age structure. There are proportionately more persons living alone, mostly among those 65 years of age or older.
- Based on a variety of economic, labor force, and education measures, these counties still lag behind other American counties: they are less dependent on manufacturing and more dependent on a very diverse service sector, and due to the 1990s economic boom, unemployment is now closer to that of the rest of the nation.
- Appalachians are more likely to be natives of their home states, and much less likely to have been born in another country.
- Housing vacancy is more common, but so is homeownership. Both owners and renters are more likely to live in affordable housing.
- Though commuting is becoming more common place, commutes remain shorter than in the rest of the United States.

Huntington-Ashland-Ironton, WV-KY-OH Metropolitan Statistical Area
Huntington is one of the major cities in the southwestern portion of West Virginia, and has been included in the more urbanized region of the Ohio Valley. In 1966, the U.S. Census Bureau designated the urbanized area of the Huntington-Ashland-Ironton, WV-KY-OH, metropolitan statistical area (MSA) to provide a recognized geographical area of activity (figure 2.1-2). This MSA includes numerous counties and towns (KYOVA 2007):

- Cabell and Wayne Counties and the city of Huntington in West Virginia
- Lawrence County and the city of Ironton in Ohio
- Boyd County, Carter County, the town of Green Up, and the city of Ashland in Kentucky

The Huntington Development Area Council (HADCO) serves to attract new employers to Cabell and Wayne Counties in West Virginia and to retain existing employers and to help all employers expand their businesses (HACDO 2007).

As of the 2000 census, the MSA had a population of 288,649. As a part of the Huntington Development Area, Wayne County and much of the region depend on employment in the nearby city of Huntington (KYOVA 2002). The KYOVA identifies the following major employers in the Huntington-Ashland WV-KY-OH MSA:

- St. Mary's Medical Center
- Marshall University
- Cabell Huntington Hospital
- CSX Huntington
- GC Services
- Special Metals
- Veterans Administration Medical Center
- Alcon Manufacturing Ltd
- USACE

2.2 Overview of West Virginia

West Virginia is noted for its great natural beauty and its historically significant logging and coal mining industries. One of the major resources in West Virginia's economy is coal. Since 1863, the state has mined nearly 13 billion tons of coal, and in 2005 the state mined 159.5 million tons of coal, 98.6 million tons of which came from underground operations (WVCA 2006). Although the state is also engaged in oil and gas drilling and production, only a few small- to medium-sized oil and natural gas fields are being developed. Farming and ranching are practiced in West Virginia on a limited basis due to the mountainous terrain over much of the state. The state is also well known as a tourist destination for people interested in outdoor activities such as skiing, whitewater rafting, rock climbing, spelunking, fishing, and hunting.

The economy of West Virginia is one of the most fragile of any U.S. state. According to U.S. Census Bureau data, West Virginia is the third lowest in per capita income, ahead of only Arkansas and Mississippi. It also ranks last in median household income. The proportion of West Virginia's adult population with a bachelor's degree is the lowest in the U.S. at 11.9 percent (ARC 2007).

2.3 Overview of Wayne County

Wayne County currently ranks 13th in the state based on population size (Wayne County 2004). Communities within Wayne County can be divided into regional cities, rural towns, and outlying rural areas. Huntington in Wayne County (2000 population: 51,475) and Charleston in Kanawha County (2000 population: 53,421) are considered regional cities and provide services, shopping alternatives, and diverse amenities for leisure and recreation. However, the larger portion of Huntington is located in neighboring Cabell County. Wayne County's smaller cities/incorporated towns such as Kenova (2000 population: 3,485), Fort Gay (2000 population: 819), and Wayne (2000 population: 1,105) have smaller populations and also serve as employment, shopping, and service areas (Census 2000). The town of Wayne is the county seat and hosts the county courthouse, elementary, middle and high schools, a choice of churches, and many businesses.

The Rural Policy Research Institute (RUPRI) was established in 1990 in response to concerns expressed in the Senate Agricultural Committee that little to no objective non-governmental information and analysis regarding the rural and community impacts of public policy decisions was available. RUPRI provides information on the challenges, needs, and opportunities facing rural America to help policymakers understand the rural impacts of public policies and programs.

Wayne County is classified by the U.S. Census Bureau as one of West Virginia's 21 metropolitan counties, due to the presence of Huntington. Of West Virginia's 55 counties only 26 are considered "non-core," that is neither metropolitan (population greater than 50,000) or micropolitan (population of 10,000 to 50,000). However, RUPRI considers that more than half of the country's rural areas are situated in metropolitan counties (Miller 2006) and reports that the Census Bureau statistics show that only 25 percent of West Virginians live in rural counties.

Based on the population of zip code 25704 that represents the part of Huntington that is in Wayne County, nearly 40 percent of the county population lives in Huntington (2000 population for 25704: 17,017 and 2000 population for Wayne County: 42,903), so the statistics for Wayne County are clearly skewed toward the metropolitan environment, and understate the rural conditions and poverty found in the rural portions of Wayne County most affected by the proposed federal coal lease. For this reason, whenever available, statistics for the town of Wayne are included to more closely represent the actual conditions in the vicinity of the proposed lease tracts.

The three communities closest to the proposed lease tracts—East Lynn to the north, Genoa to the west, and Dunlow to the southwest—are unincorporated and do not have official population statistics. The largest of these communities, East Lynn (2000 population: approximately 1,100) has a grocery store and a post office in a permanent brick building that is staffed during regular business hours. Genoa (2000 population: approximately 300) is located roughly half-way between East Lynn and Dunlow, and offers an elementary school and several churches. In Dunlow (2000 population:

approximately 340), the post office is housed in a trailer, and is the center of town, along with the local garage, a grocery/convenience store, and a restaurant that is currently closed (Stamper 2007). An elementary school and a senior center are also located in the vicinity of Dunlow (Maggard 2007b).

Natural resources are a main source of income to the residents of Wayne County, as the local economy relies heavily upon bituminous coal mines, oil and natural gas wells, and the sand and gravel industry. The county also relies upon income generation from livestock, fruit, and tobacco farms (WVCA 2006).

Wayne County has abundant pristine and natural areas, including Beech Fork Lake and State Park in the northern part of the county and Cabwaylingo State Forest in the southern part of the county. Beech Fork Lake and State Park is a 3,144-acre park popular for recreation boating, fishing, hiking, biking, and wildlife watching experiences that is located near Lavalette (WVDNR 2007b). Cabwaylingo State Forest is comprised of 8,123 acres known for recreational activities including hiking, picnicking, swimming, hunting, fishing, and camping. Thirteen standard cabins, completely furnished for housekeeping, are available from mid-April until late-October (Marshall University 2005a).

In addition, Wayne County is home to the USACE's East Lynn Lake/WVDNR Wildlife Management Area, a popular location for camping, boating, water-skiing, and trout and warm water fishing. Biking, horseback riding, and hunting for deer, waterfowl, and small game are also available on adjacent public lands. East Lynn Lake is 12 miles long with 1,005 acres of water and 44 miles of shoreline at summer pool level. The USACE East Lynn Lake Project is comprised of a total of 24,821 acres of lands and waters. The WVDNR manages 22,928 acres for Fish, Wildlife, and Forestry Management under a license agreement with the USACE (Marshall University 2005b).

Other notable points of interest in Wayne County include Virginia Point Park, Camp Mad Anthony Wayne, Dreamland Pool, Wayne Community Pool, Camden Park (amusement park), Sugarwood Golf Course, Lavalette Golf Course, and Spring Valley Golf Club (Wayne County Economic Development Association 2003).

2.4 Overview of Coal Economics

The economic role of coal mining can be measured by the percentage of total employment and earnings directly attributed to coal mining. In addition to coal mining wages, federal royalties and fees, along with state severance taxes also dramatically add to the state and local economy.

The University of Kentucky Center for Business and Economic Research (UKYCBER) completed a *Study on the Current Economic Impacts of the Appalachian Coal Industry and Its Future in the Region* in 2001. Thompson and others (2001) divided the 118-county Appalachian region studied into three regions: northern, central, and southern Appalachia. Central Appalachia included the border counties where Kentucky, West Virginia, and Virginia meet—including Wayne County. Within the Appalachian region as a whole, coal mining employment is concentrated in central Appalachia. Figure 2.4-1 shows total coal production (1997) by county in the Central Region as reported in the UKYCBER study (Thompson and others 2001). While coal mining is declining from a once dominant role in the West Virginia economy, it continues to contribute significantly, accounting for over three percent of that state's total employment and over five percent of total earnings (USEPA 2003). Some West Virginia counties are still dependent on coal extraction as an economic driver. In the study prepared for the Mountaintop Mining/Valley Fill EIS (USEPA 2003), mining made up more than ten percent of employment and personal earnings in a number of the West Virginia study area counties in 1998. For Wayne County, mining jobs accounted for 16 percent of employment in 1998, and 8.6 percent of total earnings.

While mining jobs are becoming more skilled and less plentiful, wages are higher than in the past. A study at Marshall University's Center for Business and Economic Research (MUCBER) showed that coal production in nine counties in southern West Virginia increased by 40 percent over the period 1980-1998 even as underground employment declined by 70 percent and surface mining employment declined by 50 percent. During the same period however, average underground mining productivity in West Virginia quadrupled from 2,100 tons per employee in 1980 to 8,000 tons per employee in 1998 (Burton, Hicks and Kent 2001).

Marshall University's study area, which did not include Wayne County, lost half of its mining jobs in the period from 1980 to 1990. The rate of loss slowed for the period 1990-1997, and has stabilized to be less now than the state overall. Some dramatic statistics were cited in the *Mountaintop Mining/Valley Fill EIS* (USEPA 2003): in 1980, six of the West Virginia study area counties had more than 4,000 mining employees; but by 1997 none of the counties had 4,000 or more employees.

The economic impact of mining extends beyond the county where a mine is located. When one economic activity in a community results in induced or indirect socioeconomic benefits in that community or in a wider region, this effect is referred to as the multiplier effect. For example, a business owner may start a company or expand an existing business and earn increased revenue, directly benefiting from the activity. If that business owner increased wages of his existing employees or hired additional staff as a result of the start-up or expansion, then those employees' earning and spending power is affected, altering supply and demand patterns within a community, and engendering and promoting employment. Additional revenues and monies within a community also increase its ability to further promote greater local economic and social activity, such as developing new infrastructure and improving or expanding recreational facilities and opportunities.

With regard to the coal mining industry, coal miners commonly commute long distances to jobs. Thus, while the published employment numbers indicate where the wages are earned, the numbers do not reflect where the wages are spent. In addition, the businesses that provide inputs to the local coal industry can be located in other counties or states (USEPA 2003). When the multiplier effect of mining jobs is considered, the influence is much greater than first expected.

At the state level, the West Virginia Development Office (WVDO) prepared an economic impact study of the coal mining industry in West Virginia for 2006. WVDO calculated direct, indirect and induced effects of the mining industry (Peterson 2007). Direct effects are those generated by the industry itself; indirect effects account for the impact of the industry and its employees spending money in the state; and induced effects represent the impacts of new household income created by direct and indirect spending. Results of WVDO's IMPLAN economic impact model are shown in table 2.4-1.

Table 2.4-1
Economic Impact of the Coal Mining Industry in West Virginia, 2006

Effect	**Employment**	**Labor Income** ($)	**Industrial Output** ($)	**State and Local Taxes** ($)
Direct	18,365	1,635,693,000	6,502,714,000	624,474,000
Indirect	10,352	543,381,000	2,169,257, 000	117,506,000
Induced	15,578	441,093,000	149,242,300	89,371,000
TOTAL EFFECTS	44,295	$2,620,167,000	$8,821,213,300	$8,331,351,000

Source: WVDO 2007

In the analysis of these data, WVDO developed the following multipliers (WVDO 2007):

- **For every one job in the state's coal mining industry in 2006, an additional 1.4 jobs were created elsewhere in the state's economy.** While the mining industry directly supplies only 18,365 jobs, the multiplier effects indicate that the industry is responsible for a total of 44,295 jobs.
- **For every $1 in wages and benefits paid by the coal mining industry, an additional 60 cents in wages and benefits were paid elsewhere in the state's economy.** While the direct industry wages are less than $1.7 billion, the multiplier effects indicate that the industry is responsible for a total of more than $2.6 billion in wages.
- **For every $1 in industrial output from the coal mining industry, an additional 36 cents in industrial output was created elsewhere in the state's economy.** While the mining industry is directly responsible for $6.5 billion in output, the multiplier effects indicate that the industry is responsible for more than $8.8 billion in industrial output.
- **For every $1 in state and local taxes paid by the coal mining industry, an additional 33 cents in taxes were paid by spin-off businesses and their employees.** While the industry pays nearly $624.5 million in taxes, total tax revenue generated is more than $8.3 billion.

Other market conditions also influence coal economics. Recently, other countries have begun competing with the U.S. to supply coal to the global market, thereby reducing the demand for U.S. coal. However, as the cost of global sources of oil increases, the demand for domestic energy sources such as coal will increase. If the current trend continues, domestic and possibly foreign demand for the coal remaining in the Appalachian region likely will increase in the coming years.

The chemical properties of coal also affect coal economics. Remaining coal reserves in the Appalachians contain higher sulfur levels than the coal found in other regions of the country, primarily the Powder River Basin in Wyoming. Air-borne sulfur compounds that contribute to acid rain are regulated under Title IV of the *Clean Air Act* (42 USC 7651). As a result, power plant operators are purchasing coal that is lower in sulfur, as well as installing and maintaining scrubbing equipment to remove sulfur from stack emissions. Coal containing higher sulfur concentrations is becoming less and less valuable in the U.S. and other countries. Additional emissions regulations may be implemented in the future that would further reduce the value of higher-sulfur content coal typically found in the Appalachian region.

Perceived or real impacts to water quality and other environmental issues also impact coal economics. Non-government organizations (NGOs) are concerned about water quality and other environmental issues that they associate with surface mining activities. In particular, NGOs are opposed to surface mining that involves removal of large amounts of overburden to access coal seams, known as "mountaintop mining." The NGOs are requesting that federal and state agencies implement more stringent environmental regulations. If these regulations are enforced, coal companies would face dramatic cost increases related to mining the coal and disposing of overburden.

In addition, safety requirements also impact coal economics. Since the recent underground coal mine incidents in West Virginia and Utah, federal and state agencies have been examining current underground mining methods and are proposing additional safety regulations in an effort to address such accidents and avoid similar accidents. As a result, coal companies are facing increased costs to implement safety programs and install safety measures.

3.0 DEMOGRAPHIC CHARACTERISTICS

Demographic characteristics are developed primarily from the 2000 Census. The following tables for the state of West Virginia, Wayne County and the town of Wayne are provided as appendix A:

- Table DP-1 Profile of General Demographic Characteristics
- Table DP-2 Profile of Selected Social Characteristics
- Table DP-3 Profile of Selected Economic Characteristics
- Table DP-4 Profile of Selected Housing Characteristics

Selected statistics are given in this text for comparison and additional statistics provided as needed to provide a longitudinal portrait.

3.1 Population

In 2000, population for the Huntington-Ashland-Ironton MSA was 288,649. The state's current population is predominantly rural, having the second lowest proportion of persons living in an urban area (WVDO 2003). The greatest population decline in the region occurred in the years following the Korean War when machines replaced many workers in the coalfields. Longitudinal statistics from 1970-2000 for West Virginia, Wayne County and the closest towns to the USACE East Lynn Lake Project area are presented in table 3.1-1. The U.S. Census Bureau estimates that the total population in Wayne County for 2006 was 41,647 (U.S. Census Bureau 2007a), down from 42,903 in 2000 (U.S. Census Bureau 2007a). The 2000 population was a 3 percent increase from its 1990 population of 41,636 (U.S. Census Bureau 1990). Between 1970 and 1980 the county grew by over 8,000 people only to decline again during the next decade by approximately 4,000 people, with total population ranging between 41,000 and 43,000 people. In 2003 Wayne County ranked 13th in the state based on population size, and was the 34th fastest growing county of West Virginia's 55 counties (Wayne County 2004). Both the county and the state population growth rate remained below that of the national rate of 13.2 percent (U.S. Census Bureau 2007a).

Table 3.1-1
Population Totals 1970-2000

Region	1970	1980	1990	2000	1970-2000 Change	1970-2000 Percent Change	1990-2000 Change	1990-2000 Percent Change
USA	203,211,926[3]	226,545,805[3]	248,709,873[3]	281,421,906[2]	7,820,998	38.5%	32,712,033[2]	13.2%[2]
West Virginia	1,744,237[3]	1,949,644[3]	1,793,477[3]	1,808,344[2]	64,107	3.7%	14,867[2]	0.8%[2]
Wayne County	37,581[5]	46,021[3]	41,636[4]	42,903[1]	5,322	14.2%	1,267	3.0%
Huntington			54,855	51,475[1]				
Kenova			3,748	3,485[1]				
Fort Gay				819[1]				
Ceredo				1,675[1]				
Town of Wayne Zip Code 25570	1,385[5]		1,128[4]	1,105[1]	-280	-20.2%	-23	-2.0%
East Lynn Zip Code 25512	N/A	N/A	N/A	1,752[1]				
Genoa Zip Code 25517				1,703[1]				
Dunlow Zip Code 25511	N/A	N/A	N/A	1,105[1]				

N/A=Not available
[1]U.S. Census Bureau 2007a,b
[2]U.S. Census Bureau 2001
[3]U.S. Census Bureau 1995
[4]U.S. Census Bureau 1990
[5]U.S. Census Bureau 1970

The largest communities in Wayne County are Huntington (2000 population: 51,475) and Kenova (2000 population: 3,485) (U.S. Census Bureau 2007a). Both cities lost population between the 1990 and 2000 censuses, but have recently gained with the 2005 populations of 54,844 for Huntington and 3,748 for Kenova (U.S. Census Bureau 2007b). The larger portion of Huntington's geographic area and its population is located in neighboring Cabell County. Other incorporated communities in Wayne County are Ceredo (2000 population: 1,675) and Fort Gay (2000 population: 819) (U.S. Census Bureau 2007a).

The three communities closest to the proposed lease tracts—East Lynn to the north, Genoa to the west, and Dunlow to the southwest—are unincorporated and do not have official population statistics. Statistics are available for the zip codes served by the post offices located in these communities. The estimated 2000 population for the community of East Lynn is approximately 1,100 (the population for zip code 25512: 1,752). Genoa had an estimated 2000 population of approximately 300 (population for zip code 25517: 1,703). The postmaster in Dunlow estimates the current population at approximately 340 (population for zip code 25511: 1,105) (Stamper 2007) (Maggard 2007b).

A majority of West Virginia residents live in rural areas (53.9 percent), a percentage which is second only to the state of Vermont (61.8 percent) in the U.S. (WVDO 2003). This percentage was even higher in 1990 (table 3.1-2). Figure 3.1-1 shows metropolitan and nonmetropolitan counties in West Virginia. RUPRI (2006) reports that population growth in West Virginia's metro areas has outpaced the non-metro areas, and non-core counties account for most of the areas that have lost population 1990-2000 and 2000-2005. WVDO (2005) indicates that Wayne County is among the counties that have lost population 2000-2004 (figure 3.1-2).

Table 3.1-2
Urban and Rural Population
1990 and 2000

	Total Population,	Urban		Rural	
Year	**West Virginia**	**Population**	**Percentage**	**Population**	**Percentage**
1990	1,793,477	648,184	36.1	1,145,293	63.9
2000	1,808,344	832,780	46.1	975,564	53.9

Source: U.S. Census 1990a.

Population Trends

Table 3.1-1 displays population trends from 1970 to 2000 and percent change more than the 10-year period in the U.S., West Virginia, Wayne County, and the town of Wayne. The U.S. population has grown 13.2 percent over the past 10 years. West Virginia's population has risen only 0.8 percent in the last decade to 1,808,344 people, whereas the population of Wayne County has grown an average of 3.0 percent to 42,903 people. In contrast, the population of the town of Wayne has decreased slightly (by 2.0 percent), declining from 1,128 people in 1990 to 1,105 people in 2000.

West Virginia had the smallest increase of any state from the 1990 census to the 2000 census (0.8 percent). In the past, the state showed a slow rise in population to a peak of slightly over two million residents in 1950 to a current total of 1,808,344 persons (WVDO 2003). Low in-migration may be the result of low economic development in the state, and also due to the rugged terrain and limited access of the county (USEPA 2003).

For the past few years in a row, more state residents died than were born (WVDO 2003). Accidents remain the leading cause of death for ages one through 34 years, with motor vehicle accident deaths remaining the principal cause of death (WVDHHR 2000).

Eighty accidental deaths (2000) due to homicide represent six percent of all accidental deaths, as well as a trend downward in assaults in West Virginia. This statistic is consistent with the characteristically low crime rate that the state has sustained for some years (WVDHHR 2000).

Population projection estimates prepared by the Regional Research Institute at West Virginia University, shown in table 3.1-3, anticipate a slight increase over the next ten to twenty years, barring any significant economic changes (Wayne County 2004).

Table 3.1-3
Population Projections 2000-2020

Region	2000	2005	2010	2015	2020	2000-2020 Population Change	2000-2020 Change (%)
USA	281,421,906	295,507,134	308,935,581	322,365,787	335,804,546	54,382,640	19.3
West Virginia	1,808,344	1,746,336	1,769,081	1,796,311	1,826,389	18,045	1.0
Wayne County	42,903	42,785	42,847	43,082	43,462	559	1.3

Source: West Virginia University Regional Research Institute 2005

Growth is projected to continue slowly, with recent census data indicating that West Virginia and Wayne County are experiencing a slight net in-migration gain. By 2020 the population of Wayne County is expected to increase by 559 people to reach approximately 43,462 people (Wayne County 2004). Statewide growth projections are modest with an approximate increase of 126,000 persons by the Year 2020, with most growth occurring near the populated centers of the state and along the border with Virginia (WVDO 2003).

The UKYCBER study indicated that between 1997 and 2010, population in the Appalachian region would decline. Central Appalachia is expected to experience the highest decline of the three subregions, at a rate of 1.34 percent, compared to a decline of 0.21 percent in northern Appalachia and a decline of 0.12 percent in southern Appalachia (Thompson and others 2001).

3.2 Racial and Ethnic Composition

The populations of West Virginia and Wayne County are predominantly white and non-Hispanic. The population size of different ethnic and racial groups has changed little between 1990 and 2000. Based on the available data, trends in ethnic diversity are expected to continue with relatively little change.

Racial and ethnic data from 2000 for the state of West Virginia are shown in table 3.2-1, and racial groups in Wayne County are shown on figure 3.2-1. The county and the state have predominantly white populations, both with percentages over 95 percent. In 2000, the Latino/Hispanic group formed the dominant ethnic group in Wayne County, comprising 0.5 percent of the population. The Black/African American community was Wayne County's smallest ethnic group, comprising 0.1 percent of the population (Census 2000, Table DP-1). At this time, West Virginia has no federally recognized tribes or Native American traditional areas (Anslinger and others 2007).

Table 3.2-1
Race and Ethnicity
West Virginia 1990 and 2000

Year	White	Black, African American	Native American, Alaska Native	Asian, Pacific Islander	Some Other Race	Latino, Hispanic, Any Race
1990	98.80%	0.1%	0.2%	0.2%	0.1%	0.5%
2000	99.4%	<0.1%	0.2%	0.1%	<0.1%	0.3%

Source: U.S. Census Bureau 2007b.

According to Census 2000, the racial/ethnic makeup of the town of Wayne was very similar to the makeup of the county: 98.0 percent White; 0.5 percent Latino Hispanic (any race); 0.9 percent Native American; 0.5 percent Asian; 0.4 percent from some other race; and 0.1 percent Black/African American (Census 2000, Table DP-1). The town of Wayne, according to Census 2000, had a population of 1,105 people, with 486 households and 322 families residing in town.

Executive Order 12898 requires that these minority populations be identified so that any potential for environmental impacts to have disproportionate effects on these communities can be identified and, where feasible, mitigated. For these purposes minority communities are defined as Black/African, Hispanic, Asian, Native American or illegal immigrants. Less than 2 percent of the population in Wayne County meets this definition.

Major ancestry groups reported in the 2000 Census are presented in table 3.2-2. Though not all residents reported ancestry groups, the percentages represent the proportion of the total population, not just the proportion of those reporting. Note that nearly a quarter of all residents in Wayne County and the town of Wayne report "American" ancestry, most likely indicating that their families have been here for generations.

Table 3.2-2
Ancestry Data
2000 Census

Region	**Town of Wayne** (percent)	**Wayne County** (percent)	**West Virginia** (percent)
Percent Reporting	60.1	66.2	81.2
U.S./American	24.4	25.1	18.8
English	5.3	9.5	9.7
Irish	7.8	8.1	11.0
Scots Irish	5.3	2.3	2.1
German	2.6	6.4	14.0
Other (number of other ancestries cited)	14.7(10)	14.8(13)	25.1(22)

Source: Census 2000. Table DP-1.

Less frequently cited heritage groups for Wayne County are: Dutch, Scottish or Italian (1 percent each); and French (except Basque), European, Welsh, and Polish (less than 1 percent each) (Census 2000, Table DP-1).

3.3 Age and Gender Distribution

The 2000 Census data indicate that youths and middle-aged people comprise the largest part of Wayne County's population, as shown in table 3.3-1. The median age in the U.S. is 38.1 years. West Virginia's median age of 38.9 is the highest of any state in the U.S. (WVDO 2003). The median age in Wayne County is slightly lower at 38.4 (Census 2000, Table DP-1). RUPRI (2006) reports that the percent of the population in the 20 to 44 age groups is greater in the metro areas, while the percent of the population age 55 and older is greater in the non-metro areas.

Table 3.3-1
Age Distribution in Wayne County
2000 Census

Younger than 18 years of age	23.4 percent
Between ages of 18 to 24	8.7 percent
Between ages 25 to 44	27.7 percent
Between ages 45 to 64	25.3 percent
65 years of age or older	14.9 percent

Source: Census 2000, Table DP-1.

The average ratio of men to women in Wayne County is 48.9 to 51.1, similar to the state's ratio of 49.0 to 51.0 (Census 2000, Table DP-1).

3.4 Marital Status

Marital status statistics are presented in table 3.4-1. The percent of the population over age 15 that has never been married is higher in the state (23.1 percent) than in either Wayne County overall (18.5 percent) or in the town of Wayne (14.8 percent). More than half of the population is married in West Virginia overall (55.8 percent) and in the town of Wayne (55.1 percent), just above the national average of 54.5 percent. Wayne County's rate is slightly higher (62.1 percent). The percent of the population that is divorced is higher at the local level (15.9 percent) than at the state and county level (9.8 percent, each) both of which are comparable the national average of 9.7 percent (2000 Census Table DP-2).

Table 3.4-1
Marital Status
2000 Census

	West Virginia		Wayne County		Town of Wayne	
Population 15 years and older	84,308		34,715		914	
Never married	19,487	23.1%	6,417	18.5%	135	14.8%
Now married, (does not include separated)	47,073	55.8%	21,543	62.1%	504	55.1%
Separated	1,168	1.4%	490	1.4%	23	2.5%
Widowed	8,313	9.9%	2,872	8.3%	107	11.7%
Widowed, Female	6,799	8.1%	2,306	6.6%	79	8.6%
Divorced	8,267	9.8%	3,393	9.8%	145	15.9%
Divorced, Female	4,571	5.4%	1,972	5.7%	78	8.5%

Source: Census 2000, Table DP-2

3.5 Education Levels

While West Virginia's educational attainment is poor, educational indicators have improved from 1990. In 2004, the state ranked 47th and 48th in high school and 9th grade attainment, respectively (WVDO 2003). From 1990-2000, the number of people over the age of 25 in the county with advanced education has increased. However, the 2000 statistics show that the town of Wayne has dramatically lower levels of educational attainment than Wayne County or West Virginia (table 3.5-1). Approximately 82.5 percent the state's population and 70.5 percent of Wayne County's population had at least a high school level education (table 3.5-1). In contrast, approximately 58.3 percent of the population in the town of Wayne had at least a high school level education (table 3.5-1). Approximately 17.3 percent of the state's population had obtained an advanced degree, whereas only an estimated 9 percent of the population in the town of Wayne County had obtained an advanced degree (table 3.5-1).

Table 3.5-1
Education Levels
2000 Census

	West Virginia		Wayne County		Town of Wayne	
Population 25 years and older	70,926		29,223		748	
Percent High School graduate or higher		82.5%		70.5%		58.3%
Less than 9th grade	4,609	6.5%	3,481	11.9%	172	23.0%
9th to 12th grade, no diploma	7,781	11.0%	5,128	17.5%	140	18.7%
High School (or GED)	29,444	41.5%	11,242	38.5%	264	35.3%
Percent Bachelor's degree or higher		17.3%		11.9%		9.0%
Some college, no degree	12,822	18.1%	4,707	16.1%	91	12.2%
Associate degree	3,971	5.6%	1,200	4.1%	14	1.9%
Bachelor's degree	7,611	10.7%	2,100	7.2%	26	3.6%
Graduate or professional degree	4,688	6.6%	1,365	4.7%	41	5.5%

Source: Census 2000, Table DP-2

RUPRI (2006) reports that the percent of the population age 25 and over that has earned a Bachelor's degree or higher is 24.4 percent in the U.S. and 14.8 percent in West Virginia, as shown on figure 3.5-1.

3.6 Housing

Table 3.6-1 shows housing occupancy type and vacancy for the state of West Virginia and Wayne County in 1990 and 2000. According to the 2000 Census, there were 19,107 households in Wayne County (table 3.6-1). The average number of persons per household was 2.48, which is slightly higher than the statewide average of 2.4 (table 3.6-1). The town of Wayne has the smallest household number of 2.23. Of these households, the majority are families, with a small percentage made up of people 65 and over living alone. Household size decreased slightly in the state as well as the county between 1990 and 2000.

Table 3.6-1
County Housing Estimates 1990-2000

	1990[1]			2000[2]			1990-2000
Region	**Housing Units**	**Vacancy Rate (%)**	**Persons Per Household**	**Housing Units**	**Vacancy Rate (%)**	**Persons Per Household**	**Housing Units Change (%)**
West Virginia	688,577	2.2	2.55	844,623	2.2	2.40	22.7
Wayne County	15,626	1.3	2.66	19,107	1.5	2.48	22.3
Town of Wayne	460			561	10.7	2.23	21.9

Sources: [1]Census 1990, CP-1-50, Tables 2, 39, and 57
[2]Census 2000, Table DP-1

Between 1990 and 2000, the number of housing units in the state increased by 22.7 percent. Wayne County experienced a slightly lower increase of close to 21 percent in the total number of housing units. The growth in the number of housing units in the state and the county occurred as a result of population growth, particularly in the larger regional cities such as Huntington.

The rate of home ownership in the state of West Virginia is only 24.8 percent, compared to the much higher rate of 78.1 percent in Wayne County (table 3.6-2). The state's rate of ownership without mortgage (47.7 percent) is also lower than in Wayne County (50 percent) and the town of Wayne (56.6 percent). State-wide, the average monthly mortgage is more than $700, which is significantly higher than the $200 average for the county and town. Likewise, the state average for rent ($401) is higher than the rent for Wayne County ($382) or the town of Wayne ($366).

Table 3.6-2
Housing Ownership and Occupancy
2000 Census

	West Virginia		Wayne County		Town of Wayne	
Population	**1,808,344**		**42,903**		**1,105**	
Owner-occupied housing units	392,928	24.8%	13,466	78.1%	311	64%
Average Household size (Owner-occupied)	2.47		2.55		2.19	
Median Value	$72,800		$70,900		$55,100	
Median Mortgage	$713		$200		$195	
Not Mortgaged	187,613	47.7%	4,458	50%	151	56.6%
Renter-occupied housing units	182,782	24.8%	3,773	21.9%	175	36%
Average Household size (Renter-occupied)	2.17		2.23		2.3	
Median Rent	$401		$382		$366	
Vacant Housing Units	108,142	12.8%	1,868	9.8%	75	13.4%

Note: All dollar values are given as reported by the U.S. Census, unadjusted for inflation

Source: Census 2000, Tables DP-2 and DP-4

3.7 Commuting Patterns

Workers in Wayne County commute to their places of employment as shown in table 3.7-1. In the town of Wayne, more people walk to work than in the rest of the county or the state. Transit systems in Huntington and the other large cities account for the public transit numbers in the state and the county. The town of Wayne has no public transportation. The distance from Huntington to the town of Wayne is 18 miles and takes somewhat more than half an hour to drive; the distance from Huntington to East Lynn is 26 miles and takes closer to an hour to drive. Driving in from Kentucky is not a difficult commute; the drive from Louisa, Kentucky to Wayne, West Virginia is less than 17 miles and takes about half an hour. South Point, Ohio is directly across the Ohio River from Kenova and the commute is about 24 miles that takes 40 minutes to drive.

Table 3.7-1

Commuting Patterns
Wayne County 1990-2000

	West Virginia	Wayne County	Town of Wayne
Workers, 16 yrs and older	718,106	15,851	361
Walk to Work	2.9%	2.0%	7.2%
Public Transit	0.8%	0.5%	–
Carpool	12.7%	9.7%	9.7%
Drive Alone	80.3%	85.2%	77.6%
Mean Travel Time (minutes)	26.2	28.3	25.7

Source: U.S. Census Bureau, 2000 Census Table DP-3

Rockspring employs 393 people at its existing facilities near the proposed lease tracts. About 37 percent of the Rockspring employees live in Wayne County, with over 18 percent living in communities near the proposed lease tracts. Another 37 percent live in adjoining counties in West Virginia (table 3.7-2). Argus employs 238 people at its existing facilities near the proposed lease tracts. Almost one-third of the Argus employees live in Wayne County, with over 19 percent living in communities near the proposed lease tracts. Another 50 percent of Argus employees live in adjoining counties in West Virginia. Only 16 percent of Argus employees live in the adjoining states of Kentucky, Ohio and Virginia (table 3.7-2).

Table 3.7-2
Applicants' Employees and Their Communities of Residence

LOCATION	**ROCKSPRING** NUMBER OF EMPLOYEES	**ROCKSPRING** PERCENTAGE OF EMPLOYEES	**ARGUS** NUMBER OF EMPLOYEES	**ARGUS** PERCENTAGE OF EMPLOYEES
Wayne County				
Communities near the proposed lease tracts				
East Lynn or Wayne (same zip code)	*48 (East Lynn)* *14 (Wayne)*	*15.8*	*6*	*2.5*
Genoa	*4*	*1.0*	*11*	*4.6*
Dunlow	*7*	*1.8*	*29*	*12.2*
Subtotal, Communities near the proposed lease tracts	73	18.6	46	19.3
Other communities within Wayne County	71	18.1	32	13.4
Subtotal, Wayne County	144	36.6	78	32.8
Subtotal, Adjacent Counties In West Virginia	145	36.9	121	50.8
Other States				
Kentucky	*103*	*26.2*	*37*	*15.5*
Ohio	*1*	*0.3*	*1*	*0.4*
Virginia			*1*	*0.4*
Subtotal, Other States	104	26.5	**39**	**16.4**
Total	**393**	**100**	**238**	**100**

4.0 SOCIAL CONDITIONS

Most lifestyles of the planning area residents are associated with place and community, as well as with natural resource development, such as mining.

4.1 Human Geography

Senator Robert C. Byrd has represented West Virginia in Congress since 1953 (first serving in the House of Representatives, then in the Senate). He sums up the salient values of West Virginia, citing the interaction with the landscape in this passage from Evans and others (2004):

> We've had to fend for ourselves. We've been looked down upon, laughed at, scorned, made fun of, called hillbillies, but we're determined to believe in ourselves, and we know we can do anything others can.... And the people here have something else: steadfast faith. They're used to hard times, and they can go through them again.
>
> When we hear politicians talk about family values, this is where you find them. This is where our forefathers came and hewed the forest and carved out a living in the rivers and the mountains. Here, where the mountains meet the sky, the men and women who come from these mountains are so much like the mountains.

The geomorphology of southern West Virginia, like much of Appalachia, is reflected by the population that settled the region, who were then in turn formed by the rugged territory, and specific values and attitudes have been reinforced by the natural setting in which they found themselves. When the English arrived in the Americas, they settled the coasts, leaving the interior lands open to the Germans and Scots-Irish who began to arrive in the 1720s. Later, the Germans and Scots-Irish were joined by Welsh, French Huguenots, Irish, Swiss, Separatists from England, and other north Europeans (Raitz and Ulack 1984). The range of ancestries that settled in West Virginia is shown in table 3.2-2. Note that a large proportion of the population has been here for generations and now consider themselves to be "American" rather from an ethnic group.

While census statistics show that the region is predominantly homogenous and "non-Hispanic white," diverse cultural heritages that the settlers brought with them, as shown in table 3.2-2, influenced a range of cultural values. In agriculture practice alone, we observe the individual family-farm based on mixed intensive agriculture developed by the Germans that contrast with the Scots-Irish farms which are dispersed with cattle grazing and kitchen garden, as was common in the Celtic countries of Ireland and Scotland. While the Germans established urban communities, the Scots-Irish settled on isolated farmsteads. The Germans preferred the rolling valley floors, where the Scots-Irish often preferred land in forested coves and mountainsides. Other cultural elements that eventually diffused into Appalachia were indigenous or English (Raitz and Ulack 1984).

Appalachia was settled later than the coastal states and did not develop broad commerce due to the narrow valleys and many streams that made travel and trade difficult. Appalachia was not recognized as a separate socio-cultural region until the latter part of the nineteenth century. At the same time, during the 1870s, the region became a favorite of the "local color" movement. Artists and novelists published romantic and colorful accounts of the region, often describing the distinctive residents as isolated, quaint, independent, self-sufficient, violent, poor, simple and strong (Raitz and Ulack 1984).

The focus of popular culture established a view of the region that does not necessarily hold up to historical fact. Ronald Lewis (in Evans and others 2004) documents, then dismisses, the three common myths created by popular culture:

1) Appalachia is a poor region because economic growth by passed it.
2) Appalachia is home to homogeneous folk culture from British stock.
3) Appalachians are so attached to the mountains that they prefer being poor at home rather than relocate.

Lewis (2004) points out that the Appalachians were well connected by railroad in the early twentieth century, so other reasons for poverty must be identified.

> Ironically, at precisely the same time that Appalachia was being fictionalized as a "place where time stood still," the region was in fact, undergoing a dramatic industrial transition. Coal was its centerpiece, and even a cursory history of the industry dispels these misconceptions, now so entrenched in American popular culture.

Drake (2001) identifies at least five different periods of economic history in Appalachia after World War II: 1) a postwar boom from about 1945 to 1950; 2) the frustrating 1950s; 3) the rise and fall of the War on Poverty from 1960 to 1968; 4) the hopeful decade from 1968; and 5) a troublesome period since 1978.

As part of the War on Poverty, federal legislation established the Appalachian Regional Commission (ARC 2007). Rather than accept the "culture of poverty" as a homogeneous cause of poverty in the region, ARC recognized the diversity within the region and set up sub-regions (originally four, then three) as different Appalachias. Specific growth centers were identified to encourage development. Area development districts (ADD) were established to encourage local initiatives tailored to specific areas (Drake 2001).

Raitz and Ulack (1984) included Wayne County in the southern most part of the Northern region and adjacent to the Central subregion (figure 2.1-1). Raitz and Ulack (1984) report that whereas the Northern subregion of the ARC classification is described as "an old industrial-based economy undergoing modernization" the Central Appalachia is characterized as the poorest of the subregions, with coal as its primary resource. The traditional economic base of the Southern Appalachian subregion counties is agrarian but is now in transition to an urban and industrial economy.

4.2 Appalachian Values

As the most populous and most adapted to the region, the Scots-Irish settlers strongly influenced the evolution of Appalachian identity. Attributes of the Scots-Irish that are frequently recognized are: independence, resourcefulness, faith, family, and tradition. Ted Olson (Evans and others 2004) notes that "these qualities are exactly the same ones that by the twentieth century would form the core of the positive and negative stereotypes held against the Appalachian people by "outsiders" and the mainstream American media." These Scots-Irish traits were romanticized and popularized. John Trew (Evans and others 2004) summarizes "the enduring legacy of the Scots–-who emigrated from Ulster–is often characterized as 'bourbon, the Bible and bluegrass.' "

Drake (2001) also notes that "the attempt to identify any 'Appalachian Mind' is disarmingly difficult." The attitudes, beliefs and values long accepted as descriptive of the Appalachian culture are described by a region-wide survey by Thomas Ford in 1958. A more impressionistic account by W.E. Weatherford and Earl C. Brewer confirmed these results in 1962. *Appalachia: A Regional Geography* by Karl Raitz and Richard Ulack (1984) traces the changing face of Appalachia.

Recent discussions on the culture of Appalachia refute these long-held ideas, pointing out that the social programs developed to address the long history of poverty have failed to make progress (Lewis and Billings 1997). David Whisnant, a cultural critic, claims that the Appalachian values most people have come to accept as authentic have actually been established by judgmental outsiders who selectively presented Appalachian music, crafts, and culture (Drake 2001).

The Mountaintop/Valley Fill EIS (USEPA 2003) reports that the nature of the Appalachian culture has shaped the manner in which company town residents react to the loss of jobs and community.

Independence and Isolation

Bill Richardson (Evans and others 2004) reminds readers of the influence of the topography on Appalachian values:

> …the mountains are very steep and sometimes the valleys are only a hundred yards wide. It is a formidable, almost impassable area. If you think about the way people traveled 150 years ago, it was nearly impossible to cross this region and the only way to move within it was to follow the rivers and creeks or walk along the ridge tops.
>
> And:
>
> In southern West Virginia we joke that you can stand in a valley and almost touch the mountains on either side. There is just enough room between them for a creek, a road, a railroad track, and a narrow strip of houses. ..it seems as though people live in every nook and cranny, but in reality more than 85 percent of the land is uninhabited.

An independent nature serves a particularly useful function where a society is isolated. However, once industrialization is introduced, independence can make the transition more difficult, especially from coal mining jobs to a diverse, less-skilled job market (USEPA 2003).

Resourcefulness

Resourcefulness is closely identified with the Appalachian spirit. Resourcefulness is also expressed in the ability to husband a rugged and inhospitable land. Settlers found sustenance in the woods and in the small gardens that were part of every homestead. The steep valleys did not allow for large agriculture to develop (USEPA 2003):

> While some scholars debate the beginnings of this unique culture, most agree on the common traits of which it is composed. Appalachians are thought to be pioneering in nature, strong, independent and resilient. Appalachian women in particular are considered hardier and more resourceful out of necessity; one local to Whitesville, WV referred to them as "Iron Weed" women.

The crafts for which Appalachia is so well known were also an expression of resourcefulness. The creativity of the region flourished as everyday objects were made from the most basic of materials that were readily available, but stitched, carved or otherwise crafted with imagination and a unique sense of artful beauty.

Attachment to Family and Land

Dependence on the land and making a living from local resources emphasizes the importance of the family unit and also of the resources themselves. The independence of the culture and the abundance of wildlife and other resources naturally forges a bond to the land. This attribute makes sense so long as sustenance is derived from the land.

When hard times came, out-migration resulted from the mine closures. However, as families leave, it is expected that at some point they will return to Appalachia. The migration is often thought to be temporary. Evidence of this attitude is given in an anecdote related in the Mountaintop Mining EIS (USEPA 2003):

> The wife of a miner, trapped by poverty and her husband's black lung illness in Cincinnati said, "Maybe there's some way we can find to make it, to survive. If we find a way, I imagine we'll go back home to Kentucky and just stay there until we die." (Artie Chandler in Kahn 1973).

While the attachment to the land and family is a strong tie, the typical boom-and-bust cycle of mining work reinforces the idea that migrants will return. In the past, when a mine shut down, there was a period after which residents expected it to re-open. Many still believe the mines will re-open despite repeated warnings from the companies (USEPA 2003).

Later, in the 1970s, when some residents were forced to vacate their land for the USACE East Lynn Lake project, attachment to the land made the transition difficult. The stories of the families in and from the area carry forward the idea that a "sense of place" is very strong in this community. In the introduction to *The Appalachians: America's Last Frontier,* Mari-Lynn Evans relates that the motivation for her project to document the culture of the region grew from her experiences as a child when she watched her grandparents lose their land for the USACE East Lynn Lake project (Mari-Lynn Evans in Evans and others 2004):

> After the land was bought, most of our neighbors—many of whom were in their sixties—had no means to make a living and had to move to other states. Displaced to another culture that they didn't understand, they were unable to assimilate or adjust. Their entire world had been within their community: their church, their family, and their friends. In those communities, your identity was based on two things—the value of your family name and the value of your land. The government stripped these people of what formed their very identity, and most of them died within five years. Their family members will tell you they died of broken hearts. That story is repeated so often in our region.

A recently published book about East Lynn also demonstrates the attachment to the land found in the study area. Robert Michael Thompson, a 2006 graduate of East Lynn High School, researched local libraries and interviewed older members of the community to produce a memoir of the town in *East Lynn Booming: The Story of a Coal Town and other Tales from the Twelvepole Valley.* Thompson related the local feeling that after the fire in 1955, which destroyed nine buildings and left 24 people homeless, the town began its final decline. Older generations recall a vibrant community that "boasted a train station, movie theaters, doctor's offices, clothing and furniture stores." (*The Wayne County News* 2007).

4.3 Coal Mining History and Values

The dominance of the coal industry and mining practices has profoundly affected the communities and residents of the Appalachian coalfields since coal mining came to the region.

Coal Company Towns

The effects of coal company towns were far reaching in the Appalachian Mountains. A phenomenon found in many parts of the United States in the first half of the 20th century, the mining company provided the essential aspects of community life: work, shopping, education, retail merchandising, and medical care. The paternalistic nature of both the physical and psychological structure of the company town resulted in highly dependent communities. Research shows that while company towns were common in many industries in the mid-20th century, the relative isolation of the mining communities, the dominance of the coal industry and the poverty of the Appalachian region enhanced the influence of the company towns (Jones, Jr. 2003).

Significantly, the companies were responsible for providing much of the infrastructure of the region. Maintenance of the infrastructure suffered as the company towns disappeared. Dilapidated, abandoned housing, lack of potable water and closing of local schools were common. It was challenging for local communities to develop the civic structure to take over the infrastructure systems, even though the transition was aided by the Appalachian Regional Commission. Ronald Lewis (2004) also notes that as coal companies “built the mine, [and]… also became the miners’ landlord, offered police and fire protection, erected the churches and stores, and provided the utilities and other services that towns required” democratic ideals were overlooked and underdeveloped.

The social impacts of the development and subsequent closure of the company towns identified by mid-century researchers include a sense of resignation, and feelings of a lack of mastery in individuals’ lives. Herman R. Lantz (1964), whose studies focused on a coal mining community in Pennsylvania in the 1950s and 1960s, noted a feeling of “resignation” among the residents that is expressed as a lack of motivation and an aversion to new opportunities. His research showed that resignation was only reinforced by the social framework of the company-resident relationship. These attitudes are originally rooted in the nature and culture of the people who settled the area. Coming from impoverished and marginalized populations in Western Europe, fears of social change were only confirmed through the experiences of the mine workers. The familiar boom-and-bust cycle of mining contributed to feelings of inadequacy and inflexibility. “…The many years of tenuous living associated with mining foster in the miner futility about his having any control over his life or his destiny.” (Lantz 1958).

Unions

Unionization came late to the central Appalachians. At the turn of the nineteenth century, conditions in bituminous mines led to the formation of a national union. The United Mine Workers of America, (UMWA), formed in 1890, organized the coal field unions of Pennsylvania and the Midwest within a few decades (Lockard 1998). However, the cultural traditions of the Appalachians–from the impassible terrain to the “independence” of the Scots-Irish–were less fertile than the organization required for unionization (Evans and others 2004). Mine owners branded unionization as “socialist” and “communist,” concepts of community organization that residents found incompatible with their values. The mine companies also claimed that union demands would break company banks and make mining unprofitable. Further, miners in these areas, who mostly lived in company towns tucked into isolated hollows between hills, were bound by contracts which guaranteed the loss of their jobs and homes should they participate in union activity (Kahn 1973).

The violence resulting in the “mining wars” of the 1920s and 1930s also discouraged union membership (Evans and others 2004). Eventually, the class consciousness fostered in the company towns led miners to rise up in local conflicts: the Paint-Cabin Creek War of 1912-1913, the Mingo-Logan Mine War of 1919-1921, and the Northern Coal Field War of 1925-31, all in West Virginia, followed by the Harlan County, Kentucky, strike and violence of 1931-1939. These protests drew national attention as Appalachian communities suffered greatly from the conflict between the miners and the mine operators (USEPA 2003).

The administration of Franklin D. Roosevelt was a new era for labor unions in the U.S. By September of 1933, more than 90 percent of the bituminous coal mines in the U.S. worked under UMWA agreements (Singer 1996). In 1935, the Wagner Act gave workers the right to organize. Low wages (lower than in northern mines across the Ohio River) and hazardous conditions in West Virginia mines finally overcame the cultural aversion to union organization (Evans and others 2004).

Mechanization of the Coal Mining Industry

Unionization and technology converged to change work conditions in the mines. As coal mining became more mechanized, jobs became more skilled, relatively high paying, but less available. Nearly one out of every two mining employees lost their jobs in southwestern Virginia in the nine years between 1987 and 1996 (USEPA 2003).

The social environment of coal mining communities has changed as a result. As job descriptions have become increasingly specialized, miners are no longer trained to do most jobs in the mine and their ability to share work or assist a co-worker is no longer expected. Along with other social changes, a skilled and specialized workforce more frequently commutes rather than live in the small towns, and the company town system has disappeared. Meanwhile, female employment in Appalachia has been more widely accepted than in the rest of the country, likely as an economic necessity (USEPA 2003).

4.4 Faith

Faith forms the core element of the values held in Appalachia, but isolation and independence have fostered a unique religious environment. Appalachia may be one of the most religiously diverse regions in America, where there are 70 or 80 subsets of Baptist congregations, not just the “Old Time” and “Progressives.” The Old Baptists trace their origins directly to the first colonial member of this faith to arrive in Appalachia (Evans and others 2004). The diversity of religious affiliation is found in the numerous denominations located in Wayne County. *The Wayne County News* (2007) provided a directory in the November 3 edition that lists 63 congregations, including 32 Baptists, 8 Methodist, 7 Pentecostal/Adventists, 1 Presbyterian, 1 Catholic, and 14 non-denominational.

Practices frequently followed by the Baptists include: foot washing, lined singing, living water baptisms, impromptu preaching, and Pauline gender mandates. The Holiness Pentecostals embrace more unique practices, such as “speaking in tongues” (also called glossalia), handling serpents, drinking dangerous liquids and healing the sick (Evans and others 2004). Curiosity about these practices have led to much misunderstanding as the media have reported the practices of these “Signs Followers” most famously found in Jolo in McDowell County (Shannon Bell in Evans and others 2004).

Anslinger and others (2007) reports that the first Baptist Church in Wayne County was established in 1812. The Rev. Peyton Newman formed the Big Sandy Baptist Church in the Butler District. The first church in Twelvepole Creek was established by Primitive Baptist minister Rev. Goodwin Lycan, followed by the Bethesda Baptist Church in 1835. The Baptist tradition flourished in Appalachia and is considered an integral part of modern Appalachian life (Drake 2001).

Anslinger and others (2007) reports 39 recorded cemeteries. At least eight are cited as post-1951, and 20 are listed as presently in use. Note that this study area includes Wayne County and western Lincoln County.

4.5 Politics

Voting patterns in Wayne County show a community that is engaged in the political process with a very high registration rate of the voting age population. However, while Wayne County, as of 2004, had more of the voting age population registered (93.5 percent) than the state (83.12 percent), turn out is typically similar to the state, 61 percent to 65.8 percent (2004). In 2004, Wayne County supplied only 2.6 percent (30,761) of the state's 1,168,694 registered voters (WV Office of the Secretary of State 2007).

West Virginia and Wayne County are traditionally Democratic-voting bodies, with both U.S. Senators and the State Governor coming from the Democratic Party. Senator Byrd has represented West Virginia in the U.S. Senate since 1959. Wayne County Democrats outnumber all other registered voters with 68.63 percent, and surpass even the statewide average registration of 57 percent. These numbers have declined since 1998 when the County had 71.3 percent and the statewide count was 62.7 percent of all registered voters.

4.6 Recreation and ties to the Natural Environment

As Raitz and Ulack (1984) noted, recreation is a resource-based activity. Tourists come to take in the uncommon qualities of a place. The attraction may be the rugged and scenic uplands, distinctive climate or vegetation, or archaeologic and historic significance that tourists seek. However, the natural resources are valuable only if they can be made accessible and are developed in an attractive manner that can also handle tourist needs (Raitz and Ulack 1984).

Scenic, wooded uplands are abundant in Appalachia. Another advantage of the area is the fact that the region lies within a single day's driving time of almost 70 percent of the U.S. population (Raitz and Ulack 1984). In the 1960s, the ARC was established by the federal government as part of the "War on Poverty." The ARC worked to establish transportation systems that would bring tourists to the area to enjoy the natural beauty and recreation that could be enjoyed in the wild. Soon, in the 1970s, the USACE built dams for flood control that also provided lakes for recreation (Evans and others 2004).

Public concern for the long-term environmental effects of large-scale logging taking place across the region provided early motivation for establishing parks in Appalachia. Since the 1880s valuable timber species were exploited. Wooded uplands were burned extensively and the thin soils were exposed to severe erosion. Erosion caused the valleys to flood frequently and silt clogged the streams (Raitz and Ulack 1984).

The process of establishing public lands was met with ambivalent feelings among the long-time residents. While parks and national forests in the western states were created by converting land already in the public domain, the Appalachian lands consisted of large parcels frequently held by out-of-state speculators, uncooperative lumbermen, or occupied by squatters who held no clear title (Raitz and Ulack 1984). Of the local landowners, many refused to leave; others sold but harbored hard feelings. Mari-Lynn Evans relates her family's experience (Evans and others 2004):

> Our lives seemed very simple until the late 1960s, when the Army Corps of Engineers began to survey the land in central West Virginia for the purpose of buying it to develop lakes to attract tourism…Men who believed in fairness and reason…couldn't comprehend that the government would actually take our land away. But in the 1970s, the government brought in people from out of the area to open an office in the county to negotiate buying the land. Many of the landowners went to court to prevent the government from acquiring their land…They thought that by hiring a Washington, D.C. law firm that they could speak the government's "language," they could win their fight. Then, the government successfully invoked "eminent domain," and we lost our land.

Many of the jobs created by the tourism industry are low-paying construction or service jobs. The average tourist season may be as short as three months, so that the economic improvements promised by tourism are now debated (Raitz and Ulack 1984). Also, the popularity of some recreational activities, particularly off-road recreational vehicles, are now recognized to be very damaging to the environment.

4.7 Community Services

4.7.1 Schools

The Wayne County School District serves the planning area. Thirteen elementary schools, six middle schools, and two high schools constitute the planning area school system. The 21 schools within this district had a total enrollment of 7,581 students during the 2005-2006 school year (National Center for Education Statistics 2007). Table 4.7-1 lists the schools in the district and shows the high numbers of students qualifying for free and reduced lunch.

Table 4.7-1
Enrollment and Lunch Program Statistics
Wayne County Schools
2005-2006

School Name	Students	Free-Lunch	Reduced-Lunch	Percentage of Free/Reduced Lunch Students
Buffalo Elementary School	527	188	39	43
Ceredo Elementary School	211	86	16	48
Crum Elementary School	208	135	19	74
Dunlow Elementary School	101	62	11	72
East Lynn Elementary School	184	144	25	91
Fort Gay Elementary School	431	250	49	69
Genoa Elementary School	134	92	21	84
Kellogg Elementary School	514	181	44	43
Kenova Elementary School	299	150	36	62
Lavalette Elementary School	281	130	23	54
Prichard Elementary School	128	60	23	64
Wayne Elementary School	510	270	69	66
Buffalo Middle School	372	130	16	39
Ceredo-Kenova Middle School	277	93	29	44
Crum Middle School	150	93	20	75
Fort Gay Middle School	262	157	28	71
Vinson Middle School	267	96	29	47
Wayne Middle School	507	257	79	66
Spring Valley High School	1085	356	74	40
Tolsia High School	499	265	53	64
Wayne High School	634	259	83	54

Source: National Center for Education Statistics 2007

The *Wayne County News* (November 17, 2007) reported that all of the Wayne County schools have achieved full accreditation by the state Department of Education's Office of Performance Audits. Five schools—Kelloff, Kenova and Lavalette Elementary Schools, and Buffalo and Vinson Middle Schools—earned the Distinguished accreditation status.

Especially in the unincorporated areas, schools are the center of civic life. In a news article covering the death of a well-liked teacher, the Principal is quoted (Wayne County News November 2007):

> This school is at the center of this community. We do everything together and we'll get through this together.

The Wayne County Board of Education could receive as much as $33,895,877 to $54,240,000 in federal coal royalty fees over the 10- to 15-year period that the proposed mining would occur. As noted in section 5.1.1, property taxes are a major income source for county governments and school districts in West Virginia. Approximately 68 percent of property tax revenues are allocated to schools and these revenues account for roughly 30 percent of the typical school district budget (USEPA 2003).

4.7.2 Emergency Services

Emergency services such as law enforcement, medical and fire fighting are supplied by the local communities. Local rescue squads and fire departments are the primary responders. The Wayne Fire Department/Rescue Squad (Wayne Rescue) is the primary handler of all ambulance requirements. Tri-County is the other primary ambulance service in the area. Wayne Rescue has recently added a dive team to their squad that assists in drowning rescue and other water emergencies. A list of all fire departments, rescue squads/ambulances in the immediate area is provided below (USACE 2006):

- East Lynn Fire Department
- Wayne Fire Department/Rescue Squad
- Lavalette Fire Department/Rescue Squad
- Dunlow Volunteer Fire Company
- Tri-County Rescue
- Wayne County Dispatcher

All emergency services may be accessed by dialing 911. On the USACE East Lynn Lake Project, two public phones are available at the East Fork Campground and Lakeside area (Smith 2007a).

The USACE Ranger is a first response emergency medical technician **(**EMT) and can supply first response medical attention. Additionally, USACE provides public safety education through bulletin boards, personal contacts, media, the Interpretive Services Program, or other means. A boating safety program is also in place (USACE 2006). The East Lynn Lake *Operational Management Plan* (USACE 2006) also has emergency procedures for public emergencies. Because emergency service use has historically remained steady, aside from the increased ORV use during the last five years, emergency service activities are expected to remain steady in the future (Smith 2007a).

Law Enforcement

The City of Huntington and Cabell and Wayne Counties are well supplied with local services including emergency service personnel. The West Virginia State Police employs 661 officers throughout the state (West Virginia State Police 2007). The City of Huntington maintains its own police department with 90 full-time personnel and its own fire department with 116 full-time personnel. Law enforcement in non-urbanized areas is provided by the Sheriff's Department with emergency fire and medical services supplied by a combination of full-time professional staffs and volunteer organizations.

Wayne County provides several law enforcement services. These services include the West Virginia State Police Wayne County Detachment, employing 8 officers (West Virginia State Police 2007); the Wayne County Sheriff Department (located in the town of Wayne), employing 15 officers (Wayne County Sheriff Department 2007); the town of Wayne Police, employing one full-time officer (Town of Wayne Police 2007); the Ceredo Town Police; the Fort Gay Town Police; and the Kenova Town Police.

Fire Services

The West Virginia State Fire Marshal Office has a total of 34 sworn fire marshals (Carrico 2007). There are a total of 445 fire departments and volunteer fire departments in West Virginia (West Virginia State Fire Marshal Office 2007). The City of Huntington Fire Department, with 110 fire fighters and fire officers, provides fire and emergency services to the region. The department includes 9 fully staffed firefighting companies with a compliment of support staff responding from six stations located throughout the city (City of Huntington 1999).

Fire emergency services in Wayne County are provided by the West Virginia State Fire Marshals; Wayne Volunteer Fire Department, consisting of 38 volunteer firefighters; Ceredo Volunteer Fire Department; Dunlow Volunteer Fire Department; East Lynn Volunteer Fire Department; Fort Gay Fire Department; Kenova Volunteer Fire Department; Layalette Volunteer Fire Department; and, Prichard Volunteer Fire Department.

Medical Facilities

Several medical facilities throughout the region serve the communities of Wayne County. These include the Wayne County Health Department; Cabell Huntington Hospital; St. Mary's Hospital, located in (Huntington, WV); Huntington State Hospital; HCA Riverpark Hospital; Three Rivers Hospital (Ashland, Kentucky); and Williamson Memorial Hospital. There are approximately 51 doctors and medical facilities, and 16 medical specialists and specialty facilities, within the vicinity of the proposed mining project area.

St. Mary’s Hospital, located in the Cabell portion of the city of Huntington, is the largest hospital in the vicinity of Wayne County. The hospital has 393 beds and over 2,000 employees (St. Mary’s Medical Center 2006).

RUPRI (2006) reports that Wayne County is “medically underserved.” This designation is based on an index of four variables—the ratio of primary care physicians per 1,000 population, the infant mortality rate, the percentage of the population with incomes below the poverty level, and the percent of the population age 65 and over—as devised by the U.S. Health Resources and Services Administration (HRSA). Much of the state of West Virginia is considered medically underserved by this definition.

Wayne County is also designated a “health professional shortage area” based on the definition of the HRSA, which is an area that “may have shortages of primary medical care, dental or mental health providers and may be urban or rural areas, population groups, or medical or other public facilities.” Again, most of the state of West Virginia is included in this designation (RUPRI 2006).

4.7.3 Utilities

American Electric Power provides electricity to residential and industrial customers throughout Wayne County. In the vicinity of the proposed lease tracts, one single-circuit 138-kV transmission line within a 100 ft right-of-way (ROW) is located about 2 miles northeast of the proposed lease tracts (Persing 2007). A distribution line parallels Route 37 and serves the substation at Rockspring's Ben Haley Branch underground mining operations (Barton 2007a). Several distribution lines situated within approximately 40-ft wide ROWs cross the USACE East Lynn Lake Project to provide power to the administrative offices, dam, and recreation facilities. Some of these lines cross Rockspring proposed lease tracts A, C, D and E (Huff 2007).

Consumers Gas Utility and Mountaineer Gas Company (doing business as Allegheny Power) provide natural gas service to Wayne County. In the vicinity of the town of Wayne, Allegheny Power provides service to residences and the fire department (Jones 2007).

Frontier Communications of West Virginia provides land line telephone service throughout Wayne County. In the vicinity of the proposed lease tracts, a main trunk line follows Route 37. A line also follows Bartram Branch. One remote switch is maintained at Dry Branch, near where the new Route 37 alignment diverges from the old Route 37 (Davis 2007).

In the vicinity of the proposed lease tracts, Triple A Tower TN leases a cellular telephone tower to Wayne County Emergency Management Services and to Cingular, now known as AT&T Mobility (Willis 2007).

Several sources provide water to the county. The town of Wayne's Municipal Water Department provides water service to approximately 2,000 customers. In the vicinity of the proposed lease tracts, a water line runs parallel to the southern or western side of Route 37 (Willis 2007). Wayne County plans to extend this water line eastward to the Wayne County—Lincoln County line as part of its 2010 Plan (Wayne County 2004).

Similarly, sewer services are provided by a number of sources throughout the county. The town of Wayne Sewer System services approximately 2,000 customers and includes a main plant and five smaller pre-assembled or "package" plants (Wayne County 2004).

As noted in Wayne County's *Land Use Master Plan* (Wayne County 2004), economic development in Wayne County is dependent on adequate infrastructure, including roadways, bridges, and drinking water delivery systems. Major expansion of infrastructure has occurred in recent years. Utilities in the area are also expanding service. The West Virginia Development Office has included future infrastructure projects and improvements for Wayne County in its Consolidated Project Priority List (WVDO 2005) as detailed in section 5.7 (Economic Projections).

4.7.4 Transportation

The Tri-State/Milton J. Ferguson Field Airport, located in Huntington, West Virginia, serves Wayne County. Other modes of transportation and services in the Wayne County area include the Wayne X-Press (Wayne County Community Services Organization, WXP); The Transit Authority (TTA) bus system based in Huntington; Amtrak, whose West Virginia station is located in Alderson; and Greyhound, whose station in Wayne County is located in Huntington (American Public Transportation Association 2003).

Major highways in Wayne County are shown on figure 4.7-1 and include: Interstate 64, U.S. Highway 52, West Virginia Route 37, West Virginia Route 152, and West Virginia Route 75. West Virginia railways include Norfolk and Western Railway, Chesapeake and Ohio Railroad, Big Sandy, East Lynn & Guyan Railroad, and Norfolk Southern.

The Federal Highway Administration conducted the West Virginia Highway economic development study to examine expanding or constructing several segments of highway in West Virginia. One proposed project will replace existing West Virginia Route 52 between Huntington and Bluefield, and would cross Wayne County. The northern half of the project is referred to as the Tug-Ohio-Levisa-Sandy-Improvement Association (TOLSIA) and the southern half of the project, from Williamson south, is designated as the King Coal Highway. Segments of the King Coal Highway are under construction. The new TOLSIA/King Coal Highway will be part of the proposed I-73/I-74 corridor that would extend from southeastern Michigan to Myrtle Beach, South Carolina (FHWA 2007).

Articles in the *Wayne County News* over the past year have described accidents involving coal trucks, indicating that traffic and impacts to road surfaces associated with coal mining may be a concern to local citizens.

If the Proposed Action is selected and the RFDS is implemented, Wayne County Roads Department could receive as much as $13,560,000 to $33,895,877 over the 10- to 15-year period during which proposed mining would occur.

4.7.5 Libraries

Three libraries exist in Wayne County: Wayne Public Library, located in Wayne; Wayne County Library, located in Kenova; and Fort Gay Public Library, located in Fort Gay (Wayne County Public Library 2006). In addition to the three branches, the library's Web site provides access to online resources including: the library catalog; a newsletter; online subscription services that can be accessed offsite, including EBSCO Host (which provides access to more than 1,800 periodicals, newspapers, health & business resources), Learning Express (which provides on-line practice tests plus skill building in math, grammar and resumes), Medline Plus (for medical and health information), and an encyclopedia (Grolier).

4.7.6 West Virginia University Agricultural Extension Service

The West Virginia University Agricultural Extension Service maintains an office in Wayne County, in the town of Wayne. An Extension Agent works with farmers in the county related to community development and agricultural issues, and a 4H Agent works with clubs in the county. Approximately 150 youth participate in one of the three 4H clubs that are active in the vicinity of Wayne—two clubs located outside of the town of Wayne, and one club located in Dunlow. Historically, a club was also active in the community of East Lynn (Perry 2007). In addition to working on projects and preparing to show goods in the county fair, 4H clubs also participate in community development programs. Each summer approximately 150 youth attend a two-week 4H camp at Cabwaylingo State Forest.

The Agricultural Extension Service also facilitates the Community Educational Outreach Service, formerly known as the Homemakers Club, with four or five active clubs throughout the county (Perry 2007).

4.8 Stakeholder Groups

Groups that would be affected by an activity are referred to as stakeholder groups. Stakeholder groups include:

- local communities, community organizations, community leaders
- recreationalists
- environmentalists
- non-profit organizations
- business owners
- people with commercial interests, and
- people with political and social interests.

Stakeholder groups often consider several socioeconomic concepts to be important, such as:

- economic growth
- visions for the future of the community
- concerns regarding social and economic affairs related to the community, and
- opinions or issues regarding the effects of the proposed mining on socioeconomic resources.

For the East Lynn Lake Coal Lease LUA/EIS, socioeconomic and social considerations throughout the planning area are consistent among the diverse group of stakeholders:

- local residents
- commercial interests
- recreationists, and
- nature enthusiasts.

Family, work, and community are all integral values of planning area residents, and environmental protection and diversity, outdoor activity and recreation are especially highly valued. In general, most lifestyles of the planning area residents are associated with place and community, as well as with natural resource development, such as mining, logging, and mill work.

4.8.1 Local Residents

The people who live in or near an area where development is proposed can be the stakeholder group with the most to gain or lose if the proposed project is implemented. In the mountainous terrain where the proposed lease tracts are located, the residential population is low and dispersed.

Robert Michael Thompson described the community closest to the proposed lease tracts in his recent book *East Lynn Booming*:

> East Lynn transformed from a small farming village on the banks of Twelve Pole Creek into a thriving coal town. The coming of the railroad brought growth and prosperity to the town whose heyday lasted from about 1910 to 1925. The town suffered through two devastating fires; however, the final blow came from losing its vitality to the coal industry. East Lynn is now once again a small residential community.

Almost 20 percent of both Applicants' employees live in or near the four communities closest to the proposed lease tracts–East Lynn, Genoa, Dunlow, and Wayne (table 3.7-2). Another 13 to 19 percent live in other communities within Wayne County (table 3.7-2). An additional 37 to 51 percent live in the adjoining counties (table 3.7-2).

Other employment opportunities in Wayne County include jobs primarily in the service industry, but also in trade, manufacturing, transportation and construction (table 5.3-1), as described below in section 5.3 (Employment by Sector). However, the unemployment rate in Wayne County is 6.6 percent (table 5.2-1), and the economic growth rate for the county is negative, as described below in section 5.2 (Employment and Unemployment).

4.8.2 Businesses

Regional and local businesses that would supply goods and services to a proposed project, as well as those that would receive end products from the proposed project, are also stakeholders. Numerous regional and local businesses provide the following types of services to the two Applicants' existing facilities near the proposed lease tracts:

- Conveyor and belt splicing services
- Conveyor structure suppliers
- Hydraulic rebuild shops and machine shops
- Stone and gravel suppliers
- Uniform cleaning and purchasing
- Safety equipment suppliers (i.e., boots, safety glasses, reflective materials, gloves, hearing protection)
- Cleaning product suppliers
- Petroleum product suppliers (i.e., lubricants, hydraulic fluids, and fuel)
- Chemical suppliers (preparation plant materials, as well as dust suppressants)
- Local mechanics (both on site and off site)
- Roof support suppliers (i.e., roof bolt, wood product, steel arch)
- Coal sampling, coal analysis, water sampling, and water analysis
- Engineering services (designing and permitting)
- General mine part and equipment suppliers (i.e., miner bits, rail, ties, drill steel, high voltage cables, equipment cables, underground communications, etc.)

4.8.3 Non-Governmental Organizations

Non-governmental organizations (NGOs) are citizen groups organized around a cause, such as economic issues or the environment. Proposed projects of this magnitude frequently draw the interest of NGOs, especially industry advocacy groups and environmental groups.

Appalachian coalfield residents have a unique social and cultural connection to the natural environment. For coal field residents, the quality of the natural environment is important both as a source of income and an integral element of Appalachian culture (USEPA 2003). Controversy surrounding mining impacts to the environment and local economies are now expressed in the organization of non-profits and community grass-roots groups organized to protest or mitigate these impacts.

The following advocacy organizations have formed around nearby projects and may monitor major projects in this area (Evans and others 2004):

- **Coal River Mountain Watch** http://www.crmw.net/ Coal River Mountain Watch (CRMW) is a grassroots organization begun in 1998 as a small group of volunteers working to organize the residents of southern West Virginia.

- **Appalachian Center for the Economy and the Environment** http://www.appalachian-center.org/ The Appalachian Center is a regional law and policy organization that seeks fundamental changes in compliance, implementation and enforcement of major environmental laws in Central Appalachia.

- **Ohio Valley Environmental Coalition** http://www.ohvec.org/ The Ohio Valley Environmental Coalition is a structured advocacy group with interests in much of West Virginia and portions of southern Ohio and eastern Kentucky. OVEC depends on the committed participation of many ordinary citizens, united for the common purpose of conserving the environment in which we all live.

- **West Virginia Highlands Conservancy** http://wvhighlands.org/ First coming together in 1965, the West Virginia Highlands Conservancy is one of the state's oldest environmental activist organizations, originally a coalition of recreational users of the West Virginia Highlands.

- **Kentuckians for the Commonwealth** http://www.kftc.org/ Kentuckians For The Commonwealth is a community of people taking action for justice.

Local groups identified from a Web site monitoring West Virginia Coal fields (Loeb2003) include: West Virginia Environmental Coalition; West Virginia Citizens Action Group; West Virginia Citizens Coal Council; and West Virginia Organizing Project.

As demonstrated by the development of these groups, support for coal mining–especially strip mining–in "post-industrial" Appalachia may diminish as fewer jobs are related to mining and there is a perception of "enduring problems unique to mining." (Lewis 2004).

4.8.4 Stakeholder Involvement

The NEPA process was developed in part to involve stakeholders, and includes a scoping period, during which time stakeholders are invited to submit comments expressing their concern or support regarding the Proposed Action and related proposed activities. After the both the draft and final environmental impact statements are issued to the public, stakeholders are invited to provide input on the documents by submitting comments.

Notice of Intent

On July 14, 2005, the BLM published a Notice of Intent (NOI) to prepare an LUA/EIS to analyze Coal Lease Applications WVES-50556 and WVES-50560. The NOI was posted in volume 70, number 134, pages 40723-40725 of the *Federal Register*. The federal notice began the scoping process and notified the public of the BLM's intent to begin the LUA/EIS process, provided project information, announced the intention to hold public meetings, and solicited public comments. Instructions in the NOI gave the following address for written comments to be sent to the BLM: Attn: John Romito, 901 Pine Street, Suite 200, Rolla, MO 65401, or online at: EastLynnLakeComments@blm.gov. The BLM has since relocated to 401 Fairgrounds Road, Rolla, MO 65401.

The NOI stated that the written comments would be accepted until August 15, 2005, and that a public scoping meeting would be held in Wayne, West Virginia to provide another opportunity for the public to identify issues or concerns about the proposal.

Press Releases

On October 20, 2006, press releases and paid public notices regarding the East Lynn Lake Coal Lease LUA/EIS scoping process were e-mailed and/or faxed to the following West Virginia newspapers:

- *The Wayne County News*
- *The Register*
- *Bluefield Daily Telegraph*
- *Charleston Gazette*
- *Clarksburg Exponent & Telegram*
- *Times West Virginian*
- *The Huntington Herald-Dispatch*
- *Mineral Daily News*
- *The Martinsburg Journal*
- *The Dominion Post*
- *News & Sentinel*
- *The Intelligencer*
- *Williamson Daily News*

A public notice was posted daily in the *Huntington Herald Dispatch* from October 23, 2006 through November 6, 2006. Additionally, a public notice was posted in the *Charleston Gazette* every Wednesday and Sunday from October 22, 2006 through November 1, 2006. A public notice was also published in *The Wayne County News* on Friday and Saturday, November 3 and 4, 2006, preceding the meeting. Newspaper articles concerning the proposed East Lynn Lake Coal Lease LUA/EIS and scoping process were published in the following media on November 3rd, 2006:

- *Charleston Gazette*
- *Charleston Daily Mail*
- WVVA Channel Six News Website

Scoping Period

For the East Lynn Lake Coal Lease LUA/EIS, the scoping period spanned from October 20, 2006 until December 1, 2006. During this scoping period, the BLM-MFO held public scoping meetings in Wayne, WV and Huntington, WV on November 6 and 7, 2006 respectively, as described below under *Meetings*.

Meetings

A county commissioners' meeting was held on November 6, 2006 at the Wayne County Courthouse in Wayne, West Virginia. The BLM, Golder, and the Applicants were present at the meeting. During the meeting, the BLM provided an overview of the LUA/EIS process and explained the status of the East Lynn Lake Coal Lease LUA/EIS.

To solicit issues and concerns about the project from the public, the BLM held one official public scoping meeting on Monday, November 6, 2005 from 7:00 PM to 9:00 PM at the Wayne County Community Services Inc., 618 Hendricks Street, Wayne, WV.

As a result of local media misprinting the date, time, and location of the official public scoping meeting, a second meeting was held on Tuesday, November 7 2006 from 7:00 PM to 9:00 PM at the Ramada Inn Limited, located at 3094 16th Street Road, Huntington, WV. This second scoping meeting was held at the date, time, and location that was misprinted in local media to ensure that everyone who wanted to participate had an opportunity.

The public scoping meeting was held in an open house format. This open house format provided a comfortable environment for the public to participate, and provided the flexibility for them to schedule a time to attend. During the meeting, representatives of the BLM, Golder, and the Applicants were available to answer any questions or concerns they might have in regard to the Proposed Action, the RFDS, or the NEPA process.

Meeting attendees were encouraged to give written comments. Comment forms and tables were available for attendees to provide written comments, and Golder staff members were available to write down verbal comments if desired. Attendees were instructed of the comment period closing date and that comments needed to be received by that date. The meeting held in Wayne had the largest attendance, with approximately 15 people attending. All attendees were requested to sign in; however, it is possible that some did not. The additional meeting held in Huntington as a result of the newspaper misprint had only one attendee.

An agency scoping meeting was held on November 7, 2006 at the Ramada Inn Limited in Huntington, West Virginia at 10:00 AM. During the agency scoping meeting, Golder facilitated a roundtable discussion among the BLM, Cooperating Agencies, and other potential partners, with a goal of identifying significant issues and concerns related to the Proposed Action and alternatives.

Approximately 15 people attended the agency scoping meeting. All attendees were requested to sign in; however, it is possible that some did not.

Scoping Comments

Forty-five comment letters containing a total of 94 comments were received during the scoping period. Fifty of the 94 scoping comments addressed socioeconomic issues associated with the proposed coal lease. Forty-four of these 50 comments were positive comments, and the remaining six comments were questions or suggestions to investigate socioeconomic impacts. Twenty-six comments specifically cited the jobs that would be maintained. Seven comments noted the positive indirect impact of suppliers and vendors. This positive socioeconomic impact is also referred to as the multiplier effect, which is described in section 2.4 (Overview of Coal Economics). Two comments specifically cited the tax revenues that would be gained. Letters of support also cited the two Applicants' on-going support of local schools and businesses, and the role of mining as the primary economic activity in the area.

Six of the scoping comment letters were received from the local communities:

- Genoa (1 letter, with a total of 1 comment)
- Dunlow (4 letters, with a total of 8 comments)
- Wayne (1 letter, with a total of 2 comments)

Many supportive comments cited the continuation of jobs and contribution to the local economy. At least five local and regional vendors submitted comments during the scoping period. These vendors noted that if the proposed mining were to be implemented, their businesses would benefit from the multiplier effect: the extension of existing mining would provide continued opportunities to sell their products to the successful bidder(s).

Representatives of the West Virginia Coal Association (WVCA), the Brooks Bird Club, and the West Virginia Highlands Conservancy attended the November 6 public scoping meeting. In addition, the WVCA submitted comments supporting the economic benefit that would be gained if the Proposed Action is selected and the proposed mining is implemented.

Socioeconomic Workshop for the East Lynn Lake Coal Lease LUA/EIS

To gain input from the various stakeholder groups involved with the East Lynn Lake Coal Lease LUA/EIS, the BLM-MFO hosted a socioeconomic workshop in Wayne, West Virginia on March 27, 2007. The BLM invited public and local government representatives and the public to attend. The workshop was facilitated by an economist. Attendees had the opportunity to discuss economic growth and visions for the future of their communities, as well as to express concerns regarding social and economic affairs related to their community. Local residents expressed concern about potential impacts to the environment and to public and private recreational opportunities at East Lynn Lake.

As a result of the workshop, a more detailed description and analysis of socioeconomic conditions and social characteristics was developed and included in the East Lynn Lake Coal Lease LUA/EIS.

Community members expressed concerns during the workshop. Socioeconomic concerns focused on the impact of trucking, impact to water resources (many people get potable water from wells), and any potential impacts to the natural environment. In addition, other socioeconomic concerns concentrated on the monetary benefits to Wayne County and the local area through royalties and revenues: how revenues will be allocated, the BLM's priority related to financial impacts, costs of coal mining to the community, and the possibility of using revenues to fund park improvements such as lake lodges, further having a greater local economic benefit.

5.0 ECONOMIC CONDITIONS

Appendix A provides the 2000 Census Table DP-3 (Profile of Selected Economic Characteristics) for the state of West Virginia, Wayne County and the town of Wayne.

5.1 Economic Sectors

Historically, the local economy has relied heavily on its natural resources: bituminous coal and oil and natural gas. In addition, agricultural income is generated from livestock, fruit, and tobacco farms (West Virginia Association of Counties 2006). However, at the regional, county, and local level, the service, finance/insurance/real estate, and public administration sectors are becoming larger sectors in the economy, as described below in section 5.3 (Employment By Sector).

5.1.1 Coal

West Virginia
West Virginia has an estimated coal reserve of 33.7 billion tons, of which an estimated 18.4 billion tons is recoverable (OSM 2004). Coal mining has been a main sector of the economy since 1863, and at present coal mining and its related support activities are the dominant economic activity in West Virginia. The state is the second largest coal-producing state and a leading exporter. Approximately 92,940,000 short tons of coal were mined in southern West Virginia in 2004 (EIA 2007a). In 2005, 270 coal companies operated 574 mines in West Virginia, including 329 underground mines and 245 surface mines. The same 270 coal companies operated roughly 600 mines in 2006, including 330 underground mines and 271 surface mines–a 4 percent increase in the number of surface mines (WVCA 2007a). Approximately 91 percent of the coal produced in West Virginia is transported mainly by rail, but also by truck or barge to regional and national destinations (EIA 2007a) to generate electricity for domestic use (OSM 2004).

The coal mining industry contributes beneficially to the state, county, and local economies in several ways. The West Virginia Office of Miners' Health, Safety and Training (WVMHST) has maintained coal production and employment records since 1900. Coal mining employment in the state reached a high of 130,457 in 1940, and since that time employment numbers have slowly declined, reaching a low of 14,281 in 2000. Since 2000, the number of people employed in coal mines in the state has been increasing. Approximately 20,533 people were employed in the coal mines of West Virginia in 2006 (WVMHST in WVCA 2007a). The West Virginia coal industry pays nearly one billion dollars ($1,000,000,000) in annual direct wages. Coal mining accounts for $3.5 million (13 percent) of West Virginia’s total gross state product. In addition, the coal industry and coal-fired electricity industry account for 60 percent of all business taxes collected in West Virginia (WVCA 2007a).

West Virginia coal miners are among the highest paid workers in the state, earning an average annual salary of over $50,000, nearly twice the average statewide salary for all workers (WVCA 2007a).

Studies conducted by Marshall University have concluded that every coal mining job results in the creation of between six to eight positions in other sectors of the economy, and that every dollar's worth of coal production supports an additional 52 cents in sales in other sectors of the state economy (Burton, Hicks and Kent 2001; USEPA 2003).

Wayne County

Small-scale coal mining is common throughout Wayne County. Since the 1800s, residents have dug "house" mines by hand to obtain coal to heat their homes. Coal companies have operated mines in the area for over a century. In 2006 a total of six underground and surface mines produced a total of 4,835,588 million short tons of coal (WVCA 2007a). All of these mines used continuous mining equipment. Production in the county's underground mines produced enough coal to earn a ranking of 9th out of the 28 coal-producing counties in the state (WVCA 2007a). Approximately 3,672,220 tons of coal were produced, primarily by Rockspring and Argus (WVMHST in WVCA 2007a). Rockspring's Camp Creek No. 1 mine, located north of the proposed lease tracts, ranked sixth in the top 18 "million ton" underground mines in 2006, producing 2,735,790 tons.

Coal mining accounted for 16.2 percent of the total employment and 8.6 percent of total earnings in Wayne County. According to West Virginia's Office of Miner's Health Safety and Training (WVMHST), 456 coal miners were employed in Wayne County in 2006 and the coal miners as a group earned a total direct wage salary of $28,591,200 per year (WVCA 2007a).

In the vicinity of the proposed lease tracts, Rockspring, a subsidiary of Riverton Coal, has operated underground mines since 1978. Argus, and its predecessor PenCoal, has operated surface and underground mines in the area since 1987. Other companies have also operated mines in the area. Currently, the Applicants operate underground room-and-pillar mines under lands that adjoin the proposed lease tracts. When added together, the two companies employ a 500- to 600-person work force of direct employees and contractors. Almost 20 percent of those employees live in the four nearby communities of East Lynn, Genoa, Dunlow, and Wayne (table 3.7-2). Another 13 to 19 percent live in other communities within Wayne County (table 3.7-2). An additional 37 to 51 percent live in the adjoining counties in West Virginia (table 3.7-2).

The Applicants sell the majority of their coal to power plants in the region (BLM 2007a). Table 5.1-1 provides a summary of 2006 employment and economic details for Rockspring and Argus. Based on information gathered by the WVCA, Rockspring and Argus are the leading coal producing companies in Wayne County (WVCA 2007a). In 2006, Rockspring generated approximately $15 million in taxes for the county and state (Barton 2007b), and Argus generated approximately $8.9 million (May and Hall 2007) (table 5.1-1).

Table 5.1-1
Applicants' 2006 Economic Information

	Rockspring	Argus
Average Salary		
with overtime	$71,407	$51,977
without overtime	$54,018	$39,415
Payroll	$23,400,000 ($900,000 every two weeks)	$12,370,693 annually
Gross Revenue (annual, approximate)	$120,000,000	$93,508,569
Taxes Generated county/state (annual, approximate)	$15,000,000	$8,905,532

Source: Barton 2007a; Maggard 2007a, c

The Applicants invest large amounts of money in the local and regional economy by paying employees' wages, paying taxes, buying supplies and equipment, and purchasing and maintaining equipment. Typical vendors are listed in section 4.8.2 (Businesses). While Rockspring loads its coal into railcars at its Camp Creek preparation plant, Argus contracts local trucking companies to transport its coal from its Devilstrace preparation plant east of Dunlow to its loading facility on the Big Sandy River, 60 miles to the west. In addition to paying approximately $12.4 million in salaries and wages and roughly $8.9 million in taxes in 2006, Argus spent over $23 million on vendors and contactors based in Wayne County and an additional $27 million in other counties in West Virginia, for a total of over $50 million spent on vendors and contractors and an overall total of $71.3 million on salaries and wages, taxes, vendors and contractors in 2006 (Maggard 2007c).

The community also benefits from mining company philanthropy. The two Applicants contribute funds to local communities by:

- supporting local schools
- providing summer jobs to students over 18 years old
- contributing to the construction of baseball fields
- sponsoring fishing outings for grade school children, and
- sponsoring local community events and facilities.

At Rockspring's current production rate of 2.2 million to 3 million tons per year, and at Argus's current production rate of about 2 million tons per year, the Applicants' reserves in the immediate vicinity of the proposed lease tracts would be exhausted in 10 to 15 years. The companies could extend the lives of their operations by decreasing production rates, and they may be able to secure reserves in the region that they mine, then haul to their preparation plants for processing.

Federal Coal under USACE East Lynn Lake Project Lands
Southwestern West Virginia's Allegheny and Kanawha Formations contain bituminous coal. Both formations are found in the vicinity of the USACE East Lynn Lake Project and include several coal seams. Two seams are considered to be commercially mineable: the No. 5 Block, and the Coalburg/Winifrede seam. In 1973 Columbia Gas Transmission Corporation conducted a study in the vicinity of the USACE East Lynn Lake Project to determine the quantity and value of coal land that would be adversely affected by the siting of the USACE East Lynn Reservoir. The John T. Boyd Company prepared the report, entitled *Coal Land Values, East Lynn Reservoir Area for Columbia Gas Transmission Corporation* (John T. Boyd Co. 1973) and referred to as the "Condemnation Report." The area to be affected is referred to in the Condemnation Report as the "Acquisition Area." Within the 1973 Acquisition Area, the Winifrede, No. 5, and Stockton-Lewiston coal seams were considered economically mineable, while numerous other seams were found to be too thin to be of mineable thickness (John T. Boyd Co. 1973).

The Winifrede (Coalburg) reserves typically are low in sulfur, high in British thermal units (BTU), and used principally for clean electric generation (BLM 2007a). As part of the condemnation activities associated with the USACE East Lynn Lake Project, coal interests were to be subordinated to the reservoir interests in certain areas. As a result, mining of the No. 5 Block and Stockton-Lewiston seams, which outcrop extensively and would normally be developed by strip or punch mining, were to be prohibited from extraction (John T. Boyd Co. 1973).

The Acquisition Area contained approximately 25,000 acres, whereas Columbia Gas Transmission Corporation's coal lands comprised approximately 16,700 of those 25,000 acres. The boundary of the 1973 Acquisition Area varies slightly from the current USACE East Lynn Lake Project boundary, and the areas identified within the Acquisition Area vary somewhat from the current proposed lease tract boundaries. Information in the Condemnation Report indicates that in 1973 approximately 90 million tons of recoverable coal existed under roughly 23,000 acres within the current USACE East Lynn Lake Project boundary (John T. Boyd Co. 1973). To date, no federal coal that lies under the USACE East Lynn Lake Project has been mined.

Currently, Rockspring and Argus are proposing to lease and mine federal coal that lies under approximately 5,450 acres of land along five tracts (Rockspring tracts A-F) that border the north side of East Lynn Lake and on approximately 7,625 acres of land along three tracts (Argus tracts A-C) that border the south side of East Lynn Lake. The total area for which leasing is proposed is 13,089.55 acres. The Applicants are proposing to mine the Winifrede seam on the north side of the lake and the Coalburg seam on the south side of the lake. Neither Applicant proposes to mine No. 5 Block coal under the proposed lease tracts.

Based on the most recent available data summarized in the RFDS (BLM 2007a), approximately 41 million tons of Winifrede seam coal lie below the proposed Rockspring lease tracts, and about 11 million tons of that coal is considered to be mineable or "recoverable." Approximately 35 million tons of Coalburg seam coal lie below the proposed Argus lease tracts, and about 15 million tons of that coal is considered to be recoverable coal. The two companies would use underground room-and-pillar mining methods with 50 percent extraction.

Economic Value of the Proposed East Lynn Lake Coal Lease

The economic value of coal can be assessed at a large scale, as described in section 2.4 (Overview of Coal Economics). The economic value of coal can also be assessed at a more detailed level, where revenue, taxes, and other gains and losses experienced by a company are considered.

A coal company receives payment for the coal it produces and sells. That same coal company also pays a royalty fee on federal coal, along with several other federal fees or taxes, both federal and state income taxes, a state mineral severance tax, a state excise tax, and county property taxes.

Gross Revenue on Sale of Coal

If the Proposed Action is selected and the RFDS is implemented, the successful bidder(s) would earn estimated gross revenues of up to $1,129,862,582 over a period of 10 to 15 years, based on a coal price of $43/ton. If the Applicants are the successful bidders, Rockspring would earn up to approximately $484,862,582 in gross revenue, and Argus would earn up to approximately $645,000,000 in gross revenue.

Federal Royalties, Fees, and Taxes

The BLM manages public lands and the natural resources and the uses that occur on those lands. With regard to natural resources, the BLM manages federal leasable minerals and geothermal resources under authority of the *Mineral Leasing Act of 1920* (20 USC 181, et seq.), as amended by the *Federal Coal Leasing Amendments Act of 1976* (FCLAA); the *Mineral Leasing Act for Acquired Lands of 1947* (30 USC 351-359); Section 402 of *Reorganization Plan No. 3 of 1946* (5 USC Appendix); and various other Acts. The *Mineral Leasing Act of 1920* (MLA) provides for the leasing of federal coal in tracts that allow the mining of all economically extractable coal.

In accordance with the MLA, states whose boundaries encompass federal mineral leases are entitled to receive a portion of the revenues generated from those leases, based on the revenue earned on the sale of the coal (MMS 2004). The Minerals Management Service (MMS) collects royalty fees on federal coal. Regulations in the Code of Federal Regulations (43 CFR 3483) state that the customary royalty rate is 8 percent for federal coal mined using underground methods. A portion of the royalty fee is retained by the federal government and is distributed to the U.S. Treasury general fund, where it is appropriated by Congress, and typically to three special funds–the Reclamation Fund, the Land and Water Conservation Fund, and the National Historic Preservation Fund (Etchart 2007). The remainder is distributed to the state and local government where the coal was mined. That state may retain a pass-through fee, and then pass the remainder on to local governments (Nolder 2007). West Virginia does not retain a pass-through fee (Rollyson 2007a).

After the BLM awards a lease for federal coal, the successful bidder(s) can apply for a royalty rate reduction by stating reasons and providing supporting information, such as proof of economic hardship. For example, if the customary 8 percent royalty fee is above the going rate in the private sector, that percentage would be considered unfair to the successful bidder(s). The federal government representative may or may not grant the reduction (Grange 2007).

For federal coal owned by the BLM, 50 percent of the federal royalty fee is retained by the federal government, and 50 percent is passed on to the affected state and local government. For federal coal owned by the USACE, such as the federal coal surrounding the USACE's East Lynn Lake Project, 25 percent of the royalty fee is retained by the federal government and 75 percent of the royalty fee is paid to the affected state and local government, in accordance with the *Rivers and Harbors Act of 1910* (Nolder 2007).

For the East Lynn Lake Coal Lease LUA/EIS, if the Proposed Action is selected and the RFDS is implemented, current estimates indicate that a maximum of approximately 26,276,000 tons of federal coal could be recovered. If the 8 percent royalty is applied, at a price of about $43 per ton (price of coal at time of lease application submittal), the Minerals Management Service would collect up to approximately $90,400,000 in federal royalty fees over a 10- to 15-year period (table 5.1-2). During that period, the federal government would retain approximately 25 percent of the royalty fees, up to roughly $22,600,000 (table 5.1-2). The remaining 75 percent, up to approximately $67,800,000 (table 5.1-2), would be allocated to the state of West Virginia, and the West Virginia state auditor would distribute 100 percent of that money to the Wayne County Commission.

Table 5.1-2

Estimated Federal Royalty Retained
If the East Lynn Lake Coal Lease Proposed Action is Selected

Proposed Lease Tract	Clean Recoverable Tons	Successful Bidder(s) Gross Revenue at $43/ton	8 Percent Federal Royalty on Federal Coal From Underground Mines	Revenue Retained By Federal Government (25% of federal 8% royalty)	Revenue Returned to Wayne County Government (75% of federal 8% royalty)
Rockspring Tracts A through F	11,275,874	$484,862,582	$38,789,007	$9,697,252	$29,091,754.92
Argus Tracts A through C	15,000,000	$645,000,000	$51,600,000	$12,900,000	$38,700,000.00
Total	***26,275,874***	***$1,129,862,582***	***$90,389,007***	***$22,597,252***	***$67,791,754.92***

Note: Number of tons is approximate and based on information provided in the Applicants' lease applications, as summarized in the Reasonably Foreseeable Development Scenario (BLM 2007a).

A federal Black Lung tax is collected on coal sales: $1/ton for surface mines and $3/ton for underground mines. Coal production also supports abandoned mine land reclamation projects and the United Mine Workers Combined Benefit Fund through the Special Reclamation Fund fee levied under SMCRA Section 402. Surface mined coal is levied a fee at a rate of 35 cents per ton;

underground mined coal is levied a fee at a rate of 15 cents per ton. Half of these revenues are supposed to be returned to the state in which the coal was produced, to be used in funding reclamation or acid mine drainage abatement projects at abandoned mines. A significant amount of money flows to the study area states from the fund, despite on-going controversy regarding federal congressional management of the fund and the fact that collections substantially exceed distributions from the fund. In fiscal year 1999, more than $47 million went to AML programs in the study area states. Kentucky received $22.7 million, West Virginia received $20.2 million, Virginia received $4.4 million, and Tennessee received $100,000 (OSM 1999).

If the proposed mining is implemented, over a 10- to 15-year period the successful bidder(s) would pay up to approximately $78,827,622 in Black Lung taxes. They would also pay up to approximately $3,941,381 in Special Reclamation Fund fees, with approximately one-half of that amount (as much as approximately $1,970,690) returning to the State of West Virginia.

State Fees and Taxes

Coal mining in West Virginia also contributes to public finance through other taxes, including various severance, property, and income taxes. The major categories of revenue for the West Virginia state government include the General Revenue Fund, the State Road Fund, lottery funds, federal funds and special revenue funds. The General Revenue Fund includes funds from income tax, sales tax, business and occupation taxes and the Natural Resource Severance Tax.

Severance Taxes–West Virginia's coal severance tax is levied as a five percent tax on gross receipts on the sale of the privately owned product severed. Eighty-five to ninety percent of severance tax revenues in West Virginia come from coal production, and the remaining portion comes from oil and natural gas production. Severance tax receipts are allocated to the General Revenue Fund (77 percent), the State Infrastructure Fund (13 percent), local governments (8 percent), and the State Division of Forestry (2 percent) (West Virginia State Budget Office 2000).

The WVCA (2007a) describes the state's coal severance tax:

- In 1987, West Virginia enacted a severance tax on coal. The tax amounts to 5 percent of the sale price of mined coal. Of this amount, the State retains 93 percent. The remaining 7 percent is apportioned among the state's 55 counties and its 230 incorporated municipalities.
- Three-fourths of the 7 percent share is divided among the coal producing counties. This money is apportioned according to each county's coal production.
- The remaining one-fourth of the 7 percent is divided among all counties and municipalities, according to population.
- All incorporated communities receive a share, based on population.
- All counties receive an additional share, based on the population of the unincorporated areas of the county.

West Virginia produced approximately 158,835,584 tons of coal in 2006. The total severance tax collections on private coal in West Virginia for 2006 amounted to about $386,000,000. Approximately $25,438,861 was distributed to all counties and municipalities in West Virginia. Of this amount, about $18,992,932 represented coal production in the 26 coal producing counties (West Virginia State Treasurer's Office in WVCA 2007a) (table 5.1-3).

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Table 5.1-3

State Mineral Severance Tax Distribution, 2003, 2005, and 2006

	Year		
Recipient Government Level	**2003**[1]	**2005**[2]	**2006**[3]
West Virginia			
West Virginia's Estimated Coal Production Value	NA	$6,500,000,000.00	$6,060,000,000.00
West Virginia's Estimated Coal Severance Tax	$214,141,117.71	$280,000,000.00	$386,000,000.00
Collected Severance Tax Apportioned to 55 Counties and 230 Incorporated Municipalities (7 Percent of West Virginia's Estimated Coal Severance Tax)	$14,989,878.24	$23,185,525.67	$25,438,861.36
Revenue for Counties that Produce Coal	$11,242,408.70	$17,389,144.25	$18,992,932.01
Wayne County			
Revenue for Unincorporated Municipalities in Wayne County	$65,687.53	$101,612.88	$110,954.56
Revenue for Wayne County, a County that Produces Coal	$298,490.16	$307,425.82	$252,603.46
Subtotal: Revenue for Wayne County	$364,177.69	$409,038.70	$363,558.02
Municipalities in Wayne County			
Revenue for Incorporated Municipalities in Wayne County			
Wayne	$2,289.67	$3,541.93	$3,868.61
Kenova	$7,221.26	$11,170.67	$12,200.94
Ceredo	$3,470.76	$5,368.95	$5,864.13
Fort Gay	$1,697.04	$2,625.19	$2,867.30
Subtotal: Revenue for Incorporated Municipalities in Wayne County	$14,678.73	$22,706.74	$24,800.98
Total: Wayne County and its Incorporated Municipalities	$378,856.42	$431,745.44	$388,359.00

Notes: NA = not available All dollar values are given as reported by the WVCA, unadjusted for inflation
Sources: All data obtained from the West Virginia Coal Association (WVCA)
[1] WVCA 2007b
[2] WVCA 2006
[3] WVCA 2007a

Wayne County produced a total of almost 4,835,600 million short tons of coal in 2006 (WVCA 2007a). As shown in table 5.1-3, Wayne County received approximately $388,359 in coal severance tax revenue in 2006, or about 1.5 percent of the total amount allotted to counties and municipalities. Of that amount, the county received approximately $110,955 in coal severance tax for its unincorporated lands, and $252,600 for its coal production (WVCA 2007a). That same year, the municipalities within Wayne County received approximately $24,801(table 5.1-3), with the town of Wayne receiving approximately $3,869 of that total.

Rockspring produces between 2.2 million and 3 million tons of coal per year, and Argus produces about 2 million tons per year. As the largest coal producers in the county, and therefore the largest contributors to state severance tax revenues, the Applicants' presence in the vicinity of the proposed lease area and their economic contributions to the area are integral to the local economy.

If the Proposed Action is selected and the RFDS is implemented, the State of West Virginia would receive up to approximately $52,540,000 (table 5.1-4) in severance tax revenue, and the counties and incorporated municipalities would receive up to approximately $3,950,000 (table 5.1-4) in severance tax revenue over a period of 10 to 15 years. Wayne County would receive up to $60,504 over that same period.

Table 5.1-4
Potential Estimated State Severance Tax Revenue to Wayne County and Its Municipalities Over a Period of 10 to 15 Years If the East Lynn Lake Coal Lease Proposed Action is Selected[1]

Maximum Amount of Clean Recoverable (tons)[2]	26,275,874
Successful Bidder(s) Potential Revenue at $43/ton	$1,129,862,582
Potential 5 Percent State Severance Tax on East Lynn Lake Federal Coal	$56,493,129
Potential Revenue Retained By State Government (93% of federal 5% tax)	$52,538,610
Potential Revenue Returned To 55 counties and 230 incorporated municipalities (7% of 5% tax)	$3,954,519
Potential Revenue Returned To 27 Coal-Producing Counties (75% of 7%)	$2,965,889
Potential Revenue Returned To All Counties and Municipalities, According to Population (25% of 7%)	$988,630
Potential Revenue Returned to Unincorporated Portions of Wayne County Based On Its Population	$17,286
Potential Revenue Returned to Wayne County Based On Its Coal Production	$39,352
Potential Revenue Returned To Wayne County Municipalities, According to Population	$3,866
Total, Potential Revenue Returned To Wayne County	*$60,504*

Source: Percentages and revenues calculated based on values presented for Wayne County in *Coal Facts 2007* (WVCA 2007a)
Notes: [1] Based on Estimated Tons Recoverable, $43/ton Coal Price, and 2006 State Severance Tax Receipts
[2] Presented in Reasonably Foreseeable Development Scenario (BLM 2007a)

Property Taxes–Property taxes related to active coal mines contributed approximately $43 million statewide in the 2002-2003 fiscal year. An excise tax of $0.56/ton on the assessed value of coal reserves is collected for use in debt reduction. In the 2002-2003 fiscal year, this tax contributed another $14 million. Combined, these property taxes accounted for approximately 34 percent of all property taxes collected statewide. Property taxes are a major income source for county governments and school districts in West Virginia. Approximately 68 percent of property tax revenues are allocated to schools and these revenues account for roughly 30 percent of the typical school district budget (USEPA 2003).

However, the amount of property taxes that the successful bidder(s) would be required to pay is not clear. A lessee does not pay property taxes if the mineral rights owner is not required to pay these taxes. The case of the proposed East Lynn Lake coal lease is unique in West Virginia because the mineral rights owner is the federal government, which does not pay property taxes. Consequently, research to date indicates that the successful bidder(s) would not be required to pay property taxes (Mairs 2007).

Other State Taxes and Fees–Other state taxes and fees may be collected, including:

- Special Reclamation Fee–The state government also collects a 7-cent-per-ton of clean-coal Special Reclamation Tax. If the proposed mining is implemented, the successful bidder(s) would pay as much as approximately $1,839,311 in state reclamation taxes.
- Services fees–Collected at 2 cents per ton.
- Highway transportation fees–WVDOT collects 5 cents per ton.
- Workers' Compensation tax–collected at 56 cents per ton.

Table 5.1-5
Potential Revenue to the State of West Virginia
from Other[1] State Fees and Taxes
Over a Period of 10 to 15 Years
If the East Lynn Lake Coal Lease Proposed Action Is Selected[2]

Type of State Fee or Tax	Fee or Tax Rate	Estimated Tonnage of Clean Recoverable Coal	Estimated Revenue to State of West Virginia
Special reclamation fee	$0.07	26,275,874	$1,839,311
Services fee	$0.02	26,275,874	$525,517
Highway transportation fee[2]	$0.05	11,275,874	$563,794
Workers compensation tax	$0.56	26,275,874	$14,714,489
Total			***$17,643,112***

Notes:
[1] Estimated revenue from state coal severance tax is calculated in table 5.1-2.
[2]Based on estimated tonnage of clean recoverable coal, $43/ton coal price, current fees and taxes
[3] If Argus is one of the successful bidders, the company would transport processed federal coal by truck to its terminal on the Big Sandy River. Argus would be subject to the highway transportation fee. Rockspring would transport its coal by rail and would not be subject to the highway transportation fee.

If the Proposed Action is selected, the Applicants are the successful bidder(s), and the RFDS is implemented, and the multiplier effect is applied:

- While no new jobs would be created, approximately 500 to 600 jobs would be maintained. The maintenance of those jobs would result in the maintenance of 700 to 840 other jobs elsewhere in the state's economy.
- Based on the Applicants' combined 2006 payroll of approximately $35.7 million, the successful bidder(s)' continued payment of direct coal mining wages and benefits would result in the continued payment of about $21.5 million in additional annual wages and benefits to others within the state economy.

Sterilization of Coal

Existing Activities–Separate from the decision made regarding the East Lynn Lake Coal Lease LUA/EIS, and regardless of that decision, substantial tonnages of coal may be removed from the mining reserve base, or "sterilized," by the installation of gas wells. If a gas well intersects a mineable coal seam, the mining operator must maintain a 200-foot radius buffer around the gas well. Each existing or proposed gas well situated within the federal coal under the proposed lease tracts must be protected in this manner. For each of these wells, about 7,800 tons of coal would be sterilized (BLM 2007a).

Chesapeake Appalachia, LLC has submitted several *Notices of Application for Well Work Permits* to the West Virginia Office of Oil and Gas. The permit applications are for proposed wells to be installed on Rockspring proposed lease tract F. The permits have been approved, and construction of the wells is expected to begin in the near future. No major oil and gas pipeline or liquefied natural gas projects have been proposed for West Virginia (FERC 2007). Up to 20 oil and gas wells could be drilled on the proposed lease tracts over the next five years (BLM 2007b).

Proposed Action–If the federal coal were to be mined after installation of the proposed wells described above, the successful bidder(s) at that time would have to leave protective barriers with a diameter of up to 200 feet and up to 7,800 tons of coal in place around those wells. Up to 156,000 tons of coal left in-place to protect the proposed oil and gas wells would be unrecoverable. Revenues would be lost, with a potential reduction in revenue of up to $6,708,000 at current prices of $43 per ton of coal. Based on the current oil and gas market, additional yet-to-be-proposed oil and gas drilling likely would occur, sterilizing more coal left in protective barriers.

No Action Alternative–Under the No Action Alternative, the No Action Scenario (NAS) would be implemented, and the federal coal under the proposed lease tracts would remain in place. Continued mining on adjoining private lands may leave minimal to no feasible underground access to the approximately 25 million tons of federal coal in the future. The land that lies over the federal coal is currently owned by the federal government and managed by the USACE. Surface access to the federal coal is not feasible based on current land use. Consequently, under the No Action Alternative, the federal coal that lies under the proposed lease tracts potentially could become inaccessible and lost from the reserve base, or "sterilized." Based on a current price of about $43/ton as identified in the RFDS (BLM 2007a), Wayne County could realize a potential loss in federal royalty revenue of up to approximately $29 million over a period of 10 years, a potential loss of $39 million over a period of 15 years, and up to $60,500 in state severance tax revenue.

Furthermore, if the federal coal were to be mined in the future, potential surface impacts could be greater because the existing processing and storage facilities potentially could be closed and unavailable for use. New facilities would need to be constructed in the vicinity of the federal coal, causing significant surface disturbance and potential environmental impacts.

5.1.2 Oil and Natural Gas

In addition to the federally-owned coal, privately-owned oil and natural gas is present under the proposed lease tracts. Estimates of oil and gas reserves in southwestern West Virginia vary widely, and production can range from as low as 10 to 100 million barrels of oil equivalent (MBOE) to as high as 1,000 to 10,000 MBOE, according to EIA data (EIA 2007b). In 2005, 230 billion cubic feet (Bcf) of dry natural gas were extracted from West Virginia (EIA 2006). In that same year, 132 acquisitions and 371 extensions of natural gas reserves occurred in West Virginia, according to the *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2005 Annual Report* (EIA 2006).

Eleven new natural gas fields were discovered in West Virginia in 2005. The proved dry natural gas reserves in West Virginia increased by 1,062 Bcf between the years 2004 to 2005, from 3,397 Bcf to 4,459 Bcf. Such an increase was observed in only six other states. This increase, along with the discovery of 11 new fields, suggests an increased level of exploration in the area and an increased level of extraction in the coming years (EIA 2006). No major oil and gas pipeline or liquefied natural gas (LNG) projects have been proposed for West Virginia in 2007 (FERC 2007).

The Sidney field in Wayne County is a recognized oil and natural gas field. West Virginia Geological and Economic Survey data collected in 2001 indicate that 2,501 to 6,000 million cubic feet (mmcf) of natural gas were produced in Wayne County (WVGES 2003). At least six different gas-productive zones are known to occur within the Devonian shale. These zones include the Big Lime, Big Injun, Squaw, and Berea. Devonian shales in the region consist of gray shales and siltstones. Brown or black, highly organic shale that contains high quantities of kerogen is found between the gray shale and siltstones. The gray shales and siltstones serve as the reservoir rock and the organic shale serves as the source rock (BLM 2007b). The majority of the reserves in the vicinity of the proposed least tracts are gas reserves, in the range of 1,000 to 10,000 mmcf (EIA 2007c).

At least 144 oil and gas wells exist on the proposed lease tracts (BLM 2007a). West Virginia Geological and Economic Survey data collected in 2001 indicate that 2,501 to 6,000 mmcf of natural gas were produced in Wayne County (WVGES 2003). Big Sandy Peaker Plant, LLC operates a natural-gas-fired electric generating facility and certain ancillary facilities for the generation of electricity exclusively for sale to the wholesale market in West Virginia and other locations in and contiguous to the East Central Electric Reliability Coordination Agreement region. The Big Sandy

Peaker Plant is located on the Big Sandy River, west of the proposed lease tracts (USEPA 2007c). In addition, Cranberry Pipeline Corporation operates an oil and gas production facility west of the proposed lease tracts, on Edd Branch Road (USEPA 2007b).

Coal bed methane forms within coal seams. A regional estimation of proved coal bed methane reserves indicated that several ranges may apply to the vicinity of the proposed lease tracts: A low estimate of 1 to 200 Bcf, to a high of 500 to 1,500 Bcf (Limerick 2004). In the vicinity of the proposed lease tracts, recovery of coal bed methane has a low to medium likelihood (Limerick 2004).

5.1.3 Timber

With 12 million acres of forested land representing 78 percent of the state's land, West Virginia is the third most forested state in the U.S., following Maine and New Hampshire. Almost all of the forestland is available for commercial timber production. Historically, logging has been an important sector of the regional, state, and local economy. While employment fell in the state logging industry from 1980 to 2004, trends suggest continued growth (Childs 2005).

Forest products contribute less than 2 percent to the state GDP, but the wood products industry in total exceeds $4 billion annually (Childs 2005). Private logging operations occur on private and state lands in the vicinity of the proposed lease tracts. Small-scale illegal logging on the proposed lease tracts is expected to remain stable and infrequent.

5.1.4 Flood Control and Recreation

Table 5.1-6 provides the USACE's 2006 employment and economic details. One of the economic values provided by the USACE East Lynn Lake Project is flood control. The dam provides protection to East Lynn and other downstream communities. Each year, the dollar value of potential flood damages is calculated. Cumulative through fiscal year 2006, based on best available data, approximately $83,649,000 in potential flood damages was prevented by the facility (McKinley 2006). In addition to the financial value of flood damages prevented, the lake provides recreational opportunities, scenic value, fish and wildlife habitat, and other intrinsic values.

Table 5.1-6

USACE East Lynn Lake Project Economic Information, 2006

Number of Employees (including seasonal, part-time, and full-time):	9
Average Salary (with benefits and overtime):	$41,000
Payroll (annual)	$700,000
Total Project Budget:	**$1,250,000**
Annual Gross Revenue including fees, licenses, etc. (approximate):	$100,000
2006 County Generated Taxes (for 36,017 acres)	$52,234
Estimated Local Economic Benefits (cumulative flood control):	$83,649,000
Number of Visitors	513,000
Number of Visitor Days	168,000

Source: Smith 2007b

5.1.5 Agriculture

Agricultural activity in the county includes family gardening, pasturing beef cattle, and cutting some hay. Raising cattle is less common in the vicinity of the proposed lease tracts. No vocational agricultural program is provided in Wayne County. Two agricultural organizations are active in the county: the Farm Bureau, which is part of the state and national organization, and the Cattlemen's Association, which is not affiliated with a national organization. Several conservation groups exist. The Wayne County Longbeards is a chapter of the National Wild Turkey Federation, and has helped to re-establish the wild turkey population in the county. Currently, the wild turkey population has recovered to the point that a spring gobbler hunting season is sustainable. A chapter of the Izaak Walton League is also active in the county. The presidents of both of these organizations reside near the proposed lease tracts (Marcum 2007).

The number of farms and the acreage of land in farms in West Virginia declined between 1997 and 2002, while the number of farms and the acreage of land in farms in Wayne County increased by 20 percent from 1997 to 2002. At both the state and county level, the average size of farms remained unchanged (NASS 2007). Based on statistics from the 2002 Census of Agriculture (National Agricultural Statistics Service), RUPRI (2006) reports that between 5 and 10 percent of Wayne County's farms are larger than 500 acres, similar to the state-wide average of 6.2 percent. The average farm size in West Virginia is 172 acres.

In the rugged terrain where the proposed lease tracts are located, recreation likely has been supplanting agriculture in the years since the USACE East Lynn Lake Project, Cabwaylingo State Forest and Beech Fork State Park were built. Maintaining small farms has become harder, with less available land and smaller families (Marcum 2007).

5.2 Employment and Unemployment

Employment data used as economic indicators include:

- the number of people employed
- the number of people unemployed, and
- the overall employment rate.

Table 5.2-1 and figure 5.2-1 show employment data for the state of West Virginia and Wayne County in 1990 and 2000. The state's average unemployment rate was 7.3 percent in 2000. The county's rate was slightly lower, at 6.6 percent, down from a rate of 10.5 percent in 1990 (table 5.2-1).

Overall the unemployment rate has been on the rise, which is compatible with other state and national trends (Wayne County 2004). Figure 5.2-2 shows the unemployment rate by county in West Virginia for 2005 (RUPRI 2006). Annual average total civilian unemployment in the county fell 3.9 percent between 1990 and 2000 (U.S. Census Bureau 2007a).

Table 5.2-1
Employment Data 1990-2000

	Employed Persons		**Unemployed Persons**		**Unemployment Rate**	
Region	**1990**	**2000**	**1990**	**2000**	**1990**	**2000**
West Virginia	671,085	732,673	71,142	58,021	9.6%	7.3 %
Wayne County	14,598	16,184	1,703	1,146	10.5%	6.6 %

Source: U.S. Census 2007a

As shown on figure 5.2-3, the WVDO (2005) found that Wayne County is projected to be one of 25 counties in the state with a negative employment growth rate. With an aging population, fewer persons will join the work force, and more income will be based on transfer payments. Any slackening in the state's economic development efforts means an intensification in governmental costs to cover increased social and fiscal problems (WVDO 2003).

Both population growth and employment are inter-dependent. Employment growth relative to population growth for the state in the last decade shows an upward trend compared to a downward trend for the nation. The method used to indicate this is a Labor Force Participation Rate, found by dividing the total employment by the total population. The ratios for 1990 and 2000 for the U.S. and West Virginia show that in 1990 the state's Labor Force Participation Rate was 52.9 percent, which increased by 1.6 percent to 54.4 percent in 2000. This rate indicates that while the overall rate of state employment lags behind that of the nation (59.7 percent), the state's rate of employment grows faster than its population (Census 2000, Table DP-3).

RUPRI (2006) reports that Wayne County is one of 35 West Virginia counties classified as "low-employment" counties. These counties, shown on figure 5.2-4, are designated based on the Economic Research Service classification if they have "less than 65 percent of residents 21-64 years old [who] were employed in 2000."

5.3 Employment by Sector

Sectors of employment in West Virginia include:

- agriculture, forestry, fisheries, and mining
- public administration
- construction
- manufacturing
- transportation, communication, and public utilities
- wholesale trade
- retail trade
- finance, insurance, and real estate
- business and repair services
- personal, entertainment, and recreation services, and
- professional and related services.

State and county employment by industry sector, including the total percent change, in 1990 and 2000 (BEA 2007a, U.S. Census Bureau 2007d), is summarized in table 5.3-1. National employment by industry is shown on figure 5.3-1, and county employment by sector is shown on figure 5.3-3.

Table 5.3-1
Employment by Sector
West Virginia and Wayne County, 1990 and 2000

Sector	West Virginia	Wayne County	Wayne County Percent Change 1990-2000
Mining*			
1990	36,412	481	
2000	(D)	(D)	**N/A**
Agriculture/Forestry/Fishing/ (Mining)			
1990	48,916	630	
2000 (includes mining*)	29,945	443	**-30.0%**
Manufacturing			
1990	99,741	2,561	
2000	87,147	2,174	**-15.1%**
Construction			
1990	46,855	1,149	
2000	51,512	1,022	**-11.1%**
Transportation/Warehousing/Utilities			
1990	53,338	1,679	
2000	43,946	1,541	**-8.2%**
Trade			
1990	145,363	3,209	
2000	116,180	2,839	**-1.5%**
Finance/Insurance/Real Estate			
1990	30,235	553	
2000	33,408	657	**19.0%**
Public Administration			
1990	29,686	574	
2000	42,451	683	**19.0%**
Services			
1990	216,951	4,238	
2000	314,168	6,461	**52.5%**

Notes: * Mining was accounted for as a separate sector in the 1990 census; in the 2000 census mining was accounted for in combination with the agriculture, forestry, and fishing sectors.
(D) indicates less than 10 jobs or undisclosed and confidential information.
N/A indicates unavailable information.
Source: BEA 2007a; U.S. Census Bureau 2001

The sectors with the largest growth in employment in West Virginia between 1990 and 2000 (figure 5.3-2) include services (between 8 and 11 percent), public administration (2 percent), construction (1 percent), and finance, insurance, and real estate (1 percent) (USEPA 2003). Employment rates in other industry sectors declined. Since 1970, a shift away from manufacturing to services has negatively impacted earnings and income in West Virginia (WVDO 2003).

Sectors of employment in Wayne County include:

- mining
- agriculture/forestry/fishing/ mining
- construction
- manufacturing
- transportation/warehousing/utilities
- trade
- finance/insurance/real estate
- services, and
- public administration.

Of these sectors, the services sector experienced the largest growth between 1990 and 2000, with a 52.5 percent increase in employment (table 5.3-1). The finance/insurance/real estate sector (19.0 percent) and public administration sector (19.0 percent) also experienced high growth rates (Hammond 2005). Over the same 10-year period, employment in the other industry sectors in Wayne County declined, with decreases in employment rates ranging from -8.2 percent to -30.0 percent (table 5.3-1).

This decline may be attributed to changes in agriculture and fishing practices throughout West Virginia, as timber production and mining have always been important components of the planning area's economy. During the past decade and through the present, the agriculture industry in the planning area has trended toward fewer farms and full-time farmers and a decrease in the average farm size. Much of the decline can be explained by a decrease in the last decade in the value of livestock, poultry, and related products throughout the nation.

Data collected in 2002 indicate that an estimated 591 businesses exist in Wayne County (Federal Reserve Bank 2004). Major public and private employers in Wayne County include (KYOVA 2002):

- Wayne County Community Services
- Wayne County Commission
- Ballard's Farm and Sausage Inc.
- Wayne High School
- Wayne Continuous Care Center, Human Services Department
- Wayne Middle School, and
- Wayne County Board of Education.

Rockspring and Argus are among the top ten private employers in Wayne County as of March 2006 (Workforce West Virginia 2007). The "top ten" list includes:

1. Wayne County Board of Education
2. Veterans Administration Hospital
3. **Rockspring Development, Inc.**
4. Kanawha River Terminals, Inc. (Hatfield Dock and Transfer)
5. Wal-Mart Associates, Inc.
6. Wayne County Community Services Organization, Inc.
7. **Argus Energy West Virginia, LLC**
8. Aristech Chemical Corporation
9. Wayne County Commission
10. American National Rubber Company

The Economic Research Service classifies counties into one of five industry categories of specialization or as non-specialized. The typology for Wayne County is "government" industry, but note that the surrounding non-core counties are typified by mining, as shown on figure 5.3-4 (RUPRI 2006).

RUPRI (2006) reports that the self-employed comprise 20 to 30 percent non-farm employment in Wayne County. RUPRI uses these statistics as a county level indicator of entrepreneurship, and Wayne County ranks among the top 15 counties in West Virginia, as shown on figure 5.3-5.

5.4 Income and Poverty Levels

Over the past 40 years the Appalachian Regional Commission has tracked the well-being of the counties within the region. West Virginia, along with eastern Kentucky, has maintained the highest concentration of economically distressed counties (ARC 2007). According to the West Virginia Development Office (2003) every county in West Virginia has a per capita income below the U.S. average. RUPRI (2006) indicates that per capita income in Wayne County in 2004 was in the range of $20,000 to $24,999 (figure 5.4-1).

Indicators of income that the U.S. Census Bureau calculates include "income in households" and "income of families." Income in households is defined as income generated by all individuals 15 and older, whether related to the head of household or not. Table 5.4-1 shows the median household income, per capita income, and percent of population living in poverty for the State of West Virginia and Wayne County.

Table 5.4-1
Income and Poverty Level
1990 to 2000

	Median Household Income		Per Capita Income		Percent of Population Living in Poverty	
Region	**1990**	**2000**	**1990**	**2000**	**1990**	**2000**
West Virginia	$20,795	$29,696	$10,520	$16,477	19.7%	17.9%
Wayne County	$23,311	$27,352	$9,430	$14,906	21.8%	19.6%
Town of Wayne	$13,844	$20,242	$9,039	$11,626	27.4%	30.3%

Note: All dollar values are given as reported by the U.S. Census, unadjusted for inflation
Source: Census 2000, Table DP-3

State of West Virginia
In the state of West Virginia, there has been relatively little change in household composition for the past ten years. According to the 2000 Census, both spouses are employed in more than 60 percent of the households surveyed. In spite of the majority of West Virginia families working two jobs, West Virginia's median family income of $36,484 is the lowest of any state in the nation. The median family income (2000) in the U.S. is $50,046 (WVDO 2003; Census 2000, Table DP-3).

Wayne County
Wayne County had both a lower per capita income and median household income than the state of West Virginia. Workforce West Virginia reports that per capita income in Wayne County in 1999 was $14,906, which was lower than that of the state's per capita income of $16,477. Wayne County's median household income for 1999, $27,352, was also lower than the state's median household income of $29,696 (WWV 2007).

Wayne County had a total personal income (TPI) in 2001 of approximately $7.1 million, ranking 18th in the state. Wayne County's TPI accounted for 1.7 percent of the state total. Total personal income includes net earnings by place of residence; dividends, interest, and rent; and transfer payments received by the residents of Wayne County. In 1991, when Wayne County ranked 17th in the state, the TPI was $5.2 million. The 2001 TPI reflected an increase of 2.9 percent from 2000 (Wayne County 2004). In 2001:

- Net earnings accounted for the largest share of income at 60.9 percent of TPI (compared with 65.1 in 1991).
- Dividends, interest and rent were 13.7 percent (steady compared with 14.9 in 1991).
- Transfer payments were 25.4 percent (an increase compared with 20.0 in 1991).

Town of Wayne

The 2000 Census shows the median income for a household in the town of Wayne as $20,242 and the median income for a family as $24,750. Males had a median income of $27,292 compared to $23,500 for females. The per capita income for the town was $11,626. About 25.3 percent of families (82 families) and 30.3 percent of the population (330 individuals) were below the poverty line, including 32.6 percent of those under age 18 and 20.6 percent of those aged 65 or over (U.S. Census Bureau 2000, Table DP-3).

In the zip code 25570 (including the town of Wayne) 335 families (19.4 percent) and 1,299 individuals (22.2 percent) have income below poverty. The median per capita income is $13,738 (1999 dollars), median family income is $26,517, and household income is $30,250 (U.S. Census 2007a).

Poverty Rates

The county's population living in poverty was higher than West Virginia's in both 1990 and 2000. Both the state's and the county's poverty rate decreased slightly between 1990 and 2000. In 2000 the poverty rate in West Virginia was 17.9 percent. That same year, the poverty rate in Wayne County was 19.6 percent, 2.2 percent lower than in 1990 (Census 2000, Table DP-3). In 2004, the poverty rate for the state of West Virginia dropped to 16.2 percent and for Wayne County dropped to 17.4 percent (U.S. Census Bureau 2007b).

As of 2000, 19.6 percent, or nearly one-fifth of the county's population could be classified as "poor," a proportion that is slightly higher than the state average of nearly 18 percent (Census 2000, Table DP-3). Furthermore, while minority groups are represented by less than 2 percent of the population of Wayne County (less than 5 percent of West Virginia as a whole), poverty is a major concern for this segment of the population.

RUPRI (2006) reports that the poverty rate in West Virginia in 2003 was 16.3 percent, compared to 12.5 percent for the U.S (figure 5.4-2). The poverty rate of West Virginia Counties (2003) ranged from 9.3 percent in Jefferson County to 32.4 percent in McDowell County. Figure 5.4-3 shows West Virginia counties and their ARC-designated level of distress and ARC regional planning districts. Wayne County, in planning district 2, is designated as transitional, with a poverty rate of 19.6 percent (Census 2000, Table DP-3).

5.5 Transfer Payments

Wayne County and the town of Wayne are very dependent on transfer payments, both from the government and from settlements or private retirement plans. Transfer payments include supplemental security income (SSI) retirement and disability insurance benefit payments, family assistance and food stamps, medical and disability benefits, educational benefits, as well as payments to nonprofits. Supplemental Security Income is a federal income supplement program funded by general tax revenues (not Social Security taxes) designed to help aged, blind, and disabled people, who have little or no income; and to provide cash to meet basic needs for food, clothing, and shelter (Social Security Administration 2007).

Both the town and county show very high numbers from the 2000 Census (Table DP-3) that are not in the labor force: for the county more than 49 percent and for the town of Wayne nearly 55 percent. The 2000 Census reports 15,851 workers out of a total population of 42,903 or 37 percent employment for the population over the age of 16 in the county, and 361 workers (2000 Census Table DP-3) or 33 percent employment for the population over the age of 16 in the town of Wayne. Age demographics for both the county and the town (2000 Census Table DP-1) show that about 15-16 percent of both the county and town are likely retired. Within the working age population of 21-64 years, the 2000 Census (Table DP-2) shows residents with a disability at 31.3 percent for the county and at 39.3 percent in town.

Table 5.5-1 shows the growth of transfer payments to Wayne County from 1970 to 2005. Total payments increased by 76 percent from $96.453 million in 1990 to $170.707 million in 2000, and increased again by another 33 percent to $226.9 million in 2005. The largest payments were for retirement and disability, followed by medical payments. The number of SSI recipients held steady from 1996-2003 in the range of 2,208-2,269. (BEA 2007b).

Table 5.5-1
Transfer Payments
Wayne County 1970-2000

	1970 ($000)	**1980** ($000)	**1990** ($000)	**2000** ($000)	**2005** ($000)
Government: Retirement and Disability	5,751	27,151	53,309	92,156	118,317
Government: Medical Payments	886	3,449	13,659	32,283	48,960
Government: Income Maintenance (SSI, Food Stamps, etc.)	3,828	7,343	13,873	25,376	31,745
Government: Veterans Benefits	3,389	6,055	6,112	8,385	14,063
Government: Payments to Nonprofit Institutions	542	1,908	2.414	4,590	6,105
Government: Unemployment Insurance	474	5,058-	2,734	2,512	4,331
Government: Education and Training Assistance (excludes Vets)	73	255	397	431	419
Government: Other Payments (BIA, Disaster Relief, Victims of Crime, etc.)	L	L	L	126	108
Business Payments to Individuals	398	1,280	2,930	4,590	2,874
Total	12,527	52,502	96,453	170,707	226,922

Note: L=Less than $50,000, but estimates are included in the totals.
Note: All dollar values are given as reported by the U.S. Census, unadjusted for inflation
Source: BEA 2007b Regional Economic Information System, Table CA35, 2007

While the TPI from transfer payments is high in Wayne County, it is not classified as a "high-transfer" county by RUPRI (2006). However, Wayne County is adjacent to several of the 25 counties in West Virginia, shown on figure 5.5-1, that depend on transfer payments for more than 30 percent of the county TPI, based on 2004 data (RUPRI 2006).

5.6 Low-Income Populations

The U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to determine which families are poor. If a family's total income is less than the U.S. Census Bureau threshold, then that family, and every individual in it, is considered poor. The poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index (Census 2000, Table DP-3).

Table 5.4-1 and figures 5.4-1 through 5.4-3 show income and poverty statistics for the state of West Virginia and Wayne County. In 2000, the average estimated poverty threshold for an individual in the U.S. was an annual income of $8,787, and for a four-person household it was $17,601 (Census 2000, Table DP-3).

Wayne County had both a lower per capita income and median household income than the state of West Virginia. The county's population living in poverty also was higher in both 1990 and 2000. Both the county's and state's poverty rate decreased slightly between 1990 and 2000, declining to 19.6 percent and 17.9 percent, respectively, in 2000 (table 5.4-1).

In 2000, the median income for a household in the town of Wayne was $20,242, (table 5.4-1) and the median income for a family was $24,750 (Census 2000, Table DP-3). Males had a median income of $27,292 compared to $23,500 for females. The per capita income for the town of Wayne was $11,626. About 25.3 percent of families and 30.3 percent of the population were below the poverty line, including 35.9 percent of those under age 18 and 20.6 percent of those aged 65 or over (Census 2000, Table DP-3).

5.7 Economic Projections

According to the UKYCBER study, between 1997 and 2010, employment would decline by 6.5%, regional earnings would decline by 6.1 percent, and tax revenue would drop by 20.4 percent in central Appalachia. Meanwhile, transfer payments in the area would increase by 5 to 15 percent (Thompson and others 2001).

A more recent forecast prepared by the Bureau of Business and Economic Research (BBER) at West Virginia University calls for West Virginians to be better off (in terms of real per capita personal income) in 2010 than they are now (Hammond 2005). The forecast also suggests that state growth will fall short of that expected for the nation. This slowed relative growth will result in a widening per capita personal income gap with the nation in coming years. A detailed summary of West Virginia population and income forecasts is presented as Table 4 in the 2007 Outlook from the BBER and is provided here as appendix B. Table 5.7-1 shows the actual and anticipated growth in West Virginia and compares the rate of growth to the U.S.

Table 5.7-1
West Virginia and U.S.
Economic Growth and Projections

	West Virginia				**Avg. Annual Growth 2005-2010**	
	Actual		**Forecast**			
	1990	**2004**	**2005**	**2010**	**W.V.**	**U.S.**
Population (000s)	1,812	1,815	1,816	1,808	0.7	1.1
Real Per Capita Income	$21,301	$23,723	$24,488	$27,815	2.6	2.7
Non-farm Jobs (000s)	726.0	736.2	743.9	770.1	0.7	1.1
Unemployment Rate* (Percent)	6.3	5.3	4.8	4.6	-0.0	-0.0

Notes: * Growth rate is average annual change
All dollar values are given as reported by the U.S. Census, unadjusted for inflation
Source: Hammond 2005

The long-term outlook for job growth calls for modest annual gains through 2010, with state job growth falling well short of national growth. All net job gains are expected to come in the service-producing sectors, with goods-producing jobs continuing their downward slide. Mining jobs (especially coal mining) are expected to drop at a swift pace (USEPA 2003).

The *West Virginia Economic Outlook 2006* (Hammond 2005) provides a five-year forecast, with the following observations for the state:

- **West Virginia's demographics are in transition**, losing population in the younger age groups, but gaining population in the older age groups (45 and older).
- **For the period 2000-2005, West Virginia remained the only state with negative natural increase** (more deaths than births), but grew faster than North Dakota and the District of Columbia, and as a result of net domestic migration accounted for growth of 7,900 residents.
- **West Virginia suffered significant numbers of job losses** during the first three years of the decade, primarily in producing goods. The forecast is to continue the job growth experienced since 2004.
- **The Outlook forecasts state job growth of 0.7 percent through 2010, adding 5,200 jobs per year.** While 75 percent of the state job gains through 2010 are expected in the service-providing sectors (professional and business services; health care and social assistance; and

leisure and hospitality), natural resources and mining and construction are also expected to add jobs. Manufacturing job growth is expected, except in primary metals and chemicals.

- **For the period 2000-2003, West Virginia experienced strong growth in natural resources and mining** (high coal and natural gas prices) and construction (Eastern panhandle) sectors. Natural resources and mining growth are expected due to an increase in the production of coal and natural gas. Construction jobs are expected to grow at a slower pace as mortgage rates rise.
- **Coal production is forecast to rise from 154 million tons in 2005 to 163 million tons through 2008, but expected to "drift downward"** toward the end of the decade due to rising emission restrictions and rising production from western states coal, which competes with lower-sulfur coals produced in the southern part of the state.
- **Risks to the state forecast include:** risk of a national economic downturn, high energy prices and rising interest rates, and a decline in federal fiscal stimulus. Additional concerns include increasing competitive pressures from Pennsylvania and Maryland in the leisure and hospitality sector; avian flu outbreak in the poultry processing and agricultural sectors; and potential plant closures in the primary metals and chemicals sector.

While the state appears to hold steady for the next few years, the BBER study does model the Eastern Panhandle region and Southern West Virginia separately, as the economic drivers are quite different. While the Southern region is fairly dependent on coal, and considerable losses in coal mining are anticipated, the Eastern Panhandle region has more agriculture and metropolitan centers with the anticipated growth in the services sector.

For more specific regional and mining data, the West Virginia Senate Finance Committee commissioned a study of a nine-county area in southern West Virginia by Marshall University's Center for Business and Economic Research in 2000 (Burton, Hicks and Kent 2001). The study prepared a baseline forecast projecting a one percent decline (1,646) in total private sector employment assuming an approximate seven percent decline in coal production. Losses projected are the jobs and earnings that would be subtracted from these economies due to coal mining losses. While other economic forces are projected to bring new economic base jobs, the direct and multiplier losses reported in these studies indicate the extent to which the mining losses place a drag on local economies (USEPA 2003).

While the forecast for southern West Virginia may be fragile, some economic impetus is expected due to infrastructure improvements planned by the state under the State Appalachian Development Plan, prepared by the WVDO (2005). The WVDO is required by statute to "prepare and maintain an overall Strategic Plan for Economic Development." Table 5.8-2 shows the infrastructure projects proposed for Wayne County on the WVDO 2004-2005 Consolidated Project Priority List.

Table 5.7-2
Wayne County Projects
WVDO 2004-2005
Consolidated Project Priority List

Rank	Project Name	Project Type	Cost
4	Prichard Wastewater	Water	$3,300,000
12	City of Kenova Water System Improvements	Water	$7,100,000
13	Town of Ceredo Water System Upgrade	Water	
14	Beech Fork State Park Lodge	Building	$15,000,000
19	Town of Wayne Water Treatment Plant upgrade	Water	$3,819,000
24	Dock Creek Pump Station and Sewer Extension	Sewer	$2,036,000
27	Town of Fort Gay Water/Wastewater System	Water/Sewer	
28	Laurel Creek Emergency Water	Emergency	$275,000
31	Crockett, Miller's Fork Water—Phase 2	Water	$2,915,000
83	Town of Fort Gay Water Extension	Water	$750,000
90	Crum-Kenova-Route 152/Exho/Joel's Branch Water—Phase 3	Water	$200,000
99	Town of Wayne Sewer Improvements	Other	
108	Wayne County Bike Path	Recreation	
113	City of Kenova Welcome/Tourist Center	Tourism	
118	Hubbards Branch Water	Water	

Source: WVDO 2005

Part of the WVDO plan also addresses transportation needs. Highway improvements are scheduled to complete the Appalachian Corridor, a network of 4-lane expressways throughout the state. The TOLSIA Highway, following Highway 52, will be a major construction project from Williamson in Mingo County (to the south) through the west side of Wayne County to Huntington. The southern portion of Highway 52 will be extended by the King Coal Highway, which is ready to begin construction. The King Coal Highway will connect through Bluefield to Virginia and Highway 77.

6.0 SOCIAL AND ECONOMIC IMPACT ANALYSIS

6.1 Social and Economic Opportunities and Constraints

Social opportunities in the planning area are limited due to the low population density of the planning area. Social constraints in the planning area include the low density of population in areas outside of the regional city of Huntington. When fewer people live in an area, fewer social organizations can be sustained.

Economic opportunities in the planning area are limited due to the rugged terrain, and the limited infrastructure of roads and utilities. Without many major roads to provide access, much of the county is considered remote. This rugged terrain is the main economic constraint in the planning area. Few flat areas exist. Excavating or filling an area to create a flat surface suitable for constructing infrastructure or residential or commercial buildings is expensive and often uneconomical.

At some point in the next few decades, the coal reserves in the region will be exhausted. When the coal companies close their operations, the people currently employed at these facilities would lose their jobs. A decline in income would be expected due to the loss of jobs. A decline in demand for housing also would be expected.

6.2 Social and Economic Planning Criteria for Assessment

Demographic, social, and economic indicators were used to assess potential impacts to socioeconomic resources:

- outmigration
- social institutions
- condition of natural resources
- recreation opportunities
- employment, unemployment, and overall job growth
- earnings
- taxes and other forms of revenue to private companies and federal and local governments
- trends in economic sector growth

If significant impacts to natural resources such as water, plants, or animals at the USACE East Lynn Lake Project were to occur, then recreation at the USACE East Lynn Lake Project may be significantly impacted. These impacts could in turn significantly impact social and/or economic resources. If significant impacts to employment, job growth or decline, sector growth or decline, or revenues would be expected, then the economic impact would be considered significant.

NEPA requires an analysis of the environmental impacts to minority and poor communities to assure that they are not burdened with an unfair portion of the impacts of a proposed action. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-income Populations*, was issued by President Clinton on February 11, 1994 (59 Federal Register 7629). This order requires that

> …each federal agency 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.

The criteria used to assess significance of impacts to environmental justice include any disproportionate burden of environmental or economic impacts on minority or poor communities, including:

- loss of job opportunities
- impacts to personal property, such as subsidence, negative changes in water quantity or quality
- reduced access to government services, and
- reduced access to recreational facilities.

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (Executive Order 13045, 62 FR 19885) states that each federal agency shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. Environmental health risks and safety risks mean risks to health or to safety that are attributable to products or substances that the child is likely to come into contact with or to ingest.

6.3 Socioeconomic Impacts–Proposed Action

If the Proposed Action is selected and the RFDS is implemented, and if the Applicants are the successful bidders, Rockspring would be able to extend the life of its existing, adjoining mining, processing, and waste storage facility operations by 5 to 10 years, and Argus would be able to extend the life of its operations by 10 to 15 years.

Impacts–Proposed Action–Social Resources

Social institutions such as churches and schools are stressed by decreasing and aging populations. While Wayne County has thus far been able to absorb population losses and maintain healthy education levels for the elementary and high school population, and many churches and civic organizations have maintained at least a core membership, governmental and mining company support have contributed greatly to this stability.

Existing minor impacts to infrastructure–traffic and impacts to road surfaces–would continue. However, the continued state and local tax revenues would be applied to maintenance and funding projects as projected by WVDO (table 5.7-2).

No significant new impacts to natural resources are expected:

- No impacts to recreational areas or facilities of the East Lynn Lake area are expected because minimal to no subsidence is expected and no significant impacts to water, soils, plants, or animals are expected.
- The existing minor, localized impacts to natural resources resulting from coal mining– noise and entrainment of dust–would continue for the additional time period.
- No impacts to the dam or the lake itself are expected, and no impacts to flood protection services are expected.
- No significant impacts to water quality or quantity are expected, so no impacts to local residents' water wells are expected.

Regional, state, and local plans are to transition Wayne County's economy from one based on coal and other natural resources to one that relies more on recreation and services. If the economy should deteriorate and out-migration increase, social institutions are likely facing issues of financing and support that will threaten the social web of the area. Under the Proposed Action, sustained economic conditions, and continued mining company philanthropy would likely assist the community in maintaining social institutions.

Impacts–Proposed Action–Economic Resources

Existing impacts to economic resources– such as employment and property and employment taxes– also would continue to occur, which would contribute to maintaining the existing quality of life.

No negative economic impacts would occur under the Proposed Action. Instead, beneficial impacts to economic conditions would occur. The successful bidder(s) would receive coal sales revenue, the federal government and Wayne County would receive tax revenue, and the USACE would continue to be able to collect recreation fees.

Mining jobs and related economic benefits to Wayne County and the region would continue as the lives of the mines would be extended. Based on multiplier effects for West Virginia calculated in IMPLAN (WVDO 2007), these jobs would be magnified by multiplier effects, estimated to be 2.4 indirect and induced jobs supported by each mining job, indirect and induced wages and benefits of 60 cents per dollar of mining industry wages, and an additional 33 cents per mining dollar in state and local taxes paid by spin-off businesses and their employees in taxes.

As noted in section 5.2 (Employment and Unemployment), job growth in Wayne County is occurring in lower paying service jobs, and fewer high skill jobs are being created. If the Applicants are the successful bidder(s) and the RFDS is implemented, the Applicants would be able to extend the 500 to 600 jobs they currently provide for up to another 10 to 15 years. Multiplier effects on employment (4 to 7 percent), earnings (about 9 percent), and indirect output (about 0.3 percent) also would continue to benefit the local economy. By extending the duration of the mining jobs, wages, industrial output, and taxes and by extending other associated jobs, wages, industrial output, and taxes generated as a result of multiplier effects, the coal companies would help to facilitate the regional economy's transition from a more industrial economy to a more service-based economy. As a result, a sustained level of income would be expected. Current housing trends also would be expected to continue.

Because Wayne County does not have a sizable minority population, this continued economic stability would not affect minority populations. However, extending the duration of these jobs would help to maintain the economy of the region and provide economic opportunities for the poor. Extending these jobs would also be important to sustaining the existing tax base, which includes property tax, income tax, coal severance tax, and royalties. This reliable tax base in turn would extend existing access to government services for the poor.

The successful bidder(s) would receive up to approximately $1,129,900,000 in revenue for the sale of up to approximately 26,275,874 tons of clean recoverable federal coal, based on a coal price of $43/ton. Using the same coal price of $43/ton, and a federal royalty rate of 8 percent applied to the sale of federal coal from underground mines, the U.S. Minerals Management Service would collect up to approximately $90,400,000 in royalties. That royalty revenue would be distributed to various levels of government:

- 25 percent to the federal government
- 75 percent to the local government

The federal government would receive up to approximately $22,600,000 in royalties, and Wayne County would receive a total of up to approximately $67,800,000. Depending on the ratio applied, the Wayne County Commission could distribute as much as $33,895,877 to $54,240,000 in royalty fees to the Wayne County Board of Education and as much as $13,560,000 to $33,895,877 in fees to the Wayne County Roads Department.

Impacts–Proposed Action–Environmental Justice

With regard to environmental justice, the location of the mine is determined by the geologic setting of the coal resource. Coal companies construct mine facilities near the coal resource out of necessity to handle the coal as it is removed from the ground, and to reduce economic costs associated with transporting the coal to a processing facility. Constructing an underground mine limits the environmental impacts that would affect environmental justice communities, if they existed as discrete communities. Because coal is the historical, as well as current, economic base, development of the federal coal would benefit the whole community. As the resource is depleted, the community will need to transition to other economies. Regarding the East Lynn Lake Coal Lease, if the Applicants are the successful bidder(s), Rockspring would be able to extend the life of its existing, adjoining operations by 5 to 10 years, and Argus would be able to extend the life of its existing, adjoining facilities by 10 to 15 years, simultaneously extending employment for 500 to 600 workers. The affordable recreation of the East Lynn Project area would not be affected by implementing the RFDS and these activities (camping, swimming, fishing, wildlife observation and hunting, hiking, picnicking) would still be available to poor communities as well as the more prosperous. No negative impacts to minority or low-income populations are expected, and the proposed mining associated with the Proposed Action is not considered to be environmental justice issue.

Impacts–Proposed Action–Protection of Children

With regard to the protection of children, the proposed mining associated with the Proposed Action would involve underground mining and would have minimal surface impacts. No significant impacts to environmental health are expected, and no significant impacts to children are expected.

6.4 Socioeconomic Impacts—No Action

If the No Action Alternative is selected, the No Action Scenario (NAS) would be implemented: the federal coal would remain in place. No significant impacts to natural resources are expected under the NAS. No significant impacts to the USACE East Lynn Lake Project lands or facilities–such as the dam, the lake, or the lands surrounding the lake–are expected. Therefore, no impacts to flood protection services or recreation activities are expected. No significant impacts to social conditions are expected.

The existing environmental impacts from on-going coal mining, such as the presence of haul trucks on roads and resulting impacts to the roads, noise, and localized entrainment of dust would continue for the lives of the existing mines. However, no significant new environmental impacts are expected to occur.

Impacts–No Action–Social Resources

Under the No Action Alternative, social institutions in Wayne County would likely be threatened by a weakened economy and the loss of mining company philanthropy in the next 10 to 15 years, as coal reserves in the region are exhausted. Fewer jobs might result in increased out-migration, and financing and support of social institutions such as schools and churches likely would decline, threatening the social web of the area.

Impacts–No Action–Economic Resources

Under the NAS, the Applicants would continue to operate their existing, adjoining operations for another 10 to 15 years. The existing impacts to economic resources, such as employment and property and employment taxes also would continue to occur during that 10- to 15-year period. However, at current production rates, the Applicants would likely exhaust their current reserves on adjoining private lands in approximately 10 to 15 years, around 2017 or 2022. The companies may be able to acquire additional reserves that they could haul to their existing facilities to process. Also, the companies could reduce production rates to extend the lives of the facilities for several more years. When the Applicants do close their operations, the roughly 500 to 600 people currently employed at these facilities would lose their jobs. A decline in income would be expected due to the loss of jobs. A decline in demand for housing also would be expected.

Accessing the federal coal by surface means is not practical. As the Applicants continue their existing mining operations, underground access to the federal coal would become more and more limited. Consequently, in time the approximately 25 million tons of federal coal that lies under the proposed lease tracts potentially could become inaccessible and lost from the reserve base, or "sterilized." Using a coal price of $43/ton, up to approximately $1,129,900,000 of potential revenue would be lost from the regional economy. Regional coal users would obtain needed coal from other mines in the region or other regions of the U.S.

In addition, using a federal royalty rate of 8 percent applied by the U.S. Minerals Management Agency on the sale of federal coal from underground mines, the federal government would lose the opportunity to receive up to approximately $22,600,000 in royalties on this federal coal. That loss might be permanent, because access to the federal coal could become infeasible if the No Action Alternative is selected and existing mining activities render the coal inaccessible by underground measures. Access to the federal coal by surface measures is prohibited under SMCRA.

Most importantly, Wayne County would lose the opportunity to receive distributed federal royalties totaling up to approximately $67,800,000. Depending on the ratio applied, the Wayne County Commission could distribute as much as $33,895,877 to $54,240,000 in royalty fees to the Wayne County Board of Education and as much as $13,560,000 to $33,895,877 in fees to the Wayne County Roads Department.

Under the No Action Alternative, mining jobs and associated jobs created or maintained through the estimated multiplier effect of 4 to 7 percent would disappear when the life of the existing mines is exhausted in 10 to 15 years. The loss of jobs would negatively affect the socioeconomic framework of Wayne County, and significantly reduce the tax base. Multiplier effects of about 9 percent on earnings and about 0.3 percent on indirect output also would be lost.

Impacts–No Action–Environmental Justice

With regard to environmental justice, no significant impacts to minority populations are expected under the NAS. Access to job opportunities and government services for the poor would be detrimentally impacted.

Impacts–No Action–Protection of Children

With regard to the protection of children, the NAS associated with the No Action Alternative would involve no mining of the federal coal. No impacts to environmental health are expected, and no impacts to children are expected.

7.0 CONCLUSIONS AND RECOMMENDATIONS FOR MITIGATION

If the Proposed Action is selected and the RFDS is implemented, the local community would have more time to adjust to changing social conditions as the transition from a coal economy takes place. No significant negative impacts to social conditions would occur. Significant positive impacts to economic conditions would occur. Based on a coal price of $43/ton, the regional economy would receive up to approximately $1,129,900,000 as the successful bidder(s) earned revenue on the sale of processed federal coal. The federal government would receive up to approximately $22,600,000, and Wayne County would receive a total of up to approximately $67,800,000. Of that 67,800,000, as much as $33,895,877 to $54,240,000 could be distributed to the Wayne County Board of Education, and as much as $13,560,000 to $33,895,877 could be distributed to the Wayne County Roads Department. Workforce Virginia and the Wayne County Economic Development Association provides economic statistics on a regular basis that can be used to monitor economic developments. Because the expected impacts would be positive, no mitigation is recommended.

If the No Action Alternative is selected and the NAS is implemented, the rate of change to social conditions would accelerate as social institutions in Wayne County would likely be threatened by a weakened economy and the loss of mining company philanthropy. Negative impacts to economic conditions would occur. The transition from an industrial economy to a service economy likely would be more difficult with the loss of the two Applicants' mining operations and associated indirect impacts occurring in the next 10 to 15 years. The revenues and royalties expected under the Proposed Action would not be received. Mitigation measures cannot be imposed on a no action scenario, because no proponent exists. However, the specialists suggest that the relevant governmental agencies note that if this alternative is selected job loss would occur in the near future.

8.0 REFERENCES

American Public Transportation Association. 2003. West Virginia transit links. Internet site: http://www.apta.com/links/state_local/wv.cfm (accessed March 2007).

Anslinger, C. Michael, William D. Updike, and James Kompanek. 2007. Class I Cultural Resources Overview of the East Lynn Lake Coal Lease Stonewall District, Wayne County, West Virginia. Confidential Report submitted to Golder Associates Inc., Lakewood Colorado, and dated March 9. Hurricane, WV : Cultural Resource Analysts, Inc., 119 p.

Appalachian Regional Commission (ARC). 2007. Regional Data and Research Reports. http://www.arc.gov (accessed March-November 2007)

Barton. 2007a. Personal communication between Mark Barton (Chief Engineer, Rockspring Development, Inc.) and Elizabeth Duvall (Project Manager, Golder) regarding utilities. April 29, 2007.

Barton, Mark. 2007b. Personal communication (email) between Mark Barton (Chief Engineer, Rockspring Development Inc.) and Bindi Patel (Project Environmental Planner, Golder) regarding: Rockspring employment and financial information. March 23, 2007.

Bureau of Economic Analysis (BEA) 2006. "Regional Accounts Data, Annual State Personal Income" Online: www.bea.gov/bea/regional/spi (accessed 31 January 2006).

BEA. 2007a. BEARFACTS http://www.bea.gov/bea/regional/bearfacts/ (accessed March 2007).

BEA. 2007b. State Annual Personal Income: Personal current transfers detail. (table SA35) Online: http://www.bea.gov/bea/regional/spi/ (accessed March 2007).

Bureau of Land Management (BLM). 2006b. *Scoping Report for the East Lynn Lake Coal Lease Land Use Analysis and* Environmental Impact Statement, prepared by Golder Associates Inc. Milwaukee WI: BLM-MFO.

BLM. 2007a. *Reasonably Foreseeable Development Scenario (RFDS)*, dated April 19, 2007 and revised September 12, 2007. Huntington WV: BLM Huntington Field Office.

BLM. 2007b. *Reasonably Foreseeable Development Scenario (RFDS) for Private Oil and Gas Ownership Associated with Lands of the East Lynn Lake Project Area*, dated June 8, 2007. *(Attachment 1 to the Reasonably Foreseeable Development Scenario).* Huntington WV: BLM Huntington Field Office.

Burton, Mark, Michael Hicks and Calvin Kent. 2001. *Coal Production Forecasts and Economic Impact Simulations in Southern West Virginia; A Special Report to the West Virginia Senate Finance Committee.* Huntington, WV: Marshall University Lewis College of Business, Center for Business and Economic Research. Online: http://www.marshall.edu/cber/research/cproduction/ (accessed January 2008).

Carrico, Anthony. 2007. Personal communication (email) between Anthony Carrico (West Virginia State Fire Marshal Office) and Bindi Patel (Project Environmental Planner, Golder) dated March 9, 2007.

Childs, Randall A. 2005. *West Virginia's Forest; Growing West Virginia's Future*. Morgantown, WV: West Virginia University, Bureau of Business and Economic Research. Online: http://www.wvforestry.com/Economic%20Impact%20Study.pdf (accessed January 2008).

City of Huntington. 1999. City of Huntington Fire Department. [Internet site]: http://www.cityofhuntington.com/Fire_Department/index.html (accessed March 2007)

Davis, Jerry. 2007. Personal communication between Jerry Davis (Frontier Communications) and Elizabeth Duvall (Project Manager, Golder) regarding telephone service in Wayne County. May 1, 2007.

Drake, Richard B. 2001. *A History of Appalachia*. Lexington, KY: The University Press of Kentucky.

Energy Information Administration (EIA). 2006. *Advance Summary; U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2005 Annual Report*, dated September 2006. (DOE/EIA-0216(2005)) Online: http://www.eia.doe.gov/pub/oil_gas/natural_gas/data_publications/advanced_summary/current/adsum.pdf (accessed May 3, 2007).

EIA. 2007a. *Domestic Distribution of U.S. Coal by Origin State, Consumer, Destination and Method of Transportation, 2004 (Thousand Short Tons),* Released January 2006. Washington, D.C.: U.S. Department of Energy. Online: http://www.eia.doe.gov/cneaf/coal/page/coaldistrib/o_wv_south.html (accessed April 25, 2007).

EIA. 2007b. Appalachian Basin, West Virginia-Virginia (Panel 6 of 7) Oil and Gas Fields by 2001 BOE Reserve Class *in Maps: Exploration, Resources, Reserves, and Production; Detailed Oil and Gas Field Maps.* Washington, D.C.: U.S. Department of Energy. Online: http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/maps/maps.htm#pdf (accessed April 25, 2007).

EIA. 2007c. *Appalachian Basin, West Virginia-Virginia (Panel 6 of 7) Oil and Gas Fields by 2001 Gas Reserve Class in Maps: Exploration, Resources, Reserves, and Production; Detailed Oil and Gas Field Maps.* Washington, D.C.: U.S. Department of Energy. Online: http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/maps/maps.htm#pdf (accessed April 25, 2007).

Etchart, Patrick. 2007. Personal Communication between Patrick Etchart (Public Affairs, U.S. DOI Minerals Management Service) and Elizabeth Duvall (Project Manager, Golder) November 30, 2007, regarding: federal coal royalty.

Evans, Mari-Lynn, Holly George-Warren, and Robert Santelli, with Tom Robertson. 2004. *The Appalachians; America's First and Last Frontier*. New York: Random House.

Federal Energy Regulatory Commission (FERC). 2007. *Major Pipeline Projects on the Horizon (MMcf/d) March 2007*. On line: http://www.ferc.gov/industries/gas/gen-info/horizon-pipe.pdf (accessed April 30, 2007).

Federal Highway Administration (FHWA). 2007. *Economic Development Highway Corridors Study, West Virginia*. In *U.S. 64 Corridor Initiative.* http://www.fhwa.dot.gov/planning/econdev/westva.htm (accessed December 1, 2007).

Federal Reserve Bank. 2004. Socioeconomic data. Richmond, VA: Federal Reserve Bank of Richmond. Online: http://www.richmondfed.org/community_affairs/socioeconomic_data/west_virginia.cfm (accessed March 3, 2007).

Grange, Stuart. 2007. Personal communication between Stuart Grange (Mining Engineer, BLM Jackson Field Office), and Elizabeth Duvall (Project Manager, Golder) regarding federal royalty fees on coal. December 5, 2007.

Hammond, George W. 2005. *West Virginia Economic Outlook 2006.* West Virginia University, Bureau of Business and Economic Research (BBER). Online: http://www.be.wvu.edu/bber/pdfs/BBER-2005-21.pdf (accessed November 2007).

Huff, Carl P. 2007. Personal communications between Carl Huff (Distribution, American Electric Power) and Elizabeth Duvall (Project Manager, Golder) regarding presence of transmission and distribution lines in the vicinity of the proposed lease tracts. May 10 and 11, 2007.

Huntington Development Area Council (HADCO). 2007. [Internet Web site]: http://www.hadco.org/

The Huntington Regional Chamber of Commerce, serving Wayne and Cabell Counties. http://www.huntingtonchamber.org/ (accessed March 2007).

John T. Boyd Company. 1973. *Coal Land Values, East Lynn Reservoir Area for Columbia Gas Transmission Corporation*. Referred to as the "Condemnation Report." Pittsburgh PA: Columbia Gas.

Jones, Brett. 2007. Personal communication (phone conversation) between Brett Jones (Wayne County Commission County Administrator) and Elizabeth Duvall (Project Co-manager, Golder) regarding: Wayne County utilities and 2010 Plan, May 1, 2007.

Jones, Jr., James B. 2003. Social Control, Social Displacement and Coal Mining in the Cumberland Plateau, 1880-1930. Posted on Southernhistory.net July 1, 2003. Online: http://www.southernhistory.net/ (USEPA 2003)

Kahn, Kathy. 1973. *Hillbilly Woman.* New York: Doubleday. (as cited in USEPA 2003).

KYOVA Interstate Planning Commission. 2002. *Long Range Transportation Plan. http://www.wvs.state.wv.us/kyova/*

KYOVA Interstate Planning Commission. 2007. Definition of recognized geographical area of activity for MSA. [Internet site]: http://www.wvs.state.wv.us/kyova/

Lantz, Herman R. 1958. *People of Coal Town*. New York: Columbia University Press.

Lantz, Herman R. 1964. "Resignation, Industrialization, and the Problem of Social Change: A Case History of a Coal-Mining Community," *in Blue Collar World: Studies of the American Worker*, edited by Arthur B. Shostak and William Gomberg. Englewood Cliffs, NJ: Prentice-Hall, Inc., 258-270.

Lewis, Ronald L. 2004. Appalachian myths and the legacy of coal *in The Appalachians; America's First and Last Frontier*, edited by Mari-Lynn Evans and others. New York: Random House, pp. 75-83.

Lewis, Ronald L. and Dwight B. Billings. 1997. *Appalachian Culture and Economic Development: A Retrospective View on the Theory and Literature.* ***Journal of Appalachian Studies*** 3: 3-42.

Limerick, Samuel. 2004. *United States Coalbed Methane Maps* (U.S. Panel 2 of 2 in Master of Science in GIS Project). Washington D.C.: U.S. Department of Energy, Energy Information Administration. Online: http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/maps/maps.htm

Lockard, Duane. 1998. *Coal: A Memoir and Critique.* Charlottesville: University Press of Virginia.

Loeb, Penny. 2003. Coal fields of southern West Virginia [internet web site]: http://www.wvcoalfield.com/ (accessed February 12, 2008).

Maggard, Randy. 2007a. Personal communication (telephone) between Randy Maggard (Environmental Manager, Argus) and Elizabeth Duvall (Project Manager, Golder), re: potential impacts to surface water and groundwater, mining operation life, abandoned mines, slides. November 2, 2007.

______________. 2007b. Personal communication (telephone) between Mr. Randy Maggard (Environmental Manager, Argus) and Rebecka Snell (Project Coordinator, Golder), re: probable population of the unincorporated towns in Wayne County, November 15, 2007.

_______________. 2007c. Personal communication (e-mail) between Randy Maggard (Environmental Manager, Argus) and Elizabeth Duvall (Project Manager, Golder), re: salaries, wages, vendors and contractors, July 16, 2007.

Mairs, John. 2007. Personal communication (telephone) between Mr. John Mairs (legal counsel for the West Virginia Coal Association) and Ms. Elizabeth Duvall (Project Manager, Golder) regarding: royalties and taxes on federal coal in West Virginia, December 13, 2007.

Marcum, Carl. 2007. Personal communication between Carl Marcum (Extension Agent, West Virginia University Agricultural Extension Service), and Elizabeth Duvall (Project Manager, Golder) regarding the Agricultural Extension Agency's role in the communities of Wayne, East Lynn, and Dunlow. December 4, 2007.

Marshall University. 2005a. Cabwaylingo State Forest. Internet Web site: http://webpages.marshall.edu/~rfry/CABWAYLINGO.html (accessed on February 21, 2007).

Marshall University. 2005b. East Lynn Lake Wildlife Management Area. Internet Web site: http://webpages.marshall.edu/~rfry/ellake.htm (accessed on February 21, 2007).

May, Melissa and Becky Hall. 2007. Personal communication (email) between Melissa May (Controller, Argus Energy), Becky Hall (Payroll Administrator, Argus Energy), and Bindi Patel (Golder Inc.). Emails dated March 22, 2007 and April 11, 2007, regarding: Argus Energy employment and financial information.

McKinley Natalie J. 2006. *Huntington District annual flood damages prevented, report for FY06.* Huntington, WV: USACE Huntington District.

Miller, Kathy, 2006. Urban/Rural Areas and CBSAs. (RUPRI Internal Working Paper), revised August 15. Rural Policy Research Institute. Online: http://www.rupri.org/Forms/WP2.pdf; graphic at http://circ.rupri.org/maparchive/NatlRuralPolicy/CBSAstatus.jpg> (accessed November 2007).

Minerals Management Service (MMS). 2004. *MMS Facts and Figures 2003*. U.S. Department of the Interior. Online: http://www.mms.gov/ooc/newweb/publications/2003%20FACT.pdf (accessed November 2007).

Montgomery, Bill. 1972. "The Uptown Story," in *Appalachia in the Sixties: Decade of Reawakening.* Edited by David S. Walls and John B. Stephenson. Lexington, KY: University Press of Kentucky, 144-45.

Mooney, Stephen D. 1998. *Mountain Voices; The socio-cultural ramifications of declines in coal mining employment and production in the Southwestern Virginia coalfields.* (Report No. 98-02) Blacksburg, VA: Virginia Tech, Virginia Center for Coal and Energy Research.

National Agricultural Statistical Service (NASS). 2007. [Internet Web site]: http://www.nass.usda.gov/index.asp (accessed November 2007).

National Center for Education Statistics. 2007. U.S. Department of Education. Internet Web site: http://nces.ed.gov/ (accessed March 2007).

Nolder, Jeff. 2007. Personal communication (telephone) between Jeff Nolder (Geologist, BLM-MFO) and Elizabeth Duvall (Project Manager, Golder) November 30 and December 5, 2007, regarding federal coal royalty.

Office of Surface Mining (OSM). 1999. *1999 Annual Report, Office of Surface Mining.* January 2000. Online: http://www.osmre.gov/annualreport.htm (accessed December 10, 2007).

OSM. 2004. *Annual evaluation summary report for the regulatory and abandoned mine land reclamation programs administered by the state of West Virginia, for evaluation year 2004: July 1, 2003 to June 30, 2004*. Charleston WV: OSM Charleston Field Office. Online: http://www.osmre.gov/oversight/westvirginia04.pdf.

Perry, Keith. 2007. Personal communication between Keith Perry (4H Agent, West Virginia University Agricultural Extension Service), and Elizabeth Duvall (Project Manager, Golder) regarding the Agricultural Extension Agency's role in the communities of Wayne, East Lynn, and Dunlow. December 4, 2007.

Persing, Carl. 2007. Personal communication between Carl Persing (Manager, Transmission Line Engineering, American Electric Power) and Elizabeth Duvall (Project Manager, Golder) regarding presence of transmission and distribution lines in the vicinity of the proposed lease tracts. May 4, 2007.

Peterson, Chuck H. 2008. Personal communication (e-mail) from Chuck Peterson (Manager, Research and Strategic Planning Division, West Virginia Development Office) to Rebecka Snell (Project Coordinator, Golder) re: economic impact of the coal mining industry in West Virginia, January 17, 2008.

Pollard, Kelvin M. 2003. *Appalachia at the Millennium: An Overview of Results from Census 2000* Washington, D.C.: Population Reference Bureau. Online: http://www.arc.gov/images/reports/census2000/overview/appalachia_census2000.pdf (accessed November 2007).

Raitz, Karl B. and Richard Ulack. 1984. *Appalachia; a Regional Geography, Land, People and Development*. Boulder CO: Westview Press.

Rollyson, Russ. 2007a. Personal Communication (telephone) between Russ Rollyson (Deputy Auditor, West Virginia State Auditor's Office) and Elizabeth Duvall (Project Manager, Golder), regarding: federal coal royalty and state severance tax. November 30, 2007.

____________. 2007b. Personal Communication (telephone) between Russ Rollyson (Deputy Auditor, West Virginia State Auditor's Office) and Elizabeth Duvall (Project Manager, Golder), regarding: federal coal royalty and state severance tax. December 13, 2007.

Rural Policy Research Institute (RUPRI). 2006. Demographic and Economic Profile; West Virginia. Updated June 2006. Online: www.rupri.org/Forms/WestVirginia.pdf (accessed November 14, 2007).

Saunders, Philip. 2008. Personal communication (telephone) between Philip Saunders (Vice President Engineering, Rockspring) and Elizabeth Duvall (Project Manager, Golder), re: mining operation life. January 25, 2008.

Singer, Alan J. 1996. "Something of a Man: John L. Lewis, the UMWA, and the CIO, 1919-1943," *in The United Mine Workers of America: A Model of Industrial Solidarity?* Edited by John H. M. Laslett. University Park: Pennsylvania State University Press, 1996 p. 104-150.

Smith, G. Michael. 2007a. Personal communication from Mike Smith (East Lynn Lake Resource Manager, USACE) to Ana Vargo (Project Geologist, Golder) regarding: resource information at East Lynn Lake, April 9 and 12, 2007.

_______________. 2007b. Personal communication from Mike Smith (East Lynn Lake Resource Manager, USACE) to Bindi Patel (Project Environmental Planner, Golder) regarding: employment statistics for the East Lynn Lake project, April 23, 2007.

Social Security Administration. 2007. Supplemental Security Income. Online: http://www.socialsecurity.gov/ssi/ (accessed December 1, 2007).

St. Mary's Medical Center. 2006. Internet Web site: http://www.st-marys.org/ (accessed November 2006).

Stamper, Dale. 2007. Personal communication (telephone) between Mr. Dale Stamper (Postmaster, Dunlow Post Office) and Rebecka Snell (Project Coordinator, Golder), regarding: probable population of the unincorporated towns in Wayne County, November 15, 2007.

Thompson, Eric C., Mark C. Berger, Steven N. Allen, and Jonathan M. Roenker**.** 2001. *A Study on the Current Economic Impacts of the Appalachian Coal Industry and its Future in the Region* **(**Appalachian Regional Commission under contract # CO-12884H) Lexington, KY: University of Kentucky Gatton College of Business and Economics, Center for Business and Economic Research. Online: http://www.arc.gov/index.do?nodeId=57 (accessed January 2008).

Thompson, Robert Michael. 2007. *East Lynn Booming*. Genoa, WV: RMT.

Town of Wayne Police. 2007. Personal communication with Bindi Patel (March 2007?).

Trapp, Henry, Jr. and Marilee A. Horn. 1997. *Ground Water Atlas of the United States; Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, Virginia, West Virginia.* (Hydrologic Atlas HA 730-L). Washington, DC: U.S. Geological Survey. Online: http://capp.water.usgs.gov/gwa/ch_l/index.html.

U.S. Army Corps of Engineers (USACE). 2006. Operational *Management Plan, updated in 2006*. Huntington, WV, USACE Huntington District.

U.S. Census Bureau. 1970. *Number of Inhabitants: West Virginia.* http://www2.census.gov/prod2/decennial/documents/00496492v1p50ch2.pdf (accessed November 2007).

U.S. Census Bureau. 1990a. *Table: Summary of General Characteristics of Persons: 1990 General Population Characteristics, West Virginia* 1990 Census of Population. (CP-1-50). Online: http://www.census.gov/prod/cen1990/cp1/cp-1-50.pdf (accessed November 2007).

U.S. Census Bureau. 1990b. *Summary social, Economic, and Housing Charactersitics: West Virginia.* 1990 Census of Population and Housing. (CPH-5-50). www.census.gov/prod/cen1990/cph5/cph-5-50.pdf (accessed November 2007).

U.S. Census Bureau. 1995. *West Virginia; Population of Counties by Decennial Census: 1900 to 1990,* Compiled and edited by Richard L. Forstall. http://www.census.gov/population/cencounts/wv190090.txt (accessed November 2007).

U.S. Census Bureau. 2000. *Census 2000* (provided as appendix A of this document):
Table DP-1 *Profile of General Demographic Characteristics*
Table DP-2 *Profile of Selected Social Characteristics*
Table DP-3 *Profile of Selected Economic Characteristics*
Table DP-4 *Profile of Selected Housing Characteristics*
Online: http://www.census.gov/prod/cen2000/dp1/2kh54.pdf (accessed June 19, 2007).

U.S. Census Bureau. 2001. *Population Change and Distribution: 1990 to 2000.* Online: http://www.census.gov/prod/2001pubs/c2kbr01-2.pdf (accessed November 2007).

U.S. Census Bureau. 2007a. American Fact Finder: Census 2000 Demographic Profile Highlights [Geographic area: by state or incorporated city: United States, West Virginia, Wayne County, Town of Wayne; and Zip Code Tabulation Areas for zip codes 25511, 25512, 25517,25570]. (Summary File 1 (SF 1) and Summary File 3 (SF 3). Online: http://factfinder.census.gov/ (accessed June 19, 2007).

U.S. Census Bureau. 2007b. American Factfinder: Table: GCT-PH1. Population, Housing Units, Area, and Density: 2000 (Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data). Geographic areas: 255 3-Digit ZCTA – 5-digit ZIP Code Tabulation Area. Online: http://factfinder.census.gov/ (accessed June 19, 2007).

U.S. Census Bureau. 2007c. American Factfinder: Table QT-P1. Age Groups and Sex: 2000 (Data Set: Census 2000 Summary File 1, Matrices P13 and PCT12). Online: http://factfinder.census.gov/ (accessed June 19, 2007).

U.S. Census Bureau. 2007d. *West Virginia – Urban/Rural and Inside/Outside Metropolitan Area* (GCT-P1. Urban/Rural and Metropolitan/Nonmetropolitan Population: 2000; Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data). Online: http://factfinder.census.gov/servlet/GCTGeoSearchByListServlet?ds_name=DEC_2000_SF1_U&_lang=en&_ts=215191034552 (accessed December 7, 2007).

U.S. Environmental Protection Agency (USEPA). 2003. *Draft Programmatic Environmental Impact Statement; Mountaintop;mining/valley fills in Appalachia.* (EPA 9-03-R-00013). Environmental Assessment & Innovation Division of the Mid-Atlantic Region. Online: http://www.epa.gov/Region3/mtntop/eis.htm (accessed from January - March, 2007).

USEPA. 2007a. Big Sandy Peaker Plant Envirofacts *in EPA Envirofacts Warehouse*. Online: http://oaspub.epa.gov/enviro/multisys2.get_list?facility_uin=110012603600 (accessed April 25, 2007).

USEPA. 2007c. Cranberry Envirofacts *on EnviroMapper for Envirofacts.* Online: http://134.67.99.122/enviro/emef.asp?action=zoomto&yc=38.176512&xc=-82.402729 (accessed April 25, 2007).

Wayne County. 2004. *Land Use Master Plan, Wayne County, WV*, prepared by E.L. Robinson for the Wayne County Commission and dated April 14, 2004.

Wayne County Economic Development Association (WCEDA). 2003. Internet Web site: http://www.wceda.org/recreation.htm (accessed on March 4, 2007).

Wayne County News. 2007.
Wayne grad writes book about East Lynn; teen writes about home town. May 14, 2007.
Adults with low educational skills hamper W.Va. economy. July 30, 2007.
Join Us In Celebration. November 3, 2007.
Tolsia teacher killed in I-64 accident. November 8, 2007.
All Wayne schools reach full accreditation. November 17, 2007.
Wayne County Public Library. 2007.
Web site: http://www.wcpl.lib.wv.us/ (accessed November 2007).

West Virginia Association of Counties (WVAC). 2006. [Internet Web site]: http://www.wvaco.org/.

West Virginia Coal Association (WVCA). 2006. *West Virginia Coal Facts 2005*. Online: http://www.wvcoal.com/ (accessed July 20, 2007).

WVCA. 2007a. *West Virginia Coal Facts 2006.* Online: http://www.wvcoal.com/ (accessed July 20, 2007).

WVCA. 2007b. *Severance Tax.* Resource data online: http://www.wvcoal.com/severance_counties.html (accessed November 2007).

West Virginia Department of Health and Human Resources (WVDHHR). 2000. *Vital Statistics 2000*, http://www.wvdhhr.org/bph/oehp/vital00/index.htm#death.

West Virginia Development Office (WVDO). 2003. *West Virginia Statewide Comprehensive Outdoor Recreation Plan.* Online: http://www.wvdo.org/community/08.%20Appendix%20III%20-%202003-08%20SCORP.pdf (accessed February 20, 2007).

WVDO. 2005. *State of West Virginia; State Appalachian Development Plan for the Appalachian Regional Commission.* Prepared by the West Virginia Development Office for Governor Joe Manchin III. Online: http://www.wvdo.org/community/06_ARC_State_Plan.pdf (accessed November 2007).

WVDO. 2007. Economic impact of the coal mining industry in West Virginia, 2006. Spread sheet from the WVDO IMPLAN Economic Model, dated November 2007. Provided by Chuck H. Peterson, January 2008.

West Virginia Division of Natural Resources (WVDNR). 2007a. *Map of State Parks and Forests.* http://www.wvstateparks.com/map.html (accessed November 14, 2007).

WVDNR. 2007b. Location and acreage of Beech Fork State Park. [Internet site]: http://www.beechforksp.com/ (accessed March 2007).

WVDNR. 2007c. Cabwaylingo State Forest. [Internet site]: http://www.cabwaylingo.com/ (accessed March 2007).

West Virginia Geological and Economic Survey (WVGES). 2003. How much gas and oil does West Virginia produce? (Number of counties with gas production) *in Ask Us! Frequently Asked Questions* Charleston, WV: The Survey. Online: http://www.wvgs.wvnet.edu/www/faq/faq.htm#OilGas (accessed April 25, 2007).

WVGES. 2007a. At a Glance–Wayne County. Charleston, WV. [Internet Web site]: http://www.wvgs.wvnet.edu/www/geology/geolwayn.htm (accessed March 2007).

West Virginia Office of Miners' Health, Safety and Training (WVMHST). 2006. 2005 Coal Production by County. Online: http://www.wvminesafety.org/cnty2005.htm (accessed March 2007).

West Virginia. Office of the Secretary of State. 2007. Historical Election Results. http://www.wvsos.com/elections/history/results/electionresults.htm (accessed November 2007).

West Virginia State Budget Office. 2000. [Internet Web site]: http://www.wvbudget.gov/ (accessed November 2007).

West Virginia State Fire Marshal Office. 2007. [Internet Web site]: http://www.wvsfmo.org/ (accessed November 2007).

West Virginia State Police. 2007. Personal Communication with Bindi Patel (Golder). March 9, 2007.

West Virginia University. Bureau of Business and Economic Research. 2007. West Virginia County Data Profiles. Online: http://www.be.wvu.edu/bber/data_profiles.htm (accessed November 2007).

West Virginia University. Regional Research Institute. 2005. *West Virginia Population Estimates and Projections.* http://www.rri.wvu.edu/wvpop4.htm.

Willis, William. 2007. Personal communication between Bill Willis (Wayne County Commission, EMS Manager) and Elizabeth Duvall (Project Co-manager, Golder) regarding: cellular phone towers and utility corridors in the vicinity of the USACE East Lynn Lake Project, May 1 and 3, 2007.

Workforce West Virginia (WWV). 2007. Wayne County Profile (Workforce Investment Area 2). http://www.wvbep.org/bep/LMI/wia/wia2.htm (accessed May 10, 2007).

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