Smoky Canyon Mine
Panels F & G Final EIS

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to the Project Area and occurs approximately 5.5 miles south of the Panel G lease area. The Meade Peak RNA was established in 1988 and contains about 300 acres. The objective for this RNA is to maintain and preserve the subalpine conditions it represents in as near an undisturbed (by man) condition as possible without the use of practices such as livestock grazing and prescribed burning and without disruptive effects of wildlife (USFS 2003b). This RNA provides an area undisturbed by man where relationships between a severe environment and the resulting vegetation can be observed and studied. The other six RNAs occur at least 10 miles away from the Project Area and are not addressed further in this EIS (USFS 2003a).

3.12 Visual and Aesthetic Resources

3.12.1 Overview

Visual resources are a composite of basic terrain, geologic features, water features, vegetative patterns, and land use activities that typify an area and influence the visual appeal that an area may have to people. The measure of visual appeal, or viewer response to the landscape, in combination with the visual quality and character of an area, is expressed as aesthetic value. Aesthetic value and visual appeal are inherently subjective. The opportunity to experience the landscape and interpret scenery and visual change is dependent upon the degree of public access and use of an area. Public access to the CNF in the Project Area is via paved county and gravel FS roads from Afton and Fairview, Wyoming, and Montpelier and Georgetown, Idaho. Public use of the CNF lands in this area is highest during elk and deer hunting seasons, and otherwise occurs mainly as dispersed recreation (See **Section 3.10**).

The Simplot Panels F and G Project Area ranges in elevation from approximately 6,500 to 8,500 feet. The western portions of the Project Area include the northern part of Snowdrift Mountain, and the southern extent of Freeman Ridge, which are characterized by high elevation forested slopes and sagebrush meadows, and incised drainages with steep gradients. Lower elevation slopes extend easterly to Sage Valley and Crow Creek – including meadows, pastures, and several large ranches along Crow Creek Road.

3.12.2 Visual Resource Management (Scenery Management)

National Forest lands are typically inventoried based upon a system of Visual Quality Objectives (VQOs) as part of the forest unit planning process. The VQOs are categories of acceptable landscape alteration measured in degrees of deviation from the natural landscape. The VQOs are interpreted as guidelines for phosphate activities, since it is understood that most post-phosphate mining activities after reclamation do not meet Modification (defined below). All CNF lands have been classified by VQOs in the Visual Management System (VMS). They are described as follows from most restrictive (Preservation) to least restrictive (Maximum Modification):

- Preservation (P) - Ecological change only.
- Retention (R) - Human activities should not be evident to the casual Forest visitor.
- Partial Retention (PR) - Human activities may be evident but must remain subordinate to the characteristic landscape.
- Modification (M) - Human activity may dominate the characteristic landscape, but at the same time must utilize naturally occurring elements of the landscape including form, line, color, and texture.

- Maximum Modification (MM) - Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as a background.

The majority of lands within the Project Area are classified as Partial Retention and Modification (See **Figure 3.12-1**). According to the RFP (USFS 2003a), the scenic environment of the Forest will be maintained through adherence to existing VQOs, with the exception of phosphate mining. Phosphate mining activities and reclamation may or may not meet the given VQO (USFS 2003b:4-9). In the case where the VQO is not met, the mine operation and reclamation plan would mitigate visual changes to the degree that reclamation methods and economics allow.

The visual management program is applied to resource development activities on a project-by-project basis. Since 1996, National Forests have been directed to use a revised system for project planning, based upon the USDA publication Landscape Aesthetics: A Handbook for Scenery Management (Agriculture Handbook 701; USDA 1996). Under this Scenery Management System (SMS), SMS values are assigned based upon the VMS data, bridging the two systems.

Concern Levels categorize the importance of scenic resources to forest visitors. Concern Level 1 roads are those such as designated scenic highways and byways; they are managed at a level of at least high scenic integrity. There are no designated scenic trails, highways, or byways in the Project Area.

Scenic integrity indicates the current status of a landscape. It is determined on the basis of visual changes that detract from the scenic quality of the area (USDA 1996). The Scenic Integrity Objective (SIO) refers to the degree of acceptable change or alteration of the valued landscape theme. Under the SMS, higher SIOs represent highly valued natural landscapes where management activities would result in little or no deviation from those values. Greater modification to the landscape is acceptable in low SIO landscapes.

High Scenic Integrity applies to an area that appears unaltered and where the valued landscape character appears intact. Moderate Scenic Integrity may appear slightly altered, but alterations are visually subordinate to the overall landscape. In Low Scenic Integrity areas, deviations may begin to dominate the landscape view. The Project Area landscape in Partial Retention Areas has moderate scenic integrity; in Modification areas, low scenic integrity would apply.

3.12.3 Access & Use

The importance of scenic values is affected by access, ownership, and development, and by recreational and seasonal uses of an area. Crow Creek Road is designated as a Forest Highway (FR 111) for the section in Bear Lake County and serves as one of the main routes of access to the Project Area. Private lands along Crow Creek Road nearest the Project Area are used for seasonal ranching operations and recreation. Several homes and outbuildings, as well as fences, gates, a power line, and pasturelands, are evident along the road. The backdrop for these ranches and summer homes is one of brush-covered hills and steep, forested slopes so the area retains its rural, agricultural setting.

Crow Creek Road nearest the Project Area is closed due to snow cover about six months of the year; year-round access is maintained only to the boundary of Sections 20 and 21 in T9S R46E, near the confluence of Sage Creek and Crow Creek. This is outside, or east of, the CNF

boundary. The unplowed portions of Crow Creek Road through the Forest, as well as Wells Canyon Road, are groomed snowmobile trails in the winter.

Traffic counts taken on Crow Creek Road to the south of the Project Area (approximately 10 miles south of Wells Canyon Road) between July 26 and October 25, 2000 indicated that summer use of this road averages about 20 vehicles per day during the week and 60 vehicles per day (includes both directions) during the weekends. During hunting season in October, those averages triple during weekdays and nearly double during weekends. These counts provide an example of use near the Project Area; however, actual use north of the Wells Canyon intersection along Crow Creek Road is expected to be higher (Tate 2004).

Diamond Creek Road, Georgetown Canyon Road, and Wells Canyon Road are also considered primary routes across the CNF. These roads provide the only east-west route across the CNF for 30 miles. Traffic counts on these roads would be slightly lower than those discussed above, but would have the same type of distribution. Several trails, described in Recreation (**Section 3.10**), also provide hiking access to back-country views in the Project Area.

Active mine areas are closed to public travel for safety reasons.

3.12.4 Viewers & Views in the Project Area

Those who reside seasonally along Crow Creek Road and those who hike or camp regularly in this portion of the CNF are likely to value the scenic quality of the surrounding landscapes in this area. Seasonal residents, in particular, have commented during public scoping on this EIS, on the visual beauty of the area. Hunters, who comprise the highest use category for the Project Area, would be expected to value the scenic landscape as a part of their recreational experience, though a successful hunt would not necessarily depend on the scenery.

The following photos show some of the views in the Project Area, from points on Crow Creek Road (FR 111), Wells Canyon Road (FR 146), and Diamond Fork Road (FR 1102). Following the photos are representations (**Figures 3.12-2** through **3.12-8**) of what portions of the landscape are 'seen' or 'unseen' from specific points along Crow Creek Road or from other potential viewpoints in the Crow Creek Valley. The seen/unseen point shown in **Figure 3.12-2** is taken from a high elevation point along a horse trail on the Stewart Ranch property. **Figure 3.12-3** is taken from the Stewart Ranch buildings area. **Figures 3.12-4**, **6**, and **7** represent views of the Project Area from points along Crow Creek Road. The view area from the Osprey Ranch is shown in **Figure 3.12-5**. **Figure 3.12-8** shows view from a high elevation point along a CNF hiking trail on the northwest-facing slopes above Crow Creek Valley. Seen/unseen representations are plotted from a height of approximately five feet, to show what areas of the surrounding landscape would be included in the view of a person standing at a given point.

Figure 3.12-1 Visual Quality Objectives

View northwest up Sage Creek from Crow Creek Road (T9S. R46E. Sec. 20)

View north along Crow Creek Road from vicinity of Stewart Ranch
(T10S. R45E. Sec. 14)

View of Snowdrift Mountain from Panel G (looking south)
(T10S. R45E. Sec. 4)

View south along Diamond Creek Road west of Freeman Ridge (T9S. R45E. Sec. 21)

Osprey Ranch from Crow Creek Road, view to southeast (T9S. R46E. Sec. 31)

Panel G area from viewpoint near Wells Canyon Road. Panel G is on the forested slope in the middleground and the south end of Panel F is in the pass on the background horizon.

Figure 3.12-2 Viewshed

Figure 3.12-3 Viewshed

Figure 3.12-4 Viewshed

Figure 3.12-5 Viewshed

Figure 3.12-6 Viewshed

Figure 3.12-7 Viewshed

Figure 3.12-8 Viewshed

3.13 Cultural Resources

Cultural resources are non-renewable resources. Federal regulations obligate federal agencies to protect and manage cultural resource properties and prohibit the destruction of significant cultural sites without first mitigating the "adverse effect" to the site. Mitigation measures include, but are not limited to, complete detailed site documentation, complete avoidance of the site, and/or data recovery efforts. The National Historic Preservation Act (NHPA) of 1966 (as amended) and the Archaeological Resources Protection Act (ARPA) of 1979 are the primary laws regulating preservation of cultural resources.

Section 106 of the *National Historic Preservation Act of 1966*, as amended, requires federal agencies to take into account any action that may adversely affect any structure or object that is, or can be included in the NRHP. These regulations, codified at 36 CFR 800, provide a basis for which to determine if a site is eligible. Beyond that, the regulations define how those properties or sites are to be dealt with by federal agencies or other involved parties. These regulations must be considered for historic properties or sites of historic importance, as well as for archaeological sites.

Cultural resources provide data regarding past technologies, settlement patterns, subsistence strategies, and many other aspects of history. The guidelines for evaluation of significance and procedures for nominating cultural resources to the National Register of Historic Places (NRHP) can be found in 36 CFR 60.4. In order to be eligible for nomination to the NRHP, a cultural resource site/historic property must retain cultural integrity and meet at least one of the four National Register Criteria:

a) association with events that have made a significant contribution to the broad patterns of our history, or
b) association with the lives of persons significant to our past, or
c) embody the distinctive characteristics of a type, period, or method of construction; or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or
d) have yielded or may be likely to yield information important in prehistory or history.

A Traditional Cultural Property (TCP), as defined in the NHPA, is a property that is eligible for inclusion on the National Register of Historic Places "because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1994). Stated another way, a significant TCP is defined as a property with "significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices" (Parker and King 1994).

The term "Heritage Resources", used by the Forest Service, encompasses not only cultural resources but also traditional and historic use areas by all groups (Native Americans, Euro-Americans, etc.). Heritage resources include lifeways or the way humans interact and survive within an ecosystem (USFS 2003b). Objects, buildings, places, and their uses become recognized as "heritage" through conscious decisions and unspoken values of particular people, for reasons that are strongly shaped by social contexts and processes (Avrami et al. 2000). Heritage resources define the characteristics of a social group (i.e., community, families, ethnic group, disciplines, or professional groups). Places and objects are transformed into "heritage" through values that give them significance.

3.13.1 Cultural Context

Evidence of 11,000 years of prehistoric occupation and use of the CNF has been documented through rock shelters, stone circles, hunting blinds, bison kill sites, and projectile points (USFS 2003a). The prehistory of southeastern Idaho and the northeastern Great Basin has been previously detailed (Butler 1978, 1986; Carambelas et al. 1994; BLM 1981; Gehr et al. 1982; Lohse 1993; Madsen 1982; Meatte 1990; Ringe et al. 1987; Swanson 1972, 1974). Overviews specific to the history of southeastern Idaho have been written to address the needs of cultural resources management (BLM 1981; Fiori 1981; Sommers and Fiori 1981; Wegars and Bruder 1992) and to identify a number of significant themes for the region. These prehistories are based on archaeological research and may differ from the perspective of local Indian tribes. The following brief prehistoric overview was summarized from the Final EIS for the CNF Phosphate Leasing Proposal (BLM and USFS 1998c).

Prehistory

The prehistory of southeastern Idaho can be divided into at least three periods; Paleo-Indian (ca. 10,000 to 7,000 B.P.), Archaic (7,000 to 300 B.P.), and Protohistoric (300 B.P. to present). These periods are generally defined by distinct artifact types and characterized by different settlement and subsistence patterns.

Paleo-Indian Period

The Paleo-Indian period largely is defined by three projectile point types: Clovis, Folsom, and Plano. Paleo-Indian groups who occupied the region focused their subsistence efforts on large, migratory animals as indicated by the association of Folsom spear points and large animal remains. It may be reasonable to assume that Paleo-Indian groups in southeastern Idaho also traveled over large annual ranges (Goodyear 1979; Letourneau 1992) and exhibited a high degree of residential mobility (Binford 1980; Kelly and Todd 1988).

Archaic Period

The Archaic period is generally defined by the introduction of stemmed (Pinto series) and notched (Northern Side-notched and Elko series) projectile points and the apparent broadening of the resource base. The shift from large, lanceolate-shaped points to small, stemmed and notched points is believed to be related to the introduction of the atlatl and dart from two separate regions, the Great Basin and the Plains (Gruhn 1961). Although data indicates that large mammals were the primary food resource of Archaic groups, the exploitation of a wider array of resources is evidenced in ground stone artifacts and small mammal remains at some sites (Sant and Douglas 1992). The Archaic Period can be subdivided into three subperiods based on variation in artifact assemblages and settlement and subsistence practices (Sant and Douglas 1992). These subperiods are the Early Archaic (7,000 to 4,500 B.P.), Middle Archaic (4,500 B.P. to 1,300 B.P.), and the Late Archaic (1,300 to 300 B.P.).

Subsistence and settlement patterns in southeastern Idaho remained fairly consistent between the Early and Middle Archaic (Gruhn 1961; Ranere 1971; Swanson 1972), although artifact assemblages differ. The Late Archaic is defined by the introduction of ceramics and small triangular and side-notched points. These artifact classes, particularly the ceramics, indicate the occupation of at least two groups or "cultural manifestations" (Butler 1986:131) in southeastern Idaho: the Fremont (ca. 1300 to 650 B.P.) and the Shoshonean (ca. 700 B.P. to present).

The Fremont are typically thought of as horticulturalists. Evidence for horticulture has not been found in southeastern Idaho (Holmer 1986:243; Ringe et al. 1987); therefore, the presence of Fremont artifacts has been problematic to some. Sant and Douglas (1992) suggest that Fremont artifacts arrived in southeastern Idaho through trade. Some have argued that northern Fremont populations were primarily hunters and gatherers, rather than horticulturalists (Madsen 1982:217-218; Sharp 1989; Simms 1990); if that is the case, then the presence of Fremont artifacts in southeastern Idaho would likely be a consequence of Fremont hunter-gatherers occupying the area.

Occupation of southeastern Idaho by the Shoshone and Bannock coincides with the expansion of Numic speaking people from the southwestern Great Basin to the north and east. Brown-ware ceramics and Desert Side-notched and Cottonwood triangular projectile points are thought to be temporally and ethnically sensitive artifacts. Artifacts recovered from the Wahmuza site, in southeastern Idaho, indicate continuous Shoshonean occupation since 700 B.P. (Geminis 1986, cited by Sant and Douglas 1992). The Shoshone and Bannock groups are characterized as relatively mobile hunter-gatherers.

The Shoshone Bannock Tribes state that the ancestors of the Shoshone and Bannock peoples have an extensive history in Southeastern Idaho and the project area. Their ancestors used present-day Southeastern Idaho for subsistence hunting, fishing, gathering, medicinal and ceremonial purposes, warfare, transportation, and social purposes.

Protohistoric

Existing research and records indicate two horse-owning groups may have passed through the Manning Creek Tract during their annual forays. According to Stewart (1938:218-219, Figure 12), the Cache Valley Shoshone hunted and gathered along the Bear River and crossed the Wasatch Mountains (south of the Project Area) during bison hunting excursions to Wyoming. Bannock and Shoshone groups living at Fort Hall also may have passed through the area while hunting elk, deer, and mountain sheep, and gathering berries along the Bear River (Murphy and Murphy 1986:288, 292), or when traveling to Wyoming to hunt bison (Stewart 1938:198-216, Figure 10). These hunting and gathering forays began to change during the nineteenth century, when westward expansion and increasing conflicts with Euro-Americans eventually forced most of the Shoshone and Bannock into the reservation system. Mixed bands of Shoshoni signed a treaty with the United States Government at Soda Springs, Idaho on October 14, 1863 (Kappler 1941). Unbeknownst to the Shoshone people, this treaty was not ratified by the United States Government. The Western Shoshone signed a treaty in 1863 with the United States Government, which set aside large tracts of Indian land in Idaho, Nevada, Oregon, Utah, and Wyoming (Manning and Deaver 1992). In 1867 and 1868, the Fort Hall and Wind River Valley Reservations, respectively, were established, and by 1868, the Shoshone had relinquished all their lands in Idaho and Wyoming except for lands specifically set aside as reserves (Clements and Forbush 1970:21). The Bannock were assigned to the Fort Hall Reservation in 1869, and between 1879 and 1907, a number of other Native American groups were relocated to Fort Hall (Manning and Deaver 1992).

Sacred sites, such as burials, rock art, monumental rock features and formations, rock structures or rings, sweat lodges, timber and brush structures, eagle catching pits, and prayer and offering locales, are located throughout the region (Manning and Deaver 1992). Much of the landscape in southeastern Idaho also is sacred to local Native American groups and, thus, is not defined by archaeological remains.

Euro-American History

Fur trappers and explorers were the first non-native Americans to pass through the region (Fiori 1981:115-127) and are documented as early as the early 1800s. In the early-1800s, under the command of Robert Stuart, one group of Astorians made their way from the Bear River to the Salt River and thence to the Snake, a route which likely took them through Georgetown Canyon, Crow Creek, and Star Valley. During the early I840s, great numbers of emigrants began moving westward. In Idaho, emigrants could follow the Oregon Trail, via Fort Hall and Fort Boise, or the California Trail at Soda Springs, Fort Hall, or Raft River (Fiori 1981:170). Brigham Young led Mormon pioneers into the Salt Lake Valley in 1847, and by early-1860, had dispatched settlers into southeastern Idaho (Fiori 1981:148). The general area surrounding the Project, including the town of Soda Springs (the County seat), was along the routes of the earliest explorers, fur trappers, and emigrants.

Soda Springs was an early transportation hub (ISHS 1981a) with open valley connections to Bear Lake and Wyoming, with the Blackfoot River north to Montana, with Portneuf Valley used by Oregon Trail emigrants to Fort Hall, with Hudspeth's Cutoff west to California, and down Bear River to Cache Valley and Salt Lake.

Between the 1860s and 1890s, miners and railroad workers came to southeastern Idaho. Cariboo Fairchild, who had taken part in the gold rush in the Cariboo region of British Columbia in 1860, discovered gold in this region two years later (Welcome to Caribou County 2004). A modest gold rush began in the Caribou Mountain area in 1870 and ended in the early 1900s (USFS 2003a). During this time, Keenan and Caribou City became thriving boomtowns. Sulfur mining commenced in the early 1880's.

The mines in the Cariboo District depended on distant sources for supplies. The miners' needs provided an enticement for settlers to develop the surrounding country at a time when not too many other economic attractions were available to encourage settlement of southeastern Idaho (ISHS 1981b:9).

Livestock

As necessitated by the mining boom, small herds of cattle were driven into the region during the 1860s. Crowding on the plains prompted cattlemen to locate larger herds in southeastern Idaho during the 1870s and 1880s (Fiori 1981:144). Sheep were brought into the area as early as the 1830s-1840s by missionaries and emigrants (Fiori 1981: 145-146), with larger herds brought in during the mining boom. Large herds of sheep were established in Caribou County during the late 1890s and early1900s (Barnard et al. 1958). Basque sheep herders moved to the area after 1925 (Carambelas et al. 1994:12). Grazing allotments encompass the Project Area (See **Section 3.9** Grazing). Evidence of historic and modern livestock grazing is present within the Project Area in the form of arborglyphs, livestock trails, and temporary campsites. Arborglyphs are etchings or carvings of art and words in aspen trees that over time turn black against the white trunk, becoming more apparent. Recent studies (Mallea-Olaetxe 2000) indicate the relevance of tree carvings in depicting livestock usage/trailways, range boundaries, sheep herder lifeways, cultural affiliations, periods of use, and transportation routes.

Roads

Freighting was the original mode of mass transportation of goods in southeastern Idaho. The discovery of gold and the explosive growth of mining towns in Idaho and Montana resulted in a surge of freighting activities along the trade routes to the mines. By the 1860s, freight and stage roads passed through southeastern Idaho and contributed to its settlement (BLM 1981; ISHS

1971). Large scale freighting occurred between 1864 and 1884. There were two main routes in this region: the Montana Road (from Corrine, Utah to western Montana) and the Kelton Road (from Kelton, Utah to Boise, Idaho). Approximately 1,000 freighters hauled between Idaho and Montana on the Montana Road in 1873 (BLM 1981). One early report states that the only "direct and safe route [to Cariboo Mountain gold deposits] is to go up the regular Montana road to Ross Fork…" (ISHS 1981b:3). Road conditions were poor, and tolls were often charged to obtain funding for improvements. Railroads diminished the need for freighting except in the areas not served by railroads.

Early settlers developed the Crow Creek Road, in the Project Area, as a path of commerce from Fairview, Wyoming to Montpelier, Idaho (Druss et al. 1979). This road is still well traveled and is known as the Crow Creek Road. It runs southwest and south to Montpelier Canyon and west to the town of Montpelier. It appears on historic General Land Office (GLO) maps (1901, 1902) of the area as *Montpelier to Star Valley Road.*

The Fairview Cutoff was a route from Fairview, Wyoming to Soda Springs, Idaho. The route cut off from Crow Creek at Hardmans Hollow, ran north to Tygee Creek, then southwest through Smoky Canyon to Soda Springs (Druss et al. 1980). Located north of the Project Area, this road is known currently as the Smoky Canyon Road.

Timber

Timber resources in southeastern Idaho are not as abundant as in other parts of the State, but still played a role in the development of the area. As communities were established, lumber was harvested locally through primitive means such as the pit saw (BLM 1981). As the demand for lumber grew, other means of lumbering were needed. A water-powered sawmill was the next technology introduced into the region, built by Samuel Parkinson and Thomas Smart in 1863 in Franklin. In response to railroad construction in the West, Majors Tie Camp was established in 1868 by Alexander Majors, who directed the cutting of thousands of trees along the Bear River. Majors floated the resulting ties down the Bear River to Corrine, Utah, where they were used for the Transcontinental Railroad. A steam sawmill was brought into the area in 1871. Approximately 30 sawmills were operating in southeastern Idaho by 1883. Historic sites associated with sawmills and lumbering activities have been recorded in the general Project Area.

3.13.2 Previous Research

Cultural resource inventories for previous mine expansions have recorded prehistoric and historic sites in and around the current Project Area. Site types in the general vicinity include prehistoric campsites, mining sites, and livestock/ranching sites. Also, historic sites associated with sawmills and lumbering activities have been recorded. Other known historic sites near but not within the Project Area include the Lander Trail, Fairview Cutoff, and Oneida Salt Works. Historic GLO maps show transportation corridors, a telephone line, a cabin, and a ditch were historically present in the Project Area. Prehistoric sites found in the area are generally considered significant due to the paucity of prehistoric sites in this high elevation environment.

Table 3.13-1 presents the 17 previous cultural resource inventories in and around the current Project Area. Five of these projects were specific to the proposed Panels F and G mine expansion. Class III cultural resource inventories were conducted to encompass each component of the proposed mine expansion (i.e., Panel F lease, lease modifications, access roads, soil stockpiles, etc.) in order to identify any sites within the proposed Mining and

Transportation Alternatives. Cultural resource inventory reports are on file at the associated agency office (i.e., Forest Service, BLM) and the State Historic Preservation Office. Site location information is considered sensitive; therefore, these reports are for limited circulation and not available to the general public.

TABLE 3.13-1 PREVIOUS CULTURAL RESOURCE INVENTORIES IN THE PROJECT AREA

PROJECT DESCRIPTION	AUTHOR	YEAR	FINDINGS
Archeological Investigations in the Smoky Canyon Area	Druss, Mark, Max Dahlstrom, Claudia Druss, and Steve Wright (ISU)	1980	10CU86, 10CU88, 10CU89, 10CU90, 10CU76
Stage I Investigation and Analysis of Archaeological Resources in Pit Area, Mill Sites, and Fill Site, Smoky Canyon Lease I-012890	Druss, Mark, Max Dahlstrom, Claudia Hallock, and Steve Wright (ISU)	1980	10CU76, 10CU77, 10CU78, 10CU79
Crow Creek Fish Habitat Improvement	Hendrikson, N. (Idaho State University)	1991	None
Manning Creek Drilling Project (CB-92-262)	Hamilton, J. (USFS)	1992	None
North and Upper Manning Timber Sale (CB-93-307)	Robertson, Mary (USFS)	1993	None
South Fork Sage Creek Timber Sale (CB-94-337)	Robertson, Mary (USFS)	1994	None
Freeman Ridge Phosphate Exploration	Robertson, M. (USFS)	1994	None
Wells Canyon/Deer Creek Exploration Federal Lease I-01441	Robertson, M. (USFS)	1996	None
Manning Creek Exploration Plan Modification (CB-94-333)	Satter, Norris (BLM)	1994	None
Galland Special Use Permit Pipeline	Robertson, M. (USFS)	1996	None
Sage Valley Phosphate Exploration, Lease I-31982	Cresswell, L. (BLM)	1997a	None
Simplot Phosphate Prospecting Permit	Cresswell, L. (BLM)	1997b	None
A Cultural Resource Inventory of 880 Acres of the Manning Creek Property, Caribou County, Idaho.	Penner, William and Richard Crosland (JBR)	2001*	Sites: 10CU245, 10CU246; Isolates: 10CU243, 10CU244
Baseline Technical Report for Cultural Resources, South Manning Creek Exploration Area, Caribou County, Idaho	Statham, William (Frontier Historical Consultants)	2003*	Two isolates: DG-3, DG-4
Baseline Technical Report for Cultural Resources, Deer and Manning Creek Phosphate Lease Areas, Smoky Canyon Mine, Caribou County, Idaho (CB-04-495)	Gray, Dale, Dawn S. Statham, and William P. Statham (Frontier Historical Consultants)	2003*	CB-341 (isolate), CB-342, CB-343
Addendum to Baseline Technical Report for Cultural Resources, Panels F and G Extension and Transportation Corridors, Smoky Canyon Mine, Caribou County, Idaho (CB-04-495)	Gray, Dale and William P. Statham (Frontier Historical Consultants)	2004*	Sites: CB-317, CB-318, CB-319, CB-320 Isolates: CB-326, CB-327, CB-328
Addendum B to Baseline Technical Report for Cultural Resources, Panels F and G Extension and Transportation Corridors, Smoky Canyon Mine, Caribou County, Idaho (CB-04-495)	Gray, Dale and William P. Statham (Frontier Historical Consultants)	2005*	None

*Specific to current Project

3.13.3 Cultural Resource Sites

As a result of the Project-specific cultural resource inventories, eight historic sites are known to occur within the Proposed Action and Alternatives areas. No prehistoric sites were encountered during the inventories. Six of the eight sites have been evaluated as ineligible for the NRHP (**Table 3.13-2**) while two arborglyph sites are considered unevaluated due to insufficient information (thematic context) to evaluate. Consultation with the Forest Archaeologist and the Idaho SHPO resulted in these unevaluated determinations (USFS 2005g and ISHPO 2006), as additional research and recordation is needed to establish the relationship of these features to local and regional history. In addition, nine isolates have been documented, but by definition are ineligible for the NRHP.

TABLE 3.13-2 CULTURAL RESOURCE SITES IN THE PROJECT AREA

SITE NUMBER	SITE TYPE	AFFILIATION	NRHP EVALUATION
CB-340	Spring Box	Euro-American	Ineligible
CB-342	Arborglyphs	Euro-American	Unevaluated
10CU245	Arborglyphs	Euro-American	Ineligible
10CU246	Arborglyphs	Euro-American	Ineligible
CB-317	Arborglyphs	Euro-American	Unevaluated
CB-318	Road	Euro-American	Ineligible Segment
CB-319	Telephone Line	Euro-American	Ineligible Segment
CB-320	Footbridge	Euro-American	Ineligible

The Proposed Action mining and Mining Alternatives B, C, D, and F would have the same basic footprint and Alternative A – No North or South Panel F Lease Modifications is slightly smaller but within the same footprint; therefore, each of these Mining Alternatives would encompass the same known cultural resource sites. Mining Alternative E – Power Line Connection from Panel F to Panel G Along Haul/Access Road would be situated within whatever Transportation Alternative is chosen; therefore, there would be no additional disturbance. The Transportation Alternatives, on the other hand, would each include different areas and therefore differ in cultural resources present. **Table 3.13-3** presents the Proposed Action and Transportation Alternatives and the associated cultural resource sites.

Cultural resource sites that have been determined ineligible for the NRHP do not need further protection, and therefore, would not need to be avoided by the Project. Isolates are by definition ineligible. Thus, isolates and ineligible sites are not carried through in the Chapter 4 analysis.

No TCPs or sacred sites have been designated or defined in or adjacent to the Project Area.

TABLE 3.13-3 ELIGIBLE OR UNEVALUATED CULTURAL RESOURCE SITES IN THE PROJECT AREA BY ALTERNATIVE COMPONENT

ALTERNATIVE	COMPONENT	SITE NUMBER	SITE TYPE
Proposed Action*	Panel F Lease	No Eligible Sites	
	Panel F South Lease Modification	No Sites	
	Panel F North Lease Modification	No Sites	
	Panel F Haul/Access Road	No Sites	
	Panel G Lease	CB-342	Arborglyphs
	Panel G West Haul/Access Road	CB-317	Arborglyphs
		CB-342	Arborglyphs
TRANSPORTATION ALTERNATIVE			
1	Alternative F Panel Haul/Access Road	No Sites	
2	East Haul/Access Road	CB-342	Arborglyphs
3	Modified East Haul/Access Road	No Eligible Sites	
4	Middle Haul/Access Road	No Sites	
5	Alternate West Haul/Access Road	CB-317	Arborglyphs
6	Conveyor Route Corridor	No Sites	
7	East Access Road via Crow Creek Haul and Wells Canyon	CB-342	Arborglyphs
8	Middle Access Road	No Sites	

* All Mining Alternatives are within the same basic footprint and would encompass the same sites as the Proposed Action mining.

3.13.4 Heritage Resources

Southeastern Idaho has been traditionally utilized by the Shoshone-Bannock Tribes for subsistence and ceremonial uses. The Fort Bridger Treaty of 1868 reserved the Tribes' rights to hunt, gather, and fish on all unoccupied federal lands (See **Section 3.14**). Physical remains of prehistoric lifeways on the CNF include campsites and associated artifacts (USFS 2003a). During consultation, the Tribes have stated that the Project Area is currently used for traditional activities such as hunting, gathering, and ceremonial uses. According to the RFP (2003a), representations of historic lifeways on the forest include wagon trails, homesteads, mining sites, and Civilian Conservation Corps camps. Heritage resources in the Project Area also include the historic uses of livestock trailing and grazing. This is in part evidenced in the numerous arborglyphs (tree carvings) present in the Project Area. One permittee's family has utilized the Deer Creek Sheep Allotment for four generations (Peart 2003), trailing their sheep from Utah following a historic sheep driveway through the Kemmerer and Grey River Ranger District to the Deer Creek Sheep Allotment (Heyrend 2004) via FR 740 (Manning Creek Road) and Trail 402 (non-motorized trail) along Manning Creek. A cabin has been constructed on private property adjacent to the grazing allotment by this permittee in order to be closer to the summer allotment. Grazing availability and allotments in the Project Area are described in **Section 3.9**. Roads and trails in the Project Area are described in **Section 3.15** (Transportation) and **3.10** (Recreation and Land Use), respectively.

The importance (value) of traditional lifeways in the local and regional communities is manifest in histories, cultural resource sites, traditional use sites, and the continued use of the area for these activities.

3.14 Native American Concerns and Treaty Rights Resources

The Shoshone-Bannock Tribes are a sovereign nation with their own governing system and not simply members of the general public. The federal agencies must consult at the government-to-government level, in accordance with federal laws, treaties, and executive orders. The trust responsibility of the federal government includes an obligation to protect and preserve the natural resources affecting the Tribes' treaty rights and therefore must consider the effects of federal actions on Tribal interests and rights.

Federal agencies are required by law (National Historic Preservation Act of 1966 and Archaeological Resources Protection Act of 1979) to consult with Native Americans on actions that may affect their traditions or uses of public lands. Specifically, the agencies are required to follow the Section 106 process as recorded in 36 CFR 800 - Subpart B, as amended January 11, 2001. The goal of the BLM Manual Section 8160 is to "assure that tribal governments, Native American communities, and individuals whose interests might be affected have a sufficient opportunity for productive participation in BLM planning and resource management decision making." To this end, the Pocatello BLM Field Office and the CTNF, Soda Springs Ranger District have engaged in consultation with the Native Americans associated with Southeastern Idaho.

The American Indian Religious Freedom Act (AIRFA) of 1978 states "...henceforth it shall be the policy of the United States to protect and preserve for American Indians their inherent right and freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites [42 United States Code (U.S.C.) 1996]." Agencies are required to review their policies and procedures in consultation with traditional native religious leaders.

Executive Order (EO) 13007 - Indian Sacred Sites requires agencies to accommodate access to and ceremonial use of Indian sacred sites and to avoid adversely affecting the physical integrity of said sites. According to EO 13007, a sacred site is defined as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." Sacred sites may consist of a variety of places and landscapes.

The Department of the Interior (DOI) Departmental Manual 512 DM 2 (DOI 1995) requires that all bureaus within DOI develop policies and procedures to identify, conserve, and protect Indian Trust Assets, trust resources, and tribal health and safety. Indian Trust Assets are legal interests in assets held in trust by the United States for Indian Tribes or individuals and can include: minerals, hunting and fishing rights, and water rights.

3.14.1 Introduction

The Shoshone Bannock Tribes state that the ancestors of the Shoshone and Bannock peoples have an extensive history in Southeastern Idaho and the Project Area. Their ancestors used present-day southeast Idaho for subsistence hunting, fishing, gathering, medicinal and ceremonial purposes, warfare, transportation, and social purposes.

The Fort Hall Reservation was created by Executive Order on June 14, 1867 and was established as a permanent homeland to Shoshone and Bannock peoples pursuant to the Fort Bridger Treaty of July 3, 1868. The original reservation was approximately 2 million acres, but by subsequent cessation agreements, the United States obtained land for non-Indian settlers, and the federal government. An 1888 Executive Order ceded the Marsh Valley area for settlement, resulting in the loss of approximately 240,000 acres of Reservation lands. A June 6, 1900 Agreement with the Tribes ceded surplus lands resulting in the establishment of the City of Pocatello when approximately 419,000 acres of treaty-reserved lands were opened for settlement. The current Fort Hall Indian Reservation is approximately 544,000 acres, which does not include recently acquired lands adjacent to the Reservation.

Some of the CTNF is in those ceded lands. The 1868 Fort Bridger Treaty reserved off-reservation treaty rights on all unoccupied federal lands. These rights include hunting, fishing, gathering, and other practices such as trade.

The CTNF is also part of the ancestral homeland of the Northwest Band of the Shoshoni. Their core homeland included northern and western Utah and the southeast corner of Idaho. In their 1863 Treaty, they assented to the Fort Bridger Treaty (Treaty with the Shoshoni-Northwestern Bands, July 30, 1863). As stated in the 1863 Treaty signed at Box Elder, the Northwest Band of the Shoshoni "assent to all of the provisions of said treaty, and the same are hereby adopted as a part of this agreement, and the same shall be binding upon the parties hereto." Thus, tribal members of the Northwest Band of Shoshoni also have reserved rights to hunt, fish, and gather on all unoccupied federal lands of the United States.

Prior to white settlement of the west, the Shoshone and Bannock peoples were comprised of many smaller nomadic bands inhabiting a vast area of the west. Their aboriginal territory includes six states and ranged north into Canada and south to Mexico. The bands were generally extended family groups who moved across the western landscape hunting, fishing, and gathering with the changing seasons. The Fort Hall area was a traditional wintering area for many of the bands. In addition to gathering camas bulbs, many bands met on the Camas Prairie for trade events each spring. The CTNF was an integral part of the Shoshone-Bannock Tribes ancestral lands.

Few "traditional use sites" have been documented through consultation with the Tribes. This is due mostly to privacy issues. For this analysis, it is assumed that the National Forest System lands were, and are, used for traditional practices such as hunting, fishing, and gathering. It is also assumed that Tribal members utilize the CTNF for traditional activities such as ceremonies and religious practices. To protect the privacy of the Tribes, these activities will be discussed and analyzed in general terms. The following information is from "Shoshone-Bannock Tribes" published by the Shoshone-Bannock Tribal Cultural Committee and Tribal Elders.

Spirituality and religious ceremonies have always played a significant role in Indian cultures. Natural resources played an integral part of these ceremonies. Items such as sweet sage and tobacco made from a variety of plants were and are used in ceremonies. The Indians gathered many plants for medicinal purposes, including chokecherry, sagebrush, and peppermint. A myriad of other plants were gathered for food and to provide shelter. Rocks and clays were also used for ceremonies, ornamentation and shelter. Some bands inhabiting the upper Snake region were known as the "sheepeaters" since bighorn sheep were a staple of their diet. Buffalo, elk, deer and moose were also hunted and used by the aboriginal people. The Shoshone and Bannock bands also relied on upland game birds and small mammals. Salmon fishing was an integral part of aboriginal culture. Geysers, thermal pools and other water features were also utilized heavily by the Shoshone-Bannock Tribes.

These activities are still practiced today across the CTNF and southeastern Idaho although the extent of those activities is unknown. Many tribal members hunt, fish, and gather for subsistence and to maintain their traditional way of life.

3.14.2 Indian Treaty Rights

The federal government has federal trust responsibilities to Native American Tribes (DOI 1995). As discussed above, the 1868 Fort Bridger Treaty, between the United States and the Shoshone and Bannock Tribes, reserves the Tribes' right to continue traditional activities on all unoccupied federal lands. The Tribes' advocate the preservation of harvest opportunity on culturally significant resources necessary to fulfill inherent, traditional, and contemporary Treaty Rights (Shoshone-Bannock 1994). The Project Area is within the portion of southeast Idaho that is of historical usage for hunting and gathering (Shoshone-Bannock 2003) and continues to retain cultural values.

Article 4 of the 1868 Treaty states, "The Indians herein named…shall have the right to hunt on the unoccupied land of the United States so long as game may be found thereon…" While the Treaty itself only specifies hunting, the lawsuit "State of Idaho v. Tinno" established that any rights not specifically given up in the Treaty were, in fact, reserved by the Tribes. Further, in the Shoshone language, the same verb is used for hunt, fish, and gather so it is assumed that the Tribes' expect to retain rights for all of those practices (from a presentation at the Shoshone-Bannock Tribes, 1868 Fort Bridger Treaty Rights Seminar: April 12-13, 2004).

The Tribes' Fish and Game Department regulates and enforces the 1975 Tribal Fish and Game Code, for all off-reservation hunting and fishing activities. The federal agencies recognize that the Tribes' regulate their own Tribal members for hunting and do not require Tribal members to secure state hunting permits to hunt within BLM or USFS lands.

Tribal grazing rights outside the Fort Hall Reservation only exist in areas ceded to the federal government. As stated in Article IV of the Agreement of February 5, 1898 (31Stat. 674, 15 Stat. 673), between the United States and the Shoshone-Bannock Tribes, ratified by the Act of June 6, 1900: "So long as any of the lands ceded, granted and relinquished under this treaty remain part of the public domain, Indians belonging to the above-mentioned Shoshone-Bannock tribes, and living on the reduced Fort Hall reservation, shall have the right, without any charge therefore, to cut timber for their own use, but not for sale and to pasture their livestock on said public lands, and to hunt thereon and to fish in the streams thereof." None of these ceded areas

are within the Project Area; therefore Tribal grazing rights are not affected by the project. In 2002, an MOU was signed by BLM and the Fort Hall Business Council regarding the recognition of tribal grazing rights on public land within the ceded land boundary established by the above stated Agreement of February 5, 1898 (31Stat. 674, 15 Stat. 673), between the United States and the Shoshone-Bannock Tribes, ratified by the Act of June 6, 1900.

In regard to federal trust responsibilities, known items of interest to the Tribes include:

Tribal Historical/Archaeological Sites
Project-specific cultural resource inventories have been conducted in the Project Area. This information is in **Section 3.13** (Cultural Resources). No prehistoric archaeological sites were located within Project boundaries during the inventories.

Rock Art
No resources of this nature have been identified in the Project Area.

Sacred Sites (EO 13007)/Traditional Cultural Properties (NHPA)
Executive Order (EO) 13007 directs federal land-managing agencies to accommodate Native Americans' use of sacred sites for religious purposes and to avoid adversely affecting the physical integrity of sacred sites. Federal agencies managing lands must implement procedures to ensure reasonable notice where an agency's action may restrict ceremonial use of a sacred site or adversely affect its physical integrity. No sacred sites have been identified in the Project Area.

A Traditional Cultural Property (TCP), as defined in the National Historic Preservation Act of 1966, is defined as a property that is eligible for inclusion on the National Register of Historic Places “because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and are important in maintaining the continuing cultural identity of the community” (Parker and King 1994). Stated another way, a significant TCP is defined as a property with “significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices” (Parker and King 1994). No Traditional Cultural Properties have been nominated or designated in the Project Area.

Traditional Use Sites
Traditional use sites are those historically used by tribes for traditional land uses including fishing, hunting, gathering, ceremonies, and religious practices. Few traditional use sites have been documented through consultation with the Tribes as Tribal information regarding these sites is closely guarded. The Tribes have not disclosed specific details of traditional use in the Project Area, however, they have asserted that the area is significant, traditionally used, and retains cultural values.

Water Quality
The Project Area includes lands in South Fork Sage Creek, Manning Creek, Deer Creek, Nate Canyon basin, and Wells Canyon basin, all in the Crow Creek watershed. A detailed discussion of water resources is located in **Section 3.3** of this EIS.

Wetlands
Numerous wetlands were identified throughout the area. See **Section 3.6** for a detailed discussion of wetland resources in the Project Area.

Fisheries
Fisheries and Aquatics resources are addressed in detail in **Section 3.8** of this EIS. Cutthroat trout are the most abundant game fish species in the upper reaches of Deer Creek, North Fork Deer Creek, South Fork Deer Creek, and South Fork Sage Creek, and are also present in lower Deer Creek and Crow Creek, although sculpins and other fish species are more numerous.

Studies of macroinvertebrate diversity and channel characteristics indicate relatively poor environmental conditions in the North Fork Deer Creek, South Fork Deer Creek, and some areas in lower Deer Creek; these areas probably do not provide spawning areas for cutthroat trout. Habitat in the upper reaches of Deer Creek, in Crow Creek, and in South Fork Sage Creek is relatively more suitable and could provide areas for spawning and longer-term persistence of a trout population.

Many trout individuals captured in Crow Creek (41 fish) and North Fork Deer Creek (5 fish) had body tissue selenium levels above the currently established "biological effect threshold" for fish, presumably from naturally occurring selenium in these areas.

The Tribes have not designated any specific traditional fishing areas on the CTNF but the whole Forest is used for exercising fishing rights.

Vegetation
Specific information regarding vegetation in the Project Area can be found in **Section 3.5**. Access to traditional plant resources is protected under the Fort Bridger Treaty of 1868. The Tribes have indicated that certain plants are important for traditional uses including, but not limited to, chokecherry, elderberry, current, red-twig dogwood (red willow), tulles, onions, turnips, all water plants (such as mint and watercress), huckleberry, gooseberry, raspberry, strawberry, sweet sage, carrots, bitterroot, camas, aspen, juniper, and lodge pole pine. Many of these plant species are present in the Project Area.

The Tribes use specific sized lodgepole pine trees for tipi poles. Baseline studies indicate that 15 percent of the vegetation in the Project Area is comprised of the subalpine fir community and 7.8 percent is the aspen/conifer community, both of which include lodgepole pine.

Noxious Weeds and Invasive Species
There is Tribal concern about non-native vegetation replacing native vegetation. See the Vegetation **Section 3.5** for discussion on noxious weeds and invasive species.

Wildlife
Detailed information regarding the wildlife in the Project Area can be found in **Section 3.7**. Big game wildlife important for Tribal hunting includes elk, deer, antelope, and moose. Small game important for Tribal hunting includes sharp-tailed grouse, sage grouse, rabbits, rockchucks (marmots), squirrels, and partridges. Eagle, wolves, and grizzlies are also of concern to the Tribes.

Grizzly bear, antelope, and partridge are likely absent from the Project Area. No bald eagle nests occur within 2.5 miles of the Study Area. No sharp-tailed grouse are known to occur within the Study Area.

There is suitable habitat for the gray wolf, but wolves are known only as transient visitors. Mule deer, elk, and moose roam through most of the Study Area year-round. There is a known elk spring calving ground at Sage Meadows, about one to two miles from Panel F.

Land Access/Transportation
Currently motorized access to the Project Area is via the Crow Creek Road (FR 111), Wells Canyon Road (FR 146), Smoky Canyon/Timber Creek Road (FR 110), Diamond Creek Road (FR 1102), Manning Creek Road (FR 740), Sage Creek Road (FR 145), and Georgetown Canyon Road (also FR 102).

In addition, there are 4-wheel drive/OHV roads and trails through the Project Area along South Fork Sage Creek, Deer Creek, and Manning Creek. The area can also be accessed by horse and foot with few or no areas of restriction. Additional information regarding access into the Project Area can be found in **Section 3.10**, Land Use and Recreation, and **Section 3.15** Transportation.

Treaty Rights Access
The Tribes are concerned with retaining access on unoccupied federal lands in order to exercise Tribal Treaty Rights. The Tribes assert their responsibility to preserve their Treaty Rights for future use of lands to ensure future opportunity, and therefore it is Tribal policy to "promote the conservation, protection, restoration, and enhancement of natural resources".

According to the Tribes, "access" to exercise Treaty Rights goes beyond the concept of simple entry into the Project Area by vehicle or foot. "Access" also includes continued availability of the traditional natural resources in an area. Therefore, the Tribal interpretation of loss of access extends to the exclusion, limitation, or unavailability of the traditional resources due to mining disturbance and road construction. It would also presumably apply to the displacement of wildlife in those areas.

Recreation
Most recreation in the Project Area is dispersed (no improvements). There are no developed campgrounds. The area does contain a semi-primitive motorized ROS area (see **Section 3.10**). The dominant type of dispersed recreation is hunting for elk, moose, and deer. Fishing occurs on Crow, Deer, and Diamond Creeks.

As discussed above, Tribal hunting and gathering rights, reserved by the 1868 Treaty, need no state regulations or permits to be exercised by tribal members. The Tribes' Fish & Game Department regulates and enforces the 1975 Tribal Fish & Game Code for all off-reservation hunting and fishing activities. Federal agencies recognize that the Tribes regulate their own Tribal members for hunting, and do not require Tribal members to secure State hunting or fishing permits within BLM or USFS lands.

Land Status
The Project Area is administered by the CTNF and is considered unoccupied federal lands; therefore, it is available for Treaty Rights use as stated in the Fort Bridger Treaty of 1868. These rights include hunting, fishing, gathering, and other practices such as trade. The Tribal concern is that changes in land status can diminish the locations at which the Tribes can exercise treaty rights; thus forcing Tribal members to relocate these activities to other areas or cease to exercise treaty rights on specific areas. It is the Shoshone Bannock Tribes' concern that the transfer or purchase of federal lands, and the extension of leases for mining on federal

lands by private businesses enable them to control access and use, which jeopardizes access to certain Shoshone-Bannock traditional fishing, hunting, and gathering areas, as well as grazing and timber use (Shoshone-Bannock 2005).

Air Quality
Specific data regarding air resources is located in **Section 3.2** of this EIS. All lands within the Project Area have been designated Class II for National Ambient Air Quality Standards. The air quality in the vicinity of the Smoky Canyon Mine is good to excellent because of the site's remote location, and relatively limited industrial activity in the area. Air quality in the Study Area is designated as in attainment or unclassifiable for all NAAQS and Idaho Ambient Air Quality Standards.

Socioeconomics and Environmental Justice
See **Sections 3.16** and **3.17**, respectively, for data regarding socioeconomics and environmental justice (EO 12898).

EO12898 Section 4-4 directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife. The affected environment for wildlife and fish can be found in **Sections 3.7** and **3.8**, respectively.

3.14.3 Consultation

Native American consultation began with the initial public scoping effort for this Project. The public scoping letter was sent to the Tribes on September 15, 2003. A follow-up meeting was held with Tribal technical staff in Fort Hall on October 2, 2003. A field trip to the Project Area was conducted on October 14, 2003 to show Tribal specialists the area for the proposed mining activity. A response letter was received from the Tribes dated October 17, 2003. Tribal concerns outlined in the letter included: Trust Assets/Treaty Resources; the cultural significance of the area to the Tribes; change in the interpretation of the area as unoccupied federal lands; specific disturbances of proposed mine support facilities; unreclaimed acres within a Roadless Area; minimization of overburden in external fills; lack of watershed baseline data; development of new roads; preservation of the quality, quantity, and integrity of the Deer Creek and Manning Creek ecosystem and environment; and the size of the cumulative impacts area.

Field meetings, presentations at Fort Hall Reservation for Tribal technical staff and the Tribal council, Agency-Tribal meetings, and verbal and written communication have been utilized to keep the Tribes informed and apprised of the Project. Communications to date are summarized in the following table.

TABLE 3.14-1 SUMMARY OF COMMUNICATION

COMMUNICATION TYPE	PARTIES INVOLVED	DATE
Scoping Letter	To Shoshone-Bannock Tribes from BLM and FS	September 15, 2003
Meeting	Shoshone-Bannock Tribal Technical Staff, BLM, FS	October 2, 2003
Field Meeting	Shoshone-Bannock Tribal Technical Staff, BLM, FS	October 14, 2003
Letter	From Fort Hall Business Council to BLM and FS	October 17, 2003
Field Meeting	Shoshone-Bannock Tribes, BLM, FS, Simplot	October 30, 2003
Field Meeting	Shoshone-Bannock Tribal Cultural Committee, BLM	July 29, 2004
Letter	To Shoshone- Bannock Tribes from BLM and FS	August 26, 2004

COMMUNICATION TYPE	PARTIES INVOLVED	DATE
Technical Consultation Meeting	Shoshone-Bannock Tribal Technical Staff, BLM, FS	April 15, 2005
Meeting	Shoshone-Bannock Tribal Land Use Policy Commission, Simplot	May 11, 2005
Letter	To Shoshone-Bannock Tribes from BLM	June 13, 2005
Government to Government Consultation	Fort Hall Business Council, BLM, FS	June 27, 2005
Technical Consultation Meeting	Shoshone-Bannock Tribal Technical Staff, BLM, and Third-party contractor	July 18, 2005
DEIS Distribution		December 23, 2005
DEIS Review	Tribal Technical Staff	February 14, 2006
Letter	From Fort Hall Business Council to BLM and FS	March 20, 2006
Letter	To Shoshone-Bannock Tribes from BLM and FS	May 4, 2006
Government to Government Consultation	Fort Hall Business Council, BLM, FS	June 29, 2006
Government to Government Consultation	Fort Hall Business Council, BLM, FS	September 6, 2006

Consultation with the Tribes will be on-going throughout the EIS process.

3.15 Transportation

The Smoky Canyon Mine is most commonly accessed by FR 110 (the Smoky Canyon Road). Under a special use permit for the buried slurry line that runs down the Smoky Canyon/Timber Creek Road, Simplot conducts normal maintenance on this road including removal of debris, blading, and shaping of roadway surfaces and ditches, repair of any roadway structures, restoration of eroded fills or berms, removal of snow, and installation of safety signs as appropriate. In order to reduce impacts to Smoky Creek, Simplot has proposed and the USFS has approved a plan to relocate 8,800 feet of the existing road away from Smoky Creek and up onto the reclaimed Panel C. Once relocated, most of the previous road would be reclaimed. Simplot has also been working with the USFS to improve the Smoky Canyon Road above (west) of the intersection of the mine access road. This would include some minor drainage improvements, but mostly would add aggregate surfacing to the existing road all the way to the Diamond Creek Road intersection. The section of this road within the CNF is under USFS jurisdiction, with primary maintenance assigned to Simplot through the special use agreement. The sections of this road below the Forest boundary are under county jurisdiction (Caribou County, Idaho and Lincoln County, Wyoming), and Simplot performs primary maintenance on portions of these sections.

During the winter months, this road provides the only access to the Mine property. Current use for the Smoky Canyon Road includes continued access to upper Smoky Creek and further west to Timber Creek and the Diamond Creek area (during late spring through early fall months only), although primary use of the road is for mine access traffic used by mine employees, commercial vendors, and suppliers. From Auburn, Wyoming, to the Wyoming/Idaho State line and then continuing west and south nearly another 5.2 miles, FR 110 is about 24 feet wide with an asphalt surface. From that point, it is an improved surface, gravel, double-lane road to the intersection with the mine haul road. A five-strand barbed wire fence lines the road on each side, and there are numerous cattle guards. As Smoky Canyon Road turns west, it transitions into a single lane, native surface road which connects with the Diamond Creek Road.

In order to estimate the approximate use of the Smoky Canyon Mine Road by employees and vendors, surveys of mine personnel were conducted that inquired about car-pooling and the use of either a car or pick-up truck for modes of transportation. Of the 214 full time employees that work at the Smoky Canyon Mine, 141 employees completed the survey. Of these, approximately two-thirds of the employees car-pool to and from the mine. Mine traffic is present seven days a week, 365 days a year, although approximately one-fourth of the employees work a standard Monday-Friday week. The majority of employees work 14 days per month (rotating 12-hour shifts of 3 days/week then 4 days/week). Thus, assuming that two-thirds of the employees car-pool, it was estimated that approximately 36 vehicles per day travel to the mine between Monday and Friday and an additional 105 vehicles working 12-hour rotating shifts travel on FR 110 seven days a week. The busiest times on this road would occur around shift changes and normal arrival and departure times from work that occur between 5:00 to 7:00 am and 5:00 to 6:00 pm. Saturdays and Sundays would have the least amount of travel on FR 110 from mine related (employees and vendors) traffic, but likely these are the busiest travel days by recreational users.

In addition, an estimate on the approximate number of vendor vehicles/visits to the mine each day was estimated using the Smoky Canyon Mine security log/sign-in sheets for the months of May and June 2004 and 20 random day counts (two per month) from January through September 2004. Based upon this data, it is estimated that approximately 15 vehicles/day from vendors/visitors use FR 110 to access the Smoky Canyon Mine. Visitor numbers to the mine are highest during the late spring months when groups of teachers and students take tours.

Although no traffic counts have been taken on roads within the Study Area, data was reviewed from a traffic counter on Crow Creek Road (located just south of Whiskey Flat Road, FR 114), approximately 10 miles south of the Wells Canyon Road (FR 146). Crow Creek Road, which generally follows Crow Creek through this fairly narrow valley, is designated as a Forest Highway (FR 111), and serves as one of the main routes of access to the Project Area. Traffic counts taken between July 26 and October 25, 2000 indicated that summer use of this road averages about 20 vehicles per day during the week and 60 vehicles per day (includes both directions) during the weekends. During hunting season in October, those averages triple during weekdays and nearly double during weekends. These counts provide an example of use near the Project Area; however, actual use north of the Wells Canyon intersection along Crow Creek Road is expected to be higher (Tate 2004).

Crow Creek Road is closed due to snow cover at least six months of the year; year-round access is maintained only to the boundary of Sections 20 and 21 in T.9S R.46E, near the confluence of Sage Creek and Crow Creek. This is outside, or east of, the Forest boundary. The unplowed portions of Crow Creek Road through the Forest, as well as Wells Canyon Road, are groomed snowmobile trails in the winter.

Diamond Creek Road, Georgetown Canyon Road, and Wells Canyon Road are also considered primary routes across the CNF and are used to access the Study Area.

Active mine areas are closed to public travel for safety reasons, although Smoky Canyon Road is open to public traffic and crosses the area of active mining. Where it crosses, there is a gated guard station to prevent collisions between mine traffic and Smoky Canyon Road users.

3.16 Social & Economic Resources

3.16.1 Introduction

Social and economic resources are addressed for a large geographic area, based upon current conditions with phosphate mining in the area. The area directly affected by the Smoky Canyon Mine is Southeastern Idaho and Southwestern Wyoming, primarily, Bannock, Caribou, and Power Counties, Idaho and Lincoln County, Wyoming (**Figure 3.16-1**). The mining operation and mill and slurry pipeline pumping facilities are located in Caribou County, Idaho, and a phosphate fertilizer plant is located just west of Pocatello, Idaho, in Power County. The mine is about five miles from the Idaho-Wyoming border and the majority of the employees at the mine site live in the Star Valley area of Lincoln County, Wyoming. There is a pumping facility at Conda, north of Soda Springs, in Caribou County, Idaho. Slurried concentrate from the mine is pumped to the Simplot fertilizer plant near Pocatello (Don Plant).

Figure 3.16-1 Four-County Area Directly Affected by the Don Plant and Smoky Canyon Mine

This section describes the socio-economic environment of the four counties. This includes the economic history, land ownership, population, demographics, employment, wages and income, housing, government finance, agriculture, and the economics of the U.S. phosphate industry.

To determine indirect and induced employment as a result of the Smoky Canyon Mine and the Don Plant, the area examined was expanded to the 27-county area shown in **Figure 3.16-2**. The mine purchases heavy equipment parts and operating supplies from dealers in Pocatello, Idaho and engineering supplies from vendors in Salt Lake City, Utah. Natural gas is a major feedstock for anhydrous ammonia and sulfuric acid. These two feedstocks have significant impact upon the cost of phosphate fertilizer manufacturing at the Simplot plant. The area of eastern Utah, northwestern Colorado, and southwestern Wyoming is a significant producer of natural gas, and the area's natural gas industry is integrated by the Questar Pipeline system and the Clay Basin Storage Facility in Daggett County, Utah. The population, employment, and personal income of the 27-county area examined for indirect and induced employment are described in this section.

Figure 3.16-2 Area Analyzed to Determine the Indirect and Induced Employment due to the Don Plant and the Smoky Canyon Mine

3.16.2 Economic History

Bannock County, Idaho

The first permanent Anglo settlement in Bannock County was Fort Hall, a fur trading post established in 1834 by Nathaniel Wyeth. He later sold the fort to the Hudson's Bay Company, which eventually abandoned the site. The Treaty with the Eastern Shoshone signed with Chief Washakie at Fort Bridger, Wyoming and the Treaty of Box Elder of 1863 with Chief Pocatello established the Fort Hall Reservation, which included much of present day Bannock County and surrounding areas. The Union Pacific Railroad purchased the Utah and Northern narrow gage in 1878 and extended the line north to Butte, Montana in 1881. The Oregon Short Line was built west from Wyoming, through Idaho, to Oregon in 1881-1884, crossing the Utah and Northern at the site of Pocatello. The railroad gradually purchased more land from the Bannock-Shoshone Tribes until the town site was opened to settlement in 1902. The Academy of Idaho, the predecessor to Idaho State University, was established in 1910. It became an independent four-year institution in 1947 (Conley 1982). With a current enrollment of 12,500, approximately 16 percent of the Bannock County population, the presence of Idaho State University has a significant influence on the economy and demographics of Bannock County. The Gay Mine, a phosphate mine, operated from 1946 to 1993 and was located on the Fort Hall Reservation. It was the first open pit mine in Southeastern Idaho to mine federally-owned phosphate.

Caribou County, Idaho

Members of the LDS Church, at the direction of Brigham Young, settled in Caribou County in 1870. The Oregon Short Line Railroad reached Soda Springs in 1882, and Soda Springs became a local center for shipping wool and livestock. The phosphate deposits were discovered in 1889 by prospectors hunting for gold, and the first commercial fertilizer mine

opened in 1906. In 1919, Soda Springs became the county seat of Caribou County, the youngest county in Idaho. Several phosphate mines have been developed in the county including Dry Valley Mine, Smoky Canyon Mine, Lanes Creek Mine, Conda Mine, Rasmussen Ridge Mine, Mountain Fuel Mine, Champ Mine, North Maybe Mine, Enoch Valley Mine, Henry Mine, Ballard Mine, and Wooley Valley Mine. Monsanto operates an elemental phosphorous plant north of Soda Springs. Agrium operates a wet acid phosphate fertilizer plant five miles northeast of Soda Springs.

Power County, Idaho

American Falls, the first settlement in Power County, Idaho, was a favorite campsite for emigrants on the Oregon Trail. The City of American Falls gradually evolved at the campsite and was made a station on the Union Pacific Railroad when the railroad was constructed. Cattle ranches were established in the area of Rockland as early as 1876. Power County was legally established in 1913, from parts of Bingham, Blaine, and Oneida Counties and was named after hydroelectric development at the American Falls on the Snake River. The construction of the American Falls dam and reservoir during the 1920s marked a major change in the area. The reservoir also inundated the original American Falls town site; which necessitated moving the town one-half mile to the east. American Falls dam resulted in the area becoming a center of wheat farming, and agriculture is a major portion of the county's economy (Federal Writers Project 1937, 1938). The county economy is further supported by the Don Plant, the Simplot phosphate fertilizer operation.

Lincoln County, Wyoming

After the area had been explored by fur trappers and crossed by pioneers utilizing the Lander Cutoff of the Oregon Trail, the first permanent settlers arrived in the 1870's from Utah. In terms of geography, social life, and attitudes, the area more closely resembles southeastern Idaho and northern Utah than Wyoming. Star Valley is populated by small towns approximately five to ten miles apart and separated by grazing and crop land, similar to southeastern Idaho and northern Utah, in contrast to most areas of Wyoming, which are characterized by cities and towns separated by large open areas utilized for ranching and natural resource extraction (Burton 1991).

Residents of Caribou County, Idaho and Star Valley often travel to Pocatello, Idaho, Evanston, Wyoming, and Salt Lake City, Utah, for goods and services that are not available locally. Over the past several decades, the western portion of Wyoming has seen an influx of affluent residents, property owners, and tourists centered around Jackson, Wyoming, as has the entire Greater Yellowstone area. Many of these affluent property owners are part-time residents of western Wyoming and maintain permanent residences elsewhere. Simultaneously, the area's economy has become more dependent upon investment income (dividends, interest, and rent) and government transfer payments and less dependent upon mining and manufacturing (Sonoran Institute 2003).

Natural resources are important parts of the residents' lifestyle, recreational activities, and the economy of the three counties. However, in recent years, local leaders have taken steps to diversify the economy and lessen the dependence upon natural resources and the worldwide commodities markets.

Fort Hall Reservation

The Fort Hall Reservation was created by Executive Order on June 14, 1867 and was established as a permanent homeland to Shoshone and Bannock peoples pursuant to the Fort Bridger Treaty of July 3, 1868. The original reservation was approximately 2 million acres, but by subsequent cessation agreements, the United States obtained land for non-Indian settlers, and the federal government. An 1888 executive Order ceded the Marsh Valley area for settlement, resulting in the loss of approximately 240,000 acres of Reservation lands. A June 6, 1900 Agreement with the Tribes ceded surplus lands resulting in the establishment of the City of Pocatello when approximately 419,000 acres of treaty-reserved lands were opened for settlement. The current Fort Hall Indian Reservation is approximately 544,000 acres, which does not include recently acquired lands adjacent to the reservation.

Natural resources are important parts of the subsistence lifestyle, social activities, and the economy of the Shoshone-Bannock Tribes.

3.16.3 Land Ownership and Population

The four counties are contiguous, with Power County, Idaho being the farthest west and Lincoln County, Wyoming being the farthest east. The location of the four counties in relationship to surrounding areas in Idaho, Utah, and Wyoming is shown in **Figure 3.16-1**. Bannock and Power Counties, Idaho, comprise the Pocatello, Idaho Metropolitan Area as defined by the Office of Management and Budget. The other two subject counties are not part of any metropolitan statistical area. Government is a significant landowner in each of the three counties (**Table 3.16-1**). Power County has the highest percentage of privately owned land of the four counties. Lincoln County is the largest of the three counties and is over three times as large as Bannock County, the smallest of the four.

TABLE 3.16-1 LAND OWNERSHIP

DESCRIPTION	BANNOCK COUNTY, ID	CARIBOU COUNTY, ID	POWER COUNTY, ID	LINCOLN COUNTY, WY
Acres	712,448	1,130,304	899,648	2,729,157
Federal	32.9%	41.6%	33.4%	71.6%
State	6.7%	9.9%	3.0%	7.6%
City and County	1.7%	0.2%	0.4%	0.0%
Private	58.8%	48.2%	63.2%	20.8%

Source: Idaho Dept. of Commerce, 2003a, 2003b, 2003c. Wyoming State Almanac 2002.

Population

The population of Bannock County, Idaho is concentrated in the city of Pocatello. Pocatello had a 2000 population of 51,466, or 68.1 percent of the Bannock County, Idaho population. Soda Springs is the largest city in Caribou County, Idaho, with a population of 3,381, 46.3 percent of the Caribou County, Idaho population.

American Falls is the largest city in Power County, Idaho, with a population of 4,111 or 54.5 percent of the Power County, Idaho population. Lincoln County, Wyoming has two centers of population. Kemmerer, in the southern part of the county, is the county seat. Kemmerer and surrounding communities account for about 30 percent of the population. Kemmerer had a 2000 population of 2,651, while the nearby towns of Diamondville and Opal had populations of 716 and 102, respectively. The other population center in Lincoln County, Wyoming is the Star

Valley in the northwest portion of the county. The Afton Census County Division, essentially Star Valley, had a 2000 population of 9,359. Approximately 174 of the Smoky Canyon Mine's 214 employees reside in the Star Valley.

The total population of the 27-county area analyzed for indirect and induced employment is just under 2 million persons (**Table 3.16-2**). Only 5.3 percent of the total population resides in the four directly affected counties.

TABLE 3.16-2 POPULATION IN THE 27-COUNTY AREA ANALYZED FOR INDIRECT AND INDUCED EMPLOYMENT, 2002 ESTIMATES

COUNTY	POPULATION	PERCENT	COUNTY	POPULATION	PERCENT
Garfield County, CO	47,249	2.4	Daggett County, UT	886	<0.05
Moffat County, CO	13,370	0.7	Davis County, UT	249,224	12.5
Rio Blanco County, CO	6,042	0.3	Duchesne County, UT	14,844	0.7
Routt County, CO	20,405	1.0	Morgan County, UT	7,380	0.4
Bannock County, ID	75,804	3.8	Rich County, UT	1,966	0.1
Bear Lake County, ID	6,360	0.3	Salt Lake County, UT	919,308	46.0
Bingham County, ID	42,458	2.1	Summit County, UT	31,857	1.6
Bonneville County, ID	85,180	4.3	Uintah County, UT	26,155	1.3
Caribou County, ID	7,319	0.4	Weber County, UT	204,167	10.2
Franklin County, ID	11,699	0.6	Lincoln County, WY	14,890	0.7
Oneida County, ID	4,131	0.2	Sublette County, WY	6,240	0.3
Power County, ID	7,379	0.4	Sweetwater County, WY	37,194	1.9
Box Elder County, UT	44,032	2.2	Uinta County, WY	19,793	1.0
Cache County, UT	93,695	4.7	**Area Total**	1,999,027	100.0

Source: U.S. Census Bureau, 2004a.

Demographics

The four subject counties are relatively uniform demographically. The average demographics for the four counties are highly influenced by Bannock County, Idaho, due to it containing 71.7 percent of the population of the four counties. The presence of Idaho State University in Bannock County, Idaho also influences the demographics. Bannock County, Idaho is 91.3 percent white, while Caribou County, Idaho, Power County, Idaho, and Lincoln County, Wyoming are 96.1percent, 83.8 percent, and 97.1 percent white, respectively. Hispanic is the most populous minority in each of the four counties. The largest Native American populations in the four subject counties are in Bannock and Power Counties, which include portions of the Fort Hall Indian Reservation. Native Americans represent 2.9 and 3.3 percent of these counties populations, respectively.

3.16.4 Employment

Unemployment in the four subject counties has trended downward during the 1990's, with an increase in the past several years (**Table 3.16-3**). Total employment in Bannock County increased from 29,228 to 36,882 from 1992 to 2002, respectively, while the unemployment rate dropped from 7.5 percent to 6.4 percent. Over the same time period, the unemployment rate in Caribou County dropped from 6.6 percent in 1992 to 5.8 percent in 2001 before increasing to 7.6 percent in 2002. The unemployment rate in Power County dropped from 7.4 percent in 1992 to 7.2 percent in 2001, before rising to 9.2 percent in 2002. The unemployment rate in Lincoln County dropped from 8.1 percent in 1992 to 5.4 percent in 2001, and increased to 6.2 percent in 2002.

TABLE 3.16-3 LABOR FORCE AND UNEMPLOYMENT

DESCRIPTION	1992	1999	2000	2001	2002
BANNOCK COUNTY, IDAHO					
Civilian Labor Force	31,601	39,192	39,502	40,751	39,383
Employment	29,228	37,123	37,533	38,818	36,882
Unemployment	2,373	2,069	1,969	1,932	2,501
Unemployment Rate	7.5%	5.3%	5.0%	4.7%	6.4%
CARIBOU COUNTY, IDAHO					
Civilian Labor Force	3,335	3,099	3,083	3,396	3,272
Employment	3,114	2,911	2,897	3,199	3,025
Unemployment	221	188	186	197	248
Unemployment Rate	6.6%	6.1%	6.0%	5.8%	7.6%
POWER COUNTY, IDAHO					
Civilian Labor Force	3,354	3,460	3,543	3,446	3,183
Employment	3,106	3,209	3,297	3,199	2,890
Unemployment	249	254	247	247	293
Unemployment Rate	7.4%	7.2%	7.0%	7.2%	9.2%
LINCOLN COUNTY, WYOMING					
Civilian Labor Force	6,328	6,615	6,596	6,798	6,695
Employment	5,814	6,209	6,253	6,433	6,283
Unemployment	514	406	343	365	412
Unemployment Rate	8.1%	6.1%	5.2%	5.4%	6.2%
NATIONWIDE					
Unemployment Rate	7.5%	4.2%	4.0%	4.7%	5.8%

Source: Idaho Department of Labor 2004a, 2004b, 2004c. Wyoming Department of Employment 2004a. Bureau of Labor Statistics, U.S. Dept. of Labor, Current Population Survey.

Changes in employment by industry for the four counties over the past several decades indicate that the economic structure of the area is changing (**Table 3.16-4**). While employment rose by over 85 percent from 1970 to 2000, not all industrial sectors participated equally. Mining employment peaked at 4.9 percent of total employment in 1980 and has since dropped to 1.5 percent. Much of the peak “mining” employment was due to oil and gas extraction in Lincoln County and is unrelated to the phosphate mining industry. The manufacturing industry, which includes the phosphate fertilizer and elemental phosphorus plants, added employment from 1970 to 2000, but the industry’s share of total employment dropped from 11.2 percent to 10.0 percent. By contrast, the services sector added jobs on both a relative and absolute basis from 1970 to 2000. Employment in the services sector increased by 174 percent from 1970 to 2000, while the sector’s share of total employment in the four counties increased from 16.0 percent to 23.5 percent.

Government is a major source of 2002 employment in each of the four counties (**Table 3.16-5**). Government accounts for 21.4 percent of employment in Bannock County, Idaho, 18.6 percent of employment in Lincoln County, Wyoming, 15.3 percent of Power County, Idaho, and 14.8 percent of employment in Caribou County, Idaho.

Other industrial sectors accounting for significant portions of employment in Bannock County, Idaho are retail trade (13.5 percent), health care (9.5 percent), accommodation and food services (7.4 percent), and manufacturing (6.2 percent).

Important industrial sectors in Caribou County, Idaho are manufacturing, farm employment, and construction. Mining, the sector that includes the phosphate mines, accounts for 7.7 percent of Caribou County employment. The phosphate processing plants are included under the manufacturing sector, which in 2001 accounted for 17.1 percent of employment in Caribou County, while construction accounted for 10.6 percent of employment (manufacturing and construction employment are not disclosed for Caribou County for 2002 to avoid disclosure of individual company data).

The largest industrial sector in Power County in terms of employment is manufacturing, which was responsible for 23.4 percent of employment in 2002. Of the four counties, Power County is also the most dependent upon farm employment, accounting for 20.1 percent of total employment.

Industrial sectors accounting for significant portions of employment in Lincoln County, Wyoming, are construction (13.3 percent) and retail trade (11.5 percent). Although a large majority of the employees at the Smoky Canyon Mine live in Lincoln County, Wyoming, the employment is reported under Caribou County, Idaho, since that is where the actual employment occurs.

TABLE 3.16-4 EMPLOYMENT BY INDUSTRIAL SECTOR STANDARD INDUSTRIAL CLASSIFICATION (SIC) BASIS IN THE FOUR COUNTIES, 1970-2000

EMPLOYMENT BY INDUSTRY				
	1970	**1980**	**1990**	**2000**
Total full-time and part-time employment	32,800	47,073	46,592	61,086
Proprietor's employment	5,651	7,567	9,470	12,891
Mining	546[1]	2,294[1]	1,217[1]	923[1,2]
Construction	1,993	2,584	2,143	4,120
Manufacturing	3,663	6,443	5,128	6,096
Transportation and Public Utilities	3,457	4,175	3,343	3,176
Wholesale Trade	1,269[3]	1,734[3]	1,744[3]	2,070
Retail Trade	5,179	7,610	8,399	10,945
Finance, Insurance and Real Estate	1,892	3,420	3,010	3,523[4]
Services	5,238	7,037	8,906	14,330
Government	5,313	7,447	8,194	10,477
EMPLOYMENT BY INDUSTRY, PERCENT				
	1970	**1980**	**1990**	**2000**
Total full-time and part-time employment	100.0	100.0	100.0	100.0
Proprietor's employment	17.2	16.1	20.3	21.1
Mining	1.7[1]	4.9[1]	2.6[1]	1.5[1,2]
Construction	6.1	5.5	4.6	6.7
Manufacturing	11.2	13.7	11.0	10.0
Transportation and Public Utilities	10.5	8.9	7.2	5.2
Wholesale Trade	3.9[3]	3.7[3]	3.7[3]	3.4
Retail Trade	15.8	16.2	18.0	17.9

EMPLOYMENT BY INDUSTRY				
	1970	1980	1990	2000
Finance, Insurance and Real Estate	5.8	7.3	6.5	5.8[4]
Services	16.0	14.9	19.1	23.5
Government	16.2	15.8	17.6	17.2

[1]Does not include Power County, Id. Mining Employment for Power County is not disclosed prior to 1995 and listed as less than 10 jobs in 1995 and afterward.
[2] Does not include Bannock County, Id. Mining Employment for Bannock County is not disclosed after 1997. In 1997, Mining Employment for Bannock County was 23.
[3] Does not include Power County, Id. Wholesale Trade Employment of Power County is not disclosed prior to 1994. Wholesale Trade Employment for Power County was 186 in 1994 and 196 in 2000.
[4] Does not include Power County, Id. Finance, Insurance and Real Estate Employment in Power County is not disclosed after 1998. In 1998 Finance, Insurance and Real Estate Employment in Power County was 138.
Note: May not sum to the total due to exclusion of several minor categories.
Source: Bureau of Economic Analysis 2004a.

TABLE 3.16-5 EMPLOYMENT BY INDUSTRIAL SECTOR, 2002 NORTH AMERICAN INDUSTRIAL CLASSIFICATION SYSTEM (NAICS) BASIS

INDUSTRY	BANNOCK COUNTY, ID	CARIBOU COUNTY, ID	POWER COUNTY, ID	LINCOLN COUNTY, WY
Total employment	42,506	4,752	4,760	8,377
Farm Employment	807	681	957	676
Forestry, fishing, and other	D	D	D	78
Mining	D	367	12	478
Utilities	D	34	D	D
Construction	2,589	D	254	1,114
Manufacturing	2,654	D	1113	341
Wholesale Trade	1,193	78	D	D
Retail Trade	5,721	493	308	960
Transportation and Warehousing	D	96	323	221
Information	808	45	D	146
Finance and Insurance	1,819	85	109	238
Real Estate and Rental and Leasing	1,272	103	46	326
Professional, Scientific, and Technical Services	1,936	101	D	314
Management of Companies and Enterprises	220	0	D	D
Administrative and Waste Services	2,624	202	137	D
Educational Services	313	20	L	22
Health Care and Social Assistance	4,035	149	D	D
Arts, Entertainment, and Recreation	735	D	44	127
Accommodation and Food Services	3,130	D	128	559
Other Service, Except Public Administration	2,080	188	1527	372
Government	9,091	705	731	1,560

D: Not disclosed to avoid revealing individual company data. L: Less than 10 jobs, but the estimates for this item are included in the totals.
Source: Bureau of Economic Analysis 2004b.
Note: May not necessarily agree with data reported by state employment agencies.

- Major employers in Bannock County, Idaho are AMI Semiconductor, Inc., Ballard-Kimberly Clark Medical Products, Convergys Customer Management, Farm Bureau Insurance, Farmers Insurance Group, Idaho State University, Pine Ridge Mall, Portneuf Medical Center, Qwest Communications, and Union Pacific Railroad (IDL 2004a).

- Major employers in Caribou County, Idaho are Agrium U.S. Inc., Caribou Memorial Hospital, Caribou County, Dravo Corporation, Heritage Safe Company, Monsanto Company, and Washington Group International (IDL 2004b).
- Major employers in Power County, Idaho are American Falls School District, Direct Communications, Double L Manufacturing, Harms Memorial Hospital, J. R. Simplot Company, Lamb Weston, and Power County (IDL 2004c).
- Major employers in the Star Valley are Lincoln County School District #2, Lincoln County Government, Lower Valley Energy, the Simplot Smoky Canyon Mine, Aviat, Star Valley Cheese, Freedom Arms, and Maverick Corporation (Lincoln County Profile 1998).

The 27-county area analyzed for indirect and induced employment has a total civilian labor force of just over 1 million persons (**Table 3.16-6**). The unemployment rate averaged 5.8 percent over the area in 2002, with a low of 2.3 percent in Rio Blanco County, Colorado to a high of 9.2 percent in Power County, Idaho.

TABLE 3.16-6 LABOR FORCE AND EMPLOYMENT IN THE 27-COUNTY AREA ANALYZED FOR INDIRECT AND INDUCED EMPLOYMENT, 2002

COUNTY	CIVILIAN LABOR FORCE	EMPLOYED	UNEMPLOYED	UNEMPLOYMENT RATE, PERCENT
Garfield County, CO	25,813	24,816	997	3.9
Moffat County, CO	6,408	6,037	371	5.8
Rio Blanco County, CO	3,372	3,295	77	2.3
Routt County, CO	12,387	12,007	380	3.1
Bannock County, ID	39,383	36,882	2,501	6.4
Bear Lake County, ID	2,832	2,677	155	5.5
Bingham County, ID	22,424	21,422	1,002	4.5
Bonneville County, ID	48,764	47,013	1,751	3.6
Caribou County, ID	3,272	3,025	248	7.6
Franklin County, ID	5,094	4,877	217	4.3
Oneida County, ID	1,697	1,624	74	4.3
Power County, ID	3,183	2,890	293	9.2
Box Elder County, UT	18,472	17,224	1,248	6.8
Cache County, UT	47,915	45,866	2,049	4.3
Daggett County, UT	467	445	22	4.7
Davis County, UT	124,391	117,947	6,444	5.2
Duchesne County, UT	6,544	5,991	553	8.5
Morgan County, UT	3,850	3,656	194	5.0
Rich County, UT	1,088	1,032	56	5.1
Salt Lake County, UT	514,614	482,260	32,354	6.3
Summit County, UT	16,647	15,186	1,461	8.8
Uintah County, UT	12,563	11,714	849	6.8
Weber County, UT	108,169	101,170	6,999	6.5
Lincoln County, WY	6,695	6,283	412	6.2
Sublette County, WY	3,501	3,411	90	2.6
Sweetwater County, WY	19,790	18,851	939	4.7
Uinta County, WY	11,345	10,695	650	5.7
Area Total	1,070,680	1,008,296	62,384	5.8

Source: Colorado Department of Labor and Employment 2004. Idaho Department of Labor 2004a, 2004b, 2004c, 2004d, 2004e, 2004f, 2004g, 2004h. Utah Department of Workforce Services 2004, Wyoming Department of Employment 2004a.

3.16.5 Income

Caribou County, Idaho has the highest average annual wage of the four counties. From 1980 to 2002, Caribou County's average annual, nonagricultural wage increased at an annual rate of 3.4 percent. The average annual wage in Bannock, Power, and Lincoln Counties increased at 3.0 percent, 2.8 percent and 2.6 percent, respectively. Lincoln County, Wyoming's average wage peaked at $22,140 in 1985, dropped to $20,150 in 1990 and has since recovered to $26,621. As with employment, the peak in the average wage in Lincoln County was due to the oil boom during the 1980s.

Lincoln County has the highest median household income, followed closely by Caribou County. Similarly, Lincoln County has the fewest number of households in the lower income brackets, and Power County has the highest number of households in the lower income brackets. The Afton Census County Division (CCD) has a median household income of $39,648, higher than any of the three Idaho counties, but lower than the average for Lincoln County.

Within Star Valley, Turnerville has the highest household income of $52,857, followed by Star Valley Ranch ($47,981), Alpine ($45,313), Etna ($42,917), Bedford ($40,469), Afton ($37,292), Fairview ($35,568), Auburn ($33,125), Grover ($32,500), Smoot ($32,273), and Thayne ($31,875) (Decennial Census 2000e). Within Star Valley, the highest household incomes occur in communities in the northern part of the valley that have been influenced greatest by persons moving to Star Valley for recreational and similar reasons. Communities in the southern portion of Star Valley, which rely more on the traditional industries of agriculture and natural resource extraction, tend to have lower household incomes.

The structural change in the four counties' economy over the past several decades is further shown by the changes in sources of personal income (**Table 3.16-7**). Investments have been rising as a source of personal income in the four counties, with Dividends, Interest, and Rent rising from 11.3 to 17.7 percent of total personal income. Similarly, the Services sector rose from 10.0 percent of workplace earnings to 16.4 percent. The Mining sector peaked at 9.6 percent of workplace earnings in 1980 and has since declined to 3.4 percent of workplace earnings. Manufacturing peaked at 19.6 percent of workplace earnings in 1980, with the 2000 share 11.6 percent.

Personal income in the four-county area is concentrated in Bannock County, with 71.5 percent of the personal income (**Table 3.16-8**). This is in line with the population distribution between the four counties, with Bannock County containing 71.9 percent of the population.

Bannock County has the most diversified sources of earnings of the four counties. Government employment is responsible for 28.3 percent of earnings in Bannock County, followed by Health Care (10.5 percent) and Manufacturing (10.5 percent). In determining Personal Income for Bannock County, there is a positive adjustment for residence of $122 million, indicating a net commuting outside of the county for employment.

Caribou County's sources of earnings are more concentrated, indicating a less diversified economy. Manufacturing, which includes the phosphate processing plants, was responsible for 37.5 percent of earnings in the county in 2001. In 2002, manufacturing earnings for Caribou County were not disclosed to avoid disclosure of individual company data. In determining Personal Income for Caribou County, there is a negative adjustment for residence of $36 million, indicating a net commuting into the county for employment.

TABLE 3.16-7 PERSONAL INCOME BY SOURCE (SIC BASIS) IN THE FOUR COUNTIES, 1970-2000

TOTAL PERSONAL INCOME BY SOURCE, $1,000				
	1970	**1980**	**1990**	**2000**
Total Personal Income	259,058	845,156	1,349,920	2,209,166
Dividends, Interest, and Rent	29,132	113,377	217,889	388,222
Transfer Payments	21,563	86,835	175,155	318,351
Mining	8,063[1]	66,457[1]	44,878[1]	49,926[2]
Construction	19,190	48,542	49,604	115,956
Manufacturing	29,986	134,013	159,816	257,252
Transportation and Public Utilities	34,069	104,235	133,449	146,577
Wholesale Trade	10,170[3]	29,616[3]	38,892[3]	65,161
Retail Trade	25,198	65,378	91,757	142,094
Finance, Insurance and Real Estate	9,574	29,968	42,101	69,403[4]
Services	22,356	74,965	126,982	268,545
Government	34,063	103,659	208,137	370,233
TOTAL PERSONAL INCOME BY SOURCE, PERCENT				
	1970	**1980**	**1990**	**2000**
Total Personal Income	100.0	100.0	100.0	100.0
Dividends, Interest, and Rent	11.2	13.4	16.1	17.6
Transfer Payments	8.3	10.3	13.0	14.4
Mining	3.1[1]	7.9[1]	3.3[1]	2.3[2]
Construction	7.4	5.7	3.7	5.2
Manufacturing	11.6	15.9	11.8	11.6
Transportation and Public Utilities	13.2	12.3	9.9	6.6
Wholesale Trade	3.9[3]	3.5[3]	2.9[3]	2.9
Retail Trade	9.7	7.7	6.8	6.4
Finance, Insurance and Real Estate	3.7	3.5	3.1	3.1[4]
Services	8.6	8.9	9.4	12.2
Government	13.1	12.3	15.4	16.8

[1] Does not include Power County, Id. Mining Income is not disclosed for Power County prior to 1994. Mining Income in Power County was $621,000 in 1994 and $693,000 in 2000.
[2] Does not include Bannock County, Id. Mining Income is not disclosed for Bannock County after 1997. Mining Income in Bannock County was $687,000 in 1997.
[3] Does not include Power County, Id. Wholesale Trade Income is not disclosed for Power County prior to 1994. Wholesale Trade Income for Power County was $14,960,000 in 1994 and $6,704,000 in 2000.
[4] Does not include Finance, Insurance, and Real Estate for Power County, Id. Finance, Insurance, and Real Estate Income is not disclosed for Power County after 1999. Finance, Insurance, and Real Estate Income for Power County was $2,161,000 in 1999.
Note: May not sum to the total due to exclusion of several minor categories.
Source: Bureau of Economic Analysis 2004c.

Power County has the least diversified economy of the four counties; only two industries account for over half of the earnings in Power County. Manufacturing accounts for 31.5 percent of earnings while farm earnings account for an additional 25.1 percent. In determining Personal Income, there is a negative adjustment for residence of $32 million, indicating a net commuting into the county for employment.

In Lincoln County, government is responsible for 23.4 percent of earnings, while mining accounts for an additional 14.4 percent. For Lincoln County, there is a positive adjustment for residence of $29 million in determining total personal income, indicating a net commuting outside of the county for employment. Dividends, interest, and rents are responsible for a quarter (25.2 percent) of personal income in Lincoln County.

The average annual wage in the 27-county area analyzed for indirect and induced employment was $31,014 in 2002 (**Table 3.16-9**). The average annual wage varied from a low of $18,176 in Oneida County, Idaho to a high of $33,345 in Salt Lake County, Utah. The average per capita personal income for the 27-county area was $26,632 in 2002. Daggett County, Utah had the lowest per capita personal income of the 27 counties, with $17,330. The county with the highest per capita personal income was Summit County, Utah with $45,121.

3.16.6 Travel-related Employment and Wages

Most employees at the Smoky Canyon Mine reside in the Star Valley where, in addition to the traditional mining and agriculture industrial sectors, tourism is playing an increasingly important role in the local economy. Between 1990 and 2000, the number of housing units in the Afton CCD held for seasonal, recreational, or occasional use increased from 520 to 843, while the total number of housing units in the Star Valley increased from 2,889 to 4,365. A study conducted by Dean Runyan Associates in 2003 for the Wyoming State Office of Travel and Tourism and the Wyoming Business Council determined there were approximately 600 jobs in Lincoln County that are directly attributable to spending by travelers (Dean Runyan Associates, 2003). An update for 2003 placed the number at 690 jobs in Lincoln County directly attributable to traveler spending. With approximately 6,000 total jobs in Lincoln County, travel-related jobs account from about 11 to 12 percent of total employment (**Table 3.16-10**).

TABLE 3.16-8 PERSONAL INCOME BY SOURCE, 2002 (NAICS BASIS)

PERSONAL INCOME AND EARNINGS	BANNOCK COUNTY, ID		CARIBOU COUNTY, ID		POWER COUNTY, ID		LINCOLN COUNTY, WY	
	INCOME/ EARNINGS, $1,000	% OF TOTAL	INCOME/ EARNINGS, $1,000	% OF TOTAL	INCOME/ EARNINGS, $1,000	% OF TOTAL	INCOME/ EARNINGS, $1,000	PERCENT OF TOTAL
INCOME BY PLACE OF RESIDENCE								
Personal income	1,726,039	100.0[a]	157,683	100.0[a]	159,599	100.0[a]	371,943	100.0[a]
Derivation of Personal Income:								
Earnings by place of work	1,193,427	100.0[b]	156,429	100.0[b]	153,981	100.0[b]	223,333	100.0[b]
less: Contributions for government social insurance	148,733	12.5[b]	18,745	12.0[b]	15,079	9.8[b]	24,859	11.1[b]
plus: Adjustment for residence	122,390	10.3[b]	-36,124	-23.1[b]	-31,830	-20.7[b]	28,552	12.8[b]
equals: Net earnings by place of residence	1,167,084	67.6[a]	101,560	64.4[a]	107,072	67.1[a]	227,026	61.0[a]
plus: Dividends, interest, and rent	255,827	14.8[a]	31,886	20.2[a]	25,465	16.0[a]	93,661	25.2[a]
Plus: Personal current transfer receipts	303,128	17.6[a]	24,237	15.4[a]	27,062	17.0[a]	51,256	13.8[a]
EARNINGS BY PLACE OF WORK BY TYPE								
Wage and salary disbursements	862,168	72.2[b]	112,975	72.2[b]	99,765	64.8[b]	155,813	69.8[b]
Supplements to wages and salaries	210,664	17.7[b]	28,408	18.2[b]	23,352	15.2[b]	34,193	15.3[b]
Proprietors' income	120,595	10.1[b]	15,046	9.6[b]	30,864	20.0[b]	33,327	14.9[b]
Farm proprietors' income	5,944	0.5[b]	5,766	3.7[b]	23,877	15.5[b]	-1,582	-0.7[b]
Nonfarm proprietors' income	114,651	9.6[b]	9,280	5.9[b]	6,987	4.5[b]	34,909	15.6[b]
EARNINGS BY PLACE OF WORK BY INDUSTRY								
Farm earnings	8,152	0.7[b]	10,713	6.8[b]	38,656	25.1[b]	1,262	0.6[b]
Nonfarm earnings	1,185,275	99.3[b]	145,716	93.2[b]	115,325	74.9[b]	222,071	99.4[b]
Forestry, fishing, related activities, and other	(D)	(D)[b]	(D)	(D)[b]	(D)	(D)[b]	1,441	0.6[b]
Mining	(D)	(D)[b]	20,834	13.3[b]	499	0.3[b]	32,114	14.4[b]
Utilities	(D)	(D)[b]	1,824	1.2[b]	(D)	(D)[b]	(D)	(D)[b]
Construction	72,376	6.1[b]	(D)	(D)[b]	7,563	4.9[b]	34,806	15.6[b]
Manufacturing	124,979	10.5[b]	(D)	(D)[b]	48,577	31.5[b]	8,909	4.0[b]
Wholesale trade	47,364	4.0[b]	2,799	1.8[b]	(D)	(D)[b]	(D)	(D)[b]
Retail trade	108,009	9.1[b]	7,773	5.0[b]	4,359	2.8[b]	14,690	6.6[b]
Transportation and warehousing	(D)	(D)[b]	3,463	2.2[b]	8,805	5.7[b]	11,543	5.2[b]
Information	25,568	2.1[b]	922	0.6[b]	(D)	(D)[b]	3,831	1.7[b]
Finance and insurance	54,050	4.5[b]	1,640	1.0[b]	2,060	1.3[b]	6,198	2.8[b]
Real estate and rental and leasing	15,762	1.3[b]	562	0.4[b]	405	0.3[b]	4,598	2.1[b]
Professional and technical services	56,357	4.7[b]	2,536	1.6[b]	(D)	(D)[b]	8,700	3.9[b]
Management of companies and enterprises	11,446	1.0[b]	0	0.0[b]	(D)	(D)[b]	(D)	(D)[b]
Administrative and waste services	34,208	2.9[b]	3,743	2.4[b]	3,505	2.3[b]	(D)	(D)[b]
Educational services	3,983	0.3[b]	(L)	(L)[b]	61	0.0[b]	(L)	(L)[b]
Health care and social assistance	125,675	10.5[b]	2,663	1.7[b]	(D)	(D)[b]	(D)	(D)[b]
Arts, entertainment, and recreation	6,591	0.6[b]	(D)	(D)[b]	341	0.2[b]	2,672	1.2[b]
Accommodation and food services	34,474	2.9[b]	(D)	(D)[b]	885	0.6[b]	5,107	2.3[b]
Other services, except public administration	34,548	2.9[b]	2,323	1.5[b]	2,238	1.5[b]	5,345	2.4[b]
Government and government enterprises	337,552	28.3[b]	22,713	14.5[b]	22,894	14.9[b]	52,181	23.4[b]

[a] Income components of percent of total personal income. [b] Earnings components as percent of total earnings. (D) Not shown to avoid disclosure of individual company information. (L) Less than $50,000. Data included in totals. Source: Bureau of Economic Analysis 2004d.

TABLE 3.16-9 PERSONAL INCOME IN THE 27-COUNTY AREA ANALYZED FOR INDIRECT AND INDUCED EMPLOYMENT, 2002

COUNTY	AVERAGE ANNUAL WAGE ($)	NONAGRICULTURAL PAYROLL ($1,000)	TOTAL PERSONAL INCOME($1,000)	PER CAPITA PERSONAL INCOME ($)
Garfield County, CO	30,899	900,745	1,273,080	27,121
Moffat County, CO	30,205	208,259	323,884	24,136
Rio Blanco County, CO	29,388	131,325	164,498	27,439
Routt County, CO	30,406	588,076	753,228	36,976
Bannock County, ID	25,190	1,161,125	1,726,039	22,754
Bear Lake County, ID	19,023	44,711	121,388	19,320
Bingham County, ID	23,977	460,840	883,126	20,839
Bonneville County, ID	28,107	1,628,462	2,197,906	25,815
Caribou County, ID	33,005	149,483	157,683	21,749
Franklin County, ID	20,611	75,952	230,732	19,610
Oneida County, ID	18,176	25,477	72,682	17,620
Power County, ID	25,987	147,391	159,599	21,512
Box Elder County, UT	32,635	789,479	948,070	21,563
Cache County, UT	23,670	1,291,595	1,867,795	19,792
Daggett County, UT	23,829	14,124	15,476	17,330
Davis County, UT	30,441	3,955,306	6,471,276	25,947
Duchesne County, UT	26,093	188,366	309,876	20,854
Morgan County, UT	26,019	70,191	166,904	22,397
Rich County, UT	19,150	14,978	44,823	22,963
Salt Lake County, UT	33,345	24,835,467	26,184,005	28,539
Summit County, UT	27,133	699,045	1,439,132	45,121
Uintah County, UT	26,323	375,353	480,620	18,341
Weber County, UT	27,790	3,285,935	4,948,880	24,315
Lincoln County, WY	26,621	216,750	371,943	24,948
Sublette County, WY	27,807	103,100	193,972	31,331
Sweetwater County, WY	32,322	972,476	1,131,418	30,400
Uinta County, WY	28,299	352,937	547,651	27,725
Area Total	31,014	42,686,948	53,185,686	26,632

Source: Bureau of Economic Analysis, 2004e.

TABLE 3.16-10 TOTAL AND TRAVEL-RELATED EMPLOYMENT IN LINCOLN COUNTY, WYOMING

	1999	2000	2001	2002	2003
Total Employment	5,083	5,006	5,224	5,234	6,078
Travel-related Employment	600	600	590	630	690
Travel-related Employment, percent of Total	11.8	12.0	11.3	12.0	11.4

Source: Dean Runyan Associates, 2003. Wyoming Business Council, 2004. Wyoming Department of Employment, 2004a.

Travel-related employment is not nearly as important to the three Idaho counties as it is in Lincoln County, Wyoming. Travel-related employment accounted for 1,130 jobs in Bannock County, 124 jobs in Caribou County, and 266 jobs in Power County, Idaho in 1997 (Dean Runyan Associates 1999). Total employment in the three Idaho counties was 36,607, 3,118, and 3,267 for Bannock, Caribou, and Power Counties, respectively in 1997. Therefore, travel-related employment was responsible for 3.1 percent, 4.0 percent, and 8.1 percent of total employment in Bannock, Caribou, and Power Counties.

Mining employment has higher annual wages than does industrial sectors commonly associated with travel-related spending. The average annual wage for mining in Caribou County, Idaho (site of the Smoky Canyon Mine) was $44,657 (Bureau of Labor Statistics 2004). By comparison, the average annual wage in Lincoln County, Wyoming for six industrial sectors commonly identified with travel-related employment was under $20,000 (**Table 3.16-11**). For this comparison it is necessary to compare mining wages in Caribou County, Idaho to wage for the travel-related industrial codes in Lincoln County, Wyoming because most of the employees at the Smoky Canyon Mine (which is in Caribou County) live in Lincoln County, and most other employment opportunities for the mine's employees would be in Lincoln County.

TABLE 3.16-11 EMPLOYMENT AND AVERAGE WAGE FOR MINING AND TRAVEL-RELATED INDUSTRIAL SECTORS, LINCOLN COUNTY, WYOMING 2003

	AVERAGE ANNUAL EMPLOYMENT	AVERAGE ANNUAL WAGE, $
Mining (NAICS 21)	376	44,657
Retail Trade (NAICS 44-45)	682	15,488
Real Estate (NAICS 53)	37	8,873
Administrative (NAICS 56)	55	19,687
Arts, Entertainment & Recreation (NAICS 71)	29	13,569
Accommodations & Food Services (NAICS 72)	469	7,447
Other Services (NAICS 81)	89	18,564

Note: Mining data is for Caribou County, Idaho. Other Data is for Lincoln County, Wyoming. Average Annual Wage for the travel-related industrial sectors was calculated by the preparer using data from the Wyoming Department of Employment.
Source: Bureau of Labor Statistics, 2004, Wyoming Department of Employment, 2004b.

3.16.7 Local Government Finances

Local government finances for the four counties are summarized in **Table 3.16-12**. These data include all local governments - not only county governments, but also any municipalities, school districts, and special districts within the counties. Bannock County had the highest general revenue, and lowest per capita taxes. Caribou County had the lowest general revenue, and Lincoln County had the highest per capita taxes. Each county spent the largest percentage of its budget on education, with health and hospitals, and highways following. Lincoln County had the highest outstanding debt per capita, followed by Caribou, Power, and Bannock Counties.

TABLE 3.16-12 LOCAL GOVERNMENT FINANCES

DESCRIPTION	BANNOCK COUNTY, ID	CARIBOU COUNTY, ID	POWER COUNTY, ID	LINCOLN COUNTY, WY
General Revenue (million $)	177.4	24.7	25.3	59.3
Intergovernmental Transfers (million $)	69.3	11.5	10.0	23.0
Total Taxes (million $)	39.1	6.9	8.3	18.4
Per Capita Taxes ($)	530	934	999	1,324
Per Capita Property Taxes ($)	505	864	990	1,187
Direct General Expenditures (million $)	171.1	26.3	26.0	63.7
Per Capita Direct General Expenditures ($)	2,317	3,568	3,130	5,492
Education	40.7%	47.7%	41.8%	50.6%
Health and Hospitals	26.7%	14.4%	16.7%	8.4%
Police	5.0%	5.3%	3.8%	3.3%
Public Welfare	0.7%	0.6%	0.6%	0.2%
Highways	4.2%	11.5%	10.1%	3.6%
Total Outstanding Debt (million $)	43.1	10.1	13.7	147.9
Per Capita Outstanding Debt ($)	584	1,375	1,657	10,666

Source: Gaquin and DeBrant 2002.

Crow Creek Valley, within Caribou County, Idaho, is the location of seven housing census units (**Table 3.16-13**). There is one housing census unit in Census Block 1155, which is the area south and east of the Crow Creek Road. The other six housing census units in Crow Creek Valley are in Census Block 1161, which is west of Crow Creek Road and south of the Wells Canyon Road. Field visits to this area indicate that there are five houses/ranches north of the Wells Canyon Road and one ranch (Crow Creek Ranch), approximately one mile south of the Wells Canyon Road (see **Figures 2.6-11a and 2.6-11b**). In Lincoln County, Wyoming there are an additional five housing units between the Idaho/Wyoming State Line and the Crow Creek Road/Loch Avenue intersection that is located at the mouth of the Crow Creek drainage as it enters into Star Valley.

TABLE 3.16-13 HOUSING UNITS IN THE CROW CREEK VALLEY BY CENSUS BLOCK

CENSUS BLOCK	HOUSING UNITS	OCCUPIED HOUSING UNITS	SEASONAL, RECREATIONAL, OR OCCASIONAL USE
1155	1	0	1
1156	0	0	0
1157	0	0	0
1158	0	0	0
1159	0	0	0
1160	0	0	0
1161	6	0	6
1230	0	0	0
1231	0	0	0

Source: U.S. Census Bureau 2000a

Note: Census Blocks correspond to those shown in Figure 3.16-3 for Census Tract 9602, Block Group 1 in Caribou County, Idaho.

3.16.8 Agriculture

Agriculture plays a significant role in the economies of each of the four counties (**Table 3.16-14**). Power County is the most significant of the four counties in agricultural production, producing nearly $121 million worth of agricultural products in 1997. The value of production is dominated by crops in Bannock, Caribou, and Power Counties, while livestock accounts for the majority of production in Lincoln County. While crops dominate the value in the three Idaho Counties, cattle are also significant. Cattle accounts for 27.4 percent of the total value of production in Bannock County, 21.9 percent in Caribou County, and 25.8 percent in Power County. Potatoes, wheat, and barley are significant crops in the three Idaho counties, while dairy and sheep are important components of agriculture in Lincoln County (National Agricultural Statistics Service 1997a, 1997b, 1997c, 1997d).

TABLE 3.16-14 AGRICULTURAL PRODUCTION

DESCRIPTION	BANNOCK COUNTY, ID		CARIBOU COUNTY, ID		POWER COUNTY, ID		LINCOLN COUNTY, WY	
Value of Production ($)	25,032,000		42,918,000		120,975,000		22,969,000	
Crops	62%		69%		72%		13%	
Livestock	38%		31%		28%		87%	
Major Commodities (% of total value)	Cattle	27.4%	Barley	27.9%	Potatoes	48.5%	Cattle	56.5%
	Potatoes	22.6%	Cattle	21.9%	Cattle	25.8%	Dairy	18.2%
	Wheat	22.6%	Potatoes	(D)	Wheat	20.6%	Sheep	10.6%
	Hay	9.4%	Wheat	16.0%	Dairy	1.2%	Hay	8.5%
	Dairy	7.1%	Dairy	5.5%	Nursery	(D)	Barley	4.1%

Source: National Agricultural Statistics Service 1997a, 1997b, 1997c, 1997d
(D) Not shown to avoid disclosure of individual company information.

Power County, Idaho has the largest and most profitable farms of the four counties (**Table 3.16-15**). The average farm in Power County returned $52,777 in 1997. The farms in the other three counties are not as profitable as those in Power County. For comparison, the average farm in Lincoln County, Wyoming, returned only $12,244.

Collectively, the four counties contained 1,918 farms in 1997 (defined as those with sales of agricultural products of $1,000 or more). The average sales per farm was $110,477, although 49.5 percent of the farms had sales of less than $10,000, and the average return after expenses was $21,021. Nearly half of those engaged in farming (49.3 percent) had a principal occupation other than farming, while 56.0 percent worked at least one day during the year off the farm, and 36.5 percent worked more than 200 days off the farm (National Agricultural Statistics Service 1997e, 1997f, 1997g, 1997h). While agriculture plays a large role in the identity and social life of the area, outside employment is usually necessary in addition to farming.

TABLE 3.16-15 AGRICULTURAL ECONOMICS

	BANNOCK COUNTY, ID	CARIBOU COUNTY, ID	POWER COUNTY, ID	LINCOLN COUNTY, WY	FOUR-COUNTY AREA
Number of Farms	664	427	323	504	1,918
Average Size (acres)	446	1,099	1,313	810	840
Average Return ($)	$7,756	$27,989	$52,777	$12,244	$21,021
Sales less than $10,000 (%)	64.3%	40.5%	32.2%	48.6%	49.5%
Operators Principal Occupation is other than Farming (%)	59.5%	42.2%	34.4%	51.6%	49.3%
Operators Work off the Farm (%)	63.0%	48.2%	45.2%	60.5%	56.0%
Operators Work more than 200 days off the Farm (%)	46.1%	27.4%	26.3%	38.3%	36.5%

Source: National Agricultural Statistics Service 1997e, 1997f, 1997g, 1997h.

3.16.9 Phosphate Mining and Processing Industry

Phosphate is an essential component of the nitrogen-phosphorus-potassium fertilizers that are consumed by the world's agricultural industry. Phosphate rock minerals are the only significant global source of phosphorus. The United States is the world's leading producer and consumer of phosphate rock, which is used to produce fertilizers and industrial products.

Since phosphate mining began in southeastern Idaho, there have been a total of 31 phosphate mines in the area (USGS 2001c). Of these, 12 were small underground mines, all of which produced small quantities of ore and have been closed for years. There have been 20 surface mining operations of which those with significant production and surface area include: Waterloo, Conda, Gay, Ballard, Maybe Canyon, Georgetown Canyon, Mountain Fuel, Henry, Little Long Valley, Lanes Creek, Champ, Smoky Canyon, Enoch Valley, Rasmussen Ridge, and Dry Valley. More than 90 percent of phosphate rock mined in 2002 was used to produce fertilizers and animal feed supplements. The major fertilizer products are super phosphoric acid (SPA), diammonium phosphate (DAP), monoammonium phosphate (MAP), granular triple super phosphate (TSP), and wet process phosphoric acid (WPPA). The WPPA is a feedstock for DAP, MAP, and TSP.

Major feedstocks other than phosphate rock required for the production of ammonium phosphate fertilizers are anhydrous ammonia and sulfuric acid. Most ammonia is manufactured by the Haber process, where nitrogen gas and hydrogen gas are reacted at high temperature and pressure in the presence of a metallic iron catalyst. The nitrogen is obtained from air, and the hydrogen is usually obtained by reforming hydrocarbons with steam to form hydrogen gas and carbon dioxide. Natural gas is commonly the hydrocarbon used to manufacture hydrogen gas (Kroschwitz 1992).

Sulfuric acid is manufactured by burning sulfur to sulfur dioxide, then reacting the sulfur dioxide with oxygen and water to form sulfuric acid. Over 90 percent of sulfur produced in the United States and Canada is currently recovered from sulfur-containing natural gas and crude oil, with the remaining recovered as sulfuric acid as a byproduct of roasting and smelting sulfide metal ores (Chemical Market Reporter 2003a, 2003b; USGS 2004d). With the natural gas industry supplying two of the major feedstocks for manufacturing ammonium phosphate fertilizers, the fertilizer industry is very sensitive to changing economics in the natural gas industry.

The sulfuric acid is reacted with phosphate rock to produce WPPA and gypsum. The WPPA is then reacted with anhydrous ammonia in the presence of steam and water to produce ammonium phosphate fertilizer. By altering the operating conditions and ratio of the feed material, either DAP or MAP can be manufactured.

Most large ammonium phosphate fertilizer plants are vertically integrated, with onsite sulfuric acid and ammonia manufacturing facilities, although ammonia manufacturing at the Don Plant has been discontinued, and Simplot is purchasing anhydrous ammonia on the open market. Fertilizer manufacturing accounts for 70 percent of sulfuric acid consumption in the United States. Additionally, the fertilizer industry accounts for 89 percent of ammonia consumption in the United States. About 20 percent of ammonia is directly applied as anhydrous ammonia, while 69 percent is used as feedstock for manufacturing various fertilizer materials including urea, ammonium nitrate, ammonium phosphate, ammonium sulfate, and nitric acid (Chemical Market Reporter 2002a).

Triple superphosphate (TSP) is manufactured by reacting phosphate rock with WPPA. The WPPA and the sulfuric acid necessary to manufacture TSP are usually made at the TSP plant. Since the late 1960s, TSP has been overshadowed by DAP and MAP, but production is expected to be sustainable for two reasons. First, the production of TSP at an ammonium phosphate plant is a convenient way to use sludge WPPA that is too impure for MAP or DAP production. Second, the absence of nitrogen in TSP makes it the preferred source of phosphorus for the no-nitrogen bulk-blend fertilizers that are often used for leguminous crops such as soybeans, alfalfa, and clover (Kroschwitz 1993).

Although the United States is a net importer of phosphate rock, with over 99 percent of imports coming from Morocco, domestic mines still account for over ninety percent of the nation's supply (**Table 3.16-16**). Three phosphoric acid producers along the Gulf of Mexico: Agrifos, Mississippi Phosphates, and PCS Nitrogen, are the primary importers of phosphate rock.

TABLE 3.16-16 UNITED STATES SUPPLY OF PHOSPHATE ROCK, THOUSAND TONS

	1998	1999	2000	2001	2002
Marketable Production	48,700	44,800	42,500	35,200	39,800
Exports	417	300	330	10	43
Imports	1,940	2,390	2,130	2,760	2,980

Source: U.S. Geological Survey 2003a.

While the United States is a net importer of phosphate rock, the U.S. is a major exporter of ammonium phosphate fertilizers (**Table 3.16-17**). In fact, the U.S. exports approximately twice the quantity of ammonium phosphate fertilizer (measured in terms of contained P_2O_5) as is consumed domestically. A major portion of production in the southeast is shipped overseas from ports along the Gulf of Mexico. The United States is the world's largest exporter of phosphate fertilizers, accounting for 54 percent of world DAP exports and 37 percent of total world P_2O_5 exports during 2002.

TABLE 3.16-17 UNITED STATES SUPPLY OF AMMONIUM PHOSPHATE FERTILIZERS, THOUSAND TONS P_2O_5

	1997	1998	1999	2000	2001
Production	9,223	6,405	8,780	7,440	7,884
Consumption	2,441	2,264	2,334	2,348	2,569
Exports	5,648	5,913	5,678	4,443	5,231
Imports	96	58	147	171	216

Source: United Nations Food and Agriculture Organization 2004. May not exactly agree with U.S. Census Bureau and USGS Data.

DAP is the predominant phosphate fertilizer produced in the United States, accounting for nearly two-thirds of total production (**Table 3.16-18**). MAP accounts for about one-quarter of phosphate fertilizer produced domestically. The remainder is primarily TSP.

TABLE 3.16-18 PHOSPHATE FERTILIZER PRODUCTION IN THE U.S., TONS P_2O_5

	1998	1999	2000	2001	2002
DAP	6,832,250	6,832,250	5,734,081	5,078,207	5,414,862
Percent	66.6	80.0	64.4	62.6	63.4
MAP	2,017,501	1,656,214	2,336,828	2,232,618	2,291,562
Percent	19.7	19.4	26.3	27.5	26.8
Other	1,409,869	55,350	828,088	798,393	838,315
Percent	13.7	0.6	9.3	9.8	9.8
Total	10,259,620	8,543,814	8,898,997	8,109,218	8,544,739

DAP: Diammonium Phosphate; MAP: Monoammonium Phosphate.
Source: U.S. Census Bureau 2000b, 2000c, 2001, 2002, 2003.

China is the largest consumer for United States diammonium phosphate exports, accounting for over 60 percent of U.S. exports in 2002 (**Table 3.16-19**). Shipments to India have dropped dramatically in recent years. Although the drop in shipments to India was partially offset by increased shipments to some Latin American countries, a return to export levels seen during the late 1990s is unlikely (USGS 2004e).

There have been several noticeable mine expansions worldwide during the past several years. During 2002, the Coprebras Ouvidor Mine in Brazil completed a 450,000 ton expansion and the El Nasr Sebaya Mine in Egypt completed a 200,000 ton expansion. Several projects at existing mines in Africa are anticipated to increase worldwide phosphate rock production by 5.3 million tons per year by the end of 2004, with the largest increase occurring in Algeria, Morocco, and Tunisia. During 2003, the new owners of the Hahotoe and Kpogame Mines in Togo announced an expansion to double the capacity from 1.3 million tons annually to 2.6 million tons and WMC Resources Ltd. was expected to complete a 220,000 ton expansion at the Duchess Mine in Australia to bring total annual capacity to 2.4 million tons (USGS 2004b).

TABLE 3.16-19 UNITED STATES TRADE IN DIAMMONIUM PHOSPHATE, THOUSAND TONS

	1998	1999	2000	2001	2002
IMPORTS					
	49	40	136	147	172
EXPORTS					
Argentina	249	184	246	276	116
Australia	690	473	455	345	236
Brazil	80	18	132	46	47
Canada	125	112	120	120	263
China	5,710	5,049	4,475	3,153	4,641
Colombia	NA	86	107	114	144
Ecuador	52	68	46	86	54
India	1,400	2,579	380	542	222
Japan	388	368	392	371	341
Kenya	43	126	108	137	85
Mexico	277	282	325	304	474
Pakistan	709	391	325	409	164
Peru	NA	NA	NA	120	73
Thailand	333	263	225	236	108
Other	765	868	636	805	545
Total Exports	10,880	10,869	7,981	7,066	7,518

Source: U.S. Geological Survey 2004e, 2003b, 2003a, 2001c.

The drop in production and export of phosphate fertilizer is typical of the whole agricultural chemicals industry of the past several years (**Figure 3.16-3**). The Industrial Production Index for Pesticide, Fertilizer, and Other Agricultural Chemicals (NAICS 3253) is currently at about the same level it was in the later part of 1987. The index peaked at 106.059 in July 1998, hit a low of 77.242 in April 2002 and stood at 82.968 at March 2004. While the index has recovered from the low point, it remains at 78 percent of the high reached during 1998. The March 2004 value of 82.968 is about the same level the index stood during the last part of 1987. In November 1987, the index was 83.237 (Federal Reserve Board 2004).

In 2002, there were 14 operating phosphate mines in the United States, the majority of which were located in Florida and North Carolina. The eastern mines accounted for 86 percent of U.S. production, while four mines in Idaho and one in Utah accounted for the remainder. All of the eastern production was used for manufacturing fertilizer while the western production was used to manufacture both fertilizer and elemental phosphorus. In addition to Florida and North Carolina, there are ammonium phosphate fertilizer manufacturing plants in Louisiana, Mississippi, and Texas. The plants in Louisiana, Mississippi, and Texas use phosphate rock from Florida transported via rail and barge or imported rock from Morocco.

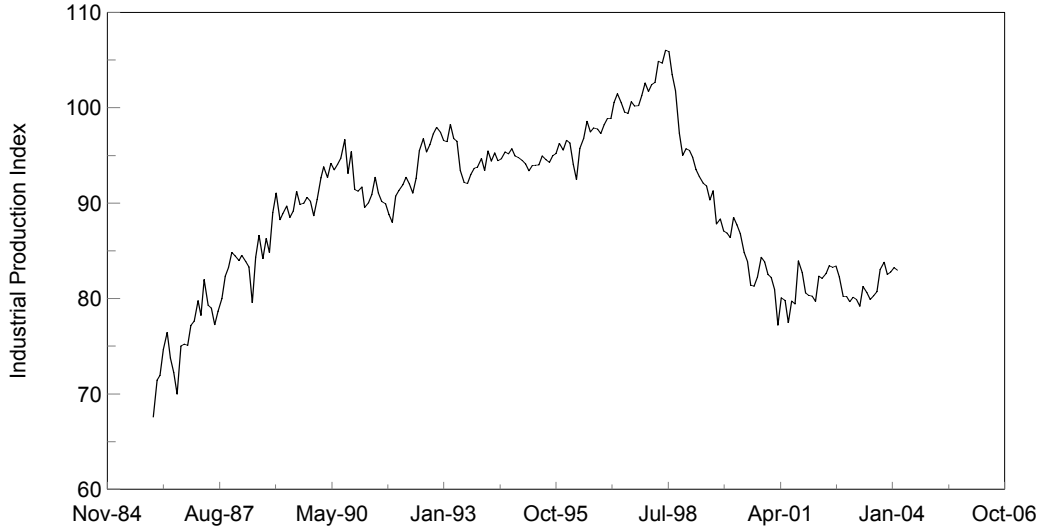


Figure 3.16-3 Industrial Production Index for the Agricultural Chemical Industry
(NAICS 3253 - Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing)
Source: Federal Reserve Board, 2004.

Southeastern Idaho is currently home to three large phosphate mining operations. These mines are operated by Simplot, Agrium, Inc., and Monsanto, Inc. Astaris LLC closed the Dry Valley mine in January 2003, although the mine may be reopened in the future by Agrium, Inc. The phosphate rock is converted into either phosphate fertilizer or elemental phosphorus at processing plants near Soda Springs, Idaho and Pocatello, Idaho. Ore from the Simplot Smoky Canyon Mine is transported via an 86-mile slurry pipeline to the company's WPPA plant in Pocatello. Agrium operates the Rasmussen Ridge Mine which, in the past, fed its Conda WPPA plant. However, Agrium has moved their stockpile to their Plant outside of Soda Springs. They are currently mining in the C Panel of their Dry Valley Mine. Agrium's North Rasmussen Mine is idle and is scheduled to remain idle until the Dry Valley deposit is mined out. Monsanto operates the Enoch Valley Mine, which supplies its elemental phosphorus plant in Soda Springs.

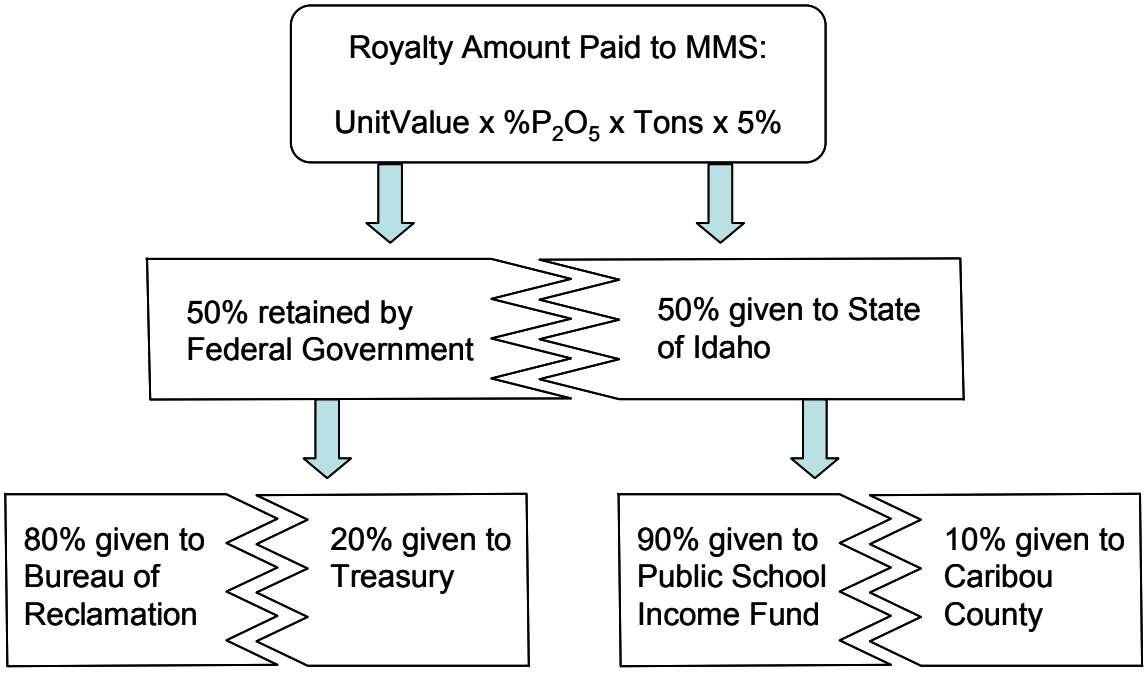
Astaris closed its elemental phosphorus plant in Pocatello in December 2001 and opened a 80,000 ton per year purified phosphoric acid plant in Soda Springs in May 2001 as a joint venture with Agrium. Astaris announced a restructuring program during October 2003 that included closing the PPA opened in 2001. The WPPA plant's closure was made necessary by the closure of the Astaris Green River, Wyoming sodium tripolyphosphate plant, which was supplied exclusively by the Soda Springs PPA plant. Astaris also closed its Dry Valley Mine on January 1, 2003, stating the need to reduce inventory. Agrium acquired 100 percent of the Astaris facility, and will produce phosphoric acid for fertilizer production but will not produce PPA. Agrium will use phosphate rock from its Rasmussen Ridge Mine to supply the plant once the Dry Valley deposit is mined out (USGS 2004e).

Monsanto Co. operates the Enoch Valley Mine, which supplies its elemental phosphorus plant in Soda Springs, Idaho. Elemental phosphorus is used as a feedstock for industrial chemicals.

About 58 percent of the elemental phosphorus is used to produce thermal process phosphoric acid, which is used in industrial applications including detergent and food additives, water- and metal-treatment chemicals, vitamins, soft drinks, toothpaste, photographic film, light bulbs, bone china, optical glass, and other consumer goods. The remaining elemental phosphorus is used to produce phosphorus trichloride, pentasulfide, and other compounds which are used in herbicides, insecticides, flame-retardant chemicals, and plasticizers (USGS 2004e).

The phosphate mining industry pays royalties to the federal government for ore mined from federal leases on public lands at the rate of five percent of the value of phosphate mined. Since the phosphate mines and fertilizer plants are vertically integrated, and no open market for phosphate rock exists in the western United States, the Minerals Management Service (MMS) uses an index adjusted annually to determine the value of phosphate rock mined on federal lands. The index is adjusted according to changes in the Bureau of Labor Statistics (BLS) Chemical and Fertilizer Minerals Mining Producer Price Index (PPI) (50 percent weighting), the BLS Phosphate Fertilizer PPI (25 percent weighting), and the USGS Phosphate Rock Price Index as published annually in the Minerals Yearbook (Federal Register 1999).

Royalties are distributed to the county in which the phosphate was mined, thus Lincoln County would receive no royalty, but they receive much of the direct and indirect economic benefits of the mine.



The current methodology set by MMS for calculating phosphate royalties applies the following relationship:

Royalty = *UnitValue* × %P_2O_5 × *DryTons* × 5%

Where the *UnitValue* is a yearly (each August) value determined by MMS in units of dollars per Ton per %P_2O_5. A baseline Unit Value for phosphate was calculated and set by the Department

of the Interior in the late 1970's and again in 1987. For convenience and ease in application, subsequent non-baseline Unit Values are adjusted each year by inflation factors by the MMS.

The Idaho phosphate industry typically pays between four and five million dollars annually in royalties to the federal government for phosphate ore mined from federal land (**Table 3.16-20**). Phosphate royalties account for over 90 percent of mineral lease payments in Idaho. Fifty percent of federal mineral lease payments are returned to the states. Idaho returns 10 percent of the federal mineral royalties it receives from the federal government to the impacted counties, in this case, Caribou County, Idaho. Phosphate rock represents about 30 percent of the value of nonfuel minerals produced in Idaho.

The Smoky Canyon Mine provides royalty payments to the MMS that annually ranges from 1.6 to 2.0 million dollars.

TABLE 3.16-20 IDAHO PHOSPHATE SALES AND ROYALTIES FOR OPERATIONS ON FEDERAL LAND

DESCRIPTION	1999	2000	2001	2002	2003
Sales Volume (tons)	5,796,900	6,095,292	4,990,345	5,274,021	4,730,171
Sales Value ($)	97,845,060	96,583,348	81,746,031	78,269,056	72,131,964
Royalties ($)	4,892,253	4,826,139	4,060,302	3,915,022	3,606,598

Source: Minerals Management Service 2004a, 2004b, 2004c.

In addition, funds are sent to the county as Payment In-Lieu of Taxes (PILT). PILT money is apportioned by congress to states with federal land each year. The amount of money given to Idaho and ultimately to the respective counties via this mechanism is based upon, among other things, the acreage of federal land existing in the counties. Any mineral royalties received by a county *are deducted from the PILT* money given to that county. Because PILT money given to Caribou County is a larger amount than royalty money sent to the county, the effective amount of Federal money sent to Caribou County is unaffected by mineral royalties. Mineral royalties still have positive impacts on the State and school funding.

The Simplot Smoky Canyon Mine produced approximately 2 million tons of ore in 2002 (USGS 2004f), about 2.3 percent of the national production of phosphate rock and 61 percent of western United States production.

In 1997, the Idaho phosphate mining industry, which includes the actual mining operations but not the fertilizer and elemental phosphorus plants, employed 561 workers and had an annual payroll of $27.4 million. The value added by mining was $74.5 million, while the value of shipments and receipts was $111.5 million (U.S. Census Bureau 1997).

The phosphate mining and processing industry is responsible for a significant portion of property taxes paid in Caribou County, Idaho. In 2003, total property taxes levied in Caribou County were $7.9 million. Of this, about 41 percent was paid by the phosphate mining and processing industry. These taxes included property taxes on mining equipment, the processing plants near Soda Springs and a net profits tax on the mines, which is considered a property tax by the Idaho State Tax Commission, in lieu of taxes on ore bodies (Dornfest 2004).

Approximately 3.4 percent of the nonagricultural employment in Bannock, Caribou, and Power Counties, Idaho is due to the phosphate operations (**Table 3.16-21**). No employment is reported for the phosphate industry in Lincoln County, Wyoming since all of the actual operations are in Idaho, although a majority of the employees at the Smoky Canyon Mine actually reside in Lincoln County, Wyoming.

TABLE 3.16-21 IDAHO PHOSPHATE INDUSTRY EMPLOYMENT, BANNOCK, CARIBOU, AND POWER COUNTIES

DESCRIPTION	2002	2003
Mining	350	376
Fertilizer Manufacturing	910	827
Total Phosphate Industry	1,260	1,203
Total Employment	37,002	37,681
Phosphate Employment, percent of Total	3.4	3.2

Data for 2003 are preliminary and subject to revision.
NAICS Codes: 212 - Mining, 3253 - Pesticide, Fertilizer and Other Agricultural Chemical Manufacturing.
Source: Idaho Department of Labor, 2004i;.

The phosphate industry provides some of the highest paying jobs in Southeastern Idaho. In 2002, mining in the three Idaho counties paid an annual average wage of $43,555, while fertilizer manufacturing paid an annual average wage of $43,149 (Idaho Department of Labor 2004i). For comparison, the average annual wage for Bannock County was $25,190, $33,005 for Caribou County, $25,987 for Power County, and $26,621 for Lincoln County in 2002.

Past closures of phosphate facilities in Southeastern Idaho have resulted in noticeable changes in the local economy. The closure of the Astaris LLC elemental phosphorus plant in Pocatello, Idaho and the layoff of 400 employees during December 2001 resulted in the unemployment rate in the three Idaho counties (Bannock, Caribou, and Power) jumping from 5.75 percent in December 2001 to 6.84 percent in January 2002. The unemployment rate continued to rise, until it peaked at 7.32 percent in April 2002 (**Figure 3.16-4**). The Dry Valley Mine closure in January 2003 resulted in only a slight increase in unemployment, from 5.83 to 5.94 in February 2003, as a generally improving economy masked part of the effect. The closure of the Astaris PPA plant on October 2003 had little effect on unemployment in the area, as the economy was generally improving, and only a few dozen employees were affected.

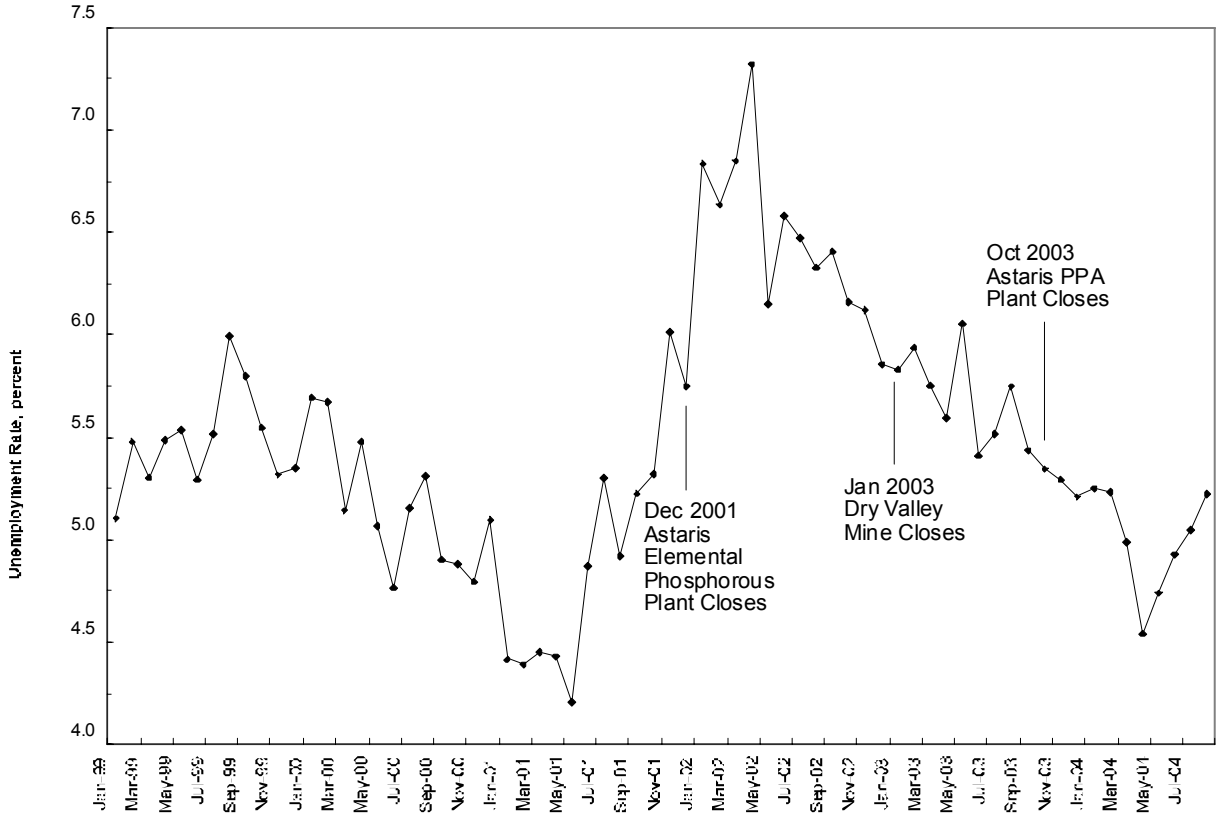


Figure 3.16-4 Unemployment Rate for Bannock, Caribou, and Power Counties, Idaho
Source: Idaho Department of Commerce and Labor, 2004.

The local economic conditions resulted in a population decrease in the three Idaho counties from 2002 to 2003, with a population decline of 371 persons. The natural increase in population of 815 persons was overshadowed by a net out migration of 1,197 persons. The combined population of the three counties decreased by 0.4 percent, while the Idaho state population increased by 1.7 percent (U.S. Census Bureau 2004b).

3.16.10 The JR Simplot Company's Don Fertilizer Plant & Smoky Canyon Mine in 2005

The following information is taken from the Idaho Economics' Don Plant in Pocatello, Idaho and Smoky Canyon Phosphate Mine in Caribou County, Idaho Economic Impact Analysis report (Idaho Economics 2006). This data is preliminary and provided for informational use only; it was not used in the Chapter 4 analysis.

- In 2005, nearly 560 Eastern Idaho and Lincoln County, Wyoming, residents were directly employed at either the JR Simplot Company's Don Fertilizer Plant in Pocatello, Idaho, or the Company's Smoky Canyon phosphate mining operations in Caribou County, Idaho. Nearly 400 of those persons directly employed by the JR Simplot Company's Don Fertilizer Plant or Smoky Canyon mine in Caribou County are Idaho residents. Nearly 160 of those employed at Smoky Canyon reside in Lincoln County, Wyoming.

- The direct employment of nearly 560 at JR Simplot Company's Don Fertilizer Plant and Smoky Canyon phosphate mine, in conjunction with the JR Simplot Company's purchases of goods and services from vendors in the local economy provide the foundation for nearly 1,070 additional, or secondary industry, jobs in the communities of Eastern Idaho and in Lincoln County, Wyoming.

- In 2005, workers at Simplot's Don Fertilizer Plant in Pocatello and the Smoky Canyon phosphate mine in Caribou County were paid nearly $52.1 million in wages and salaries, or nearly 15.0 percent of the total wages and salaries paid to all workers in Caribou County.

- Also in 2005, Simplot's Don Fertilizer Plant in Pocatello and the Smoky Canyon phosphate mine in Caribou County purchased nearly $87.5 million in goods and services from outside vendors of which $23.8 million went to vendors in Idaho. Another $1.4 million went for goods and services purchased from suppliers in nearby Lincoln County, Wyoming.

- In addition, the JR Simplot Company's sponsorship of the Simplot Games at Idaho State University's Holt Arena in Pocatello each year is estimated by Idaho Economics to further increase economic activity in the area by nearly $3.5 million. In turn, this increased economic activity is estimated to increase State of Idaho tax revenues, from all sources, by an additional $218,000.

The Don Plant produces high-quality phosphate fertilizer and feed phosphates, while maintaining a place as a low-cost producer in the fertilizer industry. The plant produces over 1,000,000 tons annually of various phosphate fertilizers, feed phosphates, and industrial products. Fertilizer helps replace missing soil nutrients, thereby promoting stronger plants. In turn, organic matter is increased, root systems are strengthened, and soil is less susceptible to erosion. In the production of fertilizer, the Don Plant annually uses 1.6 to 1.8 million tons of phosphate ore. The facility annually requires approximately 400,000 tons of sulfur, and uses over 90,000 tons of ammonia per year. Located just outside of Pocatello, Idaho, the Don Plant is one of five fertilizer manufacturing plants in the JR Simplot Company's Mining and Manufacturing Group.

Vital to fertilizer production at the Don Plant is phosphate ore that is mined at Simplot's Smoky Canyon Mine in Caribou County, Idaho near Afton, Wyoming. The Don Plant receives 100 percent of the phosphate ore mined at the Smoky Canyon Mine. Once mined, the ore is crushed, mixed with water, and shipped to the Don Plant through an underground slurry pipeline.

In 2005 Simplot employed nearly 350 people at the Don fertilizer production plant near Pocatello. Another 210 workers are employed at the Smoky Canyon phosphate mine near Afton, Wyoming. During 2005 the annual wages, salaries, and benefits paid to workers in Simplot's Don fertilizer production plant, near Pocatello and at the Smoky Canyon phosphate mine in Caribou County, Idaho totaled nearly $52.5 million.

Table 3.16-22 below details the inputted annual wages and salaries paid to workers at Simplot's Don fertilizer plant and Smoky Canyon phosphate mine by county of residence.

TABLE 3.16-22 JR SIMPLOT CO. DON FERTILIZER PLANT & SMOKY CANYON MINING OPERATIONS 2005 WAGES AND SALARIES PAID TO EMPLOYEES BY COUNTY

County	Wages & Salaries Paid to JR Simplot Company Don Plant Employees	Wages & Salaries Paid to Employees of Simplot's Smoky Canyon Mining Operations	Total Wages & Salaries Paid to JR Simplot Co. Employees at Don Plant and at the Smoky Canyon Mining Operations
Bannock	$30,574,900	$76,600	$30,651,500
Lincoln, WY	0	14,935,200	14,935,200
Bingham	1,798,500	274,900	2,073,400
Bear Lake	0	1,832,500	1,832,500
Caribou	0	1,557,700	1,557,700
Power	851,900	0	851,900
Bonneville	94,700	91,600	186,300
Totals	$33,320,000	$18,768,500	$52,088,500

During 2005, Simplot's Don Plant and the Smoky Canyon Mine had expenditures of nearly $87.5 million for on outside vendor supplied goods and services for plant operation. The Don Plant accounted for $66.1 million, or about 76.0 percent, of the $87.5 million for outside vendor supplied goods and services. In addition, Simplot's Don Plant and Smoky Canyon Mine paid nearly $3.9 million in local property taxes in 2005.

An Idaho Economics analysis of the 2005 expenditures made by Simplot's Don Plant for purchases of outside supplied goods and services found that nearly 27.7 percent, or nearly $18.4 million, of the total $66.1 million expended for outside vendor supplied goods and services went to Idaho suppliers. Of the $21.3 million spent by the Smoky Canyon Mine in 2005 for the purchase of goods and services, nearly $5.4 million, or close to 25.0 percent of the total, was spent with Idaho vendors. **Table 3.16-23** below details, by state, the 2005 spending by the Don Plant and the Smoky Canyon Mine, respectively, for goods and services purchased from outside vendors.

TABLE 3.16-23 JR SIMPLOT CO. PURCHASES OF VENDOR SUPPLIED GOODS AND SERVICES BY STATE

DON PLANT State	Purchases of Vendor Supplied Goods & Services	Percent of Total
Idaho	$18,335,600	27.7%
Illinois	12,937,400	19.6%
Alberta, Canada	7,901,700	11.9%
Texas	5,482,000	8.3%
Utah	3,858,100	5.8%
Georgia	3,404,100	5.1%
Missouri	2,821,000	4.3%
Montana	1,934,000	2.9%
California	1,807,600	2.7%
Massachusetts	1,153,300	1.7%
Pennsylvania	1,103,400	1.7%
Various Others	5,405,600	8.2%
Total	$66,143,800	100.0%

SMOKY CANYON MINE OPERATIONS

State	Purchases of Vendor Supplied Goods & Services	Percent of Total
Idaho	$5,374,100	25.2%
Texas	3,782,100	17.7%
California	1,985,100	9.3%
Utah	1,727,400	8.1%
Wyoming	1,662,700	7.8%
Illinois	1,527,400	7.2%
Minnesota	1,322,900	6.2%
Montana	562,800	2.6%
Rhode Island	507,000	2.4%
Missori	453,500	2.1%
Arizona	103,100	0.5%
Various Others	2,319,000	10.9%
Total	$21,327,000	100.0%

A further analysis of the 2005 expenditures made in Idaho by Simplot's Don Plant and Smoky Canyon Mine for purchases of outside supplied goods and services found that Bannock County in Eastern Idaho captured nearly 42.4 percent, or nearly $10.6 million, of the nearly $25.0 million spent in Idaho for outside vendor-supplied goods and services.

The Eastern Idaho counties with Lincoln County, Wyoming garnered nearly $16.2 million, or nearly 65.0 percent, of the local spending during 2005 by the Don Plant and Smoky Canyon Mine. In addition to Bannock County, which is mentioned above, Bonneville County realized nearly $2.6 million in Simplot spending from the Don Plant and Smoky Canyon Mine, Franklin County captured $1.4 million, Lincoln County, Wyoming saw $13 million, while Caribou County experienced an economic stimulus of nearly $700,000 from Simplot Company spending in 2005. Other Eastern Idaho counties (Bingham, Jefferson, Power, and Bear Lake) in total saw nearly $1.0 million in additional economic activity due to JR Simplot Company purchases from local vendors in 2005.

Ada County, in Southwest Idaho, captured the second largest share of JR Simplot Company spending from the Don Plant and Smoky Canyon Mine with nearly $7.1 million, or about 28.5 percent of the local area spending on outside supplied goods and services.

Table 3.16-24 details by county the 2005 spending by the Don Plant and the Smoky Canyon Mine, respectively, for goods and services purchased from vendors in Idaho or in Lincoln County, Wyoming.

In 2005 nearly 350 workers were employed at Simplot's Don Plant near Pocatello, Idaho. Of these, 92.0 percent resided in Bannock County, Idaho. Another 5.4 percent and 2.6 percent were residents of nearby Bingham and Power Counties. The JR Simplot Company's Don Plant is actually located in Power County, but is physically within walking distance of the border with Bannock County and its largest city, Pocatello.

Nearly 207 persons were employed at Simplot's Smoky Canyon phosphate mine in 2005. However, only 17 of those employees, or about 8.2 percent, resided in Caribou County where the mine is physically located. Nearly 78.7 percent of the mine's 207 workers in 2005 resided in Lincoln County, Wyoming. Another 20 workers, about 9.7 percent of the total, resided in Bear Lake County, Idaho during 2005. **Table 3.16-25** details the number of Don Plant and Smoky Canyon Mine employees by county of residence.

TABLE 3.16-24 JR SIMPLOT CO. PURCHASES OF VENDOR SUPPLIED GOODS AND SERVICES IN IDAHO BY COUNTY

DON PLANT County	Purchases of Vendor Supplied Goods & Services	Percent of Total in Idaho
Bannock County	$6,990,600	38.1%
Ada County	6,896,900	37.6%
Bonneville County	2,067,000	11.3%
Franklin County	1,433,100	7.8%
Power County	312,200	1.7%
Bingham County	278,400	1.5%
Caribou County	143,600	0.8%
Shoshone County	86,400	0.5%
Payette County	61,500	0.3%
Other Idaho Counties	66,000	0.4%
Total	$18,335,600	100.0%

SMOKY CANYON MINE OPERATIONS

County	Purchases of Vendor Supplied Goods & Services	Percent of Total in Idaho
Bannock County	$3,623,800	54.3%
Lincoln, WY	1,304,310	19.5%
Caribou County	524,100	7.8%
Bonneville County	505,600	7.6%
Ada County	231,900	3.5%
Bingham County	186,500	2.8%
Jefferson County	116,300	1.7%
Bear Lake County	114,200	1.7%
Twin Falls County	28,400	0.4%
Other Idaho Counties	41,500	0.6%
Total	$6,678,410	100.0%

TABLE 3.16-25 JR SIMPLOT CO. DON PLANT AND SMOKY CANYON MINE EMPLOYMENT BY EMPLOYEE COUNTY OF RESIDENCE

County	Number of Employees	Percent of Total Simplot Co. Don Plant Employment
Bannock	323	91.8%
Bingham	19	5.4%
Power	9	2.6%
Bonneville	1	0.3%
Totals	352	100.0%

Smoky Canyon Mine Employment by Employee County of Residence

County	Number of Employees	Percent of Total Simplot Smokey Canyon Mine Employment
Lincoln, WY	163	78.7%
Bear Lake	20	9.7%
Caribou	17	8.2%
Bannock	3	1.4%
Bingham	3	1.4%
Bonneville	1	0.5%
Totals	207	100.0%

Local Environment & Smoky Canyon Mine

The local environment in the Study Area is forested, rural, and contains agricultural lands, with small communities located outside the Forest boundary in Idaho and Wyoming. The Crow Creek Valley is the residential area closest to Panels F and G with large parcels of privately-owned land, and is approximately two miles southeast of Panel G. The Crow Creek Valley is the site of several ranches and vacation homes. Although a sizable portion of the Crow Creek Valley is privately owned, the surrounding area is public land administered by the CTNF. Recreation and land use in the area is described in **Section 3.10**.

Property Values

During the public scoping period for this EIS, several commenters were concerned with what effects approving the mine expansion would have on property values in the Crow Creek area. In subsequent discussions, Simplot employees expressed concern regarding what effects not approving the mine expansion would have on property values in the Afton area, where the majority of Simplot employees live.

Because the government is not purchasing, transferring, or patenting any land for this Project, no official land appraisal is required. Property values throughout the area of interest have generally been increasing steadily over the last decade or more.

Characteristics/amenities that influence property values are subjective, since they ultimately rely on the personal preference of the purchaser and the seller; these may include: noise (**Section 3.2**), air quality (**Section 3.2**), water resources (**Section 3.3**), scenic values (**Section 3.12**), and access and traffic (**Section 3.15**). Proximity to commerce and industry also reflect on the perceived quality of life and therefore influence property value. Actions that diminish the desired characteristics/amenities such as added noise, traffic, visual impacts, and air/water pollution can have a negative effect on property values. Actions that increase characteristics/amenities, such as providing jobs and improving accessibility, can have a positive effect on property values.

Characteristics/amenities that are generally considered to make the Crow Creek area desirable include scenic values, peace and quiet (rural atmosphere), Crow Creek frontage, access to the CNF, and outdoor recreational opportunities (hiking, hunting, fishing, etc). Factors that may have a subjective effect on Crow Creek property values include: noise and visual impacts from nearby mining activities (Alternatives 2 and 3), direct and indirect effects of added traffic on the Crow Creek road (Alternative 7), potential effects of water pollution on fisheries in Crow Creek and its tributaries, and changes to current non-motorized access from the Crow Creek area into the CNF (primarily Panel F and Alternatives 2, 3, and 6). These effects are described in **Section 4.16**.

Heritage Values

Heritage resources include archaeological and historic sites and properties as well as historic livestock trailing and ranching. These are described in **Sections 3.9**, **3.13,** and **3.14**.

3.17 Environmental Justice

Environmental Justice is the pursuit of equal justice and equal protection for all people under the environmental statutes and regulations. It includes an assurance that some communities are not unjustly exposed to high and adverse environmental impacts. The requirements of Executive Order (EO) 12898 direct agencies to "analyze the environmental effects, including human health, economic and social effects of federal actions, including effects on minority communities and low income communities, when such analysis is required by NEPA". The definition of minority communities includes American Indians.

EO 12898 directs agencies to consider patterns of subsistence hunting or fishing when a federal action may affect fish, vegetation, or wildlife, since that action may then also affect subsistence patterns of consumption and indicate the potential for disproportionately high and adverse human health or environmental affects on low-income populations, minority populations, or Indian tribes. Risks associated with the consumption of water, fish, wildlife, and other natural resources possibly impacted by the Project must be analyzed to determine human health or environmental effects.

The communities in closest proximity to the Smoky Canyon Mine include Afton and Fairview, Wyoming, and a loose community of ranchers along Crow Creek Road. In general, the area is rural. USFS (2003b) notes: "few minorities reside within the Study Area, and no communities are considered low income. While there are individual households that are either minority or low income, the communities as a whole are not." Also, see Social and Economic Resources, **Section 3.16**.

Members of the Shoshone-Bannock Tribe, based in Fort Hall, Idaho, have reserved Treaty Rights (Fort Bridger Treaty of 1868) to utilize federal lands in the Study Area for hunting, fishing, and gathering, subject to provisions of the Endangered Species Act. The Shoshone-Bannock Tribes represent both a population (readily identifiable collection of persons) and a community (readily identifiable social group who reside in a specific locality, share government, and have a common cultural and historical heritage) that could be affected under Environmental Justice. Government to Government consultation with the Shoshone-Bannock Tribes' Fort Hall Business Council is an ongoing aspect of this Project (See **Section 3.14 and 4.14**). According to the Shoshone-Bannock, the Tribes currently utilize the Project Area on a regular basis to exercise their Treaty Rights including hunting, fishing, gathering, and ceremonial or traditional activities.