

Between Clarno and Spray are rocks from the Cretaceous Period (144-65mya). These rocks produce a moderate amount of invertebrate fossils (primarily shell fish (mollusks), though a few rare joint-legged creatures (arthropods) and even more rare vertebrates have been located). This same area produces some Pleistocene fossils (less than 2 mya) as well. The Prineville District office has on display a mammoth tusk removed from a creek within this area. Other Pleistocene fossils (bison) have been reported in the upper stretches of the South Fork John Day River. Pliocene fossils (5-2mya) also have been reported from the northern portions of the John Day basin near the Columbia River (Fremd et al. 1994; Orr and Orr 1999).

There are 155 known fossil localities on BLM managed lands in the John Day planning area that are co-managed, through interagency agreement, by the NPS/BLM. The majority of these localities are known to occur in rocks that produce or are highly likely to produce noteworthy examples of vertebrates, invertebrates and plant fossils. There are additional localities, some older and some younger, that are known but have not been recorded. There are, however, no known paleontology localities within the Baker RA portion of the planning area.

TRENDS

The volcanic lava flows covered and preserved much of the older sediments in the John Day basin from erosion. The lava cap is the principal reason fossil resources and their geologic contexts are so well represented in the basin. Erosion is both friend and foe to fossil management. Erosion exposes fossils to the elements which begins a fairly rapid process of deterioration but also reveals them for study.

PEOPLE TODAY IN THE JOHN DAY BASIN

The remainder of this chapter describes how people use the many resources of the John Day Basin. The initial discussion focuses on the Social and Economic Context then the discussion addresses a series of uses and management categories that are important considerations for the decisions to be made in during the John Day Basin RMP planning process.

SOCIOECONOMIC CONTEXT

The planning area is primarily composed of three Oregon counties – Grant, Wheeler and Gilliam. Portions of several other counties also occur within the planning area to a much lesser extent: Baker, Jefferson, Umatilla, Sherman, Wasco and Morrow. Wheeler and Grant counties are contained almost entirely within the John Day Basin and draw their social and economic character from the planning area. Gilliam, Sherman, Wasco, Morrow and Umatilla counties include portions of the Interstate 84 corridor and benefit from the more diverse social and economic opportunities a thoroughfare of this nature offers. Jefferson County has closer social and economic affiliations with the Central Oregon area. The following description of the John Day Basin social and economic environment will focus more on the counties contained within the John Day Basin (Grant and Wheeler), that function within that geographic context. These counties reflect similar trends and values in the remaining counties that make up small portions of the planning area.

HISTORY

Historically, the John Day basin was minor to the early exploration of the area. From 1800 to 1843, explorers from Lewis and Clark to John C. Fremont skirted or passed through the John Day country. In fact, the John Day River was named for an early trapper with the Astor party of 1811-12. The fur trade promoted most of the early exploration and included Peter S. Ogden of the Hudson Bay Company (1828-1829), John Work of the same company in 1830-31, and Capt. Bonneville, US Army (1832-33). The explorations of John C. Fremont in 1843 brought to a close the period of exploration. Fremont passed along what would very shortly become the Oregon Trail, the major route to westward expansion.

For nearly 20 years emigrants from the east filed through the planning area along the Oregon Trail on their way to the lush Willamette Valley. Few stayed on the east side of the Cascade Range. In 1855, a fort was established at The Dalles. That same year, treaties were signed between the US government and the regional tribes, and the Warm Springs and Umatilla Indian Reservations were established. Both these tribes ceded lands to the US Government but retained certain rights to continue traditional practices, such as gathering, hunting and fishing. Periodic conflicts between Native populations and Euroamerican settlers would continue until the end of the Bannock Wars in 1878. These conflicts effectively kept many settlers out of the interior. The Dalles became the early regional military and supply center for central Oregon. The military was there to protect travelers along the Oregon Trail. They also promoted exploration of travel routes through the interior to establish links to other regional forts. When gold was discovered at Canyon City in 1862 the military took on the added responsibility of protecting miners on their way to the isolated mines from Indians as well as robbers and highwaymen. One of the routes the military explored became The Dalles-Canyon City road. This road became the major route to the Oregon interior and contributed importantly to its settlement. Shortly after the rush the gold played out. Many miners moved on to the next “El Dorado” but some turned to stock raising and farming in the lush valley floor and the grassy hills of the upper John Day country. In the 1860s the route of the Oregon Trail became The Dalles-Walla Walla Road, ferrying goods and supplies east and west along the Columbia River, crossing the John Day River at what is now McDonald Crossing.

Ranching was the main economic pursuit of the early emigrants in the John Day basin. Cattle, sheep, horses and hogs were all variably raised within the basin depending on market demand. In the southern Columbia Plateau portion of the planning unit ranching was supplanted by dry-land farming after 1878 and agriculture has been dominant ever since. In the Blue Mountains, ranching was an obvious economic land use that became the lifeblood of commerce for the next 50 years. Initially, only a few hardy souls were willing to settle in the Blue Mountains at great personal risk to attacks by Indians in the 1860s. Early homestead/ranches occurred in the Bridge Creek basin (1863), the Clarno-Pine Creek basin (1866) and Kahler basin (1869)). Ranching continued through the 1870s in the Blue Mountains with high stocking levels and open range grazing. By the end of the 1870s the threat of Indian attacks had disappeared and settlement of the area accelerated. Throughout the 1880s and 1890s the open range grazing of central Oregon began to experience stress. Increases in people attempting to ranch, fencing the range and poor markets contributed to the decline in large cattle ranches. Some of the ranches turned to raising sheep because the market was better. All of the ranches began to experience shortages due to the increased pressure on the forage. The competition for forage created by this situation led to the infamous cattle vs. sheep “range wars” of the late 19th and early 20th centuries. Sheep were slaughtered by the thousands -and a few herders- by cattlemen determined to rid the area of the dreaded sheep. In part to settle the conflict, the US Government began to establish the Forest Reserve system or Forest Service to regulate the access and amount of grazing that would occur in the forested regions.

The land use of lumbering had its initial beginnings in the 1860s at Canyon City. The impact was local because the demand was local. The terrain of the John Day created an effective barrier to the technology of the 19th century. The timber industry of the John Day country didn't really begin until the 1930's when the technology improved enough to open up vehicle access to the interior. There was a minor bit of railroad logging near Prairie City that crept into the district from Sumpter to the north and Hines from the south. Truck logging was the main mode of transporting logs to mills in the John Day basin. Broad-scale road construction and tractor logging continued on public and private lands up to the 1980's. These uses continue today, but at a much reduced extent (Lebow et al. 1990; Beckham and Lentz 2000).

Grant County was established in 1864 from portions of Wasco and Umatilla Counties, making it the largest county in the state at that time. Subsequent boundary revisions through land transfers to Lake County (1874) and the creation of Harney (1889) and Wheeler (1899) Counties have shrunk Grant County to its present day configuration. The discovery of gold in the area in 1862 served as the impetus for population growth, and also created the original economic foundation. Within days of the discovery approximately a thousand miners were camped along the banks of Canyon Creek near present day Canyon City. Gold and placer mining has since declined in economic importance, but a diminishing number of tenacious prospectors and miners can still be found carrying on the legacy that first drew settlers to this area. As mining declined farming and ranching grew in economic importance. In addition Grant County, which includes parts of four national forests, became largely dependent on forest product industries. As forest activities have waned in the last several decades, Grant County still provides a home and limited resources to several lumber mills. Most recently recreational tourism has provided some economic benefit to the county. Hunting provides a flood of visitors to the area in late summer and fall as thousands of enthusiasts migrate to the area for several days to weeks at a time. The local towns provide limited services to these visitors through the end of hunting season, till the higher level of activity is replaced with the familiar calm of day-to-day living (Oregon State Archives, 2006).

Wheeler County was and still is mostly a ranching community with families close enough together to form small towns. After the discovery of gold in Grant County, The Dalles-Canyon City Military Road was established to connect the prospering gold fields with the government in The Dalles. To reduce Indian attacks to travelers this road utilized the existing mail route through Mitchell. As a result by 1884 Mitchell was a flourishing area – even sporting a hotel. The northern portions of the county witnessed the creation and demise of several logging based communities between the 1930's and 1970's (Oregon State Archives, 2006). The county is internationally known for an extensive depository of fossils from the Cenozoic Era (National Park Service, John Day Fossil Beds 2006).

Cultural identity within the John Day Basin varies, as shown in a recent report from community field work commissioned by the BLM. The report suggests residents in Grant County relate in terms of cultural identity to Baker city and La Grande than to Bend for regional affiliation. In essence Grant County residents consider themselves part of "Eastern" Oregon. Residents in Wheeler County relate more to Prineville and Bend than to the Columbia River area or Baker County area. Wheeler County residents consider themselves part of "Central" Oregon, or "High Desert" (Preister et al., 2006).

POPULATION COMPOSITION AND CHANGE

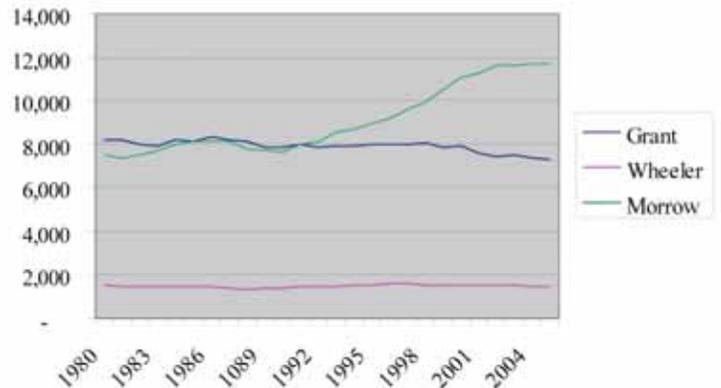
According to the US Census Bureau, Grant County's population decreased by 7 percent between 1990 and 2005 with a slight increase between 1990 and 2000. Between 1990 and 2005 Wheeler County experienced an overall 4 percent increase in population with

a slight decrease in population between 2000 and 2005 to 1,455. In terms of population Wheeler County is the smallest county in Oregon but is still less than half the size it was at its peak in the 1950's (Oregon State Archives, 2006).

The population in both Grant and Wheeler Counties has aged since 1990. Wheeler County is comparatively older with an average age of 48.1 years – up from 44.1 years in 1990. Between 1990 and 2000 the largest and fastest growing age group was between 55 and 59 years old. During the same 10 year period the age group between 20 and 44 years old has shown a marked decrease. This indicates the population is getting older and the younger generation is moving away. Grant County also displays an aging population. While the average age is lower than Wheeler County (41.7 years old in 2000), this is up from 36.3 years old in 1990. The largest and fastest growing age category is from 45 to 49 years of age – while the population has grown from 1990 to 2000 the age group from 20 to 39 years old has also decreased. Again Wheeler County reflects a similar trend as Grant County, an aging population occurring alongside an out-migration of the younger generation.

Grant and Wheeler Counties are respectively 95.7 percent and 93.3 percent white (Sonoran Institute, 2006). Grant County has had a colorful history associated with Chinese immigrants who came to work in the gold fields of Eastern Oregon. In 1879 these immigrants made up a substantial portion of Grant County's population numbering 2,468 (compared to 960 whites; however in 2000 people of Asian descent made up less than 1 percent of the population in both Grant and Wheeler Counties. People of Hispanic decent have increased in number and percent of total population in Grant and Wheeler Counties between 1990 and 2000 (Table 12). The Hispanic population in Morrow County increased by 3370 between 1990 and 2000 (see figure 24 above), meaning that 80 percent of its population increase was comprised of Hispanic people (Preister et al., 2006). In the year 2000 Native Americans comprised 1.6 percent and 0.8 percent of Grant and Wheeler Counties respectively (Sonoran Institute, 2003).

**FIGURE 24:
POPULATION
CHANGE IN
GRANT, WHEELER
AND MORROW
COUNTIES**



Source: US Census Bureau

Table 12: Number and Percent of Persons of Hispanic Origin

County	1990		2000	
	Number	Percent	Number	Percent
Grant	41	0.5	163	2.1
Wheeler	6	0.4	79	5.1
Morrow	197	2.6	2686	24.4

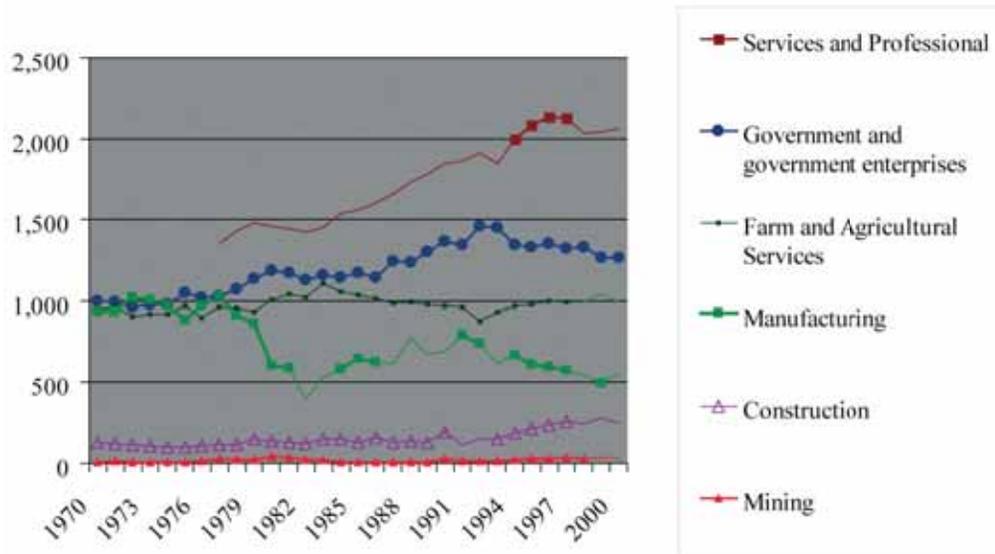
ECONOMIC SPECIALIZATION AND EMPLOYMENT

The Interior Columbia Basin Ecosystem Management Project (ICBEMP) also assessed the social and economic conditions of communities within the planning area. They grouped the counties east of the lower John Day River into the Pendleton economic subregion (Gilliam, Wheeler, Grant, Morrow and Umatilla), and the counties west of the lower John Day River (Sherman, Wasco, and Jefferson) into the Redmond/Bend economic subregion. Within these subregions ICBEMP identified communities that were relatively isolated (more than 35-50 miles from a major commercial and population center). This analysis determined that all the communities in the planning area were isolated, or constituted an isolated trade center (ICBEMP, 1998).

Economic specialization was also addressed by ICBEMP. A community was designated specialized in a specific sector if employment in that sector was at least as great as ten percent of total employment for that community. Analysis revealed that Mitchell, Spray (Wheeler Co.), and Monument (Grant Co.) were specialized with respect to the agricultural sector. Mitchell (Wheeler Co.), Long Creek, Mount Vernon, John Day and Prairie City (Grant Co.) were specialized with respect to the wood products manufacturing sector. There were no communities in the planning area specialized with regard to mining or service sectors. Dayville, John Day and Prairie City (Grant Co.) were all specialized with respect to Federal Government employment. The degree of economic specialization is reflected in figure 25 below, where total employment in Grant and Wheeler counties is disaggregated into six industry sectors.

From 1970 to 2003, total employment in Grant and Wheeler counties increased by 19 percent. This increase is dwarfed by the state increase in total employment of 128 percent. The employment growth seen in these counties is largely due to increases in service and government sector employment; 52 percent and 33 percent respectively. These increases largely offset decreases in manufacturing (including forest products) and farm related employment which decreased by 41 percent and 4.6 percent respectively (Sonoran Institute, 2003).

FIGURE 25.
EMPLOYMENT
HISTORY OF
GRANT AND
WHEELER
COUNTIES



Source: EPS, 2003

Of the industry sectors examined, the highest paying sector is manufacturing which accounted for 13 percent of total employment and on average paid \$33,267 per year in 2003. However data was not available for financial and professional business services sectors from the Bureau of Economic analysis. Data are often suppressed for small counties in order to protect information about individual businesses. Of the categories that have data, the largest employment sector is Trade, Transportation, and Utilities which accounted for 25.5 percent of total employment and paid on average \$21,167 in 2003. From these statistics it is apparent that while the service sector has offset decreases in manufacturing these jobs do not pay as much. The welfare implications of these changes are not so clear. The large degree of out-migration noted above suggests people maybe moving out instead of taking lower paying jobs in the service sector.

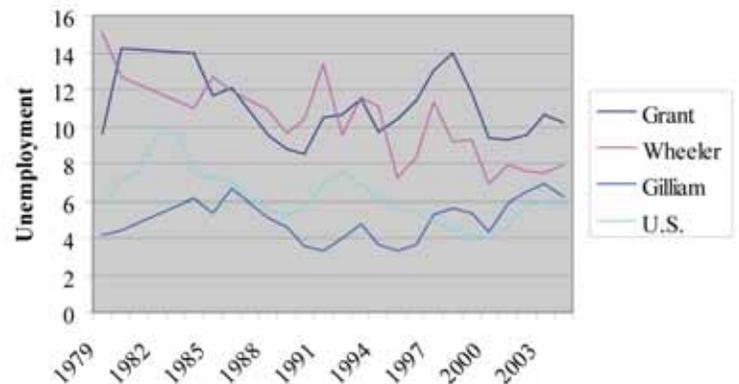
UNEMPLOYMENT

Over the last 20 years, unemployment in Grant and Wheeler counties has consistently remained above the national unemployment rate. From 1979 to 2004 Grant and Wheeler Counties have experienced average rates of unemployment of 10.5 percent and 9.8 percent respectively. While these two counties are well above the national average of 6.3 percent, Gilliam County has maintained an average rate of unemployment of 4.7 percent, well below the national average (see figure 26 below).

PERSONAL INCOME AND POVERTY

Total personal income has increased by 37percent in Grant and Wheeler counties since 1970 however a large portion of this increase is due to increases in non-labor sources of income such as interest payments and dividends. As a share of total personal income, non-labor income increased from 26.1 percent in 1970 to 50.9 percent in 2000. The share of personal income from manufacturing decreased by 14.4 percent while the service sector only increased by 1.3 percentage points. While again we see a shift from manufacturing to service sector income we must consider the additional welfare effects of an increase in non-labor income sources; as noted above total increases in personal income were largely due to increases in non-labor income increases. The impacts of an increase in non-labor income might occur in many industries and these increases represent an external injection of income into the John Day basin economy.

**FIGURE 26:
UNEMPLOYMENT
RATE OF JOHN
DAY BASIN
COUNTIES**



Source: US Census Bureau's
City and County Data Book

Despite the increase in total personal income the percent of the Grant and Wheeler County residents living below the poverty level has fluctuated but remains close to recent levels (see figure 27). Between 1989 and 2003, Wheeler County's percent below poverty has been the same as the state average of 11.9 percent while Grant County's poverty level of 13.5 exceeds the state average level.

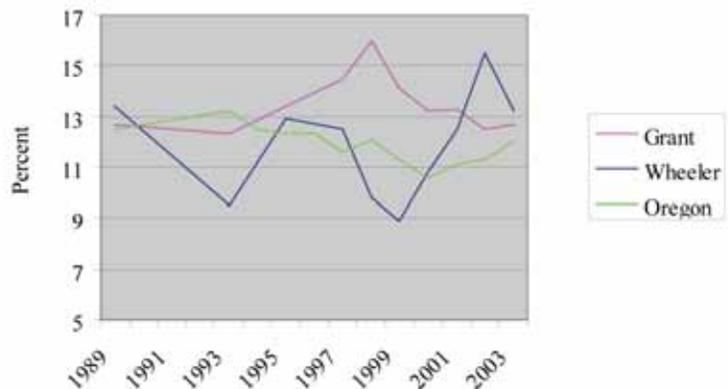
REVENUE SHARING

In 1976, Congress passed legislation to provide funding to counties through Payments in Lieu of Taxes (PILT) in order to compensate for tax revenues not received from Federal lands. These taxes would typically fund various services that are provided (road maintenance, emergency services, and law enforcement). The PILT payments are determined using a formula which accounts for the county acreage of federal land, county population and the previous years' revenue sharing from resource uses on federal land (timber, range, mining etc.). Figure 28 displays previous year's payments.

RESOURCE CONTRIBUTIONS

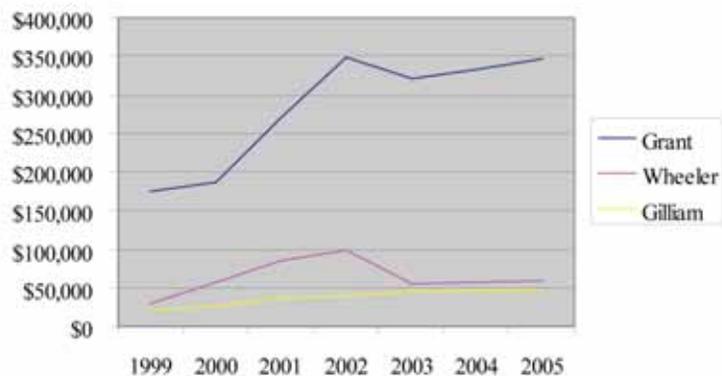
BLM land in the planning area contributes to the livelihoods of area residents through subsistence uses as well as through market-based economic production and income generation. Public lands provide products of value to households at no or low cost (permit fees). These products include fuelwood, Christmas trees, wood posts, livestock, and materials such as sand and gravel. Additional products with subsistence value may include fish, game, plants, berries, and seeds. In addition, use of these products is often part of traditions and sustains local culture.

FIGURE 27.
PERCENT OF
POPULATION
BELOW POVERTY
LEVEL



Source: US Census Bureau, Small Area Income and Poverty Estimates

FIGURE 28:
PAYMENTS IN
LIEU OF TAXES



Source: National Association of Counties

NICHE MARKET OPPORTUNITIES

According to community fieldwork undertaken under contract by JKA, County and local leadership has been active in fostering efforts at economic diversification within the planning area. Citizens and officials are interested in fostering a diverse economy and niche markets are emerging in specialty beef, eco-tourism and small non-industrial businesses.

In Wheeler county ranching and recreational niche markets are developing fostering needed economic development. These include the Painted Hills Premium beef and the development of paleontological resources such as the citizen digs behind the high school and the Paleo Project. A steel fabrication company recently opened in Spray as well.

Local economic development efforts in Grant County have focused on supporting and strengthening existing businesses, and the promotion of outdoor recreation. The growth of bed and breakfast establishments and specialty crafts companies may indicate a trend of developing market niches (JKA, 2006). Prairie City has two small wood products companies that focus on post and pole and juniper operations and a juniper/pine decorative furniture shop which sells “all the furniture we can make”, much of it through catalog sales (JKA, 2006). Strawberry Mountain Natural Beef opened for business in John Day in 2005, and currently comprises 12 ranchers from the John Day area. In addition, a bowstring manufacturing facility exists in Grant County’s new airport industrial park.

Other emerging niche markets opportunities include wind energy development in Sherman County and the OHV Park in Morrow County.

NON-MARKET ECONOMIC VALUE

The value of resource goods traded in a market can be directly elicited from information on the quantity sold and market price. Since markets do not exist for some resources and environmental services, the elicitation of value is important since without these value estimates, these resources may be implicitly undervalued and decisions regarding their use may not accurately reflect their true value to society.

Non-market values can be broken down into two categories; use and non-use values. The use-value of a non-market good is the value to society from the direct use of the asset. In the John Day Basin this occurs as recreational fishing, hunting, boating and bird watching. The use of non-market goods often requires consumption of complimentary market goods; such as lodging, gas, and fishing equipment.

Non-use values of a non-market good reflect the value of an asset beyond any use. These can be described as existence, option and bequest values. Existence values are the amount society is willing to pay to guarantee that an asset simply exists. Existence values in the John Day Basin might be the value of knowing that a native steelhead fishery exists. Other non-use values are thought to originate in society’s willingness to pay to preserve the option for future use; these are referred to as option values and bequest values. Option values exist for something that has not yet been discovered; such as the future value of a plant as medicine. In the John Day Basin bequest and option values might exist for timber or numerous plant species.

Non-market use and non-use values can be distinguished by the methods used to estimate them. Use values are often estimated using revealed preference methods or stated preference methods while non-use values can only be estimated using

hypothetical methods. While use and non-use values exist for the John Day Basin, evaluation may not be feasible during this RMP process. However this does not preclude their consideration in the planning process.

NATIVE AMERICAN TRUST RESPONSIBILITIES

Members of the Umatilla Tribe and the Confederated Tribes of Warm Springs exercise rights to hunt, fish, and gather on lands ceded to the Federal government within the planning area. Much of the planning area is within the ceded lands of the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO). The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) have limited ceded lands but strong interest in the planning area. The Burns Paiute have traditionally occupied portions of the upper John Day country. The Yakama have also expressed interest in the planning area. The Yakama are known to have used the area for hunting, fishing, gathering, or to attend social events.

Since the BLM manages portions of the ceded lands that are within the traditional use areas of the tribe, the BLM has a trust responsibility to provide the conditions necessary for Indian tribal members to satisfy their treaty rights. The BLM also acknowledges a responsibility to consider the interests of tribes that are known to have used BLM managed lands.

Currently, Native American tribes are not dependent on commodity resources from lands managed by the Prineville Field Office for their economic livelihood. However, they do use BLM public lands resources for subsistence and cultural purposes.

ENVIRONMENTAL JUSTICE

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures and incomes with respect to the development, implementation and enforcement of environmental laws, regulations, programs, and policies. Executive Order 12898 requires Federal agencies to “identify and address the... disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

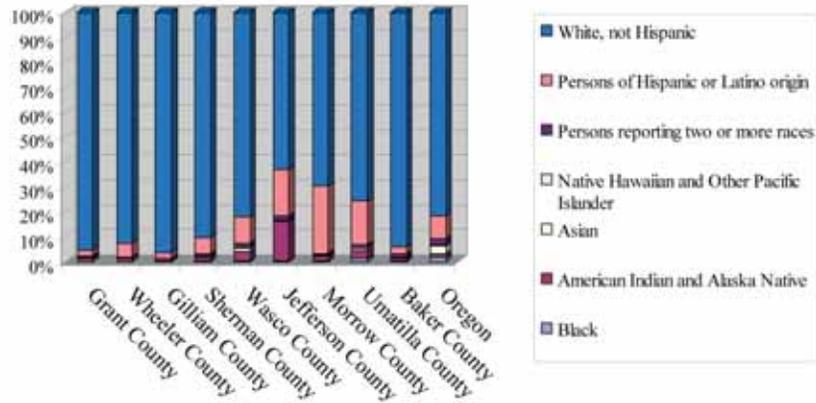
Under BLM Instruction Memorandum No. 2002-164, “environmental justice populations” can be identified when populations by meeting either of the following criteria:

- At least one-half of the population is of minority or low-income status.
- The percentage of population of minority or low-income status is at least ten percentage points higher than for the entire State of Oregon.

Census bureau statistics (Figures 29 and 30) suggest that neither Grant nor Wheeler Counties have populations that meet either environmental justice population criterion. However several other counties contained partially within the planning area have environmental justice populations (Jefferson and Morrow Counties) defined by the above criterion. The proportions of these counties that fall within the planning area are quite small and are often made up of entirely public land (Morrow County) or contain no towns, cities or concentrated areas of residence (Jefferson County). Thus while these counties contain “environmental justice populations” it is unlikely that highly localized minority or low-income populations exist within the JDBRMP planning area.

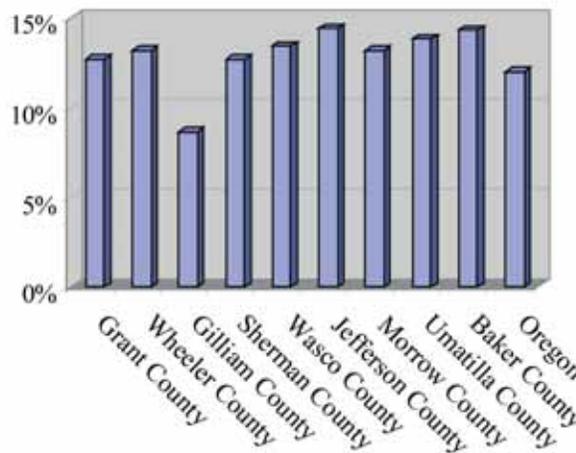
From Figure 30 above, no clear trends in poverty rates are apparent. While changes in employment from natural resource sectors to the recreation and services sectors are

FIGURE 29: PERCENT OF COUNTY POPULATION BY REPORTED RACE (2004)



Source: US Census Bureau County Quickfacts, 2003

FIGURE 30: PERCENT OF COUNTY POPULATION BELOW POVERTY LEVEL



Source: US Census Bureau County Quickfacts, 2003

evident, there is no evidence that increases in poverty will result. While poverty rates are higher in Grant and Wheeler counties than the rest of the state, they are not extremely so, nor any higher than other rural counties in the region.

RESOURCE USES

NATIVE AMERICAN USES

Native American Indian uses involve a range of traditional economic, social, and religious practices performed by indigenous tribal groups on public lands. There are many facets to these uses. They can range from the protection of past burial sites to concerns about availability and access to root gathering areas to the quality of water that contributes to anadromous fish runs. The BLM has legal responsibility under treaty authority, federal law, and formal agreements with tribes to consider tribal concerns and interests when planning land use actions.

The distribution of these uses is not easily defined or well known. Many tribal members do not divulge this information either within a tribe or with agencies. The information the BLM does receive from tribes about use areas is withheld from the public as a condition of the special relationship between the tribes and the agency.