

Chapter 3: Idaho County Characteristics

3 Overview

In this Chapter, you will find descriptions of Idaho County's characteristics, including demographics, socioeconomics, cultural resources, transportation and infrastructure, vegetation and climate, ecosystems, soils, hydrology, air quality and the wildland-urban interface.

3.1 Demographics

Idaho County reported an increase in total population from 13,783 in 1990 to 15,511 in 2000 with approximately 6,089 households. Idaho County has eight incorporated communities, Grangeville (pop. 3,188), Cottonwood (pop. 999), Riggins (pop. 409), Kamiah (pop. 1,128), Kooskia (pop. 793), Stites (pop. 276), Ferdinand (pop. 143), and White Bird (pop. 106). Nearly 21% of the total county population resides in Grangeville. Unincorporated communities include Keuterville, Fenn, Greencreek, Ferdinand, Mount Idaho, Pollock, Slate Creek, Lucile, Burgdorf, Warren, Clearwater, Harpster, Elk City, Lowell, Syringa, Dixie, and Woodland. Although a large portion of the Kamiah population resides in Idaho County, the Census Bureau places Kamiah in neighboring Lewis County. The total land area of the county is roughly 8,485 square miles (5,430,323 acres). Table 3-1 summarizes relevant demographic statistics for Idaho County.

Table 3-1. Selected Demographic Statistics for Idaho County, Idaho, from Census 2000.

| Subject | Number | Percent (%) |
|---------------------------|--------|-------------|
| Total population | 15,511 | 100.0 |
| SEX | | |
| Male, total number | 7,943 | 51.2 |
| Female, total number | 7,568 | 48.8 |
| AGE CLASS | | |
| Under 5 years | 811 | 5.2 |
| 5 to 9 years | 939 | 6.1 |
| 10 to 14 years | 1,271 | 8.2 |
| 15 to 19 years | 1,258 | 8.1 |
| 20 to 24 years | 594 | 3.8 |
| 25 to 34 years | 1,291 | 8.3 |
| 35 to 44 years | 2,366 | 15.3 |
| 45 to 54 years | 2,482 | 16.0 |
| 55 to 59 years | 904 | 5.8 |
| 60 to 64 years | 997 | 6.4 |
| 65 to 74 years | 1,445 | 9.3 |
| 75 to 84 years | 879 | 5.7 |
| 85 years and over | 274 | 1.8 |
| Median age (years) | 42.1 | N/A |
| 18 years and over | 11,641 | 75.0 |
| Male, 18 years and over | 5,989 | 38.6 |
| Female, 18 years and over | 5,652 | 36.4 |
| 21 years and over | 11,093 | 71.5 |
| 62 years and over | 3,081 | 19.9 |

| Subject | Number | Percent (%) |
|--|--------|-------------|
| 65 years and over | 2,598 | 16.7 |
| Male, 65 years and over | 1,223 | 7.9 |
| Female, 65 years and over | 1,375 | 8.9 |
| RELATIONSHIP | | |
| Population | 15,511 | 100.0 |
| In households | 14,964 | 96.5 |
| Householder | 6,089 | 39.3 |
| Spouse | 3,711 | 23.9 |
| Child | 4,204 | 27.1 |
| Own child under 18 years | 3,562 | 23.0 |
| Other relatives | 421 | 2.7 |
| Under 18 years | 208 | 1.3 |
| Nonrelatives | 539 | 3.5 |
| Unmarried partner | 314 | 2.0 |
| In group quarters | 547 | 3.5 |
| Institutionalized population | 422 | 2.7 |
| Non-institutionalized population | 125 | 0.8 |
| HOUSEHOLDS BY TYPE | | |
| Households | 6,089 | 100.0 |
| Family households (families) | 4,326 | 71.0 |
| With children under 18 years | 1,859 | 30.5 |
| Married-couple family | 3,674 | 60.3 |
| With own children under 18 years | 1,443 | 23.7 |
| Female householder, no husband present | 394 | 6.5 |
| With own children under 18 years | 241 | 4.0 |
| Nonfamily households | 1,763 | 29.0 |
| Householder living alone | 1,518 | 24.9 |
| Householder 65 years and over | 700 | 11.5 |
| Households with individuals under 18 years | 1,998 | 32.8 |
| Households with individuals 65 years and over | 2,462 | 40.4 |
| | | |
| Average household size | 2.46 | N/A |
| Average family size | 2.93 | N/A |
| HOUSING TENURE | | |
| Occupied housing units | 6,084 | 100.0 |
| Owner-occupied housing units | 4,687 | 77.0 |
| Renter-occupied housing units | 1,397 | 23.0 |
| | | |
| Average household size of owner-occupied unit | 2.54 | N/A |
| Average household size of renter-occupied unit | 2.18 | N/A |

3.2 Socioeconomics

Idaho County had 6,084 occupied housing units and a population density of 1.8 persons per square mile reported in the 2000 Census. Ethnicity in Idaho County is distributed as follows: white 94.1%, black or

African American 0.1%, American Indian or Alaskan Native 2.9%, Asian 0.3%, Hispanic or Latino 1.6%, two or more races 1.7%, and some other race 0.9%.

Specific economic data for individual communities is collected by the US Census. In Idaho County this includes Grangeville, Cottonwood, Riggins, Kamiah, Kooskia, Stites, Ferdinand, and White Bird. The Idaho County median income was \$29,515. Grangeville households earn a median income of \$27,984 annually, Cottonwood has a median income of \$34,167, Riggins reported a median income of \$20,972, Kamiah reported \$21,793, Kooskia reported \$20,491, Stites reported \$22,386, Ferdinand reported \$26,250, and White Bird reported a median of \$18,558. Table 3-2 shows the dispersal of households in various income categories in Idaho County with a total number of households of 6,089.

Table 3-2. Income in Idaho County for 1999.

| Income Category | Number | Percent (%) |
|------------------------|--------|-------------|
| Less than \$10,000 | 870 | 14.3 |
| \$10,000 to \$14,999 | 568 | 9.3 |
| \$15,000 to \$24,999 | 1,103 | 18.1 |
| \$25,000 to \$34,999 | 1,119 | 18.4 |
| \$35,000 to \$49,999 | 1,175 | 19.3 |
| \$50,000 to \$74,999 | 770 | 12.6 |
| \$75,000 to \$99,999 | 323 | 5.3 |
| \$100,000 to \$149,999 | 116 | 1.9 |
| \$150,000 to \$199,999 | 19 | 0.3 |
| \$200,000 or more | 26 | 0.4 |

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs federal agencies to identify and address any disproportionately high adverse human health or environmental effects of its projects on minority or low-income populations. Data from the 2000 Census reveal that in Idaho County, 541 families, or 12.5% of the population is at or below the poverty level (Table 3-3) (Census 2000).

Table 3-3. Poverty Status in 1999.

| Category | Number | Percent Below Poverty Level (%) |
|---|--------|---------------------------------|
| Families | 541 | 12.5 |
| With related children under 18 years | 362 | 18.5 |
| With related children under 5 years | 144 | 24.3 |
| Families with female householder, no husband present | 134 | 34.0 |
| With related children under 18 years | 134 | 50.2 |
| With related children under 5 years | 51 | 60.7 |
| Individuals | 2,445 | 16.3 |
| 18 years and over | 1,633 | 14.5 |
| 65 years and over | 249 | 10.0 |
| Related children under 18 years | 790 | 21.0 |
| Related children 5 to 17 years | 600 | 20.1 |
| Unrelated individuals 15 years and over | 666 | 28.2 |

The unemployment rate was 5.5% in Idaho County in 1999, compared to 4.4% nationally during the same period. Approximately 14.5% of the Idaho County employed population worked in natural resources, with much of the indirect employment relying on the employment created through these natural resource

occupations. Table 3-4 depicts Census 2000 numbers and percentages of the population in each occupation and industry for a total employed civilian population 16 years and over of 5,925.

Table 3-4. Employment and Industry Distributions for Idaho County.

| Occupation or Industry | Number | Percent (%) |
|---|--------|-------------|
| OCCUPATION | | |
| Management, professional, and related occupations | 1,713 | 28.9 |
| Service occupations | 1,061 | 17.9 |
| Sales and office occupations | 1,285 | 21.7 |
| Farming, fishing, and forestry occupations | 232 | 3.9 |
| Construction, extraction, and maintenance occupations | 686 | 11.6 |
| Production, transportation, and material moving occupations | 948 | 16.0 |
| INDUSTRY | | |
| Agriculture, forestry, fishing and hunting, and mining | 857 | 14.5 |
| Construction | 498 | 8.4 |
| Manufacturing | 648 | 10.9 |
| Wholesale trade | 177 | 3.0 |
| Retail trade | 758 | 12.8 |
| Transportation and warehousing, and utilities | 307 | 5.2 |
| Information | 68 | 1.1 |
| Finance, insurance, real estate, and rental and leasing | 231 | 3.9 |
| Professional, scientific, management, administrative, and waste management services | 187 | 3.2 |
| Educational, health and social services | 1,075 | 18.1 |
| Arts, entertainment, recreation, accommodation and food services | 469 | 7.9 |
| Other services (except public administration) | 275 | 4.6 |
| Public administration | 375 | 6.3 |

Approximately 59% of Idaho County’s employed persons are private wage and salary workers, while around 21.9% are government workers (Table 3-5) (Census 2000).

Table 3-5. Class of Worker

| Class | Number | Percent (%) |
|--|--------|-------------|
| Private wage and salary workers | 3,495 | 59.0 |
| Government workers | 1,298 | 21.9 |
| Self-employed workers in own not incorporated business | 1,059 | 17.9 |
| Unpaid family workers | 73 | 1.2 |

3.2.1 Description of Idaho County

Information summarized from the Idaho County website, www.idahocounty.org.

Idaho County is the biggest County in Idaho. It covers 8503 square miles and was established on February 4, 1864 by the first Idaho Territorial Legislature.

The area now comprising Idaho County was part of Oregon Territory from 1848 to 1859. With Oregon statehood, it became a part of Washington Territory, and, in 1863, of Idaho Territory. A law in 1875 forced changes in regards of Idaho County boundaries. Therefore, in amendment of that law, new boundaries were defined to as they are to this day.

The first non-native settlement in the new county was by gold seekers from Pierce, Idaho, who in 1861 followed the Nez Perce Trail into Elk City Basin, hopeful of finding gravel deposits that would contain gold. The hopes of miners were realized and Elk City became the pioneer settlement of the upper Clearwater country. No town existed until the following year when a local government was established.

The gold seekers trek had begun. News of discoveries in Florence reached the ears of prospectors everywhere. Thousands of men left good gravel deposits for the better promise of gold in the Idaho mountain area of Florence. By the fall of 1862 a town of tents, lean-tos and brush houses had developed into a boom town. Florence became the first county seat town.

By 1875 Mount Idaho was developing into a prosperous town. Built largely as a stop for traffic to the gold fields, it seemed destined to be a more permanent settlement than the boom towns. It won a special election in 1875 for county seat. Mining was spreading to other areas: Orogrande, Dixie, Newsome, Salmon River, Golden, Marshall Lake, Burgdorf and others. Seventeen mining districts existed at that time, according to the Bicentennial Edition of the Idaho County Free Press published in 1976.

Mining activities had slowed down before World War II and the war saw the close of the remaining operations. In years since, several have tried to reopen, but most of today's mining is done with the use of small suction-type dredges that one sees operating along streams.

While the early mining towns were drawing in gold seekers, a new kind of traffic was developing. The Pre-Emption Act of 1841 allowed any American not already owning land to buy 160 acres in the public domain and pay later \$1.25 per acre. The Homestead Act of 1862 supplemented the Pre-emption Act by offering a settler 160 acres of public land for a nominal fee after five years of residence. Stages and wagons lumbered across the Prairie with passengers including families looking to settle on this land, and with entrepreneurs who knew that hotels, livery barns, saloons, blacksmith shops, stores, real estate firms and other businesses would be needed and would provide a profitable living.

While land was available in some areas, land on the Nez Perce Reservation was not open to the settlers until the government concluded a treaty with the Nez Perce Tribe ceding a part of their land to the Federal Government. The opening up of the land gave rise to the growth of agriculture. Many who had come into the State to search for gold remained to take up land, finding their gold in the rich soil and favorable climatic conditions. By 1864, ranches were scattered over the Prairie and along the rivers.

In 1905 at Portland and again in 1909 at Seattle, the Idaho County exhibit of grains and grasses won the Gold Medal in competition with several other states. Raising livestock began almost simultaneously with the tilling of the soil. Mountains, valleys, river breaks and high plateaus afforded fine grazing land. Cattle, horses, sheep and swine were raised. To breed better horses, the pioneers shipped studs from the East.

Idaho County did not escape the wars on ranges between the sheep men and the cattlemen in the early 1900's. The USDA Forest Service stepped in to help control the range. The first passenger train whistled into Grangeville on the Camas Prairie Railroad in 1908 and the present State Cattle Association was organized in the 1920's. Idaho County organized its Association in 1958. Hereford and Aberdeen-Angus eventually became the main breeds of beef cattle.

Following the War, the growth of Grangeville brought another change in county seat. An election gave it to the fast growing town where it has remained 87 years. By 1937, a North-South highway from Bonners Ferry to Boise was completed and all except two small stretches were oiled.

The timber industry developed as an economic asset to the County. In the 1940's this industry began to develop on a full scale. While sawmills, mostly privately owned, were built earlier to produce lumber chiefly for home building, it was the huge demand for timber after World War II that made timber production a leading industry. Potlatch Forest Inc. began cutting on the first major site on the Nez Perce

National Forest in 1944 in the Meadow Creek-Cougar Creek area. Within two years, 75 million board feet had been taken out of the area.

While mining as an economic asset to the county was short lived, it gave the county its economic beginning and contributed sporadically to the economy throughout its developing years. Forestry and the timber industry, farming and ranching remain the lifeblood of the county, invigorated in recent years by the growth of tourism as a lucrative industry.

RECREATION

Idaho County has many outstanding tourism and recreational facilities. The county offers a full panorama of recreational opportunities ranging from jet boating the Snake, Salmon, or Clearwater Rivers to skiing at the Snowhaven Ski Lodge.

The economic impacts of these activities to the local economy and the economy of Idaho have not been enumerated. However, they are substantial, given the many months of the year that activities take place and the large numbers of visitors that travel to this location.

CLEARWATER NATIONAL FOREST

Part of Idaho's *Big Wild*, the Clearwater National Forest covers 1.8 million acres from the jagged peaks of the Bitterroot Mountains in the east to the river canyons and the rolling hills of the Palouse Prairie in the west.

The North Fork of the Clearwater and the Lochsa Rivers provide miles of tumbling white water interspersed with quiet pools for migratory and resident fish. The mountains provide habitat for elk, moose, whitetail and mule deer, black bear, gray wolf, cougar, mountain goats, and many smaller mammals.

The ridges between the deep canyons have provided travel corridors across the mountains for centuries. These routes were used by the Nez Perce Indians and, in 1805-1806, the Lewis and Clark Expedition. Today the main travel route is U.S. Highway 12, following the dramatic canyon of the Middle Fork of the Clearwater River and its tributary the Lochsa River. Many developed camping and picnicking facilities are located along the Highway 12 corridor in addition to the vast recreational resources offered throughout the Forest.

NEZ PERCE NATIONAL FOREST

The Nez Perce National Forest consists of 2.2 million acres of beautiful and diverse land, and is located in the heart of north-central Idaho. It stretches from the Oregon border on the west to the Montana border on the east; and is roughly bounded by the Selway River drainage on the north to the Salmon River on the south. It is located entirely within Idaho County and comprises approximately 50% of the entire county land base.

From the dry, rugged canyons of the Salmon River to the moist cedar forests of the Selway drainage, the Forest offers something for everyone. This vast, diverse area is managed to provide a variety of goods and services including breathtaking scenery, wilderness, wildlife, fisheries, timber harvest, livestock grazing, mining, pristine water quality and a wide array of recreational opportunities.

The Forest is best known for its wild character. Nearly half of the Forest is designated wilderness. It also sports two rivers popular with thrill-seeking floaters—the Selway and the Salmon. Camping, picnicking, hiking, horseback riding, and four-wheeling opportunities abound, many of which are easily access from paved or well maintained roads.

PAYETTE NATIONAL FOREST

The Payette National Forest extends into Idaho County from the south and is roughly bounded by the Main Salmon River drainage to the north. The forest encompasses a large portion of the Frank Church

River of No Return Wilderness Area in the southeastern region of the county. This is one of Idaho's most remote and scenic locations.

The communities of Burgdorf and Warren are encompassed by Payette National Forest lands. There are many recreational opportunities afforded in this more accessible part of the forest. Homes, summer cabins, and vacation rentals have been built along the Warren Wagon Road corridor. The USDA Forest Service has developed and currently maintains several campsites in addition to a number of undeveloped campsites. There are also a multitude of trails and historical sites accessible by vehicle, ATV, horseback, or by foot.

BITTERROOT NATIONAL FOREST

A small portion of the Bitterroot National Forest crosses into Idaho County from Montana. Most of the Idaho County portion of the Forest is designated as either the Frank Church River of No Return or Selway Bitterroot Wilderness. The Magruder Corridor Road from either Elk City or Darby, Montana has been described as "one of the wildest roads in the United States". Perfect for four-wheeling and mountain biking, this scenic route forms the boundary between the Selway Bitterroot Wilderness to the north and the Frank Church River of No Return Wilderness to the south. There are also several hiking and horseback trails in this area.

WILDERNESS AREAS

The Gospel Hump, Hells Canyon, Selway-Bitterroot, and Frank Church River of No Return Wilderness Areas make up a large portion of the Idaho County land base. Wilderness areas are loosely defined as areas over 5,000 acres that have retained their primeval character. Although no motorized equipment is allowed in the wilderness areas, the recreational opportunities afforded by these pristine areas are great. Camping, hiking, horseback riding, fishing, hunting, wildlife viewing, and many other activities are enjoyed throughout the counties designated wilderness areas.

BOATING

Boating is a very popular activity in Idaho County. The Snake, Salmon, and Clearwater Rivers along with many of their tributaries offer excitement for various types of boaters and recreational users during the warmer months. Riggins is well known as "The Whitewater Capital of the World" due to the boundless rafting and kayaking opportunities available. Boat ramps, docks, and other facilities are conveniently located at several access points along the rivers' banks.

CAMPING

Camping is another popular activity enjoyed by the residents of Idaho County. The Clearwater and Nez Perce National Forests provide many developed and undeveloped campsites. The amenities vary from full RV hookup to only a cleared tent site. There are also numerous RV parks closer to populated areas.

FISHING AND HUNTING

Fishing and hunting is very important to Idaho County both from a recreational standpoint and as an economic resource. A wide variety of fish can be caught in Idaho County including: trout, salmon, sturgeon, bass, catfish, crappie, perch, and pike. The river systems and many of the stocked lakes and mountain lakes provide excellent fishing.

For those who prefer a gun or bow to a fly rod, Idaho County offers a bounty of hunting experiences. Wild birds and game, like deer, elk, bear, mountain lion, pheasant, quail, partridge, chukar, grouse, wild duck, geese, and doves are found in abundance.

WINTER SPORTS

For those people who enjoy winter sports, Idaho County has a variety of activities to interest them. Cross-country and downhill skiers will be exhilarated by the hills and trails at the Snowhaven Ski Lodge.

Snowmobilers are not left out as hundreds of miles of designated snowmobile trails attract many local and out of town thrill seekers.

RESOURCE DEPENDENCY

Over the past century, employment through agricultural farming, timber harvesting, and livestock ranching has been significant in the region. Forestry, logging, trucking, and related support industries have relied on timber harvests from this region. Livestock ranching has been and continues to be an important component of the economy of Idaho County. Livestock grazing in Idaho and surrounding counties has provided stable employment while serving to keep rangelands and forestlands alike maintained at a lower wildfire risk than if they had not been present and grazed.

Agriculture and timber processing have historically been important to Idaho County and the State. Winter wheat is the leading cash crop, accounting for more than half of the gross income from all crops produced in the county. Peas, barley, oats, grass seed, canola, and hay are the other major crops. The forest products industry provides a significant portion of the economic base for Idaho County.

The communities of Idaho County have been evaluated by the University of Idaho College of Natural Resources Policy Analysis Group (PAG) for the degree of natural resource dependency each community experiences.

Idaho communities with more than 10% employment in resource-based sectors (wood products, travel and tourism, agriculture, and mining) were evaluated by Harris *et al.* (2003). Their findings indicate the travel, tourism, agriculture, and wood products as the predominant resources in the County (Harris *et al.* 2000) (Table 3-6).

Table 3-6. Predominant Resource by City

| City | Predominant Resource |
|-------------|------------------------------------|
| Cottonwood | Travel & Tourism and Agriculture |
| Grangeville | Travel & Tourism Only |
| Riggins | Travel & Tourism and Agriculture |
| Kamiah | Wood Products and Travel & Tourism |
| Kooskia | Wood Products and Agriculture |

From 1993 to 1998, sawmill capacity dropped rapidly in response to dwindling public log supplies. The Ida-Pine Mill (large employer) was located in Grangeville but closed in the late 1990’s, and Bennett Forest Industries has relocated their planer and kiln operations to that same site. Bennett Forest Industries closed its mill at Elk City and relocated all operations to Grangeville. The Three Rivers Mill located in Kamiah (Lewis-Idaho County lines) closed. Clearwater Forest Industries is located outside of Kooskia and continues to operate. A number of small log processors are scattered across the county.

In north central Idaho, Potlatch Corporation’s Jaype mill in Pierce closed in 2002, and its Lewiston plant has been steadily reducing employees. Other recent closings of Idaho mills have occurred in Coeur d’Alene, Boise, and Grangeville, and in Baker, Oregon (Harris *et al.* 2000).

Harris *et al.* (2003) further evaluated Idaho communities based on their level of direct employment in several industrial sectors. Their findings for communities in Idaho County are summarized in Table 3-7.

Table 3-7. Levels of Direct Employment by Industrial Sector.

| Community | Economic Diversity Index | Agriculture | Timber | Travel and Tourism | State and Local Government | Federal Government | Mining and Minerals |
|-------------|--------------------------|-------------|----------|--------------------|----------------------------|--------------------|---------------------|
| Cottonwood | Med. High | Med. High | Low | Med. High | High | Low | Low |
| Grangeville | High | Med. Low | Med. Low | Med. High | Med. High | Med. High | Low |
| Riggins | Med. High | Med. High | Low | High | Med. High | Med. High | Low |
| Kamiah | Med. High | Med. Low | High | Med. High | Med. High | Low | Low |
| Kooskia | Med. High | High | High | Med. Low | Med. High | Low | Low |

A “low” level of direct employment represents 5% or less of total employment in a given sector; “med. low,” 6 to 10%; “med. high” 11 to 19%; and “high” 20% or more of total employment in a given sector.

3.3 Cultural Resources

Cultural resource impacts were qualitatively assessed through a presence/absence determination of significant cultural resources and mitigation measures to be employed during potential fire mitigation activities such as thinning and prescribed fire.

The United States has a unique legal relationship with Indian tribal governments defined in history, the U.S. Constitution, treaties, statutes, Executive Orders, and court decisions. Since the formation of the Union, the United States has recognized Indian tribes as domestic dependant nations under its protection. The Federal Government has enacted numerous regulations that establish and define a trust relationship with Indian tribes.

The relationship between Federal agencies and sovereign tribes is defined by several laws and regulations addressing the requirement of Federal agencies to notify or consult with Native American groups or otherwise consider their interests when planning and implementing Federal undertakings, among these are:

- **EO 13175, November 6, 2000:** Consultation and Coordination with Indian Tribal Governments.
- **Presidential Memorandum, April 1994:** Government-to-Government Relations with Tribal Governments (Supplements EO 13175). Agencies must consult with federally recognized tribes in the development of Federal Policies that have tribal implications.
- **EO 13007, Sacred sites, May 24, 1996:** Requires that in managing Federal lands, agencies must accommodate access and ceremonial use of sacred sites and must avoid adversely affecting the physical integrity of these sites.
- **EO 12875, Enhancing Intergovernmental Partnerships, October 26, 1993:** Mainly concerned with unfunded mandates caused by agency regulations. Also states the intention of establishing “regular and meaningful consultation and collaboration with state, local, and tribal governments on matters that significantly or uniquely affect their communities.”
- **Native American Graves Protection and Repatriation Act (NAGPRA) of 1989:** Specifies that an agency must take reasonable steps to determine whether a planned activity may result in the excavation of human remains, funerary objects, sacred objects and items of cultural patrimony from Federal lands. NAGPRA also has specified requirements for notifying and consulting tribes.
- **Archaeological Resources Protection Act (ARPA), 1979:** Requires that Federal permits be obtained before cultural resource investigations begin on Federal land. It also requires that investigators consult with the appropriate Native American tribe prior to initiating archaeological studies on sites of Native American origin.

- **American Indian Religious Freedom Act (AIRFA), 1978:** Sets the policy of the United States to protect and preserve for Native Americans their inherent rights of freedom to believe, express, and exercise the traditional religions of the American Indian ...including, but not limited to access to sacred sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites.
- **National Environmental Policy Act (NEPA), 1969:** Lead agency shall invite participation of affected Federal, State, and local agencies and any affected Indian Tribe(s).
- **National Historic Preservation Act (NHPA), 1966:** Requires agencies to consult with Native American tribes if a proposed Federal action may affect properties to which they attach religious and cultural significance (Bulletin 38 of the Act).
- **Treaties (Supreme Law of the Land):** Tribes were reserved certain rights for hunting, fishing and gathering and other stipulations of the treaty.
- **Unsettled Aboriginal Title to the Land, Un-Extinguished Rights of Tribes.**

3.3.1 Nez Perce Indian Reservation

The Nez Perce people belong to the Sahaptin linguistic group of the Northwest Plateau Region. At one time, they occupied an area that covered North Central Idaho, Northeastern Oregon, and Southeastern Washington. The 1855 Treaty reserved most of their ancestral homelands. However, the discovery of gold in the 1860s led to the Treaty Council of 1863, and the adjustment of the boundaries of the Reservation. The Reservation was reduced by seven million acres, leaving the Nez Perce with 757,000 acres. Several of the Nez Perce (the “Non-Treaty Nez Perce”) refused to sign this treaty. The government attempted to force their compliance in 1877. A war resulted ending in a surrender at Bear Paw, Montana, following a 1,700 mile, four-month fighting retreat by these Nez Perce toward Canada. The Dawes General Allotment Act of 1877 followed, whereby the remaining land was distributed within the tribe. Then in 1893, the Nez Perce were pressured into signing an agreement in which all un-allotted land was declared “surplus” and sold to the Government for homesteading. The result of the Dawes Act was a Nez Perce Reservation reduced to about 86,500 acres, less than 12% of the 1863 Treaty lands. In 1948, the Nez Perce Tribe became a self-governing body under an approved constitution and by-laws. The Nez Perce Tribal Executive Committee is composed of nine members distributed geographically throughout the reservation.

3.3.2 National Register of Historic Places

The National Park Service (NPS) maintains the National Register of Historical Places as a repository of information on significant cultural locale. These may be buildings, roads, or trails, places where historical events took place, or other noteworthy sites. The NPS has recorded sites in its database, and those sites located in Idaho County, Idaho are summarized in Table 3-8.

Table 3-8. National Register of Historic Places in Idaho County, Idaho.

| Item Number | Resource Name | Address | City | Listed | Architect, Builder, or Engineer |
|-------------|--|---|----------|--------|---------------------------------|
| 1 | Ah Toy Garden | Along China Creek near junction with South Fork Salmon River, Payette National Forest | Warren | 1990 | |
| 2 | Elk City Wagon Road-Victory Gulch--Smith Grade Segment | Nez Perce National Forest | Elk City | 2001 | |
| 3 | Fenn Ranger Station | Selway Road 223 near Johnson Creek, Nez Perce National Forest | Kooskia | 1990 | Fox, William |

| Item Number | Resource Name | Address | City | Listed | Architect, Builder, or Engineer |
|-------------|--|--|-------------|--------|------------------------------------|
| 4 | First Presbyterian Church | Southeast of Kamiah on U.S. 12 | Kamiah | 1976 | |
| 5 | Florence | Northeast of Riggins | Grangeville | 1971 | |
| 6 | Foster, Blacky, House | Along Salmon River, West of Shoup | Shoup | 1992 | |
| 7 | Gold Point Mill | Forest Service Road 222 | Elk City | 2000 | |
| 8 | Grangeville Savings and Trust | State and Main Streets | Grangeville | 1989 | Nave, James H. |
| 9 | Hells Canyon Archeological District | Address Restricted | Riggins | 1984 | |
| 10 | Lochsa Historical Ranger Station | Address Restricted | Kooskia | 1978 | USDA Forest Service |
| 11 | Lower Salmon River Archeological District | Address Restricted | Cottonwood | 1986 | |
| 12 | McBeth, Sue, Cabin | Southeast of Kamiah on U.S. 12 | Kamiah | 1976 | |
| 13 | Meinert Ranch Cabin | 1.8 mile Southwest of Red River Hot Springs on Red River-Beargrass Road Number 234 | Elk City | 1987 | Meinert, Emma, Meinert, Irad |
| 14 | Moore, Jim, Place | Salmon River Canyon | Dixie | 1978 | |
| 15 | Moose Creek Administrative Site | East side of Moose Creek, South of Whistling Pig Creek, Nez Perce National Forest | Grangeville | 1990 | Parsell, Jack |
| 16 | O'Hara House | East of Kooskia off U.S. 12 | Kooskia | 1991 | |
| 17 | Old China Trail | Along China Creek near junction with South Fork Salmon River, Payette National Forest | Warren | 1990 | |
| 18 | Arctic Point Fire Lookout | North of Big Creek, Idaho Primitive Area, Payette National Forest | Big Creek | 1994 | |
| 19 | Bemis, Polly, House | Accessible on Salmon River via boat | Riggins | 1988 | Klinkhammer, Peter, Shepp, Charlie |
| 20 | Aitken Barn | Southwest of Riggins on US 95 | Riggins | 1982 | Aitken, Stewart, Aitken, Jim |
| 21 | Blue Fox Theatre | 116 W. Main St | Grangeville | 1999 | |
| 22 | Burgdorf | About 15 miles West of Warren | Warren | 1972 | |
| 23 | Carey Dome Fire Lookout | Nez Perce National Forest, 9 miles North of USDA Forest Service Burgdorf Guard Station | Burgdorf | 1994 | |
| 24 | Celadon Slope Garden | Along China Creek near junction with South Fork Salmon River, Payette National Forest | Warren | 1990 | |
| 25 | Chi-Sandra Garden | Along China Creek near junction with South Fork Salmon River, Payette National Forest | Warren | 1990 | |
| 26 | Chinese Cemetery | Payette National Forest, 0.5 miles Northwest of Warren Wagon Road | Warren | 1994 | |
| 27 | Chinese Mining Camp Archeological Site | Northwest of Warren, Payette National Forest | Warren | 1994 | |

| Item Number | Resource Name | Address | City | Listed | Architect, Builder, or Engineer |
|-------------|-------------------------------------|--|-------------|--------|---------------------------------|
| 28 | Cold Meadows Guard Station | Northeast of McCall, Frank Church-River of No Return Wilderness, Payette National Forest | McCall | 1994 | |
| 29 | Riggins Motel | 615 South Idaho 95 | Riggins | 2001 | Rowe, Leonard |
| 30 | St. Gertrude's Convent and Chapel | West of Cottonwood | Cottonwood | 1979 | Gier, Englebert |
| 31 | State Bank of Kooskia | 1 S. Main St | Kooskia | 1978 | Trenary, George, Loring, Ralph |
| 32 | Warren Guard Station, Building 1206 | Southwest side, Warren Wagon Road, Forest Highway 21 | Warren | 1994 | CCC, USFS |
| 33 | White Bird Battlefield | North of White Bird off U.S. 95 | White Bird | 1974 | |
| 34 | White Bird Grade | Northeast of White Bird | White Bird | 1974 | |
| 35 | Wylies Peak Lookout | Nez Perce National Forest | Grangeville | 1983 | |
| 36 | East Kamiah--Site 15 | Southeast of Kamiah | Kamiah | 1974 | |

Fire mitigation activities in and around these sites has the potential to affect historic places. In all cases, the intention of the fire mitigation work would be reduced potential of damaging the site due to wildfire. Areas where ground disturbance would occur would need to be inventoried depending on the location. Such actions may include, but are not limited to, constructed fire lines (hand line, mechanical line, etc.), new roads to creeks to fill water tankers, mechanical treatments, etc. Only those burn acres that may affect cultural resources that are sensitive to burning (i.e., buildings, peeled bark trees, etc.) would be examined. Burns over lithic sites are not expected to have an impact on those sites, as long as the fire is of low intensity and short duration. Areas with heavy vegetation may need to be examined after the burn to locate and record any cultural resources although this potential discovery is expected to be minimal. Traditional Cultural Properties (TCPs) will also need to be identified. Potential effects to TCPs will depend on what values make the property important and would be assessed on an individual basis.

3.4 Transportation & Infrastructure

Primary access to and from Idaho County is provided by US 95, a two-lane highway which traverses the county from the southwestern corner (near Pollock), through Grangeville, then Ferdinand, where it exits the county on the northwestern side. This access is the only primary route connecting north and south Idaho. U.S. Highway 12, part of the Lewis and Clark Trail, travels from the very northeastern corner near Lolo Pass, down the Lochsa River and Middle Fork of the Clearwater River, and then exits the County at Kamiah. This narrow, windy paved route is notorious for being dangerous during adverse weather conditions. State Highway 13 is a narrow and windy two-lane highway connecting Grangeville to Kooskia via the South Fork of the Clearwater River corridor. Although this path is relatively well-maintained, emergency evacuation along this route could potentially be dangerous due to the slower nature of travel, sharp corners, and the steepness of the Harpster Grade portion. State Route 14 is the only paved pathway connecting the community of Elk City to Grangeville and Kooskia. This path follows the South Fork of the Clearwater River corridor all the way from Elk City to its junction with State Route 13 near Harpster. Although this roadway is very narrow and windy, it functions as the primary escape route for residents or tourists in the Dixie, Orogrande, and Elk City vicinities. State Route 162 is the easiest and quickest access to the Camas Prairie from the Kamiah area. It is likely that this roadway would serve as the primary evacuation route in the event of a fire occurrence in the Clearwater River canyon.

Smaller roads maintained by the County, the USDA Forest Service, or private entities provide access to the adjoining areas within the county, including the communities of Dixie, Burgdorf, Warren, Keuterville, Woodland, and Greencreek. A variety of trails and closed roads are found throughout the region.

Almost all of the roads in the county were originally built to facilitate logging and farming activities. As such, these roads can support timber harvesting equipment, logging trucks, and firefighting equipment referenced in this document. However, many of the new roads have been built for home site access, especially for new sub-divisions. In most cases, these roads are adequate to facilitate firefighting equipment as they adhere to County road standards. County road standards and building guidelines for new developments should be adhered to closely to ensure this tendency continues.

Transportation networks in the county have been challenged by a number of communities with only one, two, or three access points suitable for use during an emergency. The community of Elk City is a prime example. Other communities that may be at risk because of limited access include Dixie, Burgdorf, Warren, Clearwater, Tahoe Ridge/Big Cedar, Lowell, and Woodland.

Idaho County has both significant infrastructure and unique ecosystems within its boundaries. Of note for this Wildfire Mitigation Plan are the existence of the only state highway route connecting north and south Idaho (US Highway 95) and the presence of high-tension power lines supplying the communities of Nez Perce, Lewis, Valley, Clearwater, and Adams Counties.

3.5 Vegetation & Climate

Vegetation in Idaho County is a mix of forestland and agricultural ecosystems. An evaluation of satellite imagery of the region provides insight to the composition of the vegetation of the area. The full extent of the county was evaluated for cover type as determined from Landsat 7 ETM+ imagery in tabular format as shown in Table 3-9.

The most represented vegetated cover type is Douglas-fir at approximately 12% of the total area. The next most common vegetation cover type represented is a mixed mesic forest at 11%. Lodgepole pine represents approximately 10% of the total area (Table 3-9).

Table 3-9. Vegetative Cover Types in Idaho County.

| Vegetative Cover Type | Acres | Percent of County's Total Area (%) |
|--|---------|------------------------------------|
| Douglas-fir | 625,561 | 12 |
| Mixed Mesic Forest | 593,530 | 11 |
| Lodgepole Pine | 534,486 | 10 |
| Mixed Subalpine Forest | 497,474 | 9 |
| Warm Mesic Shrubs | 385,373 | 7 |
| Ponderosa Pine | 335,098 | 6 |
| Grand Fir | 310,087 | 6 |
| Subalpine Fir | 237,000 | 4 |
| Agricultural Land | 191,270 | 4 |
| Mixed Xeric Forest | 187,325 | 3 |
| Western Red Cedar/Grand Fir Forest | 160,144 | 3 |
| Douglas-fir/Grand Fir | 159,717 | 3 |
| Montane Parklands and Subalpine Meadow | 151,558 | 3 |
| Douglas-fir/Lodgepole Pine | 150,071 | 3 |
| Exposed Rock | 116,435 | 2 |
| Foothills Grassland | 113,395 | 2 |
| Herbaceous Burn | 77,107 | 1 |
| Western Red Cedar | 74,283 | 1 |
| Engelmann Spruce | 54,728 | 1 |
| Perennial Grass Slope | 54,422 | 1 |

| Vegetative Cover Type | Acres | Percent of County's Total Area (%) |
|--|------------------|------------------------------------|
| Western Larch/Douglas-fir | 52,121 | 1 |
| Mixed Barren Land | 38,240 | 1 |
| Subalpine Pine | 37,645 | 1 |
| Western Larch/Lodgepole Pine | 32,765 | 1 |
| Basin & Wyoming Big Sagebrush | 24,203 | Less than 1 |
| Curleaf Mountain Mahogany | 22,777 | Less than 1 |
| Shrub Dominated Riparian | 21,406 | Less than 1 |
| Needle leaf Dominated Riparian | 18,906 | Less than 1 |
| Graminoid or Forb Dominated Riparian | 18,371 | Less than 1 |
| Cloud Shadow | 16,639 | Less than 1 |
| Disturbed Grassland | 15,748 | Less than 1 |
| Mixed Needle leaf/Broadleaf Forest | 14,434 | Less than 1 |
| Mixed Whitebark Pine Forest | 14,393 | Less than 1 |
| Water | 13,126 | Less than 1 |
| Cloud | 12,777 | Less than 1 |
| Western Larch | 10,936 | Less than 1 |
| Perennial Ice or Snow | 10,421 | Less than 1 |
| Cottonwood | 8,976 | Less than 1 |
| Mountain Big Sagebrush | 7,211 | Less than 1 |
| Bitterbrush | 6,468 | Less than 1 |
| Subalpine fir/Whitebark Pine | 5,626 | Less than 1 |
| Mixed Riparian (Forest and Non-Forest) | 5,604 | Less than 1 |
| Broadleaf Dominated Riparian | 4,925 | Less than 1 |
| Needle leaf/Broadleaf Dominated Riparian | 2,828 | Less than 1 |
| Herbaceous Clear-cut | 2,066 | Less than 1 |
| Urban | 1,543 | Less than 1 |
| Alpine Meadow | 1399 | Less than 1 |
| Disturbed, High | 1,156 | Less than 1 |
| Wet Meadow | 1,151 | Less than 1 |
| Low Sagebrush | 927 | Less than 1 |
| Burnt, Standing Timber | 912 | Less than 1 |
| Shoreline and Stream Gravel Bars | 804 | Less than 1 |
| Mesic Upland Shrubs | 663 | Less than 1 |
| Black Sagebrush Steppe | 634 | Less than 1 |
| Perennial Grassland | 571 | Less than 1 |
| Low Intensity Urban | 227 | Less than 1 |
| Shallow Marsh | 164 | Less than 1 |
| Wyoming Big Sagebrush | 157 | Less than 1 |
| Disturbed, Low | 153 | Less than 1 |
| Deep Marsh | 151 | Less than 1 |
| Mixed Non-forest Riparian | 21 | Less than 1 |
| Total Area | 5,438,311 | 100 |

Vegetative communities within the county follow the strong moisture and temperature gradient related to the major river drainages. Limited precipitation and steep slopes result in a relatively arid environment in

the southwestern portion of the county, limiting vegetation to drought-tolerant plant communities of grass and scrublands, with scattered clumps of ponderosa pine and Douglas-fir at the higher elevations. As moisture availability increases, so does the abundance of conifer species, with subalpine forest communities present in the highest elevations where precipitation and elevation provide more available moisture during the growing season.

3.5.1 Monthly Climate Summaries in Idaho County

KOOSKIA, IDAHO (105011)

Period of Record Monthly Climate Summary

Period of Record: 11/16/1908 to 8/31/1987

Table 3-10. Climate Records for Kooskia, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 37.5 | 45.6 | 55.2 | 64.8 | 73.5 | 81.1 | 91.6 | 90.8 | 80.0 | 65.2 | 47.3 | 39.0 | 64.3 |
| Average Min. Temperature (F) | 21.3 | 26.2 | 30.3 | 35.8 | 41.9 | 48.2 | 51.3 | 49.4 | 42.8 | 35.8 | 29.5 | 24.6 | 36.4 |
| Average Total Precipitation (in.) | 1.98 | 1.70 | 2.34 | 2.69 | 2.93 | 2.50 | 0.88 | 0.97 | 1.64 | 2.21 | 2.38 | 2.02 | 24.2 |
| Average Total Snowfall (in.) | 9.8 | 3.9 | 1.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 1.9 | 6.4 | 23.6 |
| Average Snow Depth (in.) | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

Percent of possible observations for period of record. Max. Temp.: 96.7% Min. Temp.: 96.6% Precipitation: 98.3% Snowfall: 97.5% Snow Depth: 95.2%

FENN RANGER STATION, IDAHO (103143)

Period of Record Monthly Climate Summary

Period of Record 8/ 1/1948 to 3/31/2004

Table 3-11. Climate Records for the Fenn Ranger Station, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 35.7 | 42.7 | 51.1 | 61.2 | 70.3 | 78.0 | 88.6 | 88.5 | 76.4 | 60.5 | 44.7 | 36.8 | 61.2 |
| Average Min. Temperature (F) | 23.5 | 26.9 | 30.5 | 35.4 | 41.6 | 47.7 | 51.5 | 50.4 | 44.3 | 36.8 | 30.8 | 25.8 | 37.1 |
| Average Total Precipitation (in.) | 4.73 | 3.49 | 3.65 | 3.63 | 3.44 | 3.02 | 1.05 | 1.24 | 2.11 | 2.91 | 4.50 | 4.27 | 38.03 |
| Average Total Snowfall (in.) | 18.0 | 8.8 | 3.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 4.7 | 14.5 | 49.6 |
| Average Snow Depth (in.) | 7 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |

Percent of possible observations for period of record. Max. Temp.: 96.7% Min. Temp.: 96.5% Precipitation: 98% Snowfall: 96.1% Snow Depth: 95.2%

COTTONWOOD, IDAHO (102159)

Period of Record Monthly Climate Summary

Period of Record 2/ 3/1950 to 3/31/2004

Table 3-12. Climate records for Cottonwood, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 35.3 | 39.7 | 46.9 | 54.2 | 61.4 | 69.2 | 78.0 | 79.6 | 70.4 | 57.5 | 41.9 | 35.2 | 55.8 |
| Average Min. Temperature (F) | 23.3 | 25.9 | 30.2 | 35.2 | 41.3 | 47.9 | 54.3 | 54.6 | 47.4 | 38.2 | 28.7 | 23.0 | 37.5 |
| Average Total Precipitation (in.) | 1.86 | 1.51 | 1.86 | 2.36 | 3.05 | 2.44 | 1.48 | 1.11 | 1.25 | 1.49 | 2.09 | 1.78 | 22.28 |
| Average Total Snowfall (in.) | 12.4 | 3.9 | 5.0 | 1.9 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 3.3 | 13.5 | 40.5 |
| Average Snow Depth (in.) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Percent of possible observations for period of record. Max. Temp.: 47.3% Min. Temp.: 46.4% Precipitation: 50.3% Snowfall: 37.6% Snow Depth: 31.7%

GRANGEVILLE, IDAHO (103771)

Period of Record Monthly Climate Summary

Period of Record 8/ 1/1948 to 3/31/2004

Table 3-13. Climate Records for Grangeville, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 36.8 | 42.3 | 48.3 | 56.0 | 64.1 | 71.5 | 81.8 | 81.8 | 72.1 | 59.2 | 44.8 | 37.9 | 58.0 |
| Average Min. Temperature (F) | 21.3 | 24.5 | 27.7 | 32.9 | 39.3 | 45.6 | 50.4 | 49.6 | 42.3 | 34.6 | 27.9 | 22.6 | 34.9 |
| Average Total Precipitation (in.) | 1.57 | 1.29 | 2.18 | 2.77 | 3.43 | 2.88 | 1.27 | 1.15 | 1.68 | 1.91 | 1.83 | 1.58 | 23.53 |
| Average Total Snowfall (in.) | 10.8 | 7.3 | 8.5 | 3.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 6.0 | 11.4 | 49.1 |
| Average Snow Depth (in.) | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |

Percent of possible observations for period of record. Max. Temp.: 98.3% Min. Temp.: 98.2% Precipitation: 98.7% Snowfall: 87% Snow Depth: 95.1%

ELK CITY RANGER STATION, IDAHO (102875)

Period of Record Monthly Climate Summary

Period of Record 12/1/1950 to 3/31/2004

Table 3-14. Climate records for Elk City Ranger Station, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 34.4 | 41.0 | 46.1 | 53.3 | 62.4 | 70.9 | 80.9 | 81.2 | 72.7 | 59.3 | 42.5 | 34.2 | 56.6 |
| Average Min. Temperature (F) | 11.4 | 14.3 | 18.8 | 26.0 | 32.8 | 39.0 | 40.8 | 38.6 | 32.2 | 26.4 | 20.6 | 12.6 | 26.1 |
| Average Total Precipitation (in.) | 3.50 | 2.48 | 2.66 | 2.58 | 2.99 | 3.07 | 1.50 | 1.42 | 1.67 | 2.21 | 3.02 | 2.91 | 30.03 |
| Average Total Snowfall (in.) | 32.0 | 19.0 | 21.2 | 10.0 | 2.2 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 16.3 | 26.1 | 129.4 |
| Average Snow Depth (in.) | 17 | 19 | 15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8 | 5 |

Percent of possible observations for period of record. Max. Temp.: 91.3% Min. Temp.: 91.1% Precipitation: 93.3% Snowfall: 92.5% Snow Depth: 91.5%

RIGGINS, IDAHO (107706)

Period of Record Monthly Climate Summary

Period of Record 1/ 1/1940 to 3/31/2004

Table 3-15. Climate Records for Riggins, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 41.7 | 49.4 | 57.3 | 65.9 | 74.1 | 81.5 | 92.4 | 92.4 | 81.7 | 67.5 | 50.9 | 42.5 | 66.5 |
| Average Min. Temperature (F) | 27.7 | 30.9 | 34.6 | 39.5 | 45.9 | 52.4 | 58.3 | 57.9 | 50.5 | 41.9 | 34.5 | 29.3 | 41.9 |
| Average Total Precipitation (in.) | 1.22 | 1.10 | 1.59 | 1.74 | 2.20 | 1.91 | 0.82 | 0.80 | 1.12 | 1.32 | 1.52 | 1.37 | 16.70 |
| Average Total Snowfall (in.) | 2.9 | 1.3 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 2.0 | 7.0 |
| Average Snow Depth (in.) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Percent of possible observations for period of record. Max. Temp.: 93.7% Min. Temp.: 93.7% Precipitation: 95.5% Snowfall: 90.5% Snow Depth: 73%

WARREN, IDAHO (109560)

Period of Record Monthly Climate Summary

Period of Record 9/ 1/1959 to 3/31/2004

Table 3-16. Climate Records for Warren, Idaho (Idaho County).

| Measure | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| Average Max. Temperature (F) | 33.3 | 38.9 | 43.1 | 49.0 | 58.2 | 67.4 | 77.0 | 76.5 | 67.2 | 55.5 | 40.0 | 32.5 | 53.2 |
| Average Min. Temperature (F) | 6.8 | 9.1 | 13.3 | 20.3 | 27.5 | 33.1 | 35.8 | 34.3 | 28.7 | 23.1 | 16.0 | 8.1 | 21.4 |
| Average Total Precipitation (in.) | 2.95 | 1.93 | 2.39 | 2.27 | 2.53 | 2.52 | 1.23 | 1.29 | 1.47 | 2.05 | 2.58 | 2.64 | 25.85 |
| Average Total Snowfall (in.) | 34.4 | 22.2 | 24.8 | 14.0 | 5.7 | 0.8 | 0.0 | 0.0 | 0.8 | 5.3 | 21.6 | 31.9 | 161.4 |
| Average Snow Depth (in.) | 27 | 33 | 33 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 4 | 15 | 11 |

Percent of possible observations for period of record. Max. Temp.: 98.6% Min. Temp.: 98% Precipitation: 96.2% Snowfall: 97.8% Snow Depth: 95.6%

3.6 Ecosystems

Idaho County is a diverse ecosystem with a complex array of vegetation, wildlife, and fisheries that have developed with and adapted to fire as a natural disturbance process. A century of wildland fire suppression coupled with past land-use practices (primarily timber harvesting) has altered plant community succession and has resulted in dramatic shifts in the fire regimes and species composition. In addition, invasive weed species pose threats to natural ecosystems, especially the rangelands of Idaho County. These effects are especially challenging where plant composition has been substantially altered as a response to wildfires occurring beyond the natural range of variability. As a result, forests and rangelands in Idaho County have become more susceptible to large-scale, high intensity fires posing a threat to life, property, and natural resources including wildlife and special status plant populations and habitats. High-intensity, stand-replacing fires have the potential to seriously damage soils and native vegetation. In addition, an increase in the number of large high intensity fires throughout the nation's forest and rangelands has resulted in significant safety risks to firefighters and higher costs for fire suppression (House of Representatives, Committee on Agriculture, Washington, DC, 1997).

3.7 Soils

There are various soil types in the Idaho County area. Two major soil divisions are found:

1. Thirty-four percent of the land area (mainly in the northern portions of the survey area and at the lower elevations around Elk City) have a clayey subsoil that formed in loess or a loamy subsoil that formed in weathered basalt or granite and is used mainly for dry land crops and woodland.
2. Sixty-six percent of the land area (mainly on canyon walls and mountains) was formed in loess and weathered basalt and granite and is used mainly for grazing and woodland.

Our soil resource is an extremely important component for maintaining a healthy ecosystem and economy. Fire can play an intricate role in this process, if it occurs under normal conditions of light fuels associated with low intensity under burns. However, the buildup of fuels and consequent high severity fires can cause soils to become water repellent (hydrophobic), and thus greatly increase the potential for overland flow during intense rains. Soil in degraded conditions does not function normally, and will not be able to sustain water quality, water yield, or plant communities that have normal structure,

composition, and function. Fire is also strongly correlated with the carbon-nutrient cycles and the hydrologic cycle. Fire frequency, extent, and severity are controlled to a large degree by the availability of carbon, as well as the moisture regime (Quigley & Arbelbide 1997).

Soils were evaluated for their propensity to become hydrophobic during and after a fire as evidenced by the presence of clay and clay derivatives (e.g., clay loam) in the upper soil layers. In addition, their permeability and tendency to allow runoff to infiltrate the soil rapidly was evaluated. In general, with notable exceptions, the majority of the area within Idaho County has highly variable clay content in the Bt horizon. Much of the area has little to no reported clay content in the A horizon with a silt loam or cobbly loam present. On average, these soils are well drained with moderate permeability.

Low to moderate intensity fires would be not be expected to damage soil characteristics in the region, especially if the hotter fires in this range were limited to small extents associated with jackpots of cured fuels. Hot fires providing heat to the Bt horizon substrate depth have the potential to create hydrophobic characteristics in that layer. This can result in increased overland flow during heavy rains, following wildfire events, potentially leading to mass wasting. Rocky and gravelly characteristics in the A horizon layer would be expected to be displaced, while the silty and loamy fines in these soils may experience an erosion and displacement potential. These soils will experience the greatest potential impacts resulting from hot fires that burn for prolonged periods (especially on steep slopes).

The National Resource Conservation Service (NRCS) has mapped a large portion of Idaho County in detail. Idaho County has been split into two soil survey areas. Please refer to the Idaho County NRCS Soil Survey Report available at http://www.or.nrcs.usda.gov/pnw_soil/id_reports.html to view each soil unit in the County and the associated characteristics relating to the effects of wildland fire.

3.8 Hydrology

The Idaho Water Resource Board is charged with the development of the Idaho Comprehensive State Water Plan. Included in the State Water Plan are the statewide water policy plan, and component basin and water body plans that cover specific geographic areas of the state (IDEQ 2003). The Idaho Department of Water Resources has prepared General Lithologies of the Major Ground Water Flow Systems in Idaho.

The state may assign or designate beneficial uses for particular Idaho water bodies to support. These beneficial uses are identified in the Idaho water quality standards (IDAPA 58.01.02 Section 100). These uses include:

- **Aquatic Life Support:** cold water biota, seasonal cold water biota, warm water biota, and salmonid spawning;
- **Recreation:** primary (swimming) and secondary (boating);
- **Water Supply:** domestic, agricultural, and industrial; and
- **Wildlife Habitat;** and
- **Aesthetics.**

While there may be competing beneficial uses in streams, federal law requires DEQ to protect the most sensitive of these beneficial uses (IDEQ 2003).

Table 3-17 displays the municipal watersheds located in Idaho County.

Table 3-17. Idaho Water Resources Database of Municipal Water Supplies in Idaho County.

| Name | Service Type | Source Name | Source Type | Lat | Long | Population |
|-----------------------|--------------|-------------|---------------|----------|-----------|------------|
| Clearwater Water Dist | Community | WALL CREEK | Surface Water | 45.98025 | 115.87306 | 150 |

| Name | Service Type | Source Name | Source Type | Lat | Long | Population |
|--|-------------------------|-----------------|--------------------|----------|-----------|------------|
| Elk City Water And Sewer Assn | Community | BIG ELK CREEK | Surface Water | 45.83160 | 115.43768 | 350 |
| Kamiah, City Of | Community | CLEARWATER | Surface Water | 46.23015 | 116.01506 | 1157 |
| Harpster Community System | Community | SPRING | Spring-Groundwater | 45.98559 | 115.97989 | 30 |
| Red River Hot Springs | Non-community Transient | SPRING | Spring-Groundwater | 45.78677 | 115.19807 | 25 |
| USFS Powell Ranger Station | Community | SPRING | Spring-Groundwater | 46.52190 | 114.71360 | 100 |
| USFS O'Hara Bar Campground | Non-community Transient | S E SPRING | Spring-Groundwater | 46.08541 | 115.50861 | 40 |
| USFS O'Hara Bar Campground | Non-community Transient | N W SPRING | Spring-Groundwater | 46.08566 | 115.50852 | 40 |
| USFS Red River Campground | Non-community Transient | SPRING | Spring-Groundwater | 45.75617 | 115.27462 | 27 |
| USFS Pittsburg Landing Campground | Non-community Transient | SPRING | Spring-Groundwater | 45.63359 | 116.47618 | 25 |
| Alacca Bible Camp | Non-community Transient | WELL #1 | Groundwater | 45.98199 | 115.96767 | 25 |
| Middle Fork Cafe | Non-community Transient | WELL #1 LOWER | Groundwater | 46.15074 | 115.72759 | 100 |
| Winters Inn | Non-community Transient | WELL | Groundwater | 45.24757 | 115.81671 | 25 |
| USDI BLM Hammer Creek Recreation Site | Non-community Transient | WELL | Groundwater | 45.76479 | 116.32566 | 25 |
| USDI BLM Pine Bar Recreation Site | Non-community Transient | WELL | Groundwater | 45.89153 | 116.33364 | 25 |
| USDI BLM Shookumchuck Rest Area | Non-community Transient | WELL | Groundwater | 45.70148 | 116.31610 | 25 |
| Grangeville Meats | Non-community Transient | WELL #1 | Groundwater | 45.93493 | 116.13244 | 25 |
| Lois Country Cafe | Non-community Transient | WELL #1 | Groundwater | 45.53446 | 116.30807 | 25 |
| Cottonwood Water Dept | Community | WELL #2 W BIG | Groundwater | 46.04856 | 116.35687 | 941 |
| Cottonwood Water Dept | Community | WELL #3 W SMALL | Groundwater | 46.04811 | 116.35782 | 941 |
| Cottonwood Water Dept | Community | WELL #4 NORTH | Groundwater | 46.05959 | 116.35025 | 941 |
| Country Court Mobile Home Park | Community | WELL | Groundwater | 45.94059 | 116.15884 | 89 |

| Name | Service Type | Source Name | Source Type | Lat | Long | Population |
|------------------------------------|-----------------------------|-----------------|-------------|----------|-----------|------------|
| Dales Cashway | Non-community Transient | WELL #1 | Groundwater | 46.17634 | 116.00042 | 35 |
| Fenn Community System | Community | WELL #1 | Groundwater | 45.96555 | 116.25878 | 40 |
| Ferdinand, City Of | Community | WELL 2-WEST | Groundwater | 46.15442 | 116.39134 | 144 |
| Ferdinand, City Of | Community | WELL | Groundwater | 46.15450 | 116.39135 | 144 |
| Grangeville Golf And Country Club | Non-community Transient | WELL #1 | Groundwater | 45.91136 | 116.15647 | 100 |
| Clearwater Valley High School | Non-community Non-transient | WELL #1 | Groundwater | 46.11562 | 115.97732 | 300 |
| Grangeville Water Dept | Community | MYRTLE ST. WELL | Groundwater | 45.92775 | 116.11086 | 3226 |
| Grangeville Water Dept | Community | SPENCER WELL | Groundwater | 45.91048 | 116.12143 | 3226 |
| Grangeville Water Dept | Community | PARK WELL | Groundwater | 45.93155 | 116.12007 | 3226 |
| Grangeville Water Dept | Community | EIMERS | Groundwater | 45.93214 | 116.13791 | 3226 |
| Grangeville Water Dept | Community | CASH WELL | Groundwater | 45.92548 | 116.11261 | 3226 |
| A Js Greencreek | Non-community Transient | WELL #1 | Groundwater | 46.10677 | 116.26507 | 25 |
| Hoots Cafe | Non-community Transient | WELL #1 | Groundwater | 45.74245 | 116.31273 | 100 |
| Junction Lodge | Non-community Transient | WELL #1 | Groundwater | 45.82707 | 115.51213 | 50 |
| Keuterville Store And Tavern | Non-community Transient | WELL #1 | Groundwater | 46.03457 | 116.43686 | 25 |
| Kooskia Water Dept | Community | WELL #1 RIVER W | Groundwater | 46.14766 | 115.97447 | 692 |
| Kooskia Water Dept | Community | WELL #4 AIRPORT | Groundwater | 46.13572 | 115.97884 | 692 |
| Kooskia Water Dept | Community | WELL #3 HILLSID | Groundwater | 46.14407 | 115.97523 | 692 |
| Kooskia Water Dept | Community | WELL #2 RIVER E | Groundwater | 46.14769 | 115.97410 | 692 |
| Lewis Clark RV Park | Non-community Transient | WELL #1 | Groundwater | 46.21084 | 116.00271 | 100 |
| Lochsa Lodge | Non-community Transient | WELL #1 | Groundwater | 46.51143 | 114.71757 | 80 |
| Wilderness Inn | Non-community Transient | WELL #1 | Groundwater | 46.14809 | 115.59365 | 80 |
| North Idaho Correctional Institute | Community | NORTH WELL #5 | Groundwater | 46.08060 | 116.42670 | 245 |
| Monastery of Saint Gertrudes | Community | SOUTHEAST WELL | Groundwater | 46.02704 | 116.37918 | 200 |

| Name | Service Type | Source Name | Source Type | Lat | Long | Population |
|--|-----------------------------|---------------|-------------|----------|-----------|------------|
| Rapid River Fish Hatchery IDFG | Non-community Transient | WELL | Groundwater | 45.35304 | 116.39664 | 25 |
| Kern Mobile Park and Market | Non-community Transient | WELL | Groundwater | 45.37167 | 116.35949 | 30 |
| Rapid River Homeowners Water Sewer District | Community | WELL #1 OLD E | Groundwater | 45.37006 | 116.36858 | 91 |
| Rapid River Homeowners Water Sewer District | Community | WELL #2 NEW W | Groundwater | 45.36829 | 116.37149 | 91 |
| USFS Powell Campground | Non-community Transient | WELL | Groundwater | 46.51169 | 114.72125 | 34 |
| Riggins, City of | Community | WELL #1 S E | Groundwater | 45.41746 | 116.31607 | 430 |
| Riggins, City of | Community | WELL #2 N W | Groundwater | 45.41752 | 116.31614 | 430 |
| Harpster RV Park | Community | WELL | Groundwater | 45.97838 | 115.96426 | 31 |
| Shearer Lumber Products | Non-community Non-transient | WELL #2 | Groundwater | 45.80719 | 115.48119 | 50 |
| Sheep Creek Rest Area IDT | Non-community Transient | WELL | Groundwater | 45.34237 | 116.35006 | 25 |
| USDI BLM Slate Creek Rest Area | Non-community Transient | WELL | Groundwater | 45.64661 | 116.29337 | 25 |
| Stites, City of | Community | ARTESIAN WELL | Groundwater | 46.08814 | 115.97443 | 253 |

The geology and soils of this region lead to rapid to moderate moisture infiltration. Slopes are moderate to steep, however, headwater characteristics of the watersheds lead to a high degree of infiltration as opposed to a propensity for overland flow. Thus, sediment delivery efficiency of first and third order streams is fairly low. The bedrock is typically well fractured and moderately soft. This fracturing allows excessive soil moisture rapidly to infiltrate into the rock and thus surface runoff is rare. Natural mass stability hazards associated with slides are low. Natural sediment yields are low for these watersheds. However, disrupted vegetation patterns from logging (soil compaction), farming, and wildland fire (especially hot fires that increase soil hydrophobic characteristics), can lead to increased surface runoff and debris flow to stream channels.

A correlation to mass wasting due to the removal of vegetation caused by high intensity wildland fire has been documented. Burned vegetation can result in changes in soil moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30%. The greatest watershed impacts from increased sediment will be in the lower gradient, depositional stream reaches.

Of critical importance to Idaho County will be the maintenance of the domestic watershed supplies near Grangeville. More discussion about these watersheds will be provided in the recommendations section.

Timberlands in the region have been extensively harvested for the past four decades, therefore potentially altering riparian function by removing streamside shade and changing historic sediment deposition. Riparian function and channel characteristics have been altered by ranch and residential areas as well. The current conditions of wetlands and floodplains are variable. Several wetlands and floodplains have been impacted by past management activities.

3.9 Air Quality

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards (40 CFR Part 50) for pollutants considered harmful to public health and the environment. The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen dioxide. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state, Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (Louks 2001).

The Clean Air Act also established a process for designation of Class I and Class II areas for air quality management. Class I areas receive the highest level of protection and numerical thresholds for pollutants are most restrictive for this Class. The large Selway Bitterroot Class I area and the Hell's Canyon Class I area fall within Idaho County's borders.

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in Central Idaho are governed by a combination of factors. Large-scale influences include latitude, altitude, prevailing hemispheric wind patterns, and mountain barriers. At a smaller scale, topography and vegetation cover also affect air movement patterns. In Idaho County, winds are predominantly from the southwest but occasionally blow from the west to northwest. Air quality in the area and surrounding airshed is generally good to excellent. However, locally adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions that trap smoke and affect dispersion, causing local air quality problems. These adverse conditions occur most often during the summer and fall months and could potentially affect all communities in Idaho County.

All of the communities within Idaho County could be affected by smoke or regional haze from burning activities in the region. Idaho Department of Environmental Quality maintains Air Pollution Monitoring Sites throughout Idaho. The Air Pollution Monitoring program monitors all of the six criteria pollutants. Measurements are taken to assess areas where there may be a problem, and to monitor areas that already have problems. The goal of this program is to control areas where problems exist and to try to keep other areas from becoming problem air pollution areas (Louks 2001).

Smoke management on federal and state lands and participating members in Idaho County is managed by the Idaho/Montana Airshed Group. Much of the county is in Airshed Unit 13; however, the southernmost regions fall into Airshed Units 15 and 16. The Missoula and McCall Impact Zones are very near Idaho County's borders as identified in the *Montana/Idaho Airshed Group Operating Guide* (Levinson 2002). An airshed is a geographical area that is characterized by similar topography and weather patterns (or in which atmospheric characteristics are similar, e.g., mixing height and transport winds). The USDA Forest Service, USDI Bureau of Land Management, and the Idaho Department of Lands are all members of the Montana/Idaho State Airshed Group, which is responsible for coordinating burning activities to minimize or prevent impacts from smoke emissions. Prescribed burning is coordinated through the Missoula Monitoring Unit, which coordinates burn information, provides smoke forecasting, and establishes air quality restrictions for the Montana/Idaho Airshed Group. The Monitoring Unit makes recommendations, which may restrict burning when atmospheric conditions are not conducive to good smoke dispersion. Burning restrictions are issued for airsheds, impact zones, and specific projects. The monitoring unit is active March through November. Each Airshed Group member is also responsible for smoke management all year.

The Nez Perce Reservation has recently adopted the FARR General Rule for Open Burning. As of June 7, 2005, anyone conducting any sort of burning (excluding campfires or cultural burning) within the boundary of the Nez Perce Reservation is now required to obtain an air quality permit through the Nez

Perce Tribe Air Quality Office. This applies to all land ownership within the reservation boundary. There is a separate burn permitting process for small residential burning, large general burning, agricultural burning, and forestry and silvicultural burning. This program will be implemented on all 39 Indian reservations within Oregon, Washington, and Idaho over the next few years with the Nez Perce Reservation being the first. Under this rule, EPA can declare a burn ban whenever air quality concentrations approach, or are predicted to approach, the health standards for particulate matter. The EPA can also declare a burn ban under the “Air Pollution Episodes” rule when air quality degrades to unhealthful levels. During a burn ban, open burning would not be allowed. When a burn ban is declared, the open burn must be extinguished immediately or allowed to burn down. However, fires set for traditional or cultural purposes are allowed during a burn ban.

3.10 Wildland-Urban Interface

3.10.1 People and Structures

The Wildland-Urban Interface has gained attention through efforts targeted at wildfire mitigation, however, this analysis technique is also useful when considering other hazards because the concept identifies concentrations of people and structures in any particular region. For Idaho County, the WUI shows the relative concentrations of structures scattered across the county.

A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the wildland-urban interface. The wildland-urban interface refers to areas where wildland vegetation meets urban developments. These areas encompass not only the interface (areas immediately adjacent to urban development), but also the continuous slopes that lead directly to a risk to urban developments. Reducing the hazard in the wildland urban interface requires the efforts of federal, state, local agencies, and private individuals (Norton 2002). “The role of [most] federal agencies in the wildland-urban interface includes wildland firefighting, hazard fuels reduction, cooperative prevention and education and technical experience. Structural fire protection [during a wildfire] in the wildland urban interface is [largely] the responsibility of Tribal, state, and local governments” (USFS 2001). Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures (USFS 2001). With treatment, a wildland-urban interface can provide firefighters a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a properly thinned wildland-urban interface will be less likely to sustain a crown fire that enters or originates within it (Norton 2002).

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing defensible space, landowners would protect the wildland-urban interface, the biological resources of the management area, and adjacent property owners by:

- Minimizing the potential of high-severity surface or crown fires entering or leaving the area;
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers (firebrands) from a crown fire can ignite additional wildfires as far as 1¼ miles away during periods of extreme fire weather and fire behavior (McCoy *et al.* 2001 as cited in Norton 2002); and
- Improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

Three wildland-urban interface conditions have been identified [Federal Register Volume 66(3), January 4, 2001] for use in wildfire control efforts. These include the Interface Condition, Intermix Condition, and Occluded Condition. Descriptions of each are as follows:

- **Interface Condition** – A situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre;
- **Intermix Condition** – A situation where structures are scattered throughout a wildland area. There is no clear line of demarcation; the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres; and
- **Occluded Condition** – A situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size.

In addition to these classifications detailed in the Federal Register, two additional classifications of population density have been included by the planning committee to augment these categories:

- **Rural Condition** – A situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters.
- **Non-WUI Condition** - A situation where the above definitions do not apply because of a lack of structures in an area or the absence of critical infrastructure crossing these unpopulated regions. This classification is not WUI.

In summary, the designations of areas by the planning committee include:

- **Interface Condition:** WUI
- **Intermix Condition:** WUI
- **Occluded Condition:** WUI, but not present
- **Rural Condition:** WUI
- **Non-WUI Condition:** Not WUI, but present in Idaho County

By evaluating the structure density, WUI areas can be defined on maps by using mathematical formulae and population density indexes to define the WUI based on where structures are located. The resulting population density indexes create concentric circles showing high-density areas, interface, and intermix condition WUI, as well as rural condition WUI (as defined above). This portion of the analysis allows us to identify the location of the highest concentrations of structures in reference to high-risk landscapes, limiting infrastructure, and other points of concern.

All structures are represented by a “dot” on the map. No differentiation is made between a garage and a home, or a business and a storage building. The density of structures and their specific locations in this management area are critical in defining where the potential exists for casualty loss in the event of a disaster in the region.

The WUI, as defined here, is unbiased, consistent, allows for edge matching with other counties, and most importantly, addresses the entire County, not just identified communities. This method shows home and business location and structure density, leading to identified WUI categories. The methodology used to determine the WUI could be replicated in the future, using the same criteria, to show how the WUI has changed in response to increasing population densities because it uses a repeatable, reliable, and unbiased analysis process.

The Healthy Forests Restoration Act makes a clear designation that the County or Reservation determines the location of the WUI when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the Federal Agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes.

Appendix I contains the *Updated Wildland Urban Interface Map for Idaho County, Idaho* for 2007. As compared to the 2005 WUI map preceding it, one can see that the WUI can change.

3.10.2 Evaluating Potential WUI Treatments

The definition and mapping of the WUI creates a planning tool used to identify where structures, people, and infrastructure are located in reference to each other. This analysis tool does not include a component of fuels risk. There are a number of reasons to map and analyze these two components separately (population density vs. fire risk analysis). Primarily, is the fact that population growth often occurs independent from changes in fire risk, fuel loading, and infrastructure development. Thus, making the definition of the WUI dependant of all of them would eliminate populated places with a perceived low level of fire risk today, which may in a year become an area at high risk due to forest health issues or other concerns.

By examining these two tools separately, the planner is able to evaluate these layers of information to see where the combination of population density overlays areas of high current fire risk, and then implement mitigating actions to reduce the fuels, improve readiness, directly address factors of structural ignitability, improve initial attack success, mitigate resistance to control factors, or (more often) a combination of many approaches.

It should not be assumed that just because an area is identified as being within the WUI, that it will therefore receive treatments due to this identification alone. Nor should it be implicit that the same prescription would apply to all WUI treatments. Instead, each location targeted for treatments must be evaluated on its own merits: factors of structural ignitability, access, resistance to control, population density, resources and capabilities of firefighting personnel, and other site specific factors.

It should also not be assumed that WUI designation on national or state system lands automatically equates to a treatment area. The USDA Forest Service, USDI Bureau of Land Management, and Idaho Department of Lands are still obligated to manage lands under their control according to the standards and guides listed in their respective management plans. The adopted management plan may have legal precedence over the WUI designation in this mitigation plan until such a time as the management plan is revised to reflect updated priorities.

Most treatments may begin with a home evaluation, including the implicit factors of structural ignitability (roofing, siding, deck materials), and vegetation within the treatment area of the structure. However, treatments in the low population areas of rural lands (mapped as yellow) may focus on access and egress (two ways in and out), and communications through means other than land-based telephones. Conversely, treatment in a subdivision with densely packed homes (mapped as brown – interface areas) surrounded by forests and dense underbrush may focus on fuels treatments beyond the immediate home site to reduce the probability of a crown fire entering the subdivision.