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Kemmerer Field Office, Wyoming

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Kemmerer Field Office Planning Area

Cultural Resources Class I Regional Overview



It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

**CULTURAL RESOURCES CLASS I
REGIONAL OVERVIEW FOR THE
BLM KEMMERER PLANNING AREA, WYOMING**

**U.S. Department of the Interior
Bureau of Land Management
Kemmerer Field Office, Wyoming**

August 2004

ABSTRACT

The Kemmerer Resource Area of Wyoming Bureau of Land Management's (BLM) Rock Springs District has prepared a Class I overview of the Kemmerer Planning Area. From 1967 through 2003 more than 4,600 cultural resources projects have identified and recorded more than 8,000 cultural resources in the nine subregions encompassed by the planning area, including sites on BLM, United States Forest Service (USFS), United States Fish and Wildlife Service (USFWS), state, local and private lands. Sites represent occupations of this region from more than 10,000 years ago to the recent historic past. Site remains range from open surface sites to deep deposits, from rock features to standing structures. Although current data are not detailed enough to allow for accurate predictive modeling, there are differences among the nine subregions identified within the Kemmerer Planning Area that can be explored through the development of management expectations and criteria. Specific resource management will include the continuation of the existing trails management program and Section 110 investigations designed to fill data gaps.

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MANAGEMENT SUMMARY

This document is a Class I cultural resources overview prepared by the Kemmerer Field Office of the Wyoming Bureau of Land Management (BLM). Overviews provide cultural resource specialists and managers with an informed basis for understanding the study area in terms of the following:

- The variety, the apparent extent, and the probable importance of each of the various kinds of cultural resources and cultural landscapes within the study area.
- The potential for, and probable consequences of, conflict between cultural resource uses and other land and resource uses that are likely in the study area.
- The need for new cultural resource surveys to fill scientifically significant data gaps (BLM 1998:2).

Nine subregions are defined within the Kemmerer Planning Area: Bear River Divide, Bear River Valley, Bridger Valley, Green River Basin, Overthrust Belt, Overthrust Foothills, Star Valley, Uinta Foothills and Wyoming Range. Each subregion is distinguished by a combination of topographical, geographical and land-use characteristics. In addition, within each subregion, the number and percentage of acres surveyed, the distribution and results of those surveys, and the types of sites investigated dictate specific management directions for the BLM when planning for future work to comply with Section 106 and Section 110 of the National Historic Preservation Act (NHPA).

General management recommendations include: develop a reliable, geographically-based sensitivity model; make geographical representation a top priority across all subregions; whenever possible (e.g., for Section 110 compliance surveys, ensure that under-represented geographical areas are examined); consider trade-offs between preservation and impact mitigation; and pursue opportunities to investigate site types that are rare throughout the Kemmerer Planning Area such as prehistoric burials, cairns, ceramic sites, hunting blinds, kill/butchering sites, house pit sites, rock art, rock shelters/caves, stone alignments/effigies, stone circles.

Recommendations for the subregions are summarized here.

Bear River Divide Subregion: In this, the smallest of the subregions, the highest proportion of the area has been surveyed, compared with the other subregions. Although most of the surveys were completed in the 1970s and 1980s, prior to the stricter standards instituted in 1982, these surveys indicate a low potential for the presence of sites in most of the subregion, with the probable exception of sites associated with the historic trails that pass through the region. Prehistoric campsites and lithic scatters dominate the site assemblage, and almost twice as many prehistoric sites have been recorded as historic sites. Recommendations for the Bear River Divide Subregion include:

- Resources to be used for Kemmerer Planning Area's compliance with Section 110 should go to other subregions before being used in the Bear River Divide Subregion.
- For Section 106 surveys, less than Class III survey will be appropriate in the following cases:
 - Where the survey area is on a steep slope (greater than 30 percent)

-
- Where previous surveys, even if done prior to 1982, did not locate any cultural resources.
 - Use Class III methods wherever the project area is near a permanent water source, located on a level surface (slope less than 15 percent), or in the immediate vicinity of known historic trails (within 1/4 mile of documented trails).
 - Note especially the presence of under-represented site types. For prehistoric resources, these include most site types, but especially those commonly associated with ceremonial activities: cairns, burials, stone alignments, rock art. For historic sites, these include sites associated with: fur trade, mineral extraction and exploitation.

Bear River Valley Subregion. Because this subregion follows the Bear River as it meanders between southwestern Wyoming and northeastern Utah, it has a northern and southern area. Much of the valley bottom land is privately owned, and is not well-represented in surveys. Historic sites dominate the site assemblage, with 135 sites, compared to 95 prehistoric sites. Recommended foci for future investigations include those listed below.

- Target valley bottoms, where relatively little survey has taken place, for Section 110 compliance.
- Take advantage of any opportunity to include private land in Section 106 compliance surveys.

Bridger Valley Subregion. Although it includes one of the smallest percentages of land area surveyed (2.4 percent), and also one of the smallest number of acres surveyed (7,431), this subregion has one of the highest site densities, at one site per 11 acres. Future efforts should concentrate on increasing the percentage of this subregion that is inventoried. The central portion of this subregion is private land, while the area northwest of Interstate 80 and also the eastern and southeastern portions consist of large blocks of contiguous BLM land.

- Section 110 investigations should target areas with less inventory and focus on topographic settings that are poorly sampled for information that could address research domains concerning settlement and subsistence, and paleoenvironmental reconstruction.
- Take advantage of any opportunity to include private land in Section 106 compliance surveys.
- Conduct Class II inventories with Class III standards. In other words, sample blocks, possibly 1-mile square, surveyed at 30 meters or less intervals, will locate sites with accuracy, yet allow a large area to be examined and characterized.
- Locate archeological sites representing military activity (e.g., rifle pits and fortifications; military campsites; military telegraph lines; gravesites; and bridges or road improvement directly tied to military actions or needs).

Green River Basin Subregion. In the Green River Basin Subregion, site density is more than one site per 9 acres. However, even with over 48,000 acres surveyed, only about 5.0 percent of this second-largest subregion has been inventoried. Characterized by playas, large basins, sand deposits,

numerous ephemeral and permanent drainages, including the Green River and tributaries, this area was very attractive to prehistoric people. Historically it was traversed by a number of trails, the Lincoln Highway, and early railroads. Section 106 surveys, driven by extensive natural gas development, have been concentrated in the east. Because of the number of sites inventoried, there are few chronological data gaps in this subregion. However, distributional data gaps should be addressed as follows:

- Target playas and other likely locales to acquire data about the Paleoindian period and paleoenvironmental reconstruction.
- Exploit opportunities to inventory and further investigate Archaic period sites, especially from the Great Divide, Pine Spring, and Deadman Wash phases.
- Focus further investigations of Late Prehistoric period sites on those from the Firehole phase and on sites with ceramic artifacts and house pits.
- Distribute future surveys across the subregion to better characterize the entire area.
- Concentrate future investigations on answering questions about prehistoric culture origins and interactions, and settlement and subsistence by requiring analyses of data such as obsidian sourcing, regional contexts of common artifact types, and seasonal indicators, targeting data recovery in poorly sampled settings, and reinvestigating sites with relevant data sets.
- Locate archeological sites representing military activity (e.g., rifle pits and fortifications; military campsites; military telegraph lines; gravesites; and bridges or road improvement directly tied to military actions or needs).

Overthrust Belt Subregion. The Overthrust Belt Subregion is characterized by steep slopes, ridgetops, and long, narrow valleys. Although lower than the Bear River Divide Subregion, similar conditions exist, in that there is scant cultural evidence at the higher elevations. This subregion has more than 6.0 percent survey coverage, but only 749 sites, for a site density of one site per 71 acres. As with the Bear River Divide, some areas can receive less attention, with the focus on areas associated with historic trails as follows:

- For Section 106 surveys, less than Class III survey will be appropriate in the following cases:
 - Where the survey area is on a steep slope (greater than 30 percent)
 - Where previous surveys, even if done prior to 1982, did not locate any cultural resources.
- Use Class III methods wherever the project area is near a permanent water source, located on a level surface (slope less than 15 percent), situated on a sheltered slope with a south-facing aspect, in the immediate vicinity of known historic trails or railroad routes (within 1/4 mile), or in valley bottom lands where prehistoric and historic activities would be concentrated.

Overthrust Foothills Subregion. The Overthrust Foothills Subregion almost bisects the Kemmerer Planning Area from north to south, between the Overthrust Belt to the west and the Green River and Bridger Basins to the east. As such, it contains a wide variety of site types, as well

as one of the highest site densities: one site in every 38 acres. Sensitive for historic and prehistoric sites from every period, continued investigations throughout the subregion are sure to be productive.

- Take advantage of opportunities to include survey of private land in Section 106 investigations, particularly in the south part of the subregion.
- Section 110 inventories and data recovery investigations should target Cumberland Flats, Oyster and Hogsback ridges, and the Lazeart sandstone outcrops along the western margin of the subregion where previous studies identified concentrations of sites with data that contribute valuable information about important research domains.

Star Valley Subregion. Although almost entirely privately owned, this subregion does contain a few tracts of public land under BLM jurisdiction. The 22 sites inventoried to date are all historic sites. Management priorities here should focus on improving overall coverage and gathering data:

- Take advantage of opportunities to include survey of private land in Section 106 investigations.

Uinta Foothills Subregion. This small subregion can be divided into three areas. The western third is mostly private land and has had little inventory. The central region includes checkerboarded BLM, state and private land. In the eastern third, United States Forest Service (USFS) land dominates the southeast with more BLM lands to the northeast. Gas development in the eastern part of the subregion resulted in most of the surveyed areas in this part of the subregion:

- Future Section 110 investigations should be targeted at areas with less inventory in the west.
- Take advantage of opportunities to include survey of private land in Section 106 investigations in the west.

Wyoming Range Subregion. Although this northern subregion is the second largest in the Kemmerer Planning Area, it is almost entirely managed by the USFS. At its southern end, BLM lands are present. Less than 2.0 percent of the total land area has been surveyed for cultural resources, with a total of 137 recorded. Nonetheless, the site density is one site in 108 acres. Most of the sites are prehistoric campsites and lithic scatters, with historic trails also within the area. The USFS sets its own priorities through most of the subregion, but in the southern part the BLM can realize some goals:

- For Section 106 surveys, less than Class III survey will be appropriate in the following cases:
 - Where the survey area is on a steep slope (greater than 30 percent)
 - Where previous surveys, even if done prior to 1982, did not locate any cultural resources.
- Use Class III methods wherever the project area is near a permanent water source, located on a level surface (slope less than 15 percent), in the immediate vicinity of known historic trails or railroad routes (within 1/4 mile), or in valley bottom lands where prehistoric and historic activities would be concentrated.

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1.0 INTRODUCTION AND SCOPE

1.1 Purpose and Scope

Bureau of Land Management (BLM) Manual 8100 defines a Class I Regional Overview as follows:

A Class I Regional Overview is a professionally prepared study that includes (1) a compilation and analysis of all reasonably available cultural resource data and literature, and (2) a management-focused, interpretive, narrative overview, and synthesis of the data. The overview also defines regional research questions and treatment options. Existing cultural resource data are obtained from published and unpublished documents, Bureau of Land Management (BLM) cultural resource inventory records, institutional site files, state and national registers, interviews, and other information sources. Overviews, which should have prehistoric, historic, and ethnological elements, are in large part chronicles of past land uses, and as such they should be relevant to current land use decisions. General information about, and categories or types of properties of traditional cultural or religious importance to Native Americans or other cultural groups (including “traditional cultural properties” as discussed in National Register Bulletin No. 38) should as much as possible be included in the Overview. Overviews are periodically updated, in both the compilation and the synthesis, to incorporate new data from Class II and Class III inventories, histories, oral testimony, and other sources. Overviews can be used to develop regional research designs for resource evaluations.

Overviews provide cultural resource specialists and managers with an informed basis for understanding the study area in terms of the following:

- The variety, the apparent extent, and the probable importance of each of the various kinds of cultural resources and cultural landscapes within the study area.
- The potential for, and probable consequences of, conflict between cultural resource uses and other land and resource uses that are likely in the study area.
- The need for new cultural resource surveys to fill scientifically significant data gaps (BLM 1998:2).

The main portion of this overview is organized into six chapters. Chapter 1.0 introduces the intent and scope of the document, the geographic land area of the BLM’s Kemmerer Planning Area, its physical environment, and its political origins and boundaries. Chapter 2.0 presents a prehistoric and historic cultural chronology for the Kemmerer Planning Area. Chapter 3.0 discusses cultural resources investigations within the Kemmerer Planning Area, including a summary comparison of investigations among its nine subregions. Chapter 4.0 addresses cultural resources investigations and recorded cultural resources within the Kemmerer Planning Area as a whole, and within each of the subregions. Chapter 5.0 outlines research questions, management expectations, and criteria for cultural resources. Chapter 6.0 contains references cited throughout the Class I Overview. Chapter 7.0 lists preparers and contributors to the document. Appendices include legal land descriptions (A), a complete list of cultural resources projects (B), recorded cultural resources (C), with a subset list of National Register of Historic Places (NRHP)-listed and eligible resources (D).

The overview was prepared in consultation between the contractors listed in Chapter 7.0 and the BLM’s Kemmerer Field Office archeologist.

1.2 *Constraints and Limitations*

The BLM Kemmerer Field Office maintains records of cultural resources investigations and recorded cultural resources properties within lands administered by that office. The exterior boundaries of the Kemmerer Planning Area include lands that are privately owned or managed by other federal or state agencies. The only source of information for all cultural resources investigations and cultural resource types within the exterior boundaries of the Kemmerer Planning Area is the records of the Wyoming Cultural Records Office (WYCRO), a division of the Wyoming State Historic Preservation Office (SHPO).

WYCRO's on-line database (Wyoming SHPO 2004a) was used as the primary source for information concerning investigations and cultural resources for this Class I overview. Although it is a powerful tool, the WYCRO database has certain limitations and data characteristics that affect the usefulness of the information for purposes of the current Class I Overview. The seven points below highlight database issues and how they are addressed in this document.

1. The database lists acreage surveyed only for Class III, block type cultural resources surveys. Acreage is not ascribed to Class II sampling surveys, which may have covered large areas, nor is acreage ascribed to most linear surveys for transmission lines, pipelines, seismograph lines, or highways. For example, no acreage is ascribed to the various surveys for the Kern River Pipeline or its expansion projects, which included a corridor from east to west across a large portion of the Kemmerer Planning Area. Acreage is also not ascribed to a majority of small tract surveys, including hundreds of oil and gas well locations and associated access roads. Consequently, the area that has actually been surveyed within the Kemmerer Planning Area or any of the subregions is likely to be substantially higher than the area that can be tabulated from information in the WYCRO database.
2. Acreage is ascribed to redundant block surveys of the same territory or parts of the same territory, which has the effect of inflating the apparent total area of block surveys in the Kemmerer Planning Area and the respective subregion(s). In part, this condition has arisen because reporting standards for cultural resources investigations in Wyoming were substantially upgraded in 1982, and most surveys prior to 1982 are now considered to be inadequate or too old to be reliable for purposes of Section 106 compliance. Consequently, resurveying has occurred in many locations, particularly in oil and gas development areas. However, a relatively small percentage of the total area of the Kemmerer Planning Area and any of the subregions has been surveyed, and the resurveyed areas constitute a relatively minor portion of the total area surveyed. Determination of adequate pre-1982 surveys is not within the scope of this Class I overview, and such discrimination is largely the purview of the Wyoming SHPO. Pre-1982 surveys are identified in summaries of areas surveyed in Chapters 3.0 and 4.0. The dates of all surveys conducted in the Kemmerer Planning Area are listed in the database in Appendix B.
3. Data entry is not standardized: in some cases it is redundant, and in others a variety of terms may have the same meaning. This condition may exist because multiple persons entered data over time, nomenclature changed over time, or for reasons that are not readily apparent in the database itself. For example, a large block survey was conducted for the South Haystack coal mine in the Overthrust Belt Subregion of Kemmerer Planning Area in 1976. The database lists no acreage for the 1976 survey, but it lists acreage for a survey done nearby in 1981. The on-line database

does not have a way to provide a reason why acreage was assigned to one survey but not to another, when both surveys predated current standards. Investigations that, on the basis of information listed in the database, appear to be Class III surveys (see section 3.2 for definitions of project types) are sometimes described as “other.” Similarly, testing and evaluation projects are sometimes listed as “other,” and excavation/mitigation projects are sometimes listed as testing projects. For purposes of this overview, misclassifications that are obvious in the on-line data are corrected by assigning the project to its appropriate class.

4. Many sites have multiple and conflicting NRHP eligibility listings in the database. This situation may have resulted from evaluations of different parts of the resource, different components (historic or prehistoric), damage or destruction of parts of the site or the entire site, or other factors. Discriminating eligibility from multiple listings would require examination of multiple versions of site forms and possibly review and compliance records that are not available in the WYCRO database. Such discrimination is not feasible for the current study of more than 8,000 sites in the Kemmerer Planning Area. Properties that have been listed in the NRHP are identified in Appendix D. Sites that have been determined eligible for nomination to the NRHP are listed in Appendix C.
5. The available database does not indicate which sites have been subjected to testing, other evaluation, or mitigation. The database also does not provide identification of the age or cultural phase or complex of a site, other than the general categories of “prehistoric,” “historic,” or “multi-component.” This information is indirectly available from some site forms, but not all site forms are available on line, and the information is inconsistent among site forms. Review of site forms for all sites in the Kemmerer Planning Area is not feasible within the scope of the current project.
6. Features or characteristics of sites are variously classified within the WYCRO database and within entries for the same site. For example, a number of prehistoric sites have listings for both “prehistoric lithic scatter” and “prehistoric lithic scatter, procurement, secondary.” When site characteristics are tabulated, the multiple entries can cause over-representation for that characteristic and for that site. This problem is addressed in part in Chapter 4.0 by combining varied characteristics into a limited number of site types, and then counting an occurrence of a site type only once for each site.
7. The database does not include environmental information for the sites. Elevation, general landform, and location of the site on the landform (e.g., top or slope of a ridge), and general vegetation community at a site would be helpful information for broad-scale patterning of prehistoric sites.

As explained above, information that is readily available from the WYCRO database substantially limits the analysis that can be done for this Class I regional overview concerning distribution patterns of prehistoric, protohistoric, and historic sites. General physiographic characteristics of each of the subregions are discussed in Chapters 1.0 and 4.0 of this document, but the available database does not allow discrimination of site location information according to particular kinds of physiographic zones or features (such as drainage bottoms, ridges, upland plains, or mountain slopes). General vegetation coverages are available for each of the subregions (see Chapter 4.0), but the locations of each of the approximately 8,000 recorded sites in the Kemmerer Planning Area are

not available on a Geographic Information System (GIS) layer, which would allow over-laying of the site locations on the vegetation maps. Also, the age and cultural phase affiliations for each of the recorded prehistoric sites are not available from the on-line database. Therefore overlays of known site locations on landform, soils, or vegetation maps would have limited usefulness for predicting zones that might be sensitive for containing particular site types.

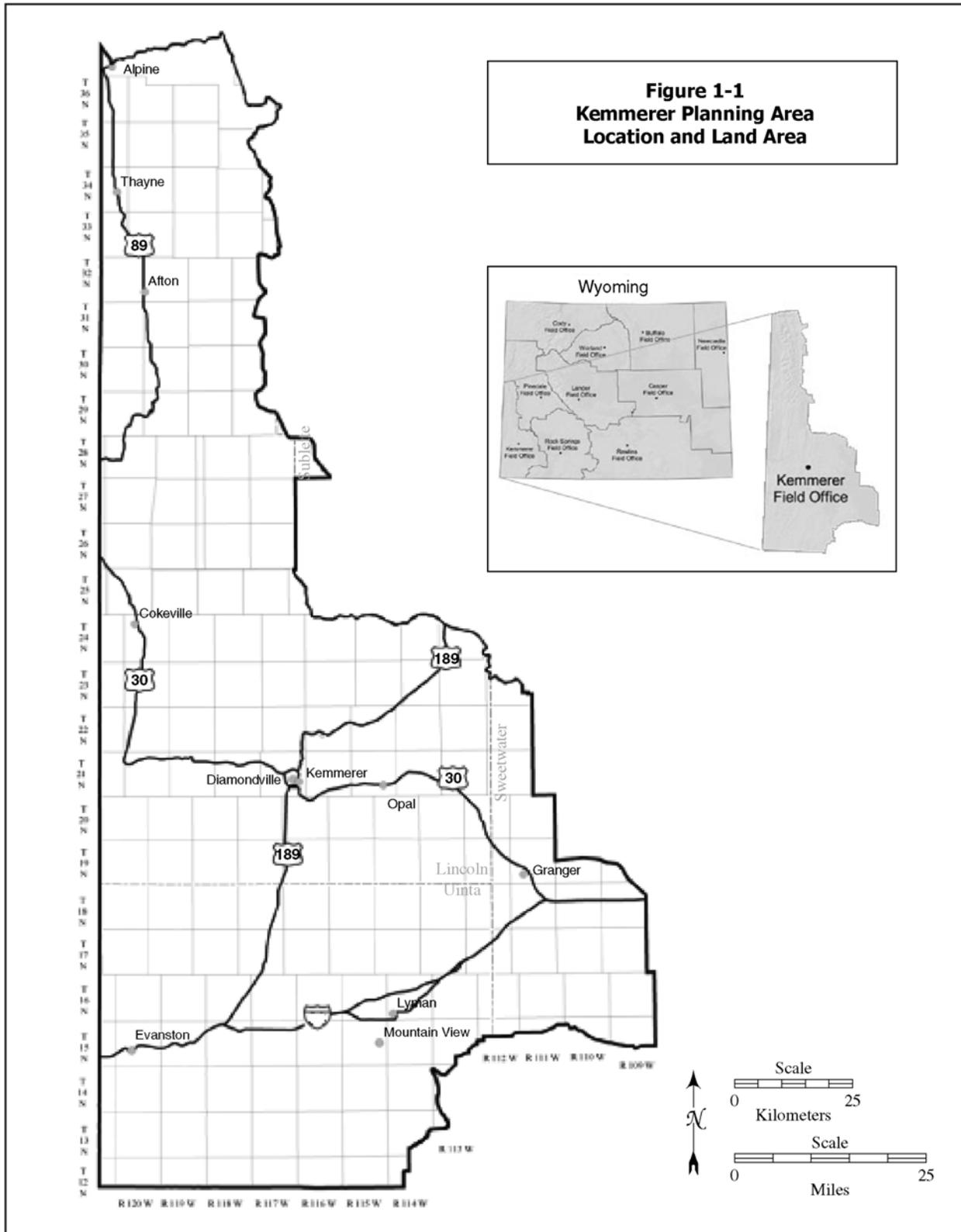
A second major limitation of information available from the WYCRO database is the disproportionate amount of survey that has been conducted among some subregions when compared to others, within different parts of some subregions. Most surveys and other investigations in the Kemmerer Planning Area have been conducted in compliance with Section 106 of the National Historic Preservation Act (NHPA), and therefore nearly all investigations have addressed limited project areas. Areas that have had oil, gas, and coal extractive development since the NHPA was enacted in 1966 have had extensive and sometimes redundant surveys and other cultural resources investigations, but most other areas of the Kemmerer Planning Area have had very little cultural resource investigation. Survey information in the WYCRO database does not indicate landforms in which the surveys occurred. Areas that have been adequately surveyed have not been platted on GIS layers. Predictions of site locations, density, types, or significance for most of the area cannot be reliably extrapolated from survey results, nor can the available information be used to predict areas of varying concern for surveys.

Considering the variables and data characteristics within the WYCRO database, the information directly available from the database is probably most appropriate for broad-scale comparative uses only (see Chapters 3.0 and 4.0 for comparative information for the Kemmerer Planning Area as a whole and for the separate subregions, respectively). Predictive modeling cannot be done reliably with the available information, and this Class I regional overview makes no attempt to do so. Management planning for most prehistoric and historic sites is therefore limited to general directives based primarily on: (1) requirements under the NHPA and its implementing regulations; (2) broad classifications of sites; (3) determined NRHP eligibility of some sites; and (4) specific guidelines for management of historic trails.

1.3 Definition of the Kemmerer Field Office Area and Subregions

This regional overview addresses the area within boundaries of the BLM's Kemmerer Field Office Planning Area (Kemmerer Planning Area). The Kemmerer Planning Area is located in extreme southwestern Wyoming and includes portions of Uinta, Lincoln, Sublette, and Sweetwater counties. The western and southern boundaries of the Kemmerer Planning Area are along the border of Idaho and Utah, and the far northern boundary of the Kemmerer Planning Area is the Snake River. The Kemmerer Planning Area extends eastward from the Idaho and Utah borders for distances varying from 15 to 75 miles. The eastern and southeastern boundaries of the Kemmerer Planning Area are a combination of legal land divisions, a segment of the Union Pacific Railroad (UPRR), and natural features including rivers and ridges that divide river drainages. Figure 1-1 shows the location and land area of the Kemmerer Planning Area. Legal land descriptions for Kemmerer Planning Area are presented in Appendix A.

The Kemmerer Planning Area includes more than 6,000 square miles of land, within which are physiographic features or zones that contain varying resources for human occupation and use. To allow for more detailed study and management of cultural resources, the Kemmerer Planning Area is divided into nine subregions. Most of the subregions are defined on the basis of topographic



character, with the exception of the Bridger Valley which is defined according to historic period land use, primarily irrigated farming. The subregions are listed in Table 1-1 and are shown in Figure 1-2. In most cases, boundaries of subregions are based on a particular elevation threshold or other more distinct landform that may cut across legal land sections, but for purposes of this overview, the subregions are defined in terms of whole legal land sections.

Table 1-1. Kemmerer Planning Area Subregions

Bear River Divide	Overthrust Foothills
Bear River Valley	Star Valley
Bridger Valley	Uinta Foothills
Green River Basin	Wyoming Range
Overthrust Belt	

The discussion that follows is from the BLM's definition of the nine subregions (Harrell and Schweigert 2003).

The following definitions of geographic subregions were derived from considerations of the *Geographic Divisions* in the *Wyoming Cultural Properties Form* (Wyoming SHPO and BLM 2002), jurisdictional boundaries, topography, elevation, drainage catchments, and perceived differences in cultural resource densities and types. The subregion definitions are largely qualitative, although quantitative differences are factors in their characteristics, and the boundaries are arbitrarily drawn around areas that contain the distinguishing traits. Whenever possible, the boundaries were drawn along township or section lines to facilitate distinction of known sites within the subregions, which are defined below in alphabetical order.

Bear River Divide Subregion: The crest of the southern part of the Overthrust Belt is also the divide between the Bear and Green rivers. This subregion is surrounded by the Overthrust Belt and distinguished by its relatively high elevations (greater than 7,500 feet above mean sea level [amsl]), where site densities are low regardless of site type, and by the fact that extensive areas have been inventoried. Generally, the sites that occur in this area tend to be surface expressions of historic debris scatters left by sheepherders, and prehistoric camps and lithic scatters. Several variants of the nationally significant Oregon-California Trail cross the subregion at its north end.

Bear River Valley Subregion: This subregion is defined by the valley of the Bear River which is located along the western border of the planning area. The Bear River flows north out of the Uinta Mountains south of Evanston and meanders along the state line, so that it is divided into two distinct areas, Bear River Valley South and Bear River Valley North. These areas also encompass some upland zones particularly between the river's major tributaries in the southwest corner of the planning area. The Bear River Valley Subregion ranges in elevation from 7,800 feet amsl at the south end to 6,100 feet amsl at the north. A moderate number of cultural resources are documented within this subregion, although higher numbers are expected to exist in the valley bottoms where limited inventories have been conducted primarily due to private ownership. Important prehistoric sites include the Weston site in the north and the Bessie Bottom site in the south. Nationally significant historic properties include the Oregon-California Trail, which passes through the north area largely beneath Highway 30, the Mormon-California Trail in the south area, the Union Pacific Oregon Short Line Railroad in the north, and the Union Pacific Transcontinental Railroad in the

south. The Bear River Valley also contains concentrations of significant historic-era resources relating to homesteading and ranching development, as well as the Hilliard charcoal kilns in the south, although these resources are located on private lands.

Bridger Valley Subregion: Geologically known as “Bridger Basin” because of the Bridger Formation, this subregion is defined as Bridger Valley because it is distinguished primarily on the basis of its unique cultural history which revolved around Fort Bridger in its central portion. Ranging in elevation from 6,500-7,800 feet amsl, the area is bordered on the south by the Uinta Foothills, on the west by the Overthrust Foothills, and on the north and east by the Green River Basin. The Blacks Fork and Smiths Fork Rivers and their many tributaries flow northeast through the center of the valley, all of which originate in the Uinta Mountains to the south. The valley contains a large concentration of historic sites that are highly significant in national and regional history, including the Oregon, California, Mormon and Pony Express Trails, Fort Bridger, Fort Supply, and various expressions of Mormon agrarian development such as homesteads, ranches and irrigation districts, as well as the town of Carter on the Union Pacific Transcontinental Railroad. Prehistoric camps also occur in great numbers as in the Green River Basin, described below. The Eakin site is an important prehistoric property that has contributed significantly to scientific knowledge. Extensive upland areas above the valleys are characterized by badland outcrops of the Bridger Formation, known nationally among paleontologists for its Eocene fossils.

Green River Basin Subregion: The largest of the subregions is in the central eastern portion of the planning area where the lowest part of the region descends to the Green River at the eastern border of the planning area. The Green River Basin is a broad structural depression characterized by expansive open topography with low buttes and mesas formed by erosion of the Green River, Bridger, and Wahsatch Formations. Small internally-drained playas are common on the basin floor, and extensive sand deposits are prevalent that often contain some of the most scientifically significant evidence of prehistoric occupations. Elevations range from 6,100 feet amsl to roughly 6,800 feet amsl. Many intermittent and ephemeral drainages flow east and southeast into the Green River and its main tributaries, the Blacks Fork and Hams Fork Rivers. This subregion contains the greatest concentrations of cultural resources in the planning area, largely because its eastern portion is the Moxa Arch Natural Gas Field where more than half of the cultural inventories in the planning area have been conducted over the past 30 years. However, the tremendous densities of prehistoric camps, lithic scatters and archeological landscapes are certainly reflections of concentrated ancient land use, in which prehistoric occupants utilized a variety of critical resources that occurred throughout the basin for thousands of years. Dozens of benchmark prehistoric sites have been scientifically studied, most significantly including Austin Wash, Church Butte Four, Cow Hollow Creek, Dixie Cup, Disney, Fontenelle Twelve, Gemma, Hams Fork, MAK, Moxa Twenty-eight, Moxa Housepit, Old-and-in-the-way, Porter Hollow, Sevenmile Wash, Shute Creek Plant, Taliaferro and Vegan sites. Nationally significant historic resources also pass through this area, including the Oregon, California, Mormon and Pony Express Trails and most of their variants, the Union Pacific Transcontinental Railroad, the Oregon Short Line Railroad, and the Lincoln Highway, as well as the Opal Wagon Road of regional significance.

Overthrust Belt Subregion: This subregion occupies the western central portion of the planning area, and is characterized by dominant, north-south oriented linear ridges and intervening narrow valleys that extend from the southern to the northern boundaries of the planning area. Geologically, it is an intensely faulted belt of mountain ranges which extend from Northwestern Canada to southern Utah. The Overthrust Foothills Subregion, described below, is distinguished from the

Overthrust Belt because of its lower elevations and consequent differences in cultural occupation through time. Elevations of the Overthrust Belt Subregion range from roughly 7,000 to 7,500 feet amsl, with overall precipitous terrain dominated by steep slopes, hogbacks and narrow ridge tops, and long restricted valleys. Its highest crests are distinguished as the Bear River Divide and Wyoming Range subregions, to the south and north respectively, where steep slopes increase at higher elevations. Overall site densities are generally low throughout the area due to the steep terrain that affords limited habitable contexts. Sites tend to be located near sources of permanent water and in valley bottoms where prehistoric occupants and historic sheepherders camped. The Sublette and Dempsey-Hockaday Cutoffs of the Oregon-California National Historic Trail cross this subregion at its north end, as do all other major variants of the Oregon, California, Mormon and Pony Express Trails through the central and southern portions of the subregion. Also passing through this subregion are the Union Pacific Transcontinental and Oregon Short Line Railroads, and the Lincoln Highway. The central portion of the subregion is known geologically as the Fossil Basin because of its internationally renowned fossil fish.

Overthrust Foothills Subregion: This subregion is distinguished from the larger Overthrust Belt geographic unit because of lower elevations (roughly 6,800 to 7,000 feet amsl), less precipitous topography, variable orientations of dominant topographic features, and overall higher site densities. It represents the intermediate zone between the lower Green River Basin and Bridger Valley to the east, and the higher Overthrust Belt to the west. Several north-south trending overthrust ridges occur at its west edge (Oyster Ridge, The Hogback and Slate Creek Ridge), although their elevations are generally lower than those of the Overthrust Belt and they are separated by wide valleys and isolated hills in this transitional topographic zone. Culturally, this subregion contains the greatest numbers of all site types from all ages of occupation, although sheer numbers of sites and densities are lower than in the Green River Basin and Bridger Valley. Notable sites that have contributed significantly to our understanding of prehistory include Broken Home, Deep Hearth, Meadow Draw Ten, Meadow Draw Thirteen, Oyster Ridge, Skull Point, South Slate Creek and Wishful sites. The Bridger Antelope Trap, a protohistoric-historic game drive and trap, is also located in this subregion. All but one of the National Historic Trails and variants pass through this subregion, as do the Union Pacific Transcontinental and Oregon Short Line Railroads, and the Lincoln Highway. Most of the numerous historic coal mines in the planning area are also located in this subregion, as are the historic Piedmont charcoal kilns and town.

Star Valley Subregion: This isolated subregion in the northern panhandle of the planning area is separated by United States Forest Service (USFS) lands and characterized by large expanses of private land with few small dispersed tracts of BLM lands. The Salt River flows north through the subregion, which is bordered on the south, east, and north by the Wyoming Range, managed by the USFS Bridger-Teton Forest, and on the west by the Wyoming-Idaho border, with elevations ranging from 7,400 feet amsl at the south to 6,500 feet amsl on the north. The few cultural inventories that have been conducted in this subregion documented no cultural resources. Only one significant cultural property is known: the Lander Road National Historic Trail which crosses only private land and therefore receives negligible BLM management.

Uinta Foothills Subregion: On the southern border of the planning area, this subregion encompasses the foothills of the Uinta Mountains, located to the south in Utah. It is distinguished from the subregions to the north by higher elevations, generally above 8,200 feet amsl, and the accompanying changes in ecosystems and human use. About a third of this subregion is managed by the USFS Ashley National Forest. The majority of inventories were conducted in the eastern

one-third of this area as a result of gas development in the last two decades of the 20th century. A moderate number of cultural resources are recorded, primarily consisting of prehistoric lithic scatters, and historic cabins and sawmills. The area around Meeks Cabin Reservoir contains a concentration of potentially significant historic-era resources of note, although recent accelerated recreational and residential development in that area has altered the historic landscape significantly.

Wyoming Ranges Subregion: A minor fraction in the north-central management area encompasses this subregion, which is primarily defined by elevations above 8,200 feet amsl that distinguish it from the surrounding Overthrust Belt. Most of this subregion in the planning area's panhandle is managed by the USFS Bridger-Teton Forest. The limited cultural inventories conducted in the subregion documented few cultural resources. The two significant cultural properties that occur in this subregion are the Sublette and Dempsey-Hockaday Cutoffs of the Oregon-California National Historic Trail, which pass through the southern tip of the subregion on BLM and private lands.

1.4 *Physical Environment*

While the previous section describes the geographic features that define the nine subregions of the Kemmerer Planning Area, this section places the Kemmerer Planning Area into the broader, topographic context of the Rocky Mountains and the state of Wyoming.

Most of the Kemmerer Planning Area is within the Middle Rocky Mountains physiographic province, but the southeastern portion of Kemmerer Planning Area is within the Wyoming Basin, which is sometimes considered to be a subregion of the Middle Rocky Mountain province. The northern two-thirds of the Kemmerer Planning Area are characterized by the parallel Salt River Range and the Wyoming Range, which trend generally from north to south. A series of major ridges extend the Wyoming Range to the south, including Commissary Ridge, Oyster Ridge, and the Hogsback. The Salt River Range is also extended to the south in a series of ridges, the most prominent of which are the Tunp Range and the Sillem Ridge, portions of which are popularly known as the Bear River Divide. The extreme southern portion of the Kemmerer Planning Area includes foothills of the Uinta Mountains, which is an east-to-west trending mountain range mostly in northeastern Utah. To the east and northeast of the Uinta foothills is the Bridger Basin, which is a southwestern extension of the Green River Basin.

Mountain ranges in the Kemmerer Planning Area give rise to streams in three major watersheds: the Snake/Columbia River drainage, the Green/Colorado River drainage, and the interior Great Salt Lake. Salt River originates on the west side of the Salt River Range and runs northward along the west side of that range to the Snake River. Grey's River arises from drainages on the east side of the Salt River Range and the west side of the Wyoming Range, and runs northward between the two ranges to the Snake River. The southern ridge extensions of the Salt River and Wyoming Ranges give rise to the Hams Fork River/Creek, which flows southeastward to a junction with Blacks Fork River near Granger. Blacks Fork River arises in the Uinta foothills and flows northeast and then southeast to the Green River. Muddy Creek also arises in the Uinta foothills, is joined by Little Muddy Creek, which originates on the east side of the Bear River Divide, and joins Blacks Fork southwest of Granger.

Several other smaller streams also flow eastward into the Green River, including Fontenelle Creek, La Barge Creek, and Henry Creek. The Green River originates as several streams flowing from the Wind River Range; the river flows southward into Utah, then eastward into Colorado and around

the eastern end of the Uinta Mountains, then southwestward to a junction with the Colorado River. Bear River and several tributaries rise in the Uinta foothills in Utah; the river flows northward in and out of the extreme western portion of the Kemmerer Planning Area to the west of the Tunp Range/Sillem Ridge/Bear River Divide, and eventually drains into the Great Salt Lake about 60 miles west of the southwest corner of the Kemmerer Planning Area.

Elevations in the Kemmerer Planning Area range from approximately 6,070 feet amsl at the eastern extent of the Kemmerer Planning Area in Sweetwater County to approximately 10,770 feet amsl at Rock Lake Peak in the Salt River Range in northern Lincoln County. The Kemmerer Planning Area in general has a dry, windswept, rain-shadow climate like much of Wyoming, but the variations in elevation have a significant effect on vegetation types and suitability of areas for agriculture and grazing. The region generally has cold winters and dry summers below mountain slopes and cool summers and snowy winters in mountainous environments (Pitcher 1997:6).

Major ridges and mountain slopes have scattered to dense stands of lodgepole pine, Douglas fir, Engelmann spruce, subalpine fir and occasional junipers and piñon pines (the latter two species in lower elevations). The treeline on mountain slopes is at approximately 9,500 feet amsl, above which are substantial areas of alpine tundra and barren ground. Aspens are found at mid-slope elevations, and other deciduous species such as the cottonwood are located in narrow zones adjacent to streams in lowlands. Arid, sagebrush steppe environments are located below the slopes. Floral species in relatively wet steppe areas include wheatgrass, needle-and-thread, grama grass, and tumbleweed. In areas with extreme aridity, such as the southeastern portion of the Kemmerer Planning Area that might be considered the western edge of the Red Desert, dominant floral species are greasewood, saltbush, shadscale, and sagebrush (Pitcher 1997:8-9).

Steppe area landscapes feature tablelands, closed drainage basins, and benches. Ground surfaces often lack topsoil and are covered with lag gravels and cobbles or simply are exposed bedrock surfaces. Pleistocene/early Holocene era dune fields are common, such as the Shute Creek dune field northwest of Opal (Thompson and Pastor 1995:2-4).

Fauna found in the region include American pronghorn, mule deer, whitetailed deer, coyote, jackrabbit, cottontail, and prairie dog (Pitcher 1997:9). Reptiles include prairie rattlesnake and garter snake (Roberts et al. 1994:5).

The arid conditions and poor soil development of the lowland areas of the Kemmerer Planning Area are not conducive to farming, except in the well-watered Star Valley, portions of the Bridger Basin, and in parts of the Bear River Valley. Star Valley is located in northwestern Lincoln County, but much of the valley is to the west of the Kemmerer Planning Area in Idaho. The valley is a relatively isolated landform between the Salt River Range on the east, the Webster and Caribou Ranges on the west, and the Gannet hills on the south (United States Department of Agriculture [USDA] 1976:70). The Salt River runs through the valley, providing water for irrigating fields of hay, grain, and other crops. The mountains surrounding Star Valley are actively logged for lodgepole pine. The areas below the slopes that enclose the elevated valley are sagebrush and grass steppe environments that continue south to Cokeville and west to the Kemmerer Planning Area border. Star Valley also has salt springs and geothermal hot springs, both of which have been commercially exploited (Pitcher 1997:85, 187, 189).

The Bridger Valley is located in Uinta County, in the southeastern portion of the Kemmerer Planning Area. The “valley” is an area about 25 miles long and up to 10 miles wide that parallels the

course of the Blacks Fork River in a southwest-to-northeast orientation. This subregion is defined partly on the basis of historic land use, and not specifically on the basis of landform. The Bridger Valley area is a transition zone of irrigable land and relatively wet grasslands between a zone of alkaline, bare ground on the east and rising finger ridges of Uinta Mountains foothills on the west and south. This area once supported extremely high populations of beaver. A relatively narrow zone of land suitable for farming is located along the Bear River to the south and north of Evanston (Pitcher 1997:170, 173, 178; Lageson and Spearing 1988:80).

1.5 Political Origins and Boundaries

Prior to extension of sovereignty by the United States (U.S.), the Kemmerer Planning Area was held legally, if not actually, by Great Britain and Spain (and after 1821, by Mexico). Northward from the 42nd Parallel, the land in the current study area was obtained by treaty with Great Britain as part of the Oregon Territory in 1846. Southward from the 42nd Parallel, the land was obtained as part of the Mexican Cession of 1848. From the establishment of Utah Territory in 1850 until Wyoming Territory was organized, most of the area was part of Green River County, Utah Territory. Wyoming Territory was organized in 1868 as four counties extending from Montana on the north to Colorado and Utah on the south. The westernmost of these was Carter County, and the county seat was initially located at a point near Fort Bridger (Stone 1924:19).

In 1869, the first Wyoming Territorial Legislature divided Carter County into Sweetwater and Uinta Counties. The original Uinta County was about 50 by 280 miles in size, including nearly all of current Yellowstone National Park. The county seat was placed at Evanston, which was the largest town and division point on the UPRR. Carter County was further divided into the current Uinta and Lincoln Counties in 1912, and Kemmerer became the county seat for Lincoln County. In 1921, the Wyoming Legislature created Sublette County from portions of Lincoln and Sweetwater Counties, and Teton County from the northern part of Lincoln County (Stone 1924:19, 259). County boundaries have remained unchanged since 1921.

2.0 CULTURAL CHRONOLOGY

Human activity has occurred in the area encompassed by the Kemmerer Planning Area for approximately 12,000 years. Throughout this period, human activities have varied according to practices brought to the area, changes in availability of resources to sustain human occupation, changes in technology for exploiting the resources, and influences of cultures or economies outside the area. Evidence of human activities in the area includes physical remnants such as archeological sites and historic structures, traditions of Native Americans who occupied the area at least from the late prehistoric to the historic periods, and documentary materials from the historic period. A theme common throughout human occupation of this region is the effect of the land and its resources on molding where and how people lived and settled. While not a revolutionary concept, it is particularly evident in southwestern Wyoming, where dramatic changes in elevation and available water localize certain types of activities. For example, trails cross elevated landforms at the lowest point; people live and farm in valley bottoms, whether 1,000 or 100 years ago.

On the basis of available evidence, a cultural chronology of the area has been defined in terms of expanses of time when certain lifeways or technologies appear to have been dominant:

- Prehistoric Era, 12,000 years before present (BP) to about 200 BP

-
- Paleoindian Period, 12,000 to 8,500 BP
 - Early Archaic Period, 8,500 to 4,300 BP
 - Late Archaic Period, 4,300 to 1,800 BP
 - Late Prehistoric Period, 1,800 to 300 BP
 - Protohistoric Period, 300 to 200 BP
 - Historic Era, 200 BP to Present

2.1 Prehistoric Era (12,000 BP to 200 BP)

Each of the general eras and periods outlined above has been further divided into cultural phases, complexes, or historic themes. The Prehistoric Era reflects occupation and use of the study area by aboriginal Native Americans, including the Protohistoric Period encounter with Euroamerican culture. The prehistoric cultural chronology is based on archeological evidence: distribution of carbon dates, subsistence strategies, and artifact assemblages from sites in the Wyoming Basin and surrounding regions, especially the Northwestern Plains to the east and the Great Basin to the west and southwest. Cultural contexts and chronologies for the adjoining regions provide bases for the cultural chronology of southwestern Wyoming, particularly Mulloy (1958) and Frison (1978) for the Northern Plains, Heizer and Hester (1978) for the Great Basin, and Leach (1970) and Schroedl (1976) for the Colorado Plateau to the southeast of the Kemmerer Planning Area.

Very little archeological investigation occurred in southwestern Wyoming until the 1970s, when federal law mandated investigations for potentially surface-disturbing activities on federal lands or for projects with other federal involvement. The prehistoric chronology of southwestern Wyoming has subsequently evolved as additional information has become available. Michael Metcalf constructed a chronology for southwestern Wyoming based on analysis of 199 radiocarbon dates obtained from sites in the region (Metcalf 1987). This chronology was refined as additional site information became available (McKibbin et al. 1989; Thompson and Pastor 1995; Johnson and Pastor 2003). The following discussion of prehistoric cultural chronology especially follows Thompson and Pastor (1995) and Johnson and Pastor (2003) because of the geographic pertinence of those works to the Kemmerer Planning Area.

2.1.1 Paleoindian Period (12,000 to 8,500 BP)

Portions of the Western Hemisphere may have been occupied by humans for more than 13,000 years, but well-documented occupation of North America began with Paleoindian populations around 12,000 BP. The Paleoindian period is considered to have ended between 8,500 and 8,200 BP. It included the terminal portion of the Pleistocene era and the early Holocene (current) era. During this period, the climate of southwestern Wyoming changed from relatively cool, wet conditions, influenced by the presence and retreat of the Wisconsin continental glacial lobe, to warmer and drier conditions. Abundant precipitation in the region at the beginning of the period supported extensive grasslands and savannas, which in turn supported large herbivores including mammoths, horses, bison, camels, and other species. As the climate changed to drier conditions generally similar to current conditions, these megafauna became extinct or adapted to the new

climatic conditions in part by decreasing in size to essentially modern dimensions (Johnson and Pastor 2003:16-18; Thompson and Pastor 1995:21).

Paleoindian period occupation is typically indicated by presence of distinctive, meticulously-crafted projectile points. Lanceolate types are the most common point finds, but other Paleoindian point types feature stems, shoulders, flutes, and ground bases that allowed for hafting. It has been surmised that all Paleoindian point types lack notched features. Thirteen Paleoindian technological complexes have been identified on the basis of lithic traits and technologies (Table 2-1).

Table 2-1. Prehistoric Complexes of the Paleoindian Period

<i>Paleoindian Complex</i>	<i>Date Range</i>
Clovis	post 11,925 BP+/- 350
Goshen	ca. 11,000 BP
Folsom	ca. 10,900-10,200 BP
Agate Basin	10,000-10,500 BP
Hell Gap	10,000-9,500 BP
Alberta	9,000-9,800 BP
Cody	8,800-8,400 BP
Angostura	closely predates Frederick
Lovell Constricted	roughly contemporaneous with Angostura
Frederick	8,400-8,000 BP
Pryor Stemmed	roughly contemporaneous with Frederick
James Allen	closely predates Lusk
Lusk	ca. 7,900 BP

Generally from earliest to latest, the Paleoindian complexes are Clovis, Goshen, Folsom, Agate Basin, Hell Gap, Alberta, Cody, Frederick, Lusk, Pryor Stemmed, Lovell Constricted, James Allen, and Angostura (Thompson and Pastor 1995: 21). Frison (1991:25-62) provided the following chronology for the 13 Paleoindian complexes, mostly on the basis of research conducted on the Northwestern Plains prior to 1978. Subsequent research has pushed back some of Frison's dates (Johnson and Pastor 2003).

The Paleoindian complexes are generally designated for the name of a site in which the distinctive projectile points were identified. Clovis points are the earliest types of Paleoindian Period artifacts recovered in the current study area, but the most common Paleoindian point types found in the study area are Agate Basin and Agate Basin variants. Other Paleoindian tools found in area assemblages include graters and scraper/burins (James Enterprises Incorporated [JJEI] 2003:14).

The lanceolate-form Clovis, Goshen, and Folsom points of the early portion of the Paleoindian period are thought to have been exclusively associated with hunting of large animal species. Paleoindian point styles began to vary after 10,000 BP. This variation may support the theory that subsistence strategies increased in diversity during the Pleistocene-Holocene transition, and that increased variety in tool forms was necessary to perform additional functions (Johnson and Pastor 2003:16). It is also possible that cultural group diversity increased during these periods of environmental transition (Thompson and Pastor 1995:21).

There is only a vague understanding of general Paleoindian Period subsistence and settlement patterns. Two theories have emerged that explore these patterns. Kelley and Todd (1988) demonstrate that early Paleoindian Period peoples (Clovis through Hell Gap) foraged with a focus upon year-round megafaunal harvests. These small groups migrated and foraged with wild herd animals and had no need for food storage technologies or permanent structures due to their mobility and constant food supply. This way of life ended following the full exit of the Pleistocene and resulting megafaunal extinctions. Eckerly and Hobey (1995) provide a second theory, which posits that year-round megafaunal harvests were never the major focus of Paleoindian Period subsistence, but that major faunal harvests were only a component of the strategy. Maximum energy was directed toward the collection of varied resources. This strategy continued, evolved in response to environment changes, and intensified as time passed. The strategy continued into the Archaic Period (Johnson and Pastor 2003:18). If a decline in the importance and occurrence of megafaunal species took place, the collection of other resources would have increased (JEI 2003:14). In either scenario, seasonality developed in resource exploitation, which seems to have brought about development of winter season food storage technology (Johnson and Pastor 2003:18).

The majority of information about the Paleoindian Period in Wyoming comes from Northwestern Plains cultural area to the east and northeast of the current study area (Thompson and Pastor 1995:21). Sixteen Paleoindian Period radiocarbon dates have been recorded in the Green River Basin and 38 Paleoindian Period radiocarbon dates have been recovered from Wyoming counties that include land in the Wyoming Basin. Site excavations have indicated that the Paleoindian cultural group stays were not lengthy in southwestern Wyoming, and that these groups exhibited more affiliation with the Northwestern Plains Paleoindian people than with people of the Great Basin (Wheeler 2002:49). However, Paleoindian sites in southwestern Wyoming have not exhibited substantial evidence of hunting of megafauna or other big game animals, as is common in Paleoindian sites of the Northwestern Plains area. Only the Cody complex component of the Finley site has revealed evidence of this type (Johnson and Pastor 2003; JEI 2003:14).

Intact Clovis, Goshen, Agate-Basin, Hell Gap, and Alberta sites with datable contexts have not been found (JEI 2003:4). This may be due to environmental degradation of sites or site components (Thompson and Pastor 1995: 21), or to a lack of understanding of the environmental history of the area. Paleoindian groups may have practiced lithic caching in the area. Cache features were apparently observed at the Fenn Clovis cache, located in an unknown context at an unknown location in southeastern Idaho, southwestern Wyoming or northwestern Utah (Thompson and Pastor 1995:24). The Fenn Clovis Cache assemblage is a privately owned collection (Bobb and Punke 2004). Part of the cache assemblage is made up of Wyoming Basin, Green River chert. Paleoindian food caches have also been recovered from cave and rockshelter contexts. Cache finds have been related to the theory that major subsistence strategy differences existed between Paleoindian groups living on the open plains and those residing in the mountains or foothills. Open plains Paleoindian assemblages represent classic tool types made of exotic lithic material, while mountain and foothill dwellers utilized a diverse toolkit crafted from local stone. It is believed that groups residing in either environment would have procured resources and remained proximal to localized procurement areas for long durations of up to a year. Extraction of resources from either environment would not have been economically feasible (Thompson and Pastor 1995:24).

Paleoindian Period sites or components in the planning area include: the Finley site, the Sevenmile Wash site, 48LN1658, 48LN167, the Shute Creek Plant site, the Deep Hearth site, the Dixie Cup

site, the Meadow Draw Ten site, the Wishful site, the Vegan site, the Porter Hollow site, and 48SW8842.

The Sevenmile Wash site (48LN2287) was first surveyed during the Amoco Production Company Whiskey Buttes Well Pad #55 survey in 1990. The site was described as an occupation site, possibly dating to the Paleoindian Period (Berrigan and Jess 1991). It included lithic scatters, assorted lithic tools, and hearth features. This site was considered significant because of the presence of good site conditions, early Paleoindian Period diagnostic artifacts, and the probability of intact cultural deposits. Additionally, Paleoindian Period sites such as the Sevenmile Wash site are extremely rare west of the Green River (Wyoming SHPO 2004c).

Site 48LN1658 was identified in 1985 during the Exxon USA, LaBarge to Shute Creek Sourgas feed trunkline (85-WWC-6d) project (Miller and Bower 1986). This occupation consists of three buried hearth features, charcoal stained soils, bone, lithic debitage, and fire-cracked rock. The buried items were exposed during trenching operations. A single hearth was dated to 9,530+/-300 years BP. Artifacts observed in surface contexts included flakes and fire-cracked rock. This site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48LN1679 was identified in 1987 during the Exxon Company USA, Road Hollow Unit No. 12 gathering line: 86-WWC-47b project. This occupation consists of a single hearth feature, horse and camel bone, fire-cracked rock and an oxidized stick (Miller 1987). Features and artifacts were recovered from buried contexts and trench spoil piles. This site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Shute Creek Plant site (48LN373) was first recorded in 1982 during the Belco Cow Hollow Unit #202 Well Pad and Access Road, Class III Cultural Resource Inventory. This site is described as an immense quarry that also features intact subsurface features and stratigraphy (Wheeler et al. 1986). Features were dated from 8,980+/-130 to 770+/-50 years ago. Confusion surrounds the interpretation and boundaries of this site, although it is understood that portions of this site are located within the Shute Creek Lithic Landscape. The Shute Creek Plant site is considered to be somewhat significant to the study of regional prehistory (Wyoming SHPO 2004c).

The Deep Hearth site (48UT786) was initially studied in 1982 by the Office of the Wyoming State Archeologist. The site was later resurveyed in 1990 during the Kern River project. The survey recorded the site as destroyed by Highway 189 construction activities. Later survey recorded a multi-component site with a surface lithic scatter and fire-cracked rock. During Kern River Pipeline construction buried components were discovered. Features included hearths, charcoal stains, and bone and stone tools. Buried components may date from circa 8,600 years BP (Rood and Pope 1993). The Deep Hearth site was identified as eligible for the NRHP after the discovery of the intact, buried cultural components. The buried components may possess the capacity to yield research information that could provide a better understanding of the Paleoindian and Early Archaic Periods of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Dixie Cup site (48SW6911) was initially recorded in 1987 in preparation for the ITR Pipeline. Resurvey occurred in 1994 as part of the Legacy 20-10 pipeline and again in 1998 as part of the Mountain Gas Resources 16" Loop Pipeline. During excavation three hearths dating to the Paleoindian and Archaic Periods were recorded below lag gravel-bearing levels (Rood et al. 1992).

Additionally, fire-cracked rock, lithic debitage, and tool fragments were observed. Due to the existence of buried artifact-bearing deposits, this site was recommended as eligible for the NRHP (Wyoming SHPO 2004c).

The Meadow Draw Ten site (48UT60) was initially recorded in 1976, 1977 and 1978 as part of the proposed South Haystack Mine project (Metcalf 1981). Later investigations took place in 2001. The site yielded intact cultural deposits dating from the Paleoindian Period through the Late Prehistoric Period. Excavations recovered a hearth feature, a fire-cracked rock dump, fire-cracked rock scatters, burned bone, and diagnostic projectile points (including Folsom point fragments). The site has been recommended as eligible for the NRHP due to its potential to contain valuable information that could benefit the understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Wishful site (48UT1447) was initially recorded in 1991 and 1992 during the Kern River Pipeline project. A second survey was undertaken in 2001 as part of the Kern River Expansion Project Cultural Inventory. No surface site manifestations were observed during later survey. The site is a Paleoindian occupation with a single short-term episode. Site components include a buried hearth feature, stained soils, fire-cracked rock, burned bone, and lithic debitage (Rood and Pope 1993). Radiocarbon dates indicate that the hearth was utilized about 8,136 to 8,509 years ago. This site is considered ineligible for the NRHP because of excavation or disturbance of all buried deposits (Wyoming SHPO 2004c).

The Vegan site (48LN1880) was identified in 1988 during the preparation of the CIG Opal Lateral Phase II Pipeline. Mitigation excavations began in 1989. The excavations identified occupations dating from 8,400 to 4,900 BP (McKern and Creasman 1991). This site is notable because it alters the belief that subsistence strategies circa 8,400 BP were a continuation of the classic Paleoindian tradition. It suggests that the inhabitants of the Green River Valley may have adopted an Archaic Period lifeway circa 8,400 BP and abandoned the classic Paleoindian toolkit due to a reduced environmental carrying capacity. The Vegan site also provides valuable evidence regarding Early Archaic lifeways and a possible water source focus during the Altithermal Period. It is considered eligible for the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

The Porter Hollow site (48UT401) is a multi-component site with Paleoindian, Late Archaic and Late Prehistoric occupations. It was excavated in 1980 in preparation for a MAPCO project. Excavations have indicated that the site was used for tool manufacture and limited bison and antelope processing activities (Hoefler 1987). Site components remain intact and buried (Wyoming SHPO 2004c).

Locations of selected sites from the Paleoindian Period are shown in Figure 2-1.

2.1.2 Archaic Period (8,500 to 1,800 BP)

Archaic Period cultures of the Wyoming Basin left behind the largest number of recorded prehistoric archeological sites in the region (Figure 2-2). Archaic Period groups utilized the environments of the Wyoming Basin more intensely than any other prehistoric group of any known period (JEI 2003:5-16). In southwestern Wyoming, the Archaic Period has been divided into the Early Archaic (8,500 to 4,300 BP) and the Late Archaic (4,300 to 1,800 BP). The Early Archaic and Late Archaic Periods have been subdivided into phases. The subdivisions of the Early Archaic are the Great Divide phase (8,200 to 6,500 BP) and the Opal phase (6,500 to 4,300 BP) (Johnson and Pastor 2003:18-20). The Late Archaic is subdivided into the Pine Spring phase (4,300 to 2,800 BP)

(Johnson and Pastor 2003:19) followed by the Deadman Wash phase (2,800 to 1,800 BP) (Thompson and Pastor 1995:51).

The Archaic Period paleoenvironmental record is incomplete. This paucity of data is due to the lack of intensive paleoenvironmental and geomorphological research within the Wyoming Basin context. Increased research of all Wyoming Basin environmental zones is necessary in order to increase the paleoenvironmental and cultural understanding of the region. Increased research that produces additional paleoenvironmental information will assist with the comprehension of the corrosive or degradational effects that climatic changes have had on the landscape. This data set will also aid in the reliable construction of a more concrete set of settlement pattern, subsistence, and population fluctuation theories (Johnson and Pastor 2003:33).

It is clear that the environmental conditions of early portions of the Archaic Period were affected by an Altithermal climatic period. The Altithermal was characterized by increasing levels of heat and aridity that negatively affected area population numbers (JEI 2003:15). The Altithermal was supplanted by the cool and wet Neoglacial climatic period during later portions of the Archaic Period (Johnson and Pastor 2003:34). As these environmental changes affected floral and faunal communities, cultures adjusted settlement and subsistence strategies accordingly (JEI 2003:15).

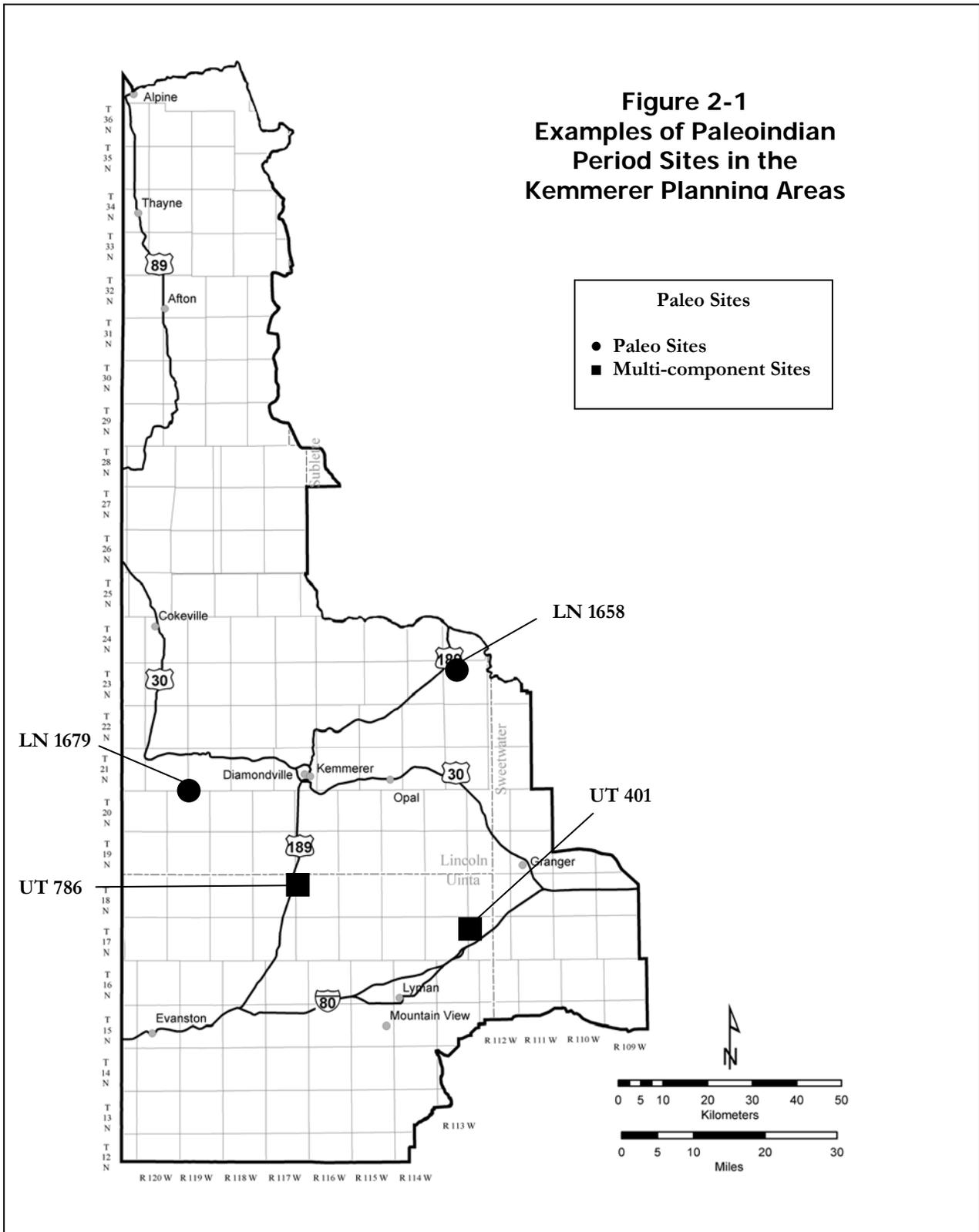
It is difficult to piece together firm patterns of Archaic Period land-use because there is an insufficient amount of environmental and cultural data for the region. It has been posited that seasonal movement did not follow consistent patterns throughout the period (Johnson and Pastor 2003:33). A wide variety of floral and faunal resources were exploited through a seasonal, cyclic, foraging strategy that touched all environmental zones. At times, medium and large-sized mammals were the primary focus of these harvests. This general pattern continued through the Late Prehistoric Period (section 2.1.3) (JEI 2003:15).

2.1.2.1 Early Archaic Period (8,500 to 4,300 BP)

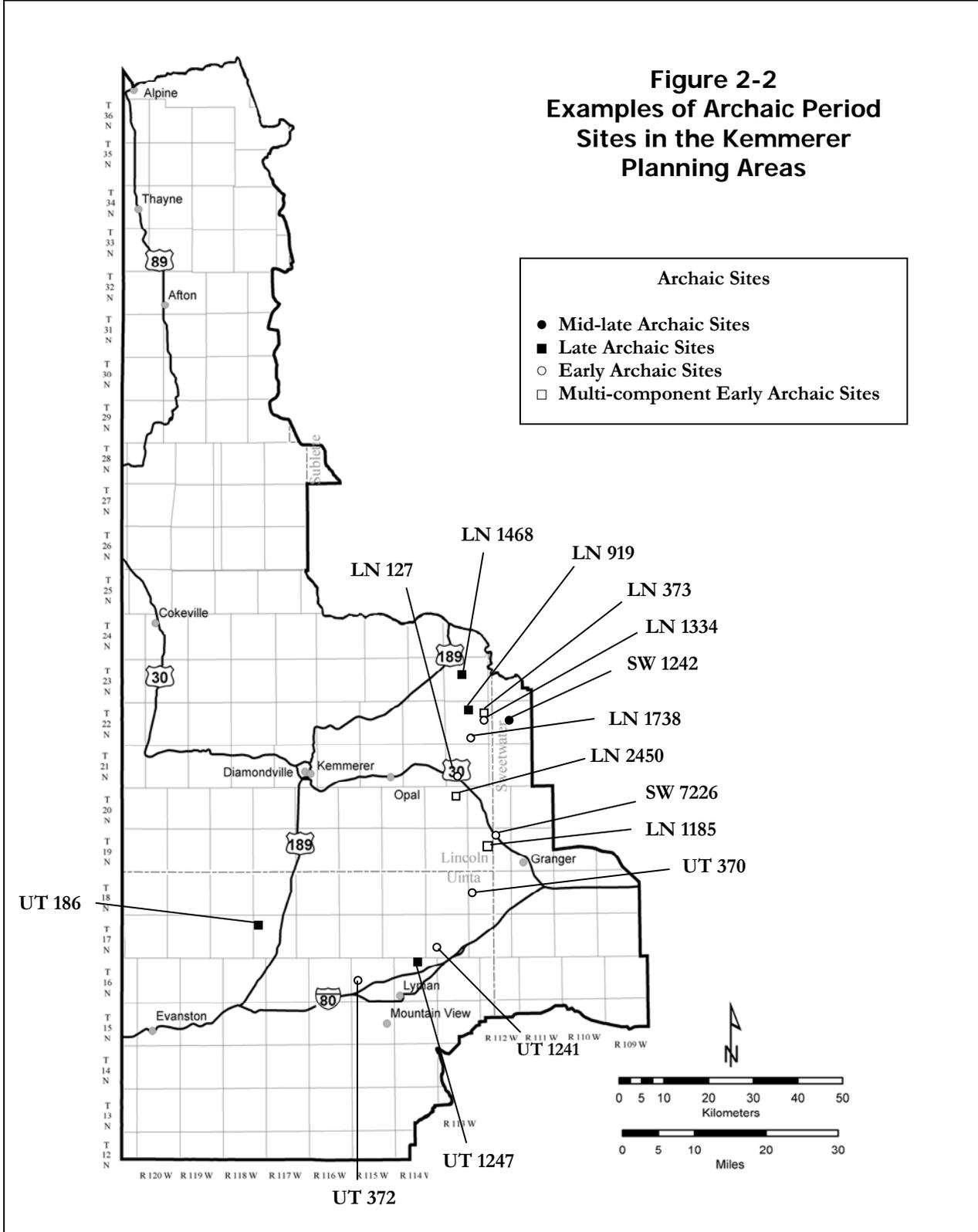
The majority of Early Archaic Period sites are located in uplift environments rather than within interior basins. Subsistence for the period included both floral and faunal resources, with faunal resources playing the primary role. Floral species were harvested and processed with ground stone tools; greater numbers of ground stone, floral resource processing tools are found within Early Archaic contexts than within Paleoindian contexts so it is surmised that floral resources played a greater role than they did in the preceding period, but were not a dietary mainstay. The Early Archaic Period diagnostic lithic tool is the Altithermal knife though various forms of side-notched and stemmed points are found in Early Archaic Period contexts (Johnson and Pastor 2003: 19).

Early Archaic Period site components in the planning area that have not been associated with a particular phase include: the Old and in the Way site, the Broken Home site, the Church Butte Four site, and the Moxa Twenty-Eight site. Each of these sites includes occupations that extend into the Late Prehistoric Period. The Old and in the Way site (48LN1296) was initially surveyed in 1984 as part of the Exxon LaBarge Project Rail Spur and Access Road. The site is described as an Early Archaic through Late Prehistoric Period occupation site with a quarry component and a Historic Period sheepherder refuse scatter (Wheeler et al. 1986). The site is composed of a variably dense scattering of lithics and diagnostic tools, ground stone, ceramics and a light scattering of fire-cracked rock (Wyoming SHPO 2004c). Two burials were also recorded at this site (Wheeler et al. 1986:172-174). Due to the intact nature of portions of this site, it is considered to be potentially eligible for the NRHP (Wyoming SHPO 2004c).

**Figure 2-1
Examples of Paleoindian
Period Sites in the
Kemmerer Planning Areas**



**Figure 2-2
Examples of Archaic Period
Sites in the Kemmerer
Planning Areas**



The Broken Home site (48UT186) was identified in 1978 during the BLM-sponsored Overthrust Belt Survey. When first investigated it was considered to be ineligible for the NRHP. During monitoring of construction activities associated with the Kern River Pipeline in 1990, subsurface features were observed, and the site was determined eligible for the NRHP. The site includes an Archaic Period house pit with associated artifacts and features. In 1992, additional excavations were performed around the house pit (Rood and Pope 1993). These excavations located Early Archaic through early Late Prehistoric Period Uinta phase artifacts and features. An early 20th century sheepherder camp was also recorded in this location during the 1992 survey. A site visit in 2001 in preparation for the 2003 Kern River Expansion Project Cultural Inventory revealed that the site datum had been lost, and no artifacts were observed on the ground surface. Although the site has been excavated and disturbed it remains eligible for the NRHP due to its potential to provide information pertaining to the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

The Church Butte Four site (48UT199) was initially investigated by the University of Utah and others prior to 1979. It was officially recorded during the Trailblazer Pipeline Project. In the past 25 years, this site has been investigated and tested a number of times in preparation for various energy and fiber optic cable projects (Batterman and Smith 1989). Investigations have recorded Early through Middle Archaic Period and Late Prehistoric Period occupations. These components include: lithic scatters, fire-cracked rock, bone and Late Prehistoric Period ceramics. Excavated features include: tri-hearths and stone-filled basins. The Church Butte Four site has been recommended as eligible for the NRHP due to intact subsurface deposits. These deposits may hold information essential to the understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Moxa Twenty-Eight site (48UT1185) was recorded in 1982 and 1983 during the Amoco Moxa Arch Open Pipeline Trench Inspection (Project# ACB-82-231). This occupation site was described as three subsurface hearth features with surface components. The site included lithic scatters, stone tools, projectile points, and hearths (Hoefler and Darlington 1991; McDonald 1993). It dates from the Archaic through Late Prehistoric Periods and has been recommended as eligible for the NRHP because it may contribute to the understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

GREAT DIVIDE PHASE (8,200 TO 6,500 BP)

The Great Divide phase (8,200-6,500 BP) of the Early Archaic Period was hotter and more arid than contemporary climatic conditions. Confusion surrounds the extent and intensity of Altithermal Period effects upon the Great Divide phase environment (Johnson and Pastor 2003:19). No evidence of bison exploitation during this period has been found. Recovered faunal resources include the remains of small mammals such as rabbits and squirrels. Ground stone tools, floral resource processing and storage techniques were developed or adopted and are in evidence on sites dating to this period (Johnson and Pastor 2003:19). House pits were excavated and inhabited during the Great Divide phase. An eastern Wyoming Basin example, located in the northern Green River Basin, is a component of site 48SU261. A house pit located in the vicinity of 48SU261 was occupied during the Great Divide phase and the subsequent Opal phase (Johnson and Pastor 2003:19).

Great Divide period cultures are believed to have existed in southwestern Wyoming, but a paucity of data hinders a clear distinction between earlier Paleoindian Period and later Opal phase lifeways (Wheeler 2002:55). Few sites have been dated to the Great Divide phase (Johnson and Pastor 2003:19). The Maxon Ranch site features the earliest Great Divide phase dates (Wheeler 2002:50).

It is believed that area populations declined because of harsh environmental conditions. Interior basins were foraged but foothills and uplift zones were areas of more intense gathering. Undiscovered site loci may lie in the vicinity of the most productive environmental zones. Environmentally productive zones for the period included the areas surrounding the Green River and the Deadman Wash (Johnson and Pastor 2003:19).

Great Divide phase sites or components identified in the planning area include 48UT370 and 48UT372. Site 48UT370 was initially recorded in 1980 during the MAPCO project (Metcalf and Anderson 1982). A second survey took place in 1982 as part of the Frontier Pipeline project. A third survey of the site took part in 1999 as part of the Williams Communications, Inc Midwest Cross Phase IIIB fiber optic cable project. Site 48UT370 was described as an occupation site where metates, manos, hearths, lithic scatters, and a fragment of a stone drill, were located in surface and subsurface deposits (Schroedl 1985). The site was dated to the Archaic Period and was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48UT372 was first recorded in 1980 and 1981 for the MAPCO Pipeline project (Metcalf and Anderson 1982). The site was recorded a second time in 1983. During this recording, a second site was identified within the original site boundaries. In 1987 and 1999, the site was rerecorded in anticipation of the AT&T fiber-optic cable project and the Williams fiber-optic cable project. The final recording occurred in 1999 during the Pioneer PPLE and ROW project. This site was interpreted as an Early Archaic Period occupation site. Artifacts and features on the site included lithic material scatters, ground stone, fire-cracked rock and hearths. One hearth feature was dated at 6,870 +/-120 years BP. This site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

OPAL PHASE (6,500-4,300 BP)

The Opal phase in southwestern Wyoming was formerly known as the Green River phase. The Green River phase was changed to the Opal phase to discourage confusion with a separate Green River phase identified in the northern Colorado River area of Utah. The Utah Green River phase predates that of Wyoming (Wheeler 2002:56). Moderated environmental extremes mark the end of the Great Divide phase and the beginning of the Opal phase (6,500 to 4,300 BP). As climatic trends mellowed and stabilized, the landscape biomass increased, which may have enabled a population increase. Radiocarbon dates for this phase increase in frequency after 5,500 BP. Bison remains, ground stone tools, and evidences of floral resource exploitation increase within site assemblages that have been dated to this period (Johnson and Pastor 2003:19).

Opal phase diagnostic projectile points include Humboldt Concave Base, Opal Side-notched and possibly the Pinto point. Assemblages also include a variety of points with styles similar to Pelican Lake and Elko Corner-notched types (Wheeler 2002:56,58). Projectile points were commonly reduced from obsidian pebbles, while quartzite projectile points commonly exhibit a Levallois-like biface manufacturing technique. Milling stones have also been recovered from Opal phase contexts; these tools are tabular in shape and exhibit little alteration of form (Wheeler 2002:6). Early Opal phase sites contain less fire-cracked rock than do sites of other periods. This may indicate a decreased emphasis on food roasting activity for a time. The amount of fire-cracked rock appears to have increased again toward the end of the phase. Because food processing features, such as the

slab lined pit, began to resemble those of the later Pine Spring phase, it is problematic to use these features as a diagnostic indicator of the Opal phase (Wheeler 2002:58).

Many basin-shaped house pits have been dated to the Opal phase. House pits range from 2 to 5 meters in diameter and were dug to approximately 30 centimeters (cm) below ground surface. Internal architecture includes hearths and storage pits. House pit function, length of occupation, and size of the group occupying the house pit vary. It is possible that more complex architecture indicates a cold season occupation, while simpler, roofed, partially open-air structures were utilized during warmer months (Johnson and Pastor 2003:19). The house pit architectural tradition was formalized during the Opal phase and endured until the Late Prehistoric Period (Johnson and Pastor 2003:19). Due to lack of data, Opal phase settlement pattern analysis remains problematic (Wheeler 2002:63-64).

Opal phase sites or components in the planning area include: the Moxa Housepit site, the Eakin site, the Taliaferro site, the Meadow Draw Thirteen site, the Cow Hollow Creek site, the Hams Fork site, the Fontanelle Twelve site, 48LN1334, 48LN1404, 48LN1738, 48LN7226, 48UT370, 48UT779, and 49UT1241. The Moxa Housepit site (48LN616) was surveyed numerous times between 1980 and 1999 with mixed results. Initially, the site was noted to be an expansive, disturbed, lithic scatter. A house pit (the only such feature recorded in the Moxa Arch Gas Field) and associated features were recorded later. Radiocarbon dates from the site date to 5,790+/-50 BP. This site was recommended as eligible for the NRHP. A house pit feature is rare in southwestern Wyoming, and the site may hold potential to address research questions pertaining to subsistence, settlement and mobility (Wyoming SHPO 2004c).

The Eakin site (48UT375) was first recorded in 1980 during the MAPCO project (Metcalf and Anderson 1982). An Archaic component with numerous features and light artifact scatters was observed. Site features were radiocarbon dated to 5,360+/-100 and 5,690+/- 100 BP. Excavations took place on this site in 1999 (Reust et al. 2002). Investigators concluded that intact cultural material-bearing stratigraphy remained buried within the site. Four site components date to the Opal phase. Features include charcoal stains, basins, fire-cracked rock and lithic material. Up to one half of the site is disturbed but it remains eligible for the NRHP. The buried components may possess the capacity to yield research information that could provide a better understanding of the Opal phase in southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Taliaferro site (48LN1468) was initially identified and partially excavated during a site inventory of the ExxonFeed Gas Pipeline in 1984. It was considered eligible for the NRHP following excavation and analysis. Since avoidance could not be accomplished, this site was excavated as part of the Exxon Company, USA, LaBarge Natural Gas Project in 1985. Eight occupation components dated between 5,290 and 960 years BP (Smith and Creasman 1988). Diagnostic projectile points excavated from discrete cultural deposits at this site have refined the southwestern Wyoming cultural chronology. This excavation revealed the utility of large scale excavation with regard to data collection, and added a great deal of information to the southwestern Wyoming archeological record. Since much remains buried and possibly intact at the Taliaferro site, the site continues to be considered eligible for the NRHP (Wyoming SHPO 2004c).

The Meadow Draw Thirteen site (48UT63) includes a human burial recovered during excavations associated with the location of a Paleoindian Period projectile point fragment. Excavations also recovered fire-cracked rock, metates covered with red ochre, ash, debitage, and human bone in an

ash-lined pit feature (Metcalf 1981). Radiocarbon dating on bone samples recovered from the burial has indicated that it dates to approximately 5,040+/-160 years ago (Wyoming SHPO 2004c).

The Cow Hollow Creek site (48LN127) is a sizeable multi-component campsite initially excavated in the late 1970s and early 1980s (Van Essen et al. 1982). Site dates range from possibly as early as 5,000 BP (Early Archaic) to 1,400/900 BP (Late Prehistoric). This site includes hearth features, lithic scatters, stone tools, projectile points and ground stone. Because of its research potential, the site has been recommended as eligible for the NRHP (Wyoming SHPO 2004c).

The Hams Fork site (48LN2450) was recorded in 1992 as part of the UPRC Kern River Tie-in to the Overland Trail Pipeline Class III site inventory. Surface and subsurface features and artifact scatters were recorded during pedestrian and subsurface investigations. Site dating is confused – possibly three site components have been dated. The oldest component dates to the Early Archaic Period, Opal phase or to the Late Archaic Period, Pine Spring phase at 3280+/-70 years BP, while the second dates to the Protohistoric Period. The existence of a third component that dates to the Historic Period remains a possibility (McKern 1996). Site activities included lithic tool maintenance or manufacture and food processing. The site has been interpreted as being a long term base camp based on its location on a terrace of the Hams Fork River. This site has been recommended as eligible for the NRHP due to its intact, buried features that may contribute to regional chronological and settlement and subsistence pattern studies (Wyoming SHPO 2004c).

The Fontenelle Twelve site (48SW1242) was surveyed in preparation for construction of the Amoco State of Wyoming AI Well & Access (Project# 1AC 89-WY-175) in 1986 (Hoefler 1986), and again 1993 as part of the Class III Inventory for the Williams Field Services State of Wyoming AI #2 pipeline (addendum and site form). This is a Middle Archaic to Late Prehistoric occupation site which has been disturbed and was initially considered ineligible for the NRHP. Some intact components remain, so the site was later recommended as eligible for the NRHP. Lithic debitage, tools, ground stone, fire-cracked rock, a large number of hearth features, and rich quarry areas surround the site (Wyoming SHPO 2004c).

Site 48LN1334 was identified in 1983 during the Exxon Air Quality Monitoring Station project. This site was interpreted as an occupation site with a quarry and other activity areas. Lithic debitage, graters, scrapers, fleshers, hammerstones and other tools were observed along with a single hearth feature (Wheeler et al. 1986). The site was well preserved and was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48LN1404 was initially identified in 1984 during the Exxon-Shute Creek Plant North-South Access project. This site was surveyed a second time during the Class III Cultural Resource Inventory of the proposed Farson Road No. 2-13 lateral pipeline project in 1994. It was described as consisting of three hearth features, fire-cracked rock, and lithic scatters. Some site features and artifacts were located in surface contexts, while others were observed eroding from dunes. Testing located a buried component with a date of 5,480+/-80 years BP. Subsurface investigations revealed eight more hearth features, fire-cracked rock, burned bone, broken bone and lithic scatters (Wheeler et al. 1986). Tools recovered included: bifaces, flake tools, a knife and five projectile points. Post-excavation monitoring activities uncovered ten additional features. This site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48LN1738 was initially recorded in 1987 during the Mountain Fuel Resources Shute Creek Pipeline project. In 1994, the site was re-surveyed during procedures involved with the Williams Field Services Bannon Cow Hollow 59 Pipeline. This site was described as an occupation site with lithic scatters, two projectile points, fire-cracked rock, burned sage, and charcoal (Hoefer and Darlington 1991). Subsurface testing indicated that buried horizons may contain cultural material. The site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48SW7226 was first recorded in 1988 as part of the Questar Shute Creek Pipeline (88-WWC-45). The site consisted of five buried hearth features (Hoefer and Darlington 1991). One hearth was dated to 4,900+/-70 years BP. Very little fire-cracked rock was observed. No artifacts or features were recovered from surface contexts. The site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48UT370 was initially recorded in 1980 during the MAPCO project (Metcalf and Anderson 1982). A second survey took place in 1982 as part of the Frontier Pipeline project. A third survey of the site took part in 1999 as part of the Williams Communications, Inc Midwest Cross Phase IIIB fiber optic cable project. Site 48UT370 was described as an occupation site where metates, manos, hearths, lithic scatters, and a fragment of a stone drill, were located in surface and subsurface deposits (Schroedl 1985). The site was dated to the Archaic Period and was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48UT779 was first recorded in 1982 and 1983 as part of the Frontier Pipeline project (Schroedl 1985). The site was investigated again in 1987 in preparation for the AT&T fiber-optic cable project. The final investigation occurred in 1993 during the US West fiber optic cable project. This site was described as an occupation site that included fire-cracked rock, lithic scatters, and assorted tools. Initially it was recommended as eligible for the NRHP, but later investigations were unable to relocate it (Wyoming SHPO 2004c).

Site 48UT1241 was initially recorded in 1987 and 1988 in association with the AT&T fiber-optic cable project (McNees 1989a). The site was rerecorded in 1993 in preparation for the US West fiber-optic cable project. Site artifacts and features included lithic and fire-cracked rock scatters, four fire-cracked rock concentrations, two lithic tool fragments, and assorted side-notched dart points. The site dates from the Early Archaic Period and was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

2.1.2.2 Late Archaic Period (4,300 to 1,800 BP)

The transition from the Opal phase of the Early Archaic Period to the Late Archaic Period is represented by a substantial decrease in radiocarbon dates around 4,600 to 4,300 BP. Sites of this period are much rarer than those of the earlier period. The apparent decrease in sites could be the result of site degradation due to environmental preservation factors, population decrease, or changes in settlement and subsistence strategy (Johnson and Pastor 2003:19-20). Faunal remains and pollen data sets are lacking for the period. The climate of the Late Archaic Period is believed to have become increasingly moist due to elevated rainfall levels. The bison population appears to have increased and Late Archaic cultures increased their harvest of large mammals, while continuing to

utilize smaller game such as ground squirrel and rabbit. Dependence on floral resource exploitation appears to have decreased during this period. Ground stone artifacts are common in Late Archaic Period assemblages, but large harvests and processing of floral resources were not common until the later Late Prehistoric Period (Johnson and Pastor 2003:20).

Late Archaic Period projectile points include stemmed and indented base points, varieties of McKean point types, Pinto point types, and Elko corner-notched points of a large size that are also known as Pelican Lake points on the Great Plains. The corner-notched Elko points are common finds in the Great Basin for the entire Archaic Period, while Pelican Lake points on the Great Plains date to a shorter period, 3,000 to 1,500 BP. An association between large, corner-notched points and particular cultural influences has not been verified (Johnson and Pastor 2003:20).

The McKean culture, associated with large corner-notched points, may have most heavily influenced groups in the uplift areas and mountains of the eastern Wyoming Basin, southward to the Yampa River in Colorado (Johnson and Pastor 2003:20, 34). Many McKean sites have been recorded in the Wind River Basin and throughout Wyoming (JEI 2003:15). Johnson and Pastor believe that the McKean point type is associated with a subsistence strategy that relied very heavily on bison hunting (Johnson and Pastor 2003:34). However, Wheeler states that bison were never prevalent in southwestern Wyoming, the Green River Basin, or in areas of Colorado, all of which areas contain McKean sites. Thus, the McKean culture may not necessarily have been bison-centric (Wheeler 2002:64-72).

The early part of the Late Archaic Period is associated with the use or further development of corner-notched Pelican Lake or Pelican Lake-like dart points. These points are understood to be a component of McKean lithic technology (JEI 2003:16). Pelican Lake or Pelican Lake-like dart points have roots in the northern Great Plains. The type-site for these points is located on Gull Lake in Saskatchewan (Berrigan and Jess 1991:142). These points became common in Wyoming Basin Late Archaic assemblages until circa 1,500 BP, at about the time when bow and arrow technology was adopted or developed (JEI 2003:16).

Late Archaic house pits are rare in southwestern Wyoming. None have been located in the Green River area, but at least two sites (48SW1029 and 48SW6384) containing house pits of this period have been found in the Great Divide Basin (Johnson and Pastor 2003:20).

PINE SPRING PHASE (4,300 TO 2,800 BP)

The Pine Spring phase (4,300 to 2,800 BP) is the first phase of the Late Archaic Period in southwestern Wyoming. The namesake site is located southwest of Rock Springs (Wheeler 2002:64). Relatively large numbers of sites from this period have been identified through carbon dating, but subsistence strategies related to macro- and microenvironments of the region remain poorly understood (Thompson and Pastor 1995:50). The Pine Spring phase in the Wyoming Basin is marked by an increase in rainfall. Environmental biomass appears to have proliferated in the region, but no great subsistence strategy alteration between the Pine Spring phase and the previous phase has been observed (Thompson and Pastor 1995:47). Human population and exploitation of larger mammals such as elk increased during this period, but relatively few bison remains have been found in Pine Spring phase sites (Thompson and Pastor 1995:47, 50). Sizable bison herds gravitated to isolated microenvironments, but the basin-wide macro-environment could not sustain exceedingly large herds. The Pine Spring culture was therefore probably not bison-centric (Thompson and Pastor 1995:47, 50).

The Early Archaic Period to Pine Spring phase transition is indicated by the presence of stemmed and indented base points, corner-notched points of a medium size that resemble Great Basin Elko types, McKean points, and McKean-like points that resemble the Pinto or Gatecliff split stemmed points commonly found in Great Basin contexts. In the Wyoming Basin, Elko, McKean, and Pinto-Gatecliff are all diagnostic indicators of cultures in place as the Neoglacial period approached (Thompson and Pastor 1995:47, 49).

Although the Pine Spring phase is partially defined by McKean cultural influence, and a McKean cultural presence has been repeatedly noted for the region, the connections are indistinct. McKean influence took place between 5,000 and 2,500 BP. Cultural influences in the study area included increased plant processing activities with increased use and production of ground stone tools; rock-filled, slab-lined pits for processing floral resources; and limited bison procurement. A classic McKean bison-centric subsistence apparently never developed in this region and the archeological record of the basin does not indicate that communal bison hunting occurred during this period (Thompson and Pastor 1995:49).

McKean diagnostic points include stemmed and indented base points similar in form to those recovered from the Northwest Plains (Thompson and Pastor 1995:49). McKean cultural group forays into the region are believed to have been common over a lengthy period of time (Thompson and Pastor 1995:50). Rock Springs uplift data illustrate that, circa 4,800 to 3,700 BP, indigenous populations may have been vying with invasive McKean populations for territorial dominance. Indigenous populations at the time were focused primarily on basin area subsistence, while McKean populations are thought to have pushed inward on the basins from the peripheries. No subsistence strategy alterations have been identified that might have resulted from the McKean invasion (Thompson and Pastor 1995:49). Much of these data are speculative due to the variety of point types and feature similarities observed between contexts. Pine Spring phase sites include the Pine Spring site, Cow Hollow Creek, Deadman Wash, Deluge Shelter and the Lay site in Colorado (Thompson and Pastor 1995:47).

Pine Spring phase components or sites in the planning area include: the Arthur site, the Disney site, and site 48UT1247. The Arthur site (48SW1023) was identified in 1978 during a project associated with the construction of the Northwest Pipeline Corporation Lateral Line B-2. Much of this site has been disturbed by construction activities but lithic scatters, a possible hearth feature, and a projectile point were observed (Wyoming SHPO 2004c).

The Disney site (48LN2306) was a sizeable, multi-component occupation recorded during Kern River Pipeline R.O.W. Monitoring activities in 1991. This site has been interpreted to be a Middle Archaic, Pine Spring phase and Late Prehistoric, Uinta phase site with possible Paleoindian and Early Archaic components (Bruder and Rhodes 1993). A Historic Period component dating to the late 1800s was also recorded. Prehistoric resource processing and lithic tool workshop areas were observed at this site. Features included hearths, pits, and an upright stone slab of unexplained function. The historic artifact scatter was described as a trash midden. The Disney site remains eligible to the NRHP and is largely undisturbed (Wyoming SHPO 2004c).

Site 48UT1247 was first recorded in 1987 and 1988 during the AT&T fiber-optic cable project (McNees 1989b). It was re-recorded in 1993 during the US West fiber-optic cable project. The site was described as a Late Prehistoric Period bone grease and projectile point manufacturing site with an additional Archaic Period component. Materials observed during early recordings included, mano fragments, a light lithic scatter, fire-cracked rock, a fire-cracked rock concentration and a

possible hearth stain. Recent site recording has noted a light lithic scatter and a fire-cracked rock concentration. This site was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

DEADMAN WASH PHASE (2,800 TO 1,800 BP)

The Deadman Wash phase (2,800 to 1,800 BP) exhibits unexpectedly lower numbers of radiocarbon dates than the Pine Spring phase. It is chronologically concurrent with the Neoglacial period peak when biomass in the region was elevated due to increasingly wet conditions. Faunal communities became more diverse, and game procurement reflected this. Deadman Wash phase faunal assemblages included deer, sheep, bison, and antelope at levels higher than at sites associated with previous periods. Small mammals were also harvested despite the variety and number of larger mammals available. Seed use appears to have increased as the period progressed. During the Deadman Wash phase, the environment presented the opportunity for a stable balance between hunting and collecting (Thompson and Pastor 1995:51). The Deadman Wash phase is poorly understood in southwestern Wyoming. Dating difficulties exist and a chronological overlap with the subsequent Uinta phase is a possibility (Wheeler 2002:74-78). Although populations generally rose throughout the Prehistoric Period, this apparently did not occur during the Deadman Wash phase, despite optimum environmental conditions in the region (Thompson and Pastor 1995:51). In southwestern Wyoming, it appears that different cultural groups used the same sites repeatedly but for different purposes during this time. Wheeler suggests that this phenomenon is the source of confusion and the perceived cultural overlap with the later Uinta phase (Wheeler 2002:74). Deadman Wash phase sites include components of 48LN373, 48LN1291, 48SW1242, the MAK site, 48SW1612, and the Mayfly site. Deadman Wash phase house pit features have been recorded at 48SW842 south of Wamsutter, well to the east of the Kemmerer Planning Area (Thompson and Pastor 1995:51-52).

The diagnostic tool indicator of the Deadman Wash phase is a triangular, corner-notched point. Pelican Lake point types are the most common point type (Thompson and Pastor 1995:51). Diagnostic dart points of this phase include Craven Creek Corner-notched, Fontenelle Basal-notched, and Painter Side-notched points. Other points include side, corner and bifurcate stemmed types (Wheeler 2002:77-78).

Deadman Wash phase components in the planning area are found at the MAK site and 48LN919 among other sites. The MAK site (48SW1612) was surveyed in 1979 as part of the Amoco Champlin 206 D-1 project. The site was resurveyed in 1981 as part of the Northwest Pipeline Corporation Amoco Champlin Federal 1-6a project. It was surveyed once again in 1988 as part of the 88-WWC-071 CIG Pipeline–Granger to Opal project. The final survey occurred in 1990 during a Presidio Oil Company-related project. This site was described as an occupation site and quarry that exhibited lithic scatters and tool assemblages. Bone was recovered as were fragments of a marine shell. A single hearth feature, possibly related to bone processing, was identified (Thompson and Pastor 1991). This site was recommended eligible for the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

Site 48LN919 was initially recorded in 1981 as part of the Amoco Production Company's Cultural Resources Inventory of Shute Creek Unit #11 project. A second survey recorded this site in 1983 during the Shute Creek project. The site was rerecorded in 1984 during the Cow Hollow #1 Well

Pad & Access Route Survey (IAC 84-49). The latest recording occurred in 1985 as part of the Exxon LaBarge Project Feed Gas Trunkline project (Wheeler et al. 1986; Miller and Bower 1986). The site was described as a large occupation site with lithic scatters, lithic tools, projectile points, manos, grinding slabs, ground stone, a ceramic sherd, bone and fire-cracked rock. Eroded hearth features, an intact buried hearth feature, and charcoal stains were also recorded. It was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory, due to the presence of intact buried deposits and rare artifact types (Wyoming SHPO 2004c).

2.1.3 Late Prehistoric Period (1,800 to 300 BP)

Development of varied subsistence-related technologies and an overall increase in site densities are characteristic of the Late Prehistoric Period. The Late Prehistoric Period ended with the beginning of Euroamerican influences on aboriginal peoples around 250 to 300 years BP. Late Prehistoric Period technological advancements included the adoption or development of the bow and arrow. Occurrences of intensive bison and antelope harvests are related to developments in hunting technologies. Ceramic technologies developed in the region during this period. An increase in the types of features found in habitation site contexts is associated with increased reliance on gathered floral seed resources. The change in subsistence strategy hints at the occurrence of increased population and increasingly complex social structures. Use of house pits appears also to have increased during this period (Thompson and Pastor 1995:53; Johnson and Pastor 2003:21). Researchers speculate that the Late Prehistoric Period population was the greatest in the prehistory of southwestern Wyoming (Johnson and Pastor 2003:20).

Late Prehistoric Period projectile point types decrease in size over time. Small points were best suited for arrow accuracy. Points were mostly fashioned from locally available stone, but obsidian from specific sources in the northern area of the region was also apparently quarried for use throughout the region (Thompson and Pastor 1995:53,55).

In southwestern Wyoming, the Late Prehistoric Period is divided into two phases: the Uinta phase (1,600 to 650 BP); and the Firehole phase (650 to 250 BP). The earliest datable Uinta phase projectile point is the Rose Spring point, also known as the Eastgate point (McKern 1996:11). This point precedes the side-notched and tri-notched projectile points found within later Firehole phase contexts. The Rose Spring point is commonly associated with a Fremont cultural influence, and the later tri-notched point is associated with a Shoshone cultural influence. Uinta phase points similar in appearance to Plains Woodland points, are commonly found in eastern Wyoming Basin contexts (Thompson and Pastor 1995:53, 55). Finely crafted points are found in Late Prehistoric Period sites, but many points of this period are non-diagnostic, rough flakes that have been reworked and crudely notched for hafting (Pastor 1998:19).

Area Late Prehistoric Period pottery is fashioned from local clays and tempers. Clay resources may have been extracted from deposits west of present-day Rock Springs, on the eastern face of the White Mountain scarp. Forms include undecorated, pointed bottom vessels. Forms and technologies may have been influenced by cultures from outside of the Great Basin (Thompson and Pastor 1995:53, 55). The earliest type of pottery is Black Buttes Gray, thought to be produced circa 1,350 to 700 years ago as a result of influences of the Fremont culture from southwest of the Kemmerer Planning Area. Boars Tusk and Skull Point Gray Ware were produced after 700 years ago. These wares may have attributes linked to Shoshonean and Crow ceramic technological traditions. Additionally, Puebloan pottery sherds are occasionally found in Late Prehistoric Period

site assemblages (Johnson and Pastor 2003:20). Basketry was also used, but little information is available concerning technologies or materials pertaining to this period (Thompson and Pastor 1995:53, 55).

Differences between Archaic Period subsistence strategies and those of the Late Prehistoric Period included an increased dependency upon seed-bearing floral resources, especially during times of dietary stress; greater numbers of hunting and gathering expeditions; and specified territorial exploitation. These patterns included seasonal hunting and gathering rounds that were dependent on the availability of faunal and floral resources. Large mammals and floral materials were hunted and gathered during the most opportune periods of the year. Late Prehistoric Period hunting and gathering strategies produced the greatest collective prehistoric population in southwestern Wyoming, but the population consisted of small groups (Thompson and Pastor 1995:53-4).

The South Slate Creek site (48LN2124) is a Late Prehistoric period occupation recorded in 1990. It includes a rockshelter feature with numerous, intact artifact-bearing stratigraphic levels. Items observed at the site include fire-cracked rock, burned bone, lithic debitage, and ceramics. A charcoal midden was recorded in the area outside the rockshelter. This site has the potential to provide information that would contribute to the cultural chronology of the region and has been recommended as eligible for the NRHP (Wyoming SHPO 2004c).

The Skull Point site (48LN317) is a Late Prehistoric Period short term occupation resource processing site. Bison, antelope, rodent and fish bones were recovered (McGuire 1977). Late Prehistoric Period ceramics and diagnostic point types were also recovered from this site (Wyoming SHPO 2004c).

The Austin Wash site (48UT390) was identified and tested in 1981 during the MAPCO Pipeline Project (Metcalf and Anderson 1982), in 1982 during the Frontier Pipeline Project, in 1990 in preparation for the Halliburton Geophysical Seismic Line 15 project, in 1999 for the Williams fiber-optic cable project, and in 1999 for the PPLE project. This Late Prehistoric Period, single-episode, antelope processing site features lithic tools, possible remnants of charcoal lenses and antelope bone. Excavation revealed the presence of postholes that may indicate the use of an antelope trap (Reese and Walker 1982; Schroedl 1985; Rood et al. 1992). Despite excavation and disturbance of half the recorded site, the Austin Wash site remains eligible for NRHP nomination because it holds research potential relating to the understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Oyster Ridge site (48UT35) was initially recorded in 1977 during a Rocky Mountain Energy project survey. In 1983 it was resurveyed in anticipation of Highway 189 construction. Collections occurred at the site in 1999 and an additional site survey was completed in preparation for the 2003 Kern River Expansion Project Cultural Inventory. Surveys have recovered Late Prehistoric Period lithic debitage and tools, bone, buried antelope processing features, and early 20th century mining excavations and debris (Zier 1982). This site has been recommended as eligible for the NRHP because of datable prehistoric materials and intact subsurface deposits that could contribute to the understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

UINTA PHASE (1,600 TO 650 BP)

The transition from Late Archaic Deadman Wash phase to the Late Prehistoric Uinta phase is recognized by the adoption of the bow and arrow, abandonment of dart technology, the emergence

of the Rose Springs projectile point, increased reliance on seed resources, an increase in the types of features found within habitation site contexts, the presence of ceramics, and the presence or influence of Fremont cultures (Thompson and Pastor 1995:53-54, 59). The early Uinta phase is poorly understood. It appears that Uinta phase cultures developed from Deadman Wash cultures, with some overlap. Uinta phase chronologies and durations are speculative. Few diagnostic Uinta phase artifact types have been recovered, and few sites with intact stratigraphic levels dating to the early portions of this period have been investigated. It has been postulated that bow and arrow technology came relatively early to the cultures in southwestern Wyoming. Bow and arrow use was concurrent with dart-based hunting technologies for some time, and the transition between the technologies is poorly understood (Wheeler 2002:80, 82, 85, 90-91).

Investigators' conclusions concerning the extent and impact of Fremont migration or influence upon Wyoming Basin cultures vary. Fremont culture was based in the area of present-day Utah. Classic Fremont culture featured semi-sedentary lifestyles and corn horticulture. Fremont cultural groups resided in dispersed farmsteads or small villages and constructed stone residential and storage structures. The Fremont culture is noted for high quality ceramic technology, distinctive rock art, and manufacture of clay figurines (Thompson and Pastor 1995:57).

Movements of Fremont groups into the Wyoming Basin took place periodically during the Uinta phase. Seasonal hunting and gathering expeditions from the Green River valley into southwestern Wyoming could have been an opportunity for cultural interplay. Fremont-like cultural traits are common within Uinta phase cultural contexts, but most of these traits are not exclusively Fremont and there is an apparent overlap between Fremont and Uinta phase traits. Fremont-like material culture found in Uinta phase assemblages include Rose Spring and Uinta side-notched points, bone gaming pieces, bone beads, stone beads, two-handed manos, large metates, fine ceramics, ceramic figurines, and rock art that features stylized depictions of trapezoidal anthropomorphic figures. These figures are commonly painted red and are often portrayed donning headdresses (Thompson and Pastor 1995:57-8; Pastor 1998:20). Full adoption of a Fremont culture was not practical in southwestern Wyoming because environmental conditions were not optimal for subsistence solely based on horticulture. The Green River Valley may have served as a highway for Fremont migration, trade, and idea exchange. The terraces of the Green River have supported Fremont-like farmsteads but only where soil conditions could support horticultural activities. Due to environmental conditions and short growing seasons, corn harvests would have been inconsistent and unreliable. No horticultural sites have been located north of the Flaming Gorge Reservoir in Sweetwater County (Thompson and Pastor 1995: 57-8).

An alternative viewpoint posited by McKibbin following work at the Pescadero site is that Fremont-like traits might reflect an adaptation, and that similarities of Uinta phase cultural characteristics to Fremont cultural traits may be wholly due to regionally exclusive but similar climactic changes, population stresses, and local subsistence levels. McKibbin questions whether Fremont populations were ever present in the region (McKibbin 1995:229-230).

In southwestern Wyoming, Uinta phase lithic technologies include seemingly unpatterned reduction of large cobbles and reduction of pebbles of obsidian, chert, and chalcedony (Wheeler 2002:87). Uinta phase material culture includes Rose Spring projectile points, Uinta side-notched points, small, triangular, corner-notched points, and corner-notched, triangular points similar to Plains Woodland forms recovered from sites located on Colorado's Front Range. Uinta phase material culture also includes locally crafted ceramics, bone beads, lignite beads, and evidence of fishing practices such as netsinkers, freshwater mussels and clams and small mammal bones. Sites feature groupings of

house pits occupied during cold weather and simpler windbreaks used in warmer months. Habitation sites also include multiple hearths, each dedicated to specific functions (Thompson and Pastor 1995:54-5).

Data from the Wardell site alludes to far ranging trade linkages. It appears that Uinta phase cultures interacted with at least the Shoshone, Northern Plains Avonlea, and Athapaskan cultures. Presence of an Olivella shell within the site assemblage of site 48SW1242 suggests that goods originating on the Pacific coast eventually made their way, probably via trade links, to southwestern Wyoming. The Pescadero site secured the assignment of Uinta phase dates. Its artifacts, features, and contexts were directly datable to around 2,000 BP (Thompson and Pastor 1995:54,55).

The end of the Uinta phase is marked by abandonment of Rose Spring and other corner-notched point styles and by the appearance of the Desert side-notched projectile point (Wheeler 2002:86). Johnson and Pastor speculate that the Uinta phase may have been a stressful period. A number of Uinta phase burials exhibited evidence of traumatic injury. Increased population levels, decreased settlement area, improved weapon technologies, resource stress, and the influx of ideas from surrounding cultural groups may have led to a culture of violence (Johnson and Pastor 2003:21).

Uinta Phase sites or components in the planning area include: the Gemma site, the Broken Home site, the Disney site, 48LN919, 48SW2302, 48LN1462, 48LN1697, 48LN1813, 48LN3040, 48SW3370, 48SW8842, 48UT845, and 48UT1846. The Gemma site (48UT122) was first recorded in 1978, but subsequent resurveys occurred in 1987 during the Mountain Fuel Resources Shute Creek Pipeline project, and in 1990 for the Northwest Pipeline A-16 Pipeline project. Site investigations recorded buried and surface site contexts with fire-cracked rock, lithic debitage, bone, egg shell, charcoal stains, and a hearth feature (Pastor et al. 1995). The hearth feature was dated to 1,480+/-80 BP. The Gemma site is believed to contain additional buried site components, and is recommended as eligible for the NRHP. The buried components may yield research information that could provide a better understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

The Broken Home site (48UT186) includes an Archaic Period house pit with associated artifacts and features (refer to section 2.1.2). In 1992, excavations performed around the house pit located early Late Prehistoric Period Uinta phase artifacts and features. Although the site has been excavated and disturbed it remains eligible for the NRHP due to its potential to provide information pertaining to the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

The Disney site (48LN2306) was a sizeable, multi-component occupation recorded during Kern River Pipeline R.O.W. Monitoring activities in 1991. This site has been interpreted to be a Middle Archaic, Pine Spring phase and Late Prehistoric, Uinta phase site with possible Paleoindian and Early Archaic components. A Historic Period component dating to the late 1800s was also recorded. Prehistoric resource processing and lithic tool workshop areas were observed at this site. Features included hearths, pits, and an upright stone slab of unexplained function. The historic artifact scatter was described as a trash midden. The Disney site remains eligible to the NRHP and is largely undisturbed (Wyoming SHPO 2004c).

Site 48LN919 was initially recorded in 1981 as part of the Amoco Production Company's Cultural Resources Inventory of Shute Creek Unit #11 project. A second survey recorded this site in 1983 during the Shute Creek project. The site was rerecorded in 1984 during the Cow Hollow #1 Well Pad & Access Route Survey (IAC 84-49). The latest recording occurred in 1985 as part of the

Exxon LaBarge Project Feed Gas Trunkline project (Miller and Bower 1986). The site was described as a large occupation site with lithic scatters, lithic tools, projectile points, manos, grinding slabs, ground stone, a ceramic sherd, bone and fire-cracked rock. Eroded hearth features, an intact buried hearth feature, and charcoal stains were also recorded. This site has been dated to the Late Prehistoric Period with Fremont cultural affiliations. It was recommended as eligible for the NRHP because it contains information that may be important to an understanding of southwestern Wyoming prehistory, due to the presence of intact buried deposits and rare artifact types (Wyoming SHPO 2004c).

Site 48SW2302 was first recorded in 1982 during the MAPCO project (Metcalf and Anderson 1982). A subsequent investigation occurred during 1998 in preparation for the Questar Gas Management Blacks Fork Plant to the Northwest Pipeline Facility pipeline. The site was described as a Late Prehistoric Period occupation site dating from 1,345 +/-45 years BP and 1,189 +/-95 years BP. The site also contained an historic component. It includes a lithic scatter, fire-cracked rock, and an assortment of stone tools. The site was recommended as eligible for the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

Site 48LN1462 was identified in 1984 during the 84-WWC-45K Exxon LaBarge Trunkline project (Miller and Bower 1986). The site was described as a lithic debitage, fire-cracked rock, and ceramic vessel sherd scatter. Buried intact cultural levels may exist on this site. It was recommended as eligible the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

Site 48LN1697 was initially recorded in 1979. This site was scattered with lithic debitage, ceramics, fire-cracked rock and eroding, semi-buried hearth features. The NRHP eligibility status of this site is unknown (Wyoming SHPO 2004c).

Site 48LN1813 was initially recorded in 1988 as part of a Sonics Exploration seismic project. The latest recording occurred in 2003 as part of the Westport Cow Hollow 208-22 well pad and access road. This site was recorded as an occupation site with lithic scatters, fire-cracked rock, lithic tools, projectile points, ground stone, and ceramic sherds. It has Archaic and Late Prehistoric Period components in surface contexts. This site exhibited a high probability for buried deposits and was recommended as eligible for the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

Site 48LN3040 was recorded in 1995 as part of the Marathon Oil, Farson Road #23-13 Well Location, Access Road and Pipeline project. This site was described as a quarry with a scattering of lithic debris, fire-cracked rock, ceramic sherds and historic debris. It was recommended as eligible for the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

Site 48SW3370 was initially recorded in 1981 during the Amoco Moxa Arch Plant powerline inventory. It was re-inventoried in 1990 as part of the Presidio pipeline project. The latest site analysis was performed in 1989 as part of the MA597 Northwest Pipeline System Expansion. The site has been described as Late Prehistoric occupation site with a fire-cracked rock feature, fire-cracked rock scatters, stone tools, and lithic scatters. A ceramic sherd was also recovered from the site. It was recommended as eligible for the NRHP because it contains data that may contribute to an understanding of the prehistory of southwestern Wyoming (Wyoming SHPO 2004c).

Site 48UT845 was recorded in 1983 as part of the Lateral to Cummings Federal 8-1 (83-WWC-20) project. This site was described as an occupation site with a ceramic sherd, bison bone, bifaces, and a lithic scatter. A single hearth feature was also observed. A historic component was also recorded with items that likely date to the 20th century. This site was recommended as eligible for the NRHP because information contained within buried site components may contribute to the understanding of southwestern Wyoming prehistoric and historic periods (Wyoming SHPO 2004c).

Site 48UT1846 was first recorded in 1990 as part of the Western Geophysical South Church Buttes 3-D Vibro Seis Prospect project. This occupation site included lithic scatters, fire-cracked rock scatter, ceramic sherds, and burned bone. Buried components may exist on this site. It was recommended as eligible for the NRHP because information contained within buried site components may contribute to the understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

FIREHOLE PHASE (650-250 BP)

The Firehole phase was identified by a decline in radiocarbon dates compared to the earlier phase. This decline has been linked to population slide, changes in subsistence strategy, or changes in environmental conditions (Thompson and Pastor 1995:59). There are large gaps in the Firehole phase database (Backer et al. 2001:13). Firehole phase material culture includes tri-notched, Desert Side-notched, and Triangular Cottonwood projectile points, steatite pipes and bowls, and two ceramic types that have technological origins in neighboring cultural regions. Ceramics include at least five vessel styles that include the Intermountain flowerpot form and various types of shouldered vessels. Tempers utilized to strengthen the ceramic matrix most commonly include sand, although rock, calcite, grog and mixed tempers were also utilized. A chronological order and dating sequence for Firehole phase ceramics has not been secured (Thompson and Pastor 1995: 59-60). Firehole phase occupation sites exhibit an increase in types of domestic architecture such as wickiups and tipi rings.

The Shoshone culture was present in the Wyoming Basin by the climax of the Firehole phase. Investigators remain unsure as to the processes and pace of migration of Shoshone to southwestern Wyoming. It is possible that the process took place over thousands of years and may have occurred primarily due to Holocene climate changes. The cultural changes that took place between the Uinta phase and Firehole phase were probably not due to an isolated period of Shoshone migration into the Wyoming Basin (Thompson and Pastor 1995:59).

Firehole Phase sites or components in the planning area include: 48LN123, 48SW2343, 48UT779, and 48UT1522. Site 48LN123 was first recorded in 1979 as part of the Stauffer Chemical Company's Whiskey Buttes Prairie Dog Lateral Project. A second recording occurred in 1991 as part of the NWP Lateral A-24 Pipeline project. This site was interpreted as an occupation site with buried components. Trenching revealed hearth features. One large feature may be a house pit feature. Additionally, fire-cracked rock, charcoal stains and lithic scatters were located in areas that were previously disturbed by pipeline construction. 48LN123 was recommended as eligible for the NRHP because information contained within buried site components may contribute to an understanding of southwestern Wyoming prehistory (Wyoming SHPO 2004c).

Site 48UT779 was first recorded in 1982 and 1983 as part of the Frontier Pipeline project (Schroedl 1985). The site was investigated again in 1987 in preparation for the AT&T fiber-optic cable project. The final investigation occurred in 1993 during the US West fiber optic cable project. This

site was described as a surface manifestation of an occupation site. It included fire-cracked rock, lithic scatters, and assorted tools. Initially it was recommended as eligible for the NRHP, but the later excavations were unable to relocate the site (Wyoming SHPO 2004c).

Site 48UT1522 was initially recorded in 1993 during the Kern River Pipeline project (Bruder and Rhodes 1993). A second survey occurred in 2001 during the 2003 Kern River Project Cultural Inventory. This occupation was described as a hearth feature with a surrounding lithic scatter, ground stone, projectile points, burned sandstone slabs, and fire-cracked rock. Late Historic Period artifacts at the site were associated with the Evanston to Cumberland Road. The Native American component of this site was dated to AD 1470 to AD 1955, though a single Archaic Period point was also recovered. The site was recommended as eligible for the NRHP (Wyoming SHPO 2004c).

The locations of selected Late Prehistoric Period sites are shown in Figure 2-3.

2.1.4 Protohistoric Period (AD 1700/1750 - Circa AD 1800)

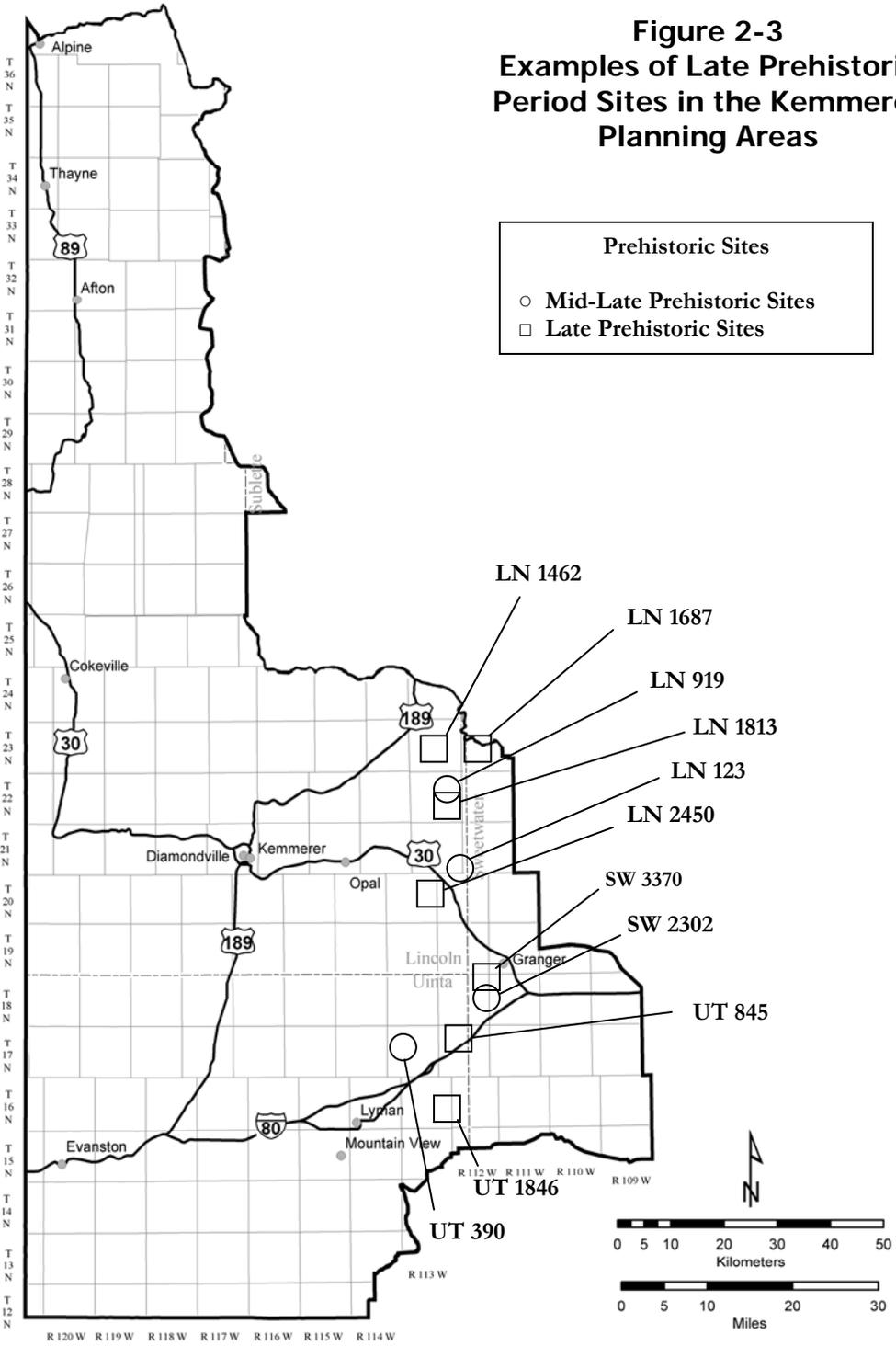
The Protohistoric Period began with the introduction and dispersal of Euroamerican material culture between AD 1700 and 1750 (Johnson and Pastor 2003:22). Trade goods initially arrived via aboriginal trade routes (Pastor 1998:20). The conclusion of the period is marked by the actual penetration of the region by Euroamerican populations associated with the Rocky Mountain fur trade (Johnson and Pastor 2003:22). Protohistoric sites included habitation sites such as rockshelters, caves, wood structures that utilized live trees and felled timbers, and skin tipis. Wood was also used to construct game animal corrals and traps at kill sites (Pastor 1998:20).

The transition period between the Late Prehistoric Period (Firehole phase) and the Protohistoric Period is unclear and controversial. Some researchers suggest that the earliest point of contact marks the chronological division, while others point to the introduction of Euroamerican trade goods into Late Prehistoric site assemblages as the chronological dividing point (Thompson and Pastor 1995:61-62). It is known that many aboriginal traditions persisted for some time into the Protohistoric Period (Pastor 1998: 20). Protohistoric population data are problematic: following the population boom that occurred during the Late Prehistoric, Protohistoric site component numbers decrease while researchers claim that populations increased following the mastery of extremely efficient, equestrian-based hunting and gathering (Johnson and Pastor 2003:20).

It appears that Late Prehistoric groups “seem to resolve” into recognized ethnic groups of the Great Basin sometime in the most recent portion of the Late Prehistoric Period (Hansen and Swenson 2002:14). A Shoshone majority inhabited the Late Prehistoric Period and Protohistoric Period landscape of southwestern Wyoming. Occasionally, Crow and Ute groups passed through the area (Thompson and Pastor 1995:62). Additionally, Comanche, Flathead, Arapahoe, Cheyenne, Sioux and Gros Ventre groups are reported to have utilized the region (Backer 2001:13).

Populations in the region obtained the horse by the early 1700s from southwestern Spanish settlements. The horse resulted in a dramatic alteration to regional aboriginal cultures. Equestrian utility and proficiency rapidly expanded the range of Shoshonean influence to the east. Equestrian mastery enabled increased efficiency in hunting of bison and other large mammals, which in turn caused rapid population increases and alterations in social structures (Thompson and Pastor 1995:62).

Figure 2-3
Examples of Late Prehistoric
Period Sites in the Kemmerer
Planning Areas



Site assemblages dating to the Protohistoric period include traditional aboriginal items, metal, glass, and native faunal materials. Metal projectile points produced for trade by Euroamericans were dispersed throughout the region. Native American sites that exhibit artifacts and art featuring horse motifs, metal artifacts, or any item of Euroamerican manufacture are from the Protohistoric Period.

Few Protohistoric sites have been investigated thoroughly in this region (Thompson and Pastor 1995:62). In the Kemmerer Planning Area, the Bridger Gap Burial site (48UT920) dates to this period. The Bridger Gap Burial was identified in 1983 during the WY-62-83 WHD Haystack Mine Project. It is an occupation site with a Protohistoric Period human burial, lithic scatter, stone tools, ground stone, and projectile points. This site was considered eligible for inclusion in the NRHP because it contains data that may contribute to the understanding of the prehistory of southwestern Wyoming (personal communication, Harrell 2004; Wyoming SHPO 2004c).

The Bridger Antelope Trap site (48UT1) was surveyed in 1967, 1968 and 1969 and documented in 1967 and 1973 as part of the Wyoming Recreation Commission Survey of Historic Sites, Markers & Monuments. Archeological investigation of the Bridger Antelope Trap was conducted by Dr. George Frison of the University of Wyoming in the late 1960s. At that time it was estimated that the trap was probably in use prior to 1850. The site provides evidence of a unique example of food procurement on the Northwestern Plains (Wyoming SHPO 2004d). Native Americans of the Late Prehistoric Period would drive a herd of antelope into the long entrance (wing) of the trap, constructed of juniper wood, and head them toward the trap at the base of a hill. This part of the trap was a circle, also constructed of juniper wood, around which the antelope were driven until they were exhausted and dispatched by the hunters. The Antelope Trap covers approximately 26 acres, with an arc-shaped wing or entrance about 0.25 mile long, extending to the northeast/southwest across the valley. The trap forms an extension of the wing and is about 700 feet in diameter. This site was listed in the NRHP in 1971 (Wyoming SHPO 2004c).

2.2 Historic Era (AD 1806 to Present)

The Historic Era begins with the first confirmed Euroamerican penetration into the general region that includes the Kemmerer Planning Area, and consequently the first written documentation of conditions and events in the region. Because extensive documentation is available, the cultural context of the Historic Era can be understood in terms of themes that are more specific than is possible for the Prehistoric Era. Historic Era themes for the Kemmerer Planning Area largely address Euroamerican activities, but Native Americans also continued to occupy and use portions of the area well into the Historic Era.

2.2.1 Native American Presence During the Historic Era

At the beginning of the Historic Era, the Kemmerer Planning Area was a part of a vast territory occupied primarily by a people who became known as the Eastern Shoshone Tribe and the closely related Northern Shoshone-Bannock Tribe. The area was also marginally occupied by the Ute Tribe. Raiding parties of the Arapahoe and Cheyenne tribes occasionally entered the area from the east.

The Shoshone are linguistically related to the Comanche, Utes, Paiutes, and various groups in California. They are generally understood to have expanded gradually from the southern Great Basin in California, but the time of their arrival in western Wyoming is not certain. According to one authority, Shoshone tradition has the tribe reaching the region by way of the upper Snake River

in Idaho sometime before AD 1500 (Trenholm and Carley 1964:vii). This geographic migration pattern is supported by recent archeological scholarship, but the same scholar postulates that ancestral Shoshone reached western Wyoming from 3,300 to 3,500 BP (Holmer 1994:186-187). Other authorities argue that the Shoshone were the indigenous culture of the region for the past 8,000 years, or that they did not occupy western Wyoming until the Historic Era (Swanson 1972; Butler 1981, 1983).

In prehistoric times, the Shoshone typically consisted of scattered families or small groups that subsisted by hunting a variety of large and small game and by gathering available plant resources. As the Shoshone moved from the Great Basin area onto the High Plains east of the Rocky Mountains, they became more dependent on hunting buffalo, and they adopted some of the lifeways of other Plains natives, including use of the skin lodge or tipi in replacement of structures with woven grass coverings. In the early 1700s, the Shoshone obtained horses, possibly through trade with the Comanche or Ute. Horses allowed increased mobility for buffalo hunting and warfare, but horses, and later guns, obtained by other tribes also allowed those tribes to invade Shoshone territory.

The Shoshone may have forayed as far north as the South Saskatchewan River in Canada, as far south as Mexico, and as far east as the Missouri River during hunting or war expeditions. At some time in the Late Prehistoric Era, the Shoshone may have been pushed from the Plains back into the Rocky Mountains by one or more enemies, possibly the Piegan division of the Blackfeet. At the end of the Prehistoric Era, the Shoshone occupied the Plains to the east of the Rockies in Wyoming. At that time the Kiowa occupied the area west of the Black Hills, and the Comanche occupied territory to the south of the Kiowa; these tribes appear to have had a friendly relationship with the Shoshone. By AD 1700 the Comanche had begun to migrate southward, finally ending up in Texas. The Kiowa, too, migrated southward to the area along the Platte River (Trenholm and Carley 1964:19).

The Kiowa and Comanche were replaced in the Black Hills and the eastern High Plains by the Staitan, the Cheyenne, and after about 1800 by the Teton Dakota or Sioux. The Shoshone also came into contact, in both hostile and friendly fashion, with the Crow, who moved westward from the Missouri River to occupy the southern tributaries of the Yellowstone River, principally the lower Bighorn, Tongue, and Powder Rivers. The Shoshone also came into contact and conflict with the Arapahoe, who were linguistically related to the Blackfeet and the Cheyenne. The Arapahoe also moved southward through the High Plains region in historic times, finally ending up in Colorado prior to the reservation era. In the early 1800s, the Arapahoe formed an alliance with the Cheyenne and later with the Dakota against their common enemies, including the Shoshone. In historic times, the Arapahoe were a thoroughly nomadic people who depended heavily on buffalo hunting (Trenholm and Carley 1964:19-22).

By the 1840s, the High Plains region was hotly contested among the Shoshone, the Crow, the Arapahoe, the western elements of the Cheyenne and Dakota, and occasional parties of Blackfeet from the north. In 1841, the Cheyenne and Dakota began open, wide-scale hostilities against Euroamericans traveling through the High Plains. At that time, the focus of activities of Eastern Shoshone apparently moved southward from the Wind River area to the Green River, and they became known to emigrants as the Green River Snake Indians. Movement of the Shoshone to the Green River may have been a result of pressure from other native groups, the advantages for trade and supply offered by Fort Bridger after 1843, or a combination of those factors. It is also possible that seasonal movement through the Kemmerer Planning Area was a traditional pattern. Shimkin (1947:247) described the annual movement of Eastern Shoshone bands under Chief Washakie in the 1860s:

All the bands would gather each spring in Wind River Valley under the general leadership of Washakie. They would cross the Wind River Mountains by following Trout Creek to Mosquito Park, then going to Washakie Pass. From there they would descend to the Big Sandy, crossing it near the Lombard Ferry. After this, they would go across Blacks Fork to Fort Bridger. In this neighborhood, more especially near the headwaters of the creeks, they would stay for the summer. Early in the fall, they would return to Wind River, and separate for the buffalo hunt.

The Eastern Shoshone apparently ranged at least as far west as the Bear River in the 1860s. Meadows at Myers' Crossing were reported to be a favorite camping ground for Washakie's band; Myers' Crossing was the place at which the Utah/Mormon Trail crossed Bear River. Eastern Shoshone were reported to have been routed by appearance of a band of Cheyenne at that place at an unknown date after 1860 (Stone 1924:178). Medicine Butte, a mountain about 8 miles north of Evanston, is reported to have had spiritual significance to the Shoshone. A stone pile at the summit of the mountain was popularly called "Fremont's Monument" under the assumption that men in the explorer's party erected the stone pile, but it is possible that the monument had aboriginal origins. The Shoshone continued to visit the area around Evanston into the 1870s (Stone 1924:61,178,207).

Some Eastern Shoshone apparently joined in depredations on Euroamerican wagon trains along the Oregon-California-Utah Trail in 1861, but the Eastern Shoshone generally were friendly and served as scouts and fighting forces for several U.S. Army expeditions against other tribes in the 1860s and 1870s. In July 1868, U.S. government representatives met with several tribes at Fort Bridger for the purpose of defining reservations, with the underlying purposes of removing Native Americans from contact with emigrants along trails and with the UPRR. The Eastern Shoshone agreed to relinquish 44,672,000 acres of their traditional occupation areas in Wyoming, Colorado, Utah, and Idaho in exchange for a 3,000,000-acre reservation centered on the Wind River Basin in Wyoming, to the north and east of the Kemmerer Planning Area (Stone 1924:79; Trenholm and Carley 1964:24).

The Eastern Shoshone were close relatives of the Northern Shoshone and Bannocks, who primarily inhabited an area from the Rocky Mountains of Wyoming and Montana on the east to the Snake River along the Oregon-Idaho border on the west. In the Historic Era, the Northern Shoshone and Bannocks intermarried extensively and shared winter camps. Together, these people were concentrated in two locations, at what became Fort Hall on the Snake River in southeastern Idaho (near current Pocatello) and in the Lemhi Valley farther north in Idaho. Their territory also extended as far south as the Bear River and the Uintah Mountains and as far northeast as the plains on the east side of the continental divide in Montana. In the fall, each of the groups gathered into large parties and cross the continental divide to hunt buffalo in the upper reaches of the Missouri River drainage. During the rest of the year, the Fort Hall group split into smaller groups for salmon fishing on the Snake River, to dig camas roots at Camas Prairie in Idaho, and to hunt deer and elk in southeastern Idaho and northern Utah. A reservation was established in 1867 at Fort Hall, Idaho for the Northern Shoshone and Bannocks (Molenaar et al. 2002:38-40).

The Ute are also thought to have spread eastward from the Great Basin in prehistoric times. At the beginning of the historic era in the region, the aboriginal land base of the Ute included at least 225,000 square miles in Colorado, Utah, New Mexico, and the southern edge of Wyoming. At least 13 bands may have existed in the early Historic Era, but band distinction apparently was somewhat fluid, with bands dissolving and reforming for particular purposes. Like band names of the Shoshone, Ute band names usually referred to a geographic place inhabited by a group or a major food used by that band. The identified bands that lived closest to the Kemmerer Planning Area in the early Historic Era were the Uintahs, who occupied territory from Utah Lake (south of the Great

Salt Lake) eastward through the Uinta Basin to the Tavaputs Plateau directly south of the Kemmerer Planning Area; and the Yamparika, who occupied territory along the Yampa and White River drainages in northern Colorado and southern Wyoming; and the Cumumba Band, who primarily occupied territory along the Weber River in Utah, just to the southwest of the Kemmerer Planning Area (Molenaar et al. 2002:52-53).

Historic contact between Ute and Euroamericans actually occurred more than 30 years before the generally recognized beginning of the Historic Era in Wyoming. In 1776, the Spanish explorer Escalante recorded meeting the Ute who were living around Utah Lake, which is about 80 miles southwest of the Kemmerer Planning Area. The Ute people lived in small family groups and subsisted by hunting and gathering in seasonal migrations to favored traditional locations. They lived in wickiups and (at the time of Escalante's visit) used dogs as pack animals. Family groups would come together at certain times of the year to engage in ceremonies, social activities, and communal hunting (Molenaar et al. 2002:53).

The Ute people typically subsisted by a combination of hunting of small and large game, and by gathering a variety of fruits and nuts. Pine or piñon nuts were a particularly important dietary staple, and yampa roots were often collected in areas of northern Utah and Colorado. Roots of the yampa, wild onion, wild carrot, and camas plants were dug up and roasted in a stone-lined pit. The Ute also used a variety of seeds, and they used yucca leaves, seeds, and blossoms for a number of purposes (Molenaar et al 2003:54).

The Ute obtained horses by the early 1700s, and at least some of them began traveling greater distances onto the plains for buffalo hunting, adopted long-pole tepees as habitations, and formed into larger groups for communal hunting. The mutual adoption of the horse by the Shoshone and the Ute inevitably brought the two tribes into more frequent contact. The Cumumba Band intermarried extensively with Northern Shoshone, and that band consequently became associated by Euroamericans with the Shoshone (Molenaar et al. 2002:53).

The Ute as a tribe had a mixed history of conflict and cooperation with Euroamericans prior to and into the reservation era. From the 1830s to the 1850s, they regularly demanded payment from Mexicans and Americans traveling through Ute territory. When Mormons settled near the Great Salt Lake and began colonizing outlying areas, they fairly often came into conflict with the Ute people. Intermittent open warfare between the Mormons and the Ute began in 1848 and culminated in the Black Hawk War that ended in 1868. The U.S. established reservations for the Ute in Utah and Colorado in the 1860s, but it was not until the 1890s that virtually all of the Ute were living on the reservations (Molenaar et al. 2002:56).

Other tribes also visited the Kemmerer Planning Area and surrounding areas, usually as war parties bent on harassing the Shoshone, trappers, or emigrant trains. In August 1812, a fur trapping party met a band of Crow on the Bear River, and this same band later robbed the trapping party of its horses on the Snake River to the north. Blackfeet attacked trapper Thomas Fitzpatrick in the upper Green River Valley, and they harassed trappers to the north of the Great Salt Lake in 1832 (Chittenden 1986:108). In 1843, Jesuit priest DeSmet traveled through the Kemmerer Planning Area in the company of a band of Nez Perce. In 1845, the military mapping expedition led by John C. Fremont fired a 12-pound howitzer to inspire terror in a band of hostile Arapahoe, who had followed the soldiers into the Bear River country after having raided Fort Bridger (Stone 1924:60). Evidence has not been found that any of these historic tribes actually occupied any locations within the Kemmerer Planning Area, other than temporary campsites.

2.2.2 Fur Trade, Exploration, and Frontier Military Actions (1810-1890)

The fur trade, exploration by Euroamericans, and the frontier activities of the U.S. Army were intertwined and interdependent in southwestern Wyoming, particularly in the 1840s and 1850s. All three of these historic themes were also associated with the history of emigration and the emigrant trails across the region. The earliest known exploration by Euroamericans in the relative vicinity of the Kemmerer Planning Area occurred in 1776, when a Spanish expedition, including Father Escalante, traveled from Santa Fe to Los Angeles. This expedition reached Utah Lake about 80 miles southwest of the Kemmerer Planning Area. A map printed in 1811 includes a notation indicating the information for inclusion of the lake came from a Mr. Lawrence who had traveled through the area in 1790 and 1791 en route from an unknown point to California (Chittenden 1986:II:782). However, neither of these sources provided information concerning the area within the Kemmerer Planning Area.

Euroamericans slowly became aware of southwestern Wyoming as a result of penetration of the area by American fur trappers after the Louisiana Purchase in 1804, despite the fact that none of the Kemmerer Planning Area was within the Louisiana Territory ceded by France. The Lewis and Clark Expedition of 1804-1806 confirmed that rich fur-bearing areas existed in the Missouri River drainage and the Rocky Mountains, and American trapping and trading parties from St. Louis were already ascending the Missouri River as the expedition descended the river in 1806. John Coulter left the Lewis and Clark expedition in August of 1806 to return to the Upper Missouri country to trap beaver, and in 1807 he again joined a trapping and trading party led by Manuel Lisa. From Lisa's trading post near the confluence of the Bighorn River and the Yellowstone River, Coulter traveled southwestward to the Wind River Valley and then across the Wind River Mountains to Pierre's Hole at the base of the Teton Range, which is to the north of the Kemmerer Planning Area. Coulter was very likely the first Euroamerican to see Jackson Hole and the sources of the Snake River. After a fight with Blackfeet and the departure of his Crow guides, Coulter returned to Fort Lisa by way of the area that later became Yellowstone National Park (Chittenden 1986:II:705-707).

In part because of the hostility of the Blackfeet, the American fur trade moved southward from the headwaters of the Missouri. In 1811, a party of trappers led by Wilson P. Hunt crossed overland from the Missouri River to Oregon by way of Wind River, the upper Green River Valley, the Hoback River, and the Snake River. Four men in the party trapped southward from the Snake River, probably along the Bear River and possibly to the Great Salt Lake. These men then ventured several hundred miles to the east and were robbed twice by Arapahoe. This party was quite possibly the first fur trading group to pass through the Kemmerer Planning Area. In September 1812, these men met others of the Hunt expedition on Bear River, and the combined group ascended the divide and followed the Salt River to the Snake River, where Crow warriors stole their horses. They eventually made their way back to the headwaters of the Green River, then followed trails to the Sweetwater and descended that stream to the North Platte River. Although they may or may not have crossed South Pass, they essentially were following the route that would become the Oregon Trail (Chittenden 1986:208-210).

The War of 1812 and a crippled national economy effectively closed down expansion of Euroamerican fur trapping and trading in the region until the early 1820s. In 1822, William Henry Ashley formed the Rocky Mountain Fur Company in St. Louis, and he advertised for 100 young men to ascend the upper Missouri River, where they would trap for a period of three years. Among the men who contracted with Ashley were James Bridger, Jedediah Smith, William Sublette, Andrew Henry, Etienne Provost, all of whom would be extremely prominent in the history of the West.

Andrew Henry erected a post at the mouth of the Bighorn River in Montana, and then he dispatched a large group of trappers to the southwest under the command of Provost. Fur trade historian Hiram Chittenden ascribes the beginning of extensive trapping in the Kemmerer Planning Area to this party:

It was during the autumn of 1823, and the following winter and spring that the rich beaver country of Green River valley, and possibly that of Great Salt Lake also, were invaded by the American traders for the first time since the ill-fated Astorians [Hunt party, 1811-1812] passed through them. The party dispatched by Henry to the southwest is believed to have been the first party of white men to have crossed South Pass. Tradition among the traders and trappers always ascribed the discovery to Provost ... The discovery was probably late in the fall of 1823 (Chittenden 1986:169).

The British Hudson Bay Company was also encroaching on the region from the north. In the spring of 1824, Jedediah Smith crossed from either the Green River Basin or the Bear River to the Snake River, where he found a small detached party of Hudson Bay trappers. Smith somehow relieved the British trappers of their pelts, but then he again traveled north and visited several Hudson Bay company posts. Information gathered by Smith was included in a report to Congress, which then began to be concerned about British intentions to hold the Oregon territory. The Hudson Bay Company continued to push south as far as the Great Salt Lake in subsequent years. The city of Ogden, Utah is named for Peter Skene Ogden, who was a Hudson Bay Company trapper (Chittenden 1986:210).

The success of the Provost's group in the mountains led Ashley to abandon both the Missouri River fur trade and the traditional method of operating from fixed forts. He then relied primarily on dispersed gangs of trappers, rather than trading with Native Americans, and he provisioned the trappers and collected the furs at a central meeting point or rendezvous each summer. In the fall and winter of 1824, Ashley himself took a stock of goods from Council Bluffs up the Platte and South Platte Rivers to the mountains and then overland to the Green River. After trying unsuccessfully to float down the Green River to the Gulf of Mexico (where the river does not go) in the spring of 1825, Ashley explored the area around and to the north of the Great Salt Lake. In the Cache Valley he found a party of Hudson Bay Company trappers, and he reportedly obtained a large number of pelts from them at little or no cost. The rendezvous of 1825 was held on Henry's Fork of the Green River, and Ashley returned to Missouri a wealthy man (Chittenden 1986:274). Thirteen rendezvous were held in Wyoming from 1825 to 1840, but only the 1825 and 1834 rendezvous were held within the Kemmerer Planning Area. The latter rendezvous was held at four different sites within 10 miles of each other, on the Hams Fork River/Creek about the confluence with the Blacks Fork River.

Ashley's success inevitably invited competition. In 1832 the American Fur Company, which had hitherto operated primarily east of the Mississippi River, began active competition both along the Missouri drainage and in the western mountains. The rendezvous of that year included a contingent from the American Fur Company and a number of other free traders and representatives of smaller trading and trapping firms. In 1833, Captain Benjamin Bonneville joined the competition and built a short-lived post on the Green River, about five miles above the mouth of Horse Creek (well outside the Kemmerer Planning Area). Bonneville spent the winter of 1834 to 1835 on the Bear River and in the spring of 1835 he took his furs and outfit by way of Hams Fork to the Green River. Bonneville was a failure in the fur trapping and trading business, but he was also an explorer and geographer, and his maps substantially furthered general knowledge of the region (Chittenden 1986:422-424).

By 1836 the attendance at the annual rendezvous had reached perhaps 300 Euroamerican trappers and traders and hundreds of Native Americans. Already by that date, the major trapping companies operating in the Central Rockies were making barely enough to pay their employees, and the fur resource base was declining rapidly. In 1833, John Jacob Astor, the founder of the American Fur Company, took note of the rising use of silk in hats in Europe, which he supposed would supplant felt hats made from beaver pelts. In June 1833 Astor sold both divisions of the American Fur Company operating in the West to employees and partners. The company lived on and competed for furs in the Mountain West until 1843 (Chittenden 1986:364-365).

Jim Bridger was one of the partners of the company when it ended. The demise of the company coincided with the first major immigration over the Oregon Trail. In part to capture the growing trade of emigrants on the trail, Bridger established a small trading post on the Blacks Fork River about 1 mile north of the present town of Fort Bridger in 1842. This fort was apparently abandoned by 1843; by 1844 Bridger and partner Louis Vasquez had built a larger post about a mile to the south, also adjacent to the Blacks Fork River. Fort Bridger had a blacksmith shop for repair of equipment, and worn out animals could be replaced with fresh stock (which Bridger had likely bought at a bargain price and rejuvenated on the lush grass of the valley). Fort Bridger also became a magnet for trade with the Native American tribes of the region, particularly the Shoshone and the Ute (Haines 1981:269-273; Clayton 1848:17). Fort Bridger was the only point for obtaining provisions and information for hundreds of miles, and therefore, it also became an important base for military exploring and mapping parties in the 1840s and 1850s. It was second in importance to Fort Laramie as a re-supply and outfitting point for travelers between the Missouri River and the Pacific Coast (Wyoming SHPO 2004e).

Congress created the Corps of Topographical Engineers in 1838 to perform a variety of functions, including exploring and mapping the uncharted areas of the West. In 1842, Captain John C. Fremont led a well-equipped party to survey the trails and other possible routes across the central Rocky Mountains. In that year, Fremont crossed South Pass and explored the area west of the Wind River Range (Rosenberg 1989:2). In 1843 Fremont again crossed South Pass and traveled on to Fort Hall on the Snake River by way of portions of the Oregon Trail. From Green River, the exploring party basically followed the future route of the Oregon Short Line Railroad northwestward from current Granger, up the valley of Hams Fork, over the divide and down Twin Creek to Bear River, and then northward along the river and the main Oregon Trail out of the Kemmerer Planning Area (Stone 1924:60; Rosenberg 1989:2).

The 1843 Fremont expedition was apparently erroneously memorialized in a pile of stones on the summit of Medicine Butte that local residents commonly called "Fremont's Monument." Medicine Butte is about 8 miles north of Evanston, and it is unlikely that the Fremont party approached within many miles of the landmark. As mentioned above, the Fremont party had the first recorded skirmish between U.S. military and Native Americans in the region, when the soldiers fired a light howitzer to impress a party of Arapahoe. Fremont also explored a portion of what would become the Overland Trail to the east of the Kemmerer Planning Area (Stone 1924:61; Rosenberg 1989:2).

Between the years of 1849 and 1858 expeditions led by Captain Howard Stansbury and by Simpson were sent out to explore the country through which the Oregon Trail passed. Their reports contained the first detailed information concerning the geology of the country (Stone 1924:61). Perhaps as important, in 1849 Jim Bridger guided Stansbury on a route eastward from Fort Bridger, rather than northeastward over South Pass. This route shortened the distance from Fort Laramie to Fort Bridger by at least 60 miles. In 1856, Lieutenant F. T. Bryan surveyed a military wagon road

along the route followed by Stansbury and he also mapped a suitable wagon route through the Laramie Range (see historic trails discussion in section 2.2.3). This route became the Overland Trail; later most of the route in Wyoming became the Lincoln Highway and then Interstate 80 (Rosenberg 1989:3).

Representatives of the Mormon Church appropriated Fort Bridger from Jim Bridger in 1855. In 1857 an army under Colonel Albert Sidney Johnson was sent by President Buchanan to enforce U.S. laws and to install Alfred Cumming as the Governor of Utah Territory, a position then occupied by Brigham Young. Captain Van Fleet led a small advance force to establish Camp Winfield near the junction of the Hams Fork and the Blacks Fork. Eight companies of infantry arrived at the camp in early October, and the main force under Colonel Johnson arrived in late November (Stone 1924:69-70).

By that time, however, the Mormons had effected a double hardship on the troops. On October 3, 1857, Brigham Young's agent at Fort Bridger burned all of the buildings of both Fort Bridger and Fort Supply (a Mormon settlement post), and withdrew all of the colonists to Utah. On the same day, 43 Mormon colonists set out from Fort Bridger to capture and destroy the government supply train, which they found at Simpson Hollow, about two miles below the mouth of Big Sandy Creek. The Mormons took as many of the supplies as possible and then burned the remaining wagons and goods. Johnson established Camp Scott about two miles downstream on the Blacks Fork from the ruins of Fort Bridger, and the troops were forced to contend with meager supplies until June of 1858 (Stone 1924:69-70).

In June 1858, the Army took possession of the ruins of Fort Bridger and established a permanent military post there. With the advent of the Civil War, regular Army troops were removed from the post for duty in Kansas in December 1861, and post trader William A. Carter organized a volunteer company of 60 local residents to protect the post. Native American attacks on the Pony Express and overland stage operations began in 1861, coincidentally with the construction of the transcontinental telegraph. Even the usually peaceful Shoshone joined in the attacks, and in March 1862, Native Americans made repeated attacks on the stage and telegraph stations between the Platte and Bear Rivers. Stage passengers were not molested, but many were left in standing coaches from which the horses were taken. A cook at one of the stations on the Sweetwater was killed, and three stagecoach drivers who resisted demands of the Native Americans were wounded, but there were no other casualties. General Conner sent three hundred men of the "Mormon Battalion" from Salt Lake to guard the line (Stone 1924:79).

In December 1862, the post was again occupied by a company of army "volunteers" who were mostly deserters or captured soldiers from the Confederate Army who chose to serve in the Union Army on the frontier rather than remain in prison. From 1866 to 1878, Fort Bridger was again manned by regular army troops. Following an uprising by the Ute in northwestern Colorado in August and September 1879, the fort was again occupied by regular army troops until 1890. To support a military force at the new Fort Thornburg in Colorado, a road was constructed between that post and Fort Bridger. Troops from the post maintained general order in the region, protected stagecoach and freight travel on the overland trails, provided support for surveyors and builders of the UPRR, and protected the transcontinental telegraph line that followed the railroad through the region (Stone 1924:71).

Though strategically located, Fort Bridger never served as the base for any major military expeditions. After the military permanently abandoned Fort Bridger in 1890, it remained in private

hands until 1928 when it was purchased by the State of Wyoming. The site of Fort Bridger (48UT29) was listed on the NRHP in 1969. Today, Fort Bridger is a landmark representing fur trading, overland, westward migration transportation, communication, U.S. Government, military and Indian interaction, and western frontier ranching and settlement.

2.2.3 Overland Immigration

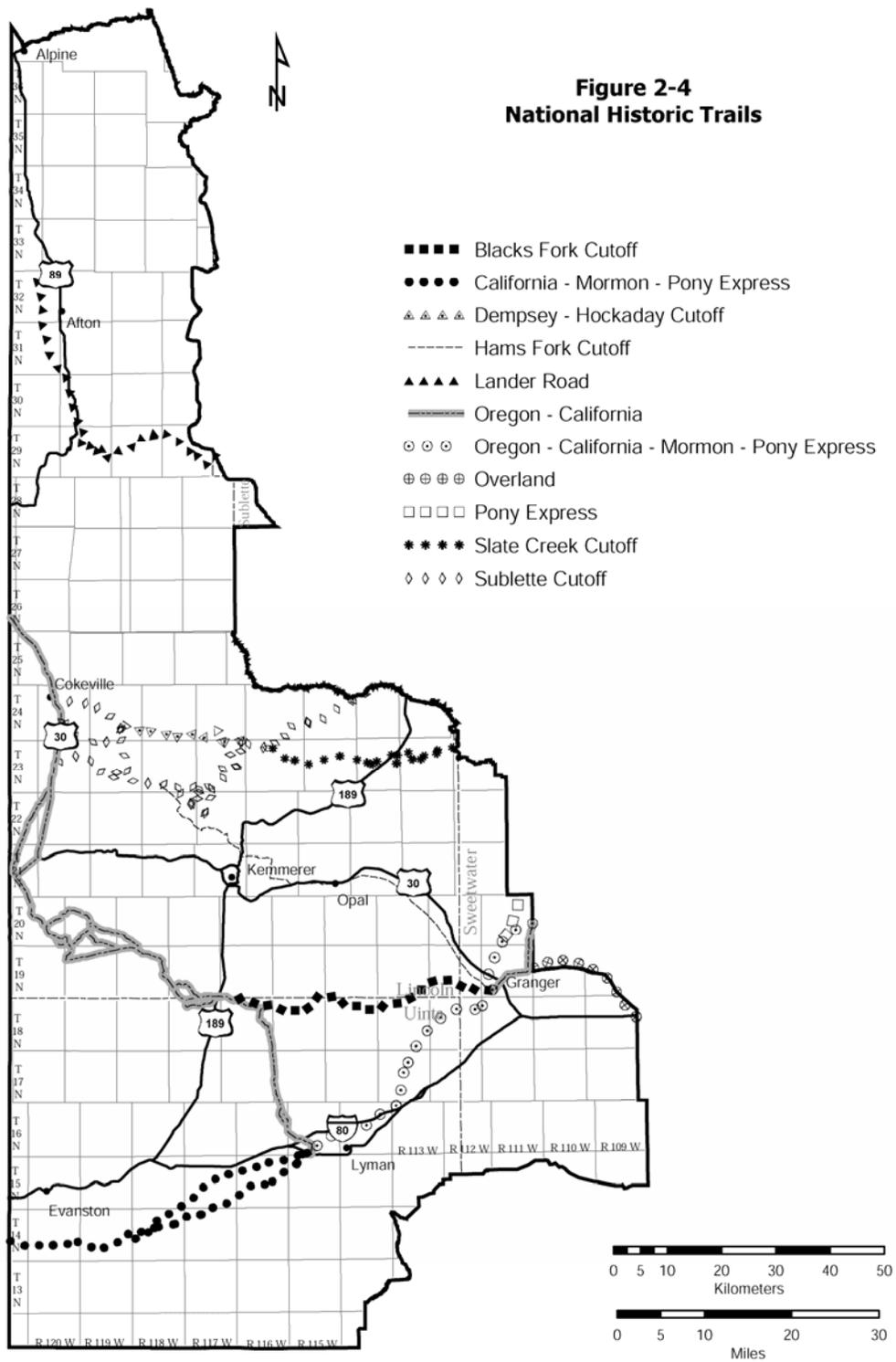
Some 350,000 emigrants followed the Oregon Trail westward during the great 19th century migration to Oregon, California, and Utah (Figure 2-4). Farmers bound for the fertile valleys of Oregon, Mormons seeking religious freedom bound for the Salt Lake Valley, and adventurers bound for the California gold mines all ventured across the plains and mountains by way of the Oregon Trail. This route was also used for the first transcontinental telegraph, the federal Overland Mail service, and the Pony Express. From Independence, Missouri, to western Oregon, a wagon traveled 1,932 miles. For a journey of such magnitude, emigrants needed dependable sources of water and grass and a passable grade through the mountains. The Oregon Trail, crossing the mountains at the gentle South Pass in Wyoming, met these requirements and became the pathway of commerce, settlement, and development. All travelers followed the same “Emigrant Road” with only minor variations as far as Fort Bridger in southwestern Wyoming. Here the Mormon Trail diverged to reach the Salt Lake Valley in Utah. The California-bound travelers branched off from the main route near Fort Hall, Idaho. Although “Oregon Trail” is the name most commonly used today, emigrants who followed it simply called it “the road” (Natrona County Historic Preservation and Rosenberg Historical Consultants 2001:1).

2.2.3.1 Origins of the Oregon Trail

The route of the Oregon Trail was originally blazed by fur trappers and traders who were following the well-worn trails of the Native Americans. To exploit the rich fur country of the Pacific Northwest, the American Fur Company established a trading headquarters in 1810 at Astoria near the mouth of the Columbia River. The company’s first overland expedition to Astoria in 1811 was led by Wilson Price Hunt, who crossed the Wind River Range by way of Union Pass and the Rocky Mountains via Teton Pass, then followed the Snake and Columbia rivers to Astoria. A return expedition in 1812 was led by Robert Stuart, who followed the Columbia and Snake rivers and crossed Teton Pass, then crossed the Wind River Mountains over South Pass, and continued east on the Sweetwater and North Platte rivers. Stuart not only discovered South Pass, but traveled west to east along a large portion of what would become the Oregon Trail (Larson 1977:18-19; Rollins, ed. 1935:181; Scott 1958:9).

South Pass remained in obscurity until 1824 when it was rediscovered by an Ashley party of trappers led by Jedediah Smith, who was looking for a westward crossing of the Wind River Range in winter. Thereafter, the pass was commonly used by mountain men and became well-known to the general public. In 1830, David E. Jackson and William L. Sublette led a caravan of wagons loaded with trade goods along the eastern portion of the Oregon Trail as far as South Pass. In 1832, Captain Benjamin L.E. Bonneville took the first wagons across South Pass into the Green River Basin.

These expeditions proved the ability of the Oregon Trail to accommodate wagon traffic. In the coming decades, hundreds of thousands of emigrant wagons would follow their wagon tracks westward across South Pass and on to the Pacific (Hurlburt 1930:2021; Scott 1958:26).



In 1836, Marcus and Narcissa Whitman and their party were sent to the Oregon country by the American Board of Foreign Missions to establish a Christian mission among the Native Americans. Leaving the annual trappers' rendezvous (held that year near the confluence of the Green River and Horse Creek near present-day Pinedale), the Whitman party traveled by wagon on a laborious route to Fort Hall. The wagon was converted into a cart which was finally abandoned at Fort Boise. In 1840, the Newell party took three wagons from Fort Hall to the Willamette Valley, reaching the Whitman mission that fall. The following year, Newell proceeded down the Columbia River with his wagon and is credited with the first wagon trip via the Oregon Trail to reach the Pacific (Haines 1981:4).

In 1841, the Bidwell-Bartleson Party left Westport Landing guided by Thomas Fitzpatrick bound for Oregon. It is generally credited as "the first emigrant party" to traverse the entire length of the Oregon Trail, although they abandoned their wagons at Fort Hall, Idaho, and completed the journey with pack animals. The Elijah White party followed in 1842 and likewise left its wagons at Fort Hall. In that same year, John C. Fremont traveled a large portion of the emigrant road and made the first accurate map and guidebook for travelers.

In 1843, the first large party of Oregon-bound emigrants, consisting of 135 men, 130 women, and 610 children, rolled westward from Independence, Missouri. Accompanying the train was Marcus Whitman, the Presbyterian missionary who had established a mission in the Oregon country in 1836. Many historians use the year 1843 to mark the real beginning of the great westward migration (Haines 1981:4; Mattes 1969:13).

In 1846, Oregon became a territory of the U.S., mainly because large numbers of American emigrants had traveled there by land and sea. They greatly outnumbered British citizens there and tipped the balance for American acquisition.

2.2.3.2 Early Years on the Oregon Trail: Mormon Migration to Zion

Aubrey Haines, noted Oregon trail historian, has compiled the following statistics for emigrants utilizing the Oregon Trail prior to the California Gold Rush of 1849 (Haines 1981:4):

<i>Year</i>	<i>No. of Emigrants</i>
1841	32
1842	197
1843	875
1844	1750
1845	3000
1846	1500
1847	4500
1848	1000

The Mormon migration led by Brigham Young began in 1847, starting at Winter Quarters near Omaha, Nebraska, and generally followed or paralleled the Oregon Trail to Fort Bridger near the Green River in southwestern Wyoming. Mormon parties then used the Hastings Cutoff to reach the "land of Zion" in the Salt Lake Valley of Utah. Mormons continued to use this route until the completion of the transcontinental railroad in 1869. They established mileposts, toll ferry crossings, and camping spots, and also improved the road when necessary. In 1848, *The Latter Day Saints'*

Emigrants Guide was published by the Mormons and was one of the earliest trail guides. Some 70,000 Mormon converts from England, Scandinavia, and the U.S. made the long overland journey to the Salt Lake Valley on the Oregon Trail (National Park Service 1981:10).

By using handcarts instead of wagons, Mormons traveled much more cheaply and faster than could wagon parties. For under \$45, one could sail from Liverpool to America, then proceed across the country by train or stage and finally on foot with handcarts. A handcart was a two-wheeled wooden wagon, similar in design to an oversize wheelbarrow and could carry 400 to 500 pounds of provisions. In October 1856, two groups of handcart companies (the Willie Company and the Martin Company) were caught in a severe blizzard while crossing Wyoming. The storm hit the Willie Company on October 19 along the upper Sweetwater River west of Devil's Gate. The Martin Company, about three days behind the Willie Company, was just crossing the North Platte River at Bessemer Bend. Because the companies had left for Utah so late in the season, the Mormon leaders in Salt Lake City closely monitored their progress.

When news of the storm and the plight of the companies reached Salt Lake City, rescue parties were dispatched immediately. By the time the rescuers reached the Willie Company camped on Rock Creek east of South Pass, 67 of the 500 emigrants had already died or were soon to die from hypothermia and frostbite. Because the Martin Company had forded the North Platte in freezing temperatures, it suffered even more severely. On October 28, the Martin Company camped at Rock Avenue where it was met by Joseph Young, an advance scout of the rescue party. Young reported that 56 people had died in the nine days and 8 miles since leaving Bessemer Bend. By the time the main rescue party reached the Martin Company on the Sweetwater River west of Devil's Gate, up to 150 people had lost their lives. Although more than 200 out of 1,076 emigrants died during the handcart disaster in late 1856, the Mormons continued to use handcarts until 1860. By then almost 3,000 emigrants had used this method of travel to the Mormon settlements. Their seed colony gradually spread in all directions, including east into southwestern Wyoming, and they maintained several ferry sites on the Green River crossings on the Oregon Trail (Idaho State Historical Society 1981:129-130; Wyoming Recreation Commission 1976:82-83).

2.2.3.3 California Gold Rush

More than 12,000 emigrants had traveled the Oregon trail before 1849, bound for Oregon or Utah. However, in 1849, the discovery of gold lured emigrants to California. The number of emigrants suddenly swelled to as many as 30,000 in 1849 and 55,000 in 1850. Travelers bound for California diverged from the Oregon Trail when they reached the Hudspeth Cutoff from Soda Springs or the Raft River southwest of Fort Hall. This huge influx of "Argonauts" was initially composed chiefly of males bound for the gold fields. Later the number of women and children increased as California's warm climate and agricultural virtues were more fully recognized. In 1850, cholera epidemics swept the emigrants, thus diminishing the number of travelers the following season. By 1852 the numbers rose once again with some 50,000 emigrants on the trail. By that year, the gold rush traffic had ebbed, and most of the emigration headed for Oregon, as it did again in 1853 (Mattes 1969:16-17, 30-31; Stewart 1962:231-232, 296).

2.2.3.4 Military Protection

The character of the westward migration on the Oregon Trail gradually changed through its decades of use. In 1849, a detachment of the U.S. Army known as the Mounted Riflemen established a number of military posts along the Oregon Trail to protect emigrants. In Wyoming, the old fur

trading post at Fort Laramie, established in 1834 as Fort William, was converted into a military post. According to the guidebooks, Fort Laramie was 664 miles west of St. Joseph, about one-third of the way to Sacramento. It represented the end of the more easily traveled plains. It was also the last outpost of civilization and provided a good “turning back” place for the emigrant.

The regiment of Mounted Riflemen under Colonel William Loring continued westward along the Oregon Trail but bypassed Fort Bridger by taking the Sublette Cutoff. Captain Howard Stansbury of the Corps of Topographical Engineers passed through the fort in August 1849 en route to survey the Salt Lake Valley and recommended the location as ideal for a military post. Fort Bridger had been constructed by Jim Bridger and Louis Vasquez in 1842 and 1843 as a trading post. In 1853, the post was seized by the Mormons and occupied until the Mormon War of 1857, when the Mormons abandoned and burned the post (see Hams Fork Cutoff, below). In 1858, the remnants of the fort became a U.S. military installation that remained in service until 1890. Between Fort Laramie and Fort Bridger, emigrants had two major supply points along the Oregon Trail in present-day Wyoming as well as additional protection from patrolling soldiers.

2.2.3.5 Conflicts with Native Americans

Emigrant-Native American relations were inconsistent throughout the migration period. Hostile acts and violent confrontations, although they did exist, have been overemphasized in trail history. During the early migration period in the 1840s, attacks were few, and there are many recorded instances of Native Americans helping the emigrants at treacherous river fords, giving directions, conducting peaceful trading, and providing food. It does not appear that the native population immediately recognized any threat from the small numbers of westward-bound emigrants. Chief Washakie and his Shoshone Tribe were particularly well known for their kindness and assistance to emigrant parties (Unruh 1979:156-162).

The swelling of the emigration numbers during the California Gold Rush may have marked the real beginning of ill feeling and open hostile acts. The large number of emigrants disturbed game herd movements upon which the Native American depended. Livestock overgrazed the range, and travelers cut all available wood within the trail corridor. As emigrant numbers increased, the odds of confrontations steadily increased. Paying tributes to cross tribal lands was a common practice that was highly resented by emigrants. The cavalier attitude of some of the emigrants toward the Native Americans and incidents of begging and thievery on the Native Americans' part exacerbated the problem (Unruh 1979:163-170). The Fort Laramie Treaty of 1851 represented a belated stop-gap measure to avoid violence. The terms of the treaty paid the participating tribes an annuity of \$50,000 in goods. In return, the tribes recognized the right of the U.S. to establish roads and posts in their territories. Rough tribal boundaries were established to prevent fighting among the tribes (Larson 1978:14-15).

The most dangerous portion of the Oregon Trail, contrary to popular myth, was not on the plains but in the region west of South Pass. Native Americans attacked emigrants along the Snake River in Idaho and the Applegate Trail in northern California and southern Oregon. However, estimates of casualties compiled by John Unruh for the period between 1840 and 1860 show that the Native Americans actually suffered heavier losses than the emigrants. A total of 362 emigrants were killed by Native Americans during that 20-year period. Large emigrant trains were seldom attacked, the most casualties resulting from individuals straying from the main group while hunting or exploring. An emigrant was much more likely to die from disease or being run over by a wagon, from accidental shooting, from being trampled in stampedes, or drowning while fording rivers. Asian

cholera, rampant in the cities, followed emigrants along the trail; in 1850 alone, about 5,000 of 55,000 died of cholera (Idaho Historical Society 1981: 111; Unruh 1979:185).

By the 1860s, the conflicts between the Native Americas and emigrants had worsened and open warfare erupted on the Plains. Ben Holladay moved his stage line south to the Overland Trail in order to avoid Native American attacks, but his new route was also raided. The most sustained period of attacks occurred in 1865, when the Sioux and Cheyenne retaliated for the Sand Creek Massacre in Colorado. At the Battle of Platte Bridge on July 26, 1865, Lieutenant Casper Collins and four of his men were killed while attempting to rescue a besieged military supply train. That train was subsequently attacked on the same day and all men were killed except three of the five men who had been sent ahead. The following year Fort Caspar was established at the Platte River Bridge to protect emigrant travel, and the transcontinental telegraph line was moved south to the Overland Trail due to constant Native American destruction of the line (Idaho State Historical Society 1981:156).

2.2.3.6 Serving Other Needs

The Oregon Trail was also used as a major freight route to supply the growing Mormon settlements in Utah. As early as 1849, Ben Holladay had begun serious freighting on the Oregon Trail by taking 50 freight wagons to Salt Lake City and subsequently to California. During the Mormon War of 1857, Russell, Majors, and Waddell conducted a large freighting operation to supply the U.S. military expedition. The Mormons also developed their own freight lines after 1850 (Idaho State Historical Society 1981:137).

In 1850, the federal government began contract mail service to the growing western settlements via the Oregon Trail. The contractors had mixed success due to harsh weather and Native American problems. In 1858, John M. Hockaday was awarded the mail contract for the central route over the Oregon Trail. In 1859, he sold out to Russell, Majors, and Waddell, who established the famous but short-lived Pony Express. Initiated on April 3, 1860, chiefly as publicity for a central federal mail route to California, mail was carried by relay riders from St. Joseph to Sacramento in 10 days via the Oregon Trail in Wyoming. However, a transcontinental telegraph system was under construction at the same time, also utilizing the Oregon Trail corridor. Edward Creighton was in charge of construction from Omaha to Salt Lake City. The entire telegraph system was constructed in just over four months and forced the abandonment of the Pony Express on October 24, 1861 (Idaho State Historical Society 1981:145; Ficke and Headley 1979:1; Thompson 1947:361).

In 1862, Ben Holladay received the one million dollar federal mail contract by forcing the Central Overland California and Pike's Peak Express Company (Russell, Majors, and Waddell) to sell out to him for \$100,000 to settle outstanding debts. Holladay established regular stage stops all along the Oregon Trail in present-day Wyoming, using most of the existing Pony Express and stage stations. However, he soon moved his line southward to the Overland Trail in an attempt to avoid Native American harassment (Hafen 1926:213-227; Root and Connelley 1901:47).

2.2.3.7 End of the Trail Migration

Moderate use of the Oregon Trail continued throughout the 1850s and 1860s. There was a dramatic drop after the California Gold Rush subsided, but the Colorado Gold Rush created a peak year in 1859 with 30,000 emigrants using the trail. Traffic subsided during the Civil War, but gradually increased to 25,000 in 1865 and 1866 (Mattes 1969:23).

Trail historians generally use the year 1869 to mark the end of the traditional covered wagon migration as well as the pre-settlement period throughout the Oregon Trail corridor. With the completion of the Transcontinental Railroad in that year and the beginning of the settlement of the intervening territories, the character of western emigration changed. However, wagon travel did continue by those emigrants who could not afford rail or stage transportation, and those traveling shorter distances between or within territories (Haines 1981:5; Mattes 1969:23; Stewart 1962:319-320).

2.2.3.8 Bear River Divide Segment of the Oregon-California Trail

Euroamerican interest in the Bear River Divide country of southwestern Wyoming dates back to the 1820s, when mountain men discovered the wealth of beaver pelts and blazed the first trails. Within a few decades, emigrant wagons followed the routes pioneered by the mountain men. The general Bear River Divide portion of the trail is considered the primary route of the Oregon Trail as it approaches the Utah state line between Fort Bridger in Wyoming and Fort Hall in Idaho (Gardner et al 1987:2.2; National Park Service 1981: Appendix III:227). The Divide is located on a ridge system that was relatively well watered and had several streams flowing from springs and seeps throughout the area, providing good forage for stock. The qualities of abundant water and forage were cause for comment by several 19th-century diarists (Gardner et al. 1987: 1.2)

Unlike the steep ridges and valleys of the Sublette Cutoff to the north, the Bear River Divide did not present the emigrants with severe obstacles, although some recorded the western descent as a “most difficult route” (Gardner et al. 1987:1.5). Ascending the divide from the east by one of three routes, emigrants followed relatively level valleys; the westward descent offered two variations, both of which were steeper, but it only required locking the wagon wheels rather than lowering them by ropes to reach the Bear River Valley. Emigrants generally followed Little Muddy Creek westward to the mouth of Chicken Creek, which the trail followed to the top of the Divide. Variations included Road Hollow, Little Muddy, Divide Segment, North Bridger Creek, and South Bridger Creek (Gardner et al. 1987:1.5).

After stocking up on supplies at Fort Bridger, all emigrants bound for Oregon took this primary route of the trail (which included the Bear River Divide); those bound for California could choose this northerly route or the more southerly one, which branched southwest from Fort Bridger and was taken by the Mormons bound for Salt Lake City. At least some of the California gold rush travelers of 1849 and the early 1850s would have utilized the Bear River Divide.

One of the earliest visitors to the Bear River Divide area may have been the Catholic missionary Father Pierre Jean de Smet, who traveled there in the company of Flathead Native Americans in 1841. Father de Smet described reaching “Bear river, which flows through a wide and beautiful valley, surrounded by lofty mountains and often intersected by inaccessible rocks” (Gardner et al. 1987:2.4). De Smet traveled 10 days to cover the distance between the Green and Bear rivers, indicating that he was following what would become the primary route of the Oregon Trail rather than any of the later-used cutoffs. Those taking the Sublette Cutoff covered the same distance in six to seven days; furthermore no cutoffs were in use in 1841. The Sublette Cutoff to the north was not tried until 1844 (Gardner et al. 1987:2.4).

Another explorer to experience the Bear River Divide in the earliest days of the Westward Migration was John Charles Fremont, who visited the area in 1843: “We crossed a ridge near a grove of low cedar, and descended upon the heads of Hams [Blacks] Fork, called Muddy [Little Muddy Creek],

where we made our midday halt” (Gardner et al. 1987:2.5). Fremont described the geography and geology of the area in some detail. His narrative indicated that although the Migration was just beginning, stretches of trail had already experienced heavy use: “...we encamped about dark at a place where the springs again began to make their appearance (on the west side of the Divide), but where our animals fared badly; the stock of emigrants having razed the grass as completely as if we were again in the midst of the buffalo” (Gardner et al. 1987:2.5-2.6). Gardner et al. (1987) include many entries by diarists describing the various alternates of the Bear River Divide area. The observations include detailed descriptions of the geography as well as estimated distances traveled each day.

The first map showing the Bear River Divide resulted from Fremont’s 1843 expedition and was compiled in 1846 by Fremont’s assistant, Charles Preuss (Gardner et al. 1987:2:28). It depicted a single trail crossing the Divide and did not include any variations. The trail was shown following Muddy Fork to the head of the creek; Fremont’s journal stated that they followed the “northern fork of the stream toward its head.” (Gardner et al. 1987:2:28) As more and more emigrants headed west, guide books began describing the trail and its variations in more detail. However, few of the early maps showed the specific routes of the Bear River Divide. By the 1870s, more detailed maps were available. Good physical remnants still exist along segments of the Bear River Divide trail variations.

Several trail variations or major cutoffs were used to the west of South Pass. The following section discusses known cutoffs within the Kemmerer Planning Area.

2.2.3.9 Lander Cutoff

The Lander Cutoff was one of the last east-west emigrant trails to be established. Its construction resulted from a series of new roads and improvements to old routes made under the Pacific Wagon Road program in the late 1850s. This program sought to speed mail delivery to the West Coast and provide safer and easier roads for emigrants (Branch 1930:175-176). What became the Lander Cutoff was actually the central division of a wagon road stretching from Fort Kearny, Nebraska to Honey Lake, California. The road followed the existing Oregon Trail as far as South Pass, but due to myriad cutoffs west of the pass, there was some question concerning which route to improve in the area (Jackson 1964:195-196).

Frederick West Lander, appointed chief engineer for the road, sent surveying teams into the region in the summer of 1857 to examine the various cutoff routes. Lander also traveled an estimated 3,000 miles on horseback and blazed a more northerly alternative to the existing shortcuts. This route avoided the long desert crossing and alkaline water and afforded better forage and wood than the existing routes. The new road angled northwest along the base of the Wind River Range from South Pass, then bore westerly across the New Fork River and Green River, followed South Piney Creek, and crossed the Wyoming Range via Thompson Pass and the Salt Range via Wagner Pass. It then turned north through the Star Valley, and continued westward to Fort Hall in Idaho.

May 1858 found Lander approaching Fort Thompson, a temporary fort built as winter quarters the preceding fall along the Popo Agie River near present-day Lander. He arrived at South Pass by mid-June and constructed a blockhouse for storing tools and provisions. The previous year’s equipment was obtained at Fort Thompson. Lander hired Mormon laborers as well as skilled lumbermen and bridge builders from the State of Maine to help construct the road. Construction went smoothly at the rate of fifteen miles per day across the Green River Basin, until the expedition began ascending

South Piney Creek into the Wyoming Range. This rugged canyon and points beyond necessitated rock removal and extensive timber cutting. With the help of 47 Mormons, Lander was able to complete this difficult mountainous portion and arrived at Smiths Fork of the Bear River by August (Jackson 1964:198-199; U.S. Congress, House 1859:48). After crossing the mountains, Lander followed the Star Valley for 21 miles. He brought supplies from the rear to Piney Fort, a blockhouse built by B.F. Burche near the head of South Piney Canyon (U.S. Congress, House 1859:49).

When completed, the Lander Cutoff was 345.34 miles long and connected Gilbert Station (Burnt Ranch) at South Pass to City Rocks, a point west of Fort Hall near the present Idaho-Utah border. Lander's expedition had completed a monumental construction operation in only one field season. Lander spent that winter writing and publishing his *Emigrant's Guide* to be used for the 1859 season (Branch 1930:183; U.S. Congress, House 1859:49-51, 62). In anticipation of the 1859 season, Lander stationed an old mountaineer, Charles H. Miller, at South Pass to observe the weather during the winter and direct the travelers onto the new road. However, Miller was shot down in a gun fight in early March, and a Mr. Gilbert took his place (Jackson 1964:209). Lander warned emigrants what to expect in the introduction to his guide:

Gilbert's station, at the South Pass, (last crossing of the Sweetwater River,) is the point at which you had better leave the old road for fear of getting lost among the different camp trails. Gilbert will direct you.

You must remember that this new road has been recently graded, and is not yet trodden down; and, which with the exception of grass, water, wood, shortened distance, no tolls, fewer hard pulls and descents, and avoiding heavily loaded trains as the old road, and not until recently has a large emigration has passed over it.

All stock drivers should take it at once. All parties whose stock is in bad order should take it, and I believe the emigration should take it, and will be much better satisfied with it, even the first season, then [sic] with the old road (U.S. Congress, House 1859:58).

Lander returned to the field for a third season, seeking new routes to California for fast mail delivery and improving his new road. Upon arriving at South Pass, he found that not everyone was pleased with his new route. The traders who had been making a good living from the emigrant traffic on the old routes were infuriated by his new road, and he suspected that they had been responsible for Miller's death in March. They posted themselves on the Pass and became a general nuisance, attempting to discourage travel on Lander's new route. Fist fights broke out, and the scene must have been disconcerting to the westbound emigrant, already weary from months of travel. Nevertheless, Lander left a soldier at Gilbert's trading post to distribute his guidebook. He also left a blacksmith at the post for the winter to help the emigrants and convince them of the advantages of the Lander Cut-off (Jackson 1964:213; Lander 1861:3).

Lander boasted that his new road was better watered than the old routes, but this attribute proved a hazard at Green River crossing where two wagons were swept away by the swift current and one man drowned. The emigrants were busy locating a new fording place when Lander arrived on the scene. The crossing of the Green River at this northern point was not as deep or wide, but Lander had not reckoned on swift currents and shifting sand bars. He requested an additional \$30,000 from the federal government to build a permanent bridge at this point, and stated that the crossing of the New Fork River was also dangerous (Branch 1930:186; Jackson 1964: 213; U.S. Congress, House 1861:3-4).

In an effort to promote travel on his new road, Lander gathered some enlightening statistics about westbound emigrants, providing one of the few accurate sources of the migration in later years. Lander estimated that 13,000 emigrants used the Lander Cutoff during the 1859 season, and he obtained 9,000 signatures for his petitions praising the route. About the 1859 migration, Lander concluded:

...three out of every four immigrants were headed for California, only one for Oregon. The previous residence of most had been Illinois, Iowa, and Wisconsin; though many also came from Missouri, Minnesota, Michigan, Ohio, and Indiana. A train of ten wagons was large, but a few with nineteen wagons and one with twenty-seven passed by. The average group was composed of nine immigrants, young and old. Exceptionally large herds of stock were driven west over the new road. Quite often a drover had several hundred head, and some controlled as many as eight hundred to a thousand (Jackson 1964:214; U.S. Congress, House 1861:1-27).

Government funding was never provided to build a suitable bridge at the Green River crossing or to improve the ford at the New Fork River. The impending Civil War diverted federal attention from this and other western road-building projects. Lander resigned his superintendency, joined the Union Army, and died from his wounds on March 2, 1862 (Branch 1930:187).

The Lander Cutoff was a late addition to the Oregon Trail system. The California gold rush had passed, and the bulk of the Oregon migration was on the wane as evidenced by Lander's petitions. The continuing Mormon migration was necessarily diverted southwesterly at the "Parting of the Ways," about 20 miles west-southwest of the South Pass, passing instead through Fort Bridger. Lander estimated that 13,000 emigrants used his route in 1859; and 10,000 in 1860. By comparison, the total migration on the Oregon-California Trail system in 1859 has been estimated at 19,000 to 30,000 and 10,000 to 15,000 emigrants in 1860. Traffic increased in 1859 due to the Colorado gold rush, although westbound travelers would have diverged southward to Colorado before reaching the Lander Cutoff. The migration on the Oregon Trail in 1865 and 1866 was estimated at 25,000 each year, indicating increased travel with the close of the Civil War (Mattes 1969:23; Unruh 1979:120).

Lander's figures indicate impressive usage, in spite of the fact that the river crossings were never improved and that the Sublette Cutoff and the Bridger Route of the Oregon Trail (northwest of Fort Bridger) had the advantages of years of usage and a tradition of proven travel. It is impossible to measure the influence of that tradition or the discouraging advice of the disgruntled traders at South Pass on the emigrants' choice of route.

It is a popular misconception that all overland wagon emigration abruptly ceased with the completion of the transcontinental railroad in 1869. As late as 1889, Messrs. Vible and Broderson decided to locate their store on the New Fork River close to the Lander Cutoff to take advantage of the emigrant traffic. Mary Hurlburt Scott related numerous accounts of wagon travel over the Sublette Cutoff and the Lander Cutoff in the 1880s, 1890s, and well into the 20th century, with the last recorded sighting of a westbound emigrant train in 1912 on the Lander Cutoff. In 1888, L.H. Hennick and Mr. and Mrs. Mott traveled eastward on the Lander Cutoff from Idaho. The Motts settled on the Green River where the Lander Cutoff made its crossing. Mr. Mott set up a ferry and a store to take advantage of the trail traffic (Scott 1950:56-59).

Today, visitors can still find remnants of the old Lander Cutoff trail ruts, swales, and gravesites, especially in the Bridger-Teton National Forest. Cleared roadways with rock berms still exist on the more pristine portions (accessible only on foot) between the La Barge Guard Station and the old

Smiths Fork Guard Station (Rose 1986). Several emigrant graves have been marked and fenced by the Forest Service along the gravel access road paralleling South Piney Creek. Throughout most of Sublette County, the Lander Cut-off is still evident as a dim set of ruts. Upon entering the Bridger-Teton National Forest in the Wyoming Range, it parallels or is covered by a modern gravel road. However, the country through which it passes is sparsely populated, and much if it still retains the physical character experienced by 19th century emigrants crossing in wagons.

2.2.3.10 Sublette Cutoff

Emigrants traveling the Oregon Trail could choose one of three major routes to cross western Wyoming. At South Pass, the Lander Cutoff (see above) diverged from the main trail, heading northwest then west across today's southern Sublette and Lincoln counties, joining the main trail in eastern Utah. Emigrants following the main trail encountered the "Parting of the Ways," where they could choose to continue southwest to Fort Bridger, then turn northwest toward Utah. The third option was the Sublette Cutoff, which headed due west, providing a shorter alternative between the aforementioned two routes.

Historians generally concur that Caleb Greenwood led the first wagons (the Stephens-Townsend-Murphy party) across the route in 1844, although inscriptions at Names Hill, located along the Cutoff, indicate that it was probably used by the early fur trappers in the 1820s and 1830s. It was most heavily used from 1849 to the mid 1850s during the California Gold Rush. At one time it became the main variation of the Oregon Trail west of South Pass. The Sublette Cutoff was later eclipsed by other routes to the south and gradually fell into disuse except for local and regional traffic in the late 19th and early 20th centuries (Stewart 1962: 298). The Sublette or Greenwood Cutoff was not an easy route for the emigrants and their cumbersome wagons. It began with a waterless stretch estimated at 35 to 53 miles by various guidebooks and journals. Many complained that the desert was much longer than the guidebooks listed. Modern maps confirm a distance of about 50 miles. The reason for the discrepancy in distances reported by early travelers was probably due to the fact that emigrants could choose various detours along the way. For example, west of Big Sandy travelers could detour to the north to Sublette Springs for water, 6 miles out of the way. Emigrants usually traveled this stretch at night to make it easier on the livestock (Gardner 1983:16; Rosenberg 1987:10).

The Sublette Cutoff diverged from the main Oregon Trail at the "Parting of the Ways" and crossed the Little Sandy Creek and Big Sandy River, the latter at the southern end of today's Big Sandy Reservoir. This was the beginning of the waterless stretch between the Big Sandy to the Green River and was considered the most treacherous portion of the trail. Emigrant James A. Pritchard described this segment in his 1849 diary:

The general appearance of the face of the country lying between Big Sandy and Green River is level [sic], slightly undulated, no timber, but plenty of wild sage, and in places the grass is very good. The road is very firm and until you get within 15 miles of Green River, is very fine and easy to travel. From there on to the river the country is cut up very much by deep ravines (Morgan 1960a:95).

The trail paralleled the present Sweetwater-Sublette county line on the Sweetwater side, then turned southwest and descended to the various ferry crossings on the Green River south of LaBarge. Some emigrant parties used this shortcut in 1845, 1846, and 1847, pausing to commemorate their passage by chiseling their signatures on rocks at Names Hill and Holden Hill. By 1848, the industrious

Mormons had established ferries on the Green River, indicating sufficient traffic to make this venture worthwhile (Morgan 1960a:52).

The first years of the California gold rush were the high mark for emigrant use of the Sublette Cutoff. In 1849, an estimated 65 percent of the travelers used this route, and by 1850, an estimated nine of every 11 teams chose the Sublette Cutoff (Ware 1932:26; Morgan 1960b:200). Among the diaries still intact from 1849, 78 mention using the Sublette Cutoff, 39 via Salt Lake, and two via the route via Fort Bridger north to Fort Hall (Gardner 1983:14; Morgan 1960b:30). Several new shortcuts discovered in the 1850s avoided the Sublette's long waterless crossing and soon reduced traffic on its eastern portion. The Kinney Cutoff, the Baker and Davis Road, and the Mormon Road on the east side of the Green River, and the Slate Creek Cutoff on both sides of the Green River, all shortened the dry stretch (Jensen 1975:70-79).

Although the peak of the westward migration occurred between the mid-1840s and the mid-1850s, the need continued for improved transportation for the emigrants still to come and for improved mail delivery. In 1857, Congress authorized the construction of a number of wagon roads across the western territories. The project was placed under the Department of the Interior, and Albert H. Campbell was appointed General Superintendent of the Pacific Wagon Roads (Branch 1930:176). Campbell's 1859 report to Congress entitled *Pacific Wagon Roads* remains the single best source of information about the history of the cutoffs in this area.

The main Oregon Trail was divided into three main segments for this project, beginning on the east at Fort Kearney and ending on the west at Honey Lake Valley on the eastern boundary of California. The middle segment began on the east at Independence Rock, then crossed South Pass, the Green River Basin, and the Bear River Mountains to City Rocks in Idaho, encompassing the current Study Area (Jackson 1964:175-176). Frederick West Lander was appointed chief engineer of the Fort Kearney, South Pass, and Honey Lake Wagon Road in 1857. He was charged with finding the most "practicable" route for a wagon road in this section and sent several parties of surveyors into the region west of south pass that summer. Assistant Engineer John F. Mallowney was directed by Lander to survey and examine all existing emigrant routes. Mallowney disapproved of improving the Sublette Cutoff due to its long desert crossing, unless water wells could be dug at regular intervals (U.S. Congress, House 1859:55).

An assistant to Mallowney, B.F. Ficklin, reported on the southerly shortcuts of the Sublette Cutoff. Extracts of his reports are included in Campbell's report to Congress and constitute the best known source of information concerning these trails. A map of the region with all the trail variations was drawn by W.H. Wagner to accompany the report to Congress. This overview uses the nomenclature originated by Ficklin and Wagner to designate the various shortcuts. Ficklin's 1857 report described the various routes, recorded mileages, and counted the number of emigrant wagons on each route that season (U.S. Congress, House 1859:55-56):

The Sublet [sic] Road. This, the northernmost of the old immigrant roads, crossed the desert a distance of fifty-two miles, and has a side line to the Desert spring; water of the Desert spring slightly impregnated with sulphur and alkali; the spring is thirty-two miles west from the Big Sandy. To Crow Creek, by the main Sublet [sic] Road, one hundred and seven miles; by the spring route, one hundred and twelve miles. One hundred and fifty wagons had crossed at Sublett's [sic] ferry. No account kept of loose stock.

Ficklin considered the year 1857 to be a "very small emigration," but the figures show that most emigrants were using the southern shortcuts of the Sublette Cutoff, most notably the Baker and

Davis Road. He concluded that the new shortcuts carried over five times as many emigrants as the main Sublette Route (U.S. Congress, Senate 1858-59: 55-56). Ficklin's report also contained useful descriptions of the Green River ferries:

The different ferries at Green River are what are called rope ferries. The boats are badly and roughly constructed. They are built of pine timber, and are not over thirty feet long, making it necessary to pull wagons into and out of the boats by hand. This is a tedious job. The cattle are forded or in high water swam over, attended with risk both to cattle and drivers. The priced charged for ferrying varies from three to six dollars per wagon, depending on the stage of water. The Kinney and Mormon ferries are owned by the Mormons, and are in Utah Territory (U.S. Congress, House 1859:56).

After crossing the Green River, the emigrants began the second leg of their journey on the Sublette Cutoff. The trail headed in a southwesterly direction over Holden Hill and followed Fontenelle Creek, then southwestward over Slate Creek Ridge, where it converged with the more southerly Slate Creek Trail. The emigrants could then choose the more northerly Dempsey-Hockaday Cutoff or continue on the main Sublette Cutoff, which crossed Hams Fork, then crossed over a series of steep ridges before descending into the Bear River Valley, where it joined the Fort Bridger to Fort Hall Road. These numerous ridges between the Green and Bear rivers posed many problems for the emigrants and their wagons. Many wagons were lost due to the roughness of the terrain. In all, the Sublette Cutoff from its beginning at the "Parting of the Ways" to the Bear River extended over one hundred miles (Gardner 1983:16).

2.2.3.11 Dempsey-Hockaday Trail

The Dempsey-Hockaday Trail was a "shortcut" on the Sublette Cutoff and is located in Lincoln County about 18 miles northwest of Kemmerer. It was first described by F.W. Lander in his Preliminary Report to the Secretary of the Interior in 1857, a report concerning Pacific wagon roads to be built or improved by the federal government. Lander stated in his report:

Mr. John Hockaday, an experienced mountaineer, discovered in 1854 a cut-off route across the Bear River mountains, over which he attempted to turn the emigration, and he erected a bridge for the purpose of aiding the adoption of the line.

For light trains this route is decidedly preferable to the old traveled road, and may be so improved as to serve the important purpose of dividing the travel and preventing the present great loss of stock for want of grass (U.S. Congress, Senate 1858-59:31).

Lander also referred to the route as "Hockaday's Cut-off" and estimated the cost of road and bridge improvements in his report, referring to the "Hockaday and Dempsey bridge." Lander depicted the trail on his preliminary map of the Central division (1857-58) and called it the "Dempsey and Hockaday's Road." Only 16.7 miles long, the Dempsey-Hockaday Trail crossed Commissary Ridge, the Hams Fork Plateau, and Dempsey Ridge, with the Hams Fork of the Green River intervening. It rejoined the Sublette Cutoff at the crest of Dempsey Ridge. Commissary Ridge, formerly known as Absaroka Ridge, represents the southern continuation of the Wyoming Range. This range and the Salt River Range (paralleling it to the west) were collectively known as the Bear Mountains or Bear River Mountains by early emigrants.

John Hockaday was an experienced mountaineer and government surveyor. In the spring of 1858, Hockaday and a Mr. Liggett received the overland mail contract from Independence, Missouri, to

Salt Lake City, but utilized the Oregon Trail through Fort Bridger and the Mormon Trail to Salt Lake City. Robert D. Dempsey was of Irish descent and born in 1832. He married a Native American woman, had five daughters, and was living in Green River County, Utah Territory (near Fort Bridger), according to the 1860 census. Dempsey made his living as a trapper and fur trader, as well as trading with the military and the emigrants. Local tradition claims that he once resided on the east side of Commissary Ridge. Modern maps show his name on Dempsey Creek and Dempsey Ridge in the immediate area. In addition, the Dempsey-Hockaday Road was called “The Dempsey Trail” on General Land Office survey plats of the area..

The usefulness of the Dempsey-Hockaday Trail as a portion of the overland migration was thrown into doubt when Lander dispatched J.F. Muldowney to reconnoiter the Sublette Cutoff and associated Dempsey-Hockaday Trail in the summer of 1857. Muldowney was not impressed with the routes, primarily because the Sublette Cutoff contained a long waterless stretch across the Big Sandy Desert. He recommended that the only practical way for emigrants to use the route was to sink a series of water wells across it. Otherwise, he believed that Lander’s new northern route was far superior (U.S. Congress, Senate 1858-59:55). However, a large number of emigrants had already used the Sublette Cutoff prior to 1857, especially during the California gold rush and prior to the advent of the Dempsey-Hockaday Trail.

It is impossible to document the number of emigrants who used the Dempsey-Hockaday Trail during this later period of overland migration. Since it was a shortcut of the Sublette Cutoff, it warranted scant attention in diaries and journals. Accounts by local settlers and sheepherders verify emigrant usage into the twentieth century. Louis Jones of Kemmerer, Wyoming, herded sheep on the Hams Fork Plateau and stated: “In 1901 and 1902 I saw covered wagon trains which took all day to pass. This occurred many days all summer long” (Scott 1950:57).

2.2.3.12 Slate Creek Cutoff

The Slate Creek Cutoff or Trail was one of the southerly shortcuts of the Sublette Cutoff of the Oregon Trail located between the Big Sandy River on the east and the Green River on the west. Many 19th century emigrants chose these shortcuts to avoid the almost 50-mile desert crossing of the Sublette Cutoff to the north. The Kinney Cutoff, the Baker and Davis Road, and the Mormon Road, shortcuts on the east side of the Green River, converged into one trail on the west side of the river. The Slate Creek Cutoff followed the Slate Creek drainages, then joined the main Sublette Cutoff on Slate Creek Ridge north of Kemmerer. The Slate Creek Cutoff was utilized mostly between 1852 and 1859, when the Lander Cutoff diverted much of the emigrant traffic. Emigrant diaries from the 1852 and 1853 seasons invariably used the general term Kinney Cutoff to describe all the southern shortcuts located in the triangle of land formed by the confluence of the Big Sandy and Green rivers. The names “Baker and Davis Road” and the “Mormon Road” (trails on the east side of the Green River) appear to have come into use after 1853.

The Slate Creek Cutoff diverged from Big Timber Station on the main Oregon Trail. Emigrants followed the more northerly Baker and Davis Road or the more southerly trails variously known as the East Bank Kinney (Slate Creek Cutoff) or the Mormon Road (West Bank Kinney). These trails crossed rolling sagebrush country, reaching the Green River and crossing via one of several ferries. The various alternates generally converged at the Green River into the main Slate Creek Cutoff, which turned south to the Slate Creek drainage, then followed westward. Emigrants generally made camp about 10 miles west of the Green River; it was another 10 miles to Emigrant Springs, then 3

miles to the junction of the Slate Creek Cutoff and the main Sublette Cutoff. These distances are generally agreed upon by trail diaries.

General Land Office plats dated 1892 clearly show trails labeled “Road from Slate Creek Ferry to Opal” running east-west on both the north and south sides of Slate Creek. By the early 1890s, more than 30 years had passed since the Slate Creek Cutoff was used as an emigrant route, and the area was being settled by ranchers dependent on Opal, the nearest railhead to the south (Rosenberg 1990a:2-13; 1995: 7-8).

2.2.3.13 Hams Fork Cutoff

This poorly documented cutoff was a well-watered route that diverged from the main Oregon Trail at Granger and followed the Hams Fork upstream in a northwesterly direction to the Sublette Cutoff, north of today’s Kemmerer, bypassing Fort Bridger. Today most of this route is paralleled by U.S. Route 30 between Granger and Kemmerer. The Oregon Shortline Railroad was built along this same route in 1881 and 1882. Portions of the Hams Fork Cutoff are depicted on 1874 General Land Office plats. It is also associated with the Trappers’ Rendezvous of 1834, which was held along Hams Fork, and the Mormon War of 1857-58. Several government expeditions of the U.S. Geological Survey also used portions of the route in the 1870s.

According to historian Fred Gowans, four different locations were used during the month-long trappers’ rendezvous on Hams Fork. The American Fur Company was located at the junction of Hams Fork and Blacks Fork, just outside present-day Granger. Farther upstream, the Rocky Mountain Fur Company and Nathaniel Wyeth established headquarters. To provide fresh forage for the stock, Wyeth was forced to move 10 miles upstream, and the Rocky Mountain Fur Company moved 3 miles upstream. The locations of the camps involved in the 1834 rendezvous are only generally known from journal and diary accounts. Individual campsites with livestock constantly shifted, as large numbers of trappers and Nez Perce, Bannock, and Shoshone came and went for nearly a month (Gowans 1975:123). When Nathaniel Wyeth and his party left the trappers’ rendezvous on the Hams Fork in 1834, they continued up Hams Fork to its intersection with the Sublette Cutoff. It is likely they were following a trail already well-known and used by the mountain men of that era (Scott 1950:51-52).

In 1857, President Buchanan ordered Alfred Cummings to replace Brigham Young as governor of Utah Territory and sent a large military “escort” of 2,000 troops to accompany him. The feeling in Washington was that the Mormons had become an empire that must be brought back under direct U.S. government jurisdiction (Furniss 1960:62-94). General William S. Harney was appointed commander, but he was delayed in joining the expedition, and Colonel E.B. Alexander became the senior officer in command (Furniss 1960:95-99). Alexander arrived at Hams Fork on September 28 and set up Camp Winfield (16 miles up Hams Fork from Granger) while awaiting the remaining detachments. The exact location of this encampment has not been determined, but it was situated somewhere between Moxa and Nutria. Brigham Young sent word to Alexander that his troops would not be permitted to enter Utah Territory, but that they could winter over on Blacks Fork, provided they turned in their weapons and left in the spring. Alexander would not comply, and the so-called “Mormon War” began.

The Mormons evacuated Fort Bridger and Fort Supply, and burned them to the ground. They started a campaign of guerrilla warfare, harassing the invading army, burning the grass and forage along its path of march, and burning its supply trains on the Green River, literally under Alexander’s

nose (Furniss 1960:108-111; Gowans 1975:95, 103). With the loss of the supply trains, Alexander decided to continue northwest along Hams Fork, cross the Bear River Divide, and enter the Mormon country from the north. Alexander wasted ten days of good weather waiting in camp for the new commander, Sidney Johnson, who had replaced General Harney. The army finally began to move on October 11, 1857. The 7-mile long caravan moved northwest along the Hams Fork Cutoff, before encountering bad roads and a snowstorm on October 17. During this march, the column was harassed by the Mormon cavalry and progressed only 35 miles. Alexander decided to turn back, but delayed in camp for eight days. He finally received orders from Johnson directing him to return to Camp Winfield (Furniss 1960:113-114).

By November 6, Johnson had finally joined the army, and the entire expedition proceeded on a painful march to Fort Bridger. Three thousand head of cattle perished as a result of Alexander's futile march up and down Hams Fork and the trip to Fort Bridger. The army wintered over along Blacks Fork at Camp Scott, in the vicinity of Fort Bridger. The following summer, a compromise peace agreement was reached, whereby a non-Mormon governor was installed, federal authority was asserted, and Camp Floyd was established 40 miles southwest of Salt Lake (Gowans 1975:106, 113).

The Hayden Survey sent several field parties into the Hams Fork region from 1868 to 1872 and again in 1877. In 1872, Edward D. Cope traveled up the Green River to Fontenelle Creek, which he followed upstream to Oyster Ridge. He crossed the ridge and descended to Hams Fork, which he followed downstream to the Union Pacific tracks at Granger (Cope 1873:545). On June 24, 1877, Dr. A.C. Peale of the Hayden Survey left on a reconnaissance from Granger and traveled up the Hams Fork, following it north through today's Kemmerer as far as its junction with the Sublette Cut-off. He described a portion of the trail along Hams Fork as follows:

the road that follows Hams Fork is obliged to cross and recross the river several times, and as there are no bridges, the route is one that is used only after the spring floods. A trail, however, follows the north side, and this we utilized... (Peale 1879:517).

2.2.3.14 Blacks Fork Cutoff

The Blacks Fork Cutoff of the Oregon Trail is a poorly documented shortcut of the main Oregon Trail. The main trail headed southwesterly to Fort Bridger and then swung northwesterly before heading west out of present-day Wyoming. The Blacks Fork Cutoff proceeded due west from Granger, following a portion of the Blacks Fork and the current Lincoln-Uinta County line, bypassing Fort Bridger to close the top of an imaginary "V" formed by the main Oregon Trail. It rejoined the main trail east of Cumberland Gap. The primary evidence for this trail is the General Land Office survey plats dating to 1874. One source states that the Blacks Fork Cutoff was used extensively by Mormon emigrants during and after the Mormon War of 1857 in order to avoid federal troops (Idaho State Historical Society 1981:123). Maps drawn for the Wyoming Recreation Commission by Paul Henderson, a recognized authority on the Oregon Trail, also depict the Blacks Fork Cut-off. However, no emigrant diaries or guidebooks have been located describing this cutoff. The prominent ruts and swales along its course indicate that the Blacks Fork Cutoff received heavy usage in the past.

It seems unlikely that most of the Mormon pioneers used the Blacks Fork Cutoff during the normal migration to the Salt Lake Valley. Emigrants customarily stopped at the Blacks Fork crossing en route to Fort Bridger and Utah, but followed the main Oregon Trail along Blacks Fork, which turned in a southwesterly direction. Pioneers would have needed a reason to divert west across

waterless terrain and add extra miles to their journey, rather than simply following Blacks Fork to Fort Bridger. Journals and diaries regularly refer to the main Oregon Trail as the standard route.

Due to the U.S. Army occupation of Fort Bridger in 1857 and 1858, Mormon travel along the traditional route of the Oregon Trail was interrupted. All eight Mormon pioneer companies of 1857 arrived in Utah by September 26, a month before the U.S. Army arrived in the vicinity of Hams Fork and later marched to a site 2 miles above Fort Bridger, where they constructed Camp Scott and remained for the winter (Cooley 1947:60-62; Roberts 1965:295-300). Therefore, the emigrants of 1857 probably all took the normal route through Fort Bridger.

By July 1858, the bulk of U.S. troops had moved into the Salt Lake Valley; nevertheless, the nine pioneer companies of 1858 were affected by the Fort Bridger occupation. The Mormon migration was small in comparison to other years. The army's presence caused many rumors, making it more likely that the Mormon pioneers may have used the Blacks Fork and Kinney Cutoffs in 1858. That year, the John W. Berry Company used the Kinney Cutoff (Bullock 1858:24; Pierce 1858). Other parties including the Horace S. Eldredge Company (39 people), the Russell K. Homer Company (about 60 people), and the Iver N. Iverson Company (about 50 people) all took the regular route through Fort Bridger. Some mentioned fears of being detained by troops, but all traveled through without incident.

Numerous Mormon pioneer companies and expeditions used variations of routes, trails, camps, crossings and cutoffs, depending on their own needs, mode of travel, time of year, familiarity with the country and preference. It was also common practice for one company or group to split into factions and travel different routes and at different speeds. Therefore, although there are no documented accounts of Mormon travel over the Blacks Fork Cutoff during the years 1857 and 1858, it is still possible that some parties could have used this route to avoid U.S. troops. The use of the Kinney Cutoff for this purpose by the Berry Company verifies that at least one Mormon group used this evasive tactic during those years and at the direction of Brigham Young. It is also possible that Mormon emigrant parties may have used the Blacks Fork Cutoff in previous years or after the Mormon War period. However, the route was indirect and would not normally suit the needs of the Mormon migration except in time of crisis.

2.2.3.15 Overland Trail

The western end of the Overland Trail is located in the Kemmerer Planning Area. The history of the Overland Trail overlaps and postdates that of the early westward migration on the Oregon/Mormon Pioneer Trail. It was one of the major transportation routes in the Trans-Mississippi West between 1862 and 1869, but was well known to fur trappers and traders decades earlier. The Ashley Expedition followed portions of the route in 1825, when they traveled as far west as the North Platte River and Bridger Pass before turning northwest toward the Green River. This same general route was traversed by John C. Fremont in 1843 (Dale 1918; 127-133; Hafen 1926: 230). Jim Bridger, famous mountain man and explorer, was also closely associated with this route, and the pass over the Sierra Madres bears his name. The value of this route as an emigrant road was first officially recognized in 1850 by Captain Howard Stansbury of the Corps of Topographical Engineers. Stansbury, upon completion of an exploration and survey of the Salt Lake Valley, stated: "It has been determined not to return by the beaten track, but to endeavor to ascertain the practicability of some more direct route than now travelled to the waters of the Atlantic" [the Oregon Trail] (Stansbury 1853:229).

Guided by Jim Bridger, Stansbury cut almost directly east from Fort Bridger, ascending Bitter Creek to Haystack Flats, which forms the divide between the Bitter Creek drainage to the west and the Muddy Creek drainage to the east. He then descended Barrel Springs Draw, which he called “Bridger’s Fork of the Muddy.” Where Barrel Springs Draw opens up into gently rolling prairie country, he passed through an opening of “red and green indurated clay, and strata of course-grit brown sandstone,” which he named the “Red Gate” (Stansbury 1853:229, 237-38).

Between Red Gate and Muddy Creek, Stansbury passed along the future Overland Trail and the location of future stage stations: Dug Springs, Duck Lake, and Washakie. He described this area as the “war-ground of several hostile tribes, who make this region the field of mutual encounter...so that every man slept with his arms by his side” (Stansbury 1853: 239). The main tribes he encountered were apparently Sioux, Cheyenne, and Arapahoe (generally allied), the Eastern Shoshoni from the north, and the Ute from the south.

Although Stansbury was the first to officially use this route, at least two emigrant parties traveled along it before him. The route was first known as the Cherokee Trail and was used by the Evans party in 1849 bound for the California gold fields. The Evans party was composed of Cherokee from Arkansas, hence the name of the trail (Hafen 1926: 230). The Jones party crossed the same year, and both parties are depicted on Stansbury’s maps.

This new route continued to be used by an unknown number of emigrant parties, as well as several military expeditions. Lt. F.T. Bryan was ordered to establish a military road from Fort Riley to Fort Bridger; he followed Stansbury’s route and improved portions of it (U.S. Congress, House 1859). John Bartleson traveled eastward on the route under orders from Colonel Albert S. Johnson to determine the feasibility of moving troops from Fort Bridger to Fort Laramie (U.S. Congress, Senate, 1858-1859). Randolph B. Marcy, who later wrote an emigrant guide for the government, also crossed the route in 1858.

But it was overland mail service that brought this route into prominence. Until the Civil War, overland mail had been transported on a southern route through Texas, Arizona, and New Mexico. With the onset of the war, a more northern route was encouraged, and in 1862 the southern route was discontinued in favor of an unspecified central route. Alternate routes were proposed, including one through Denver, but ultimately the mail was carried over the established Oregon Trail (Hafen 1926:92-93, 213-222; Root and Connelley 1901:41).

Ben Holladay acquired the mail contract in 1862 and soon sought permission to move the line to the more southerly Cherokee Trail. He believed that the line could avoid the “depredations of Indians” common in the South Pass and Sweetwater area; however the southern route passed through approximately 250 miles of sagebrush plains with little grass, game, or good water. Holladay sent John Kerr with a party of men to examine the Bridger Pass and Bitter Creek route for its potential as a stage route. Meanwhile Holladay traveled the Oregon Trail to Salt Lake City, where he then compared notes with Kerr. His conclusion was to move the mail route southward. He dispatched Kerr to the new route:

I sent Mr. Kerr back with loads of tents and stakes, with instructions to remeasure and at proper distances locate the stations...I hired men, teams, mechanics, loaded supplies lumber, and material, dispatched them immediately to construct stations, make roads...On July 8 the order was given for removal [for Oregon Trail mail stations]. I deserted and abandoned all stations and moved south from various points 100 to 300 miles for the new route, where my men were quartered in temporary huts and tents until permanent stations were

built; which were completed before winter, with forage and full supplies at each. All this done without interfering with the regular schedule time of the mails (U.S. Congress, Senate 1880: 62)

On July 21, 1862, mail service began on the new line, which was called the Overland Stage Line, and the route became known as the Overland Trail (Hafen 1926:232). The route diverged from the Oregon Trail near today's North Platte, Nebraska, swung through northeast Colorado and back north into southern Wyoming. It continued westward, generally paralleling the Oregon Trail to the south and rejoining that trail near the east boundary of the Kemmerer Planning Area. Stage stations were established at 10 to 12- or 15-mile intervals, and a telegraph line was constructed to connect many of the stations. Teams were changed at the "swing" stations, and no services were provided for the passengers. These stations consisted of a stable and granary with small adjoining living quarters for the stock tenders. Two men generally manned each of the swing stations. A fresh team in harness was ready for the arrival of the stage and could be changed in about 15 minutes while passengers stretched their legs. The "home" stations at 50-mile intervals were more complex. Meals were provided for passengers, and drivers were changed. In periods of hostilities with Native Americans, personnel and stock from the intervening swing stations often sought protection at the home station. There were 25 stations in Wyoming Territory, from Willow Springs at the southeast corner of Wyoming to Hams Fork at present-day Granger. Hams Fork or South Bend Station and Lone Tree Station were the only stops located in Kemmerer Planning Area (Rosenberg 1981:7).

Ben Holladay's plan to escape hostile Native Americans was unsuccessful, however, and even though forts with military personnel were located along the trail, attacks were not uncommon. Throughout most of the 1860s, stage stations were burned to the ground and stock was run off, and there were several fatalities. As a result of the 1867 Peace Commission, the unfriendly tribes relinquished the major Overland routes. The government abandoned the Powder River Territory (at least temporarily) and created a large reservation in the Black Hills. Native American attention was also diverted from the mail line when the Union Pacific, a much larger threat, reached Wyoming Territory in 1867 (Hafen 1926:322). The advance of the first transcontinental railroad also obviated the need for the Overland Trail, especially for carrying the mail, and the era of the Overland stage effectively ended with the driving of the golden spike at Ogden in 1869.

2.2.4 Railroads, Wagon Roads, and Highways

2.2.4.1 Transcontinental Railroad

A transcontinental railroad had been envisioned as early as 1830, before there were any railroads in the U.S. Finding a suitable transcontinental route was one of the reasons for the military exploring and mapping expeditions across the West in the 1840s and 1850s. A charter for a transcontinental railroad was approved by Congress in 1861, but construction did not begin until after the close of the Civil War in 1865. From at least 10 possible routes that had been investigated, a central route was chosen from the Missouri River at Omaha, Nebraska, to the Pacific Coast in California. From Omaha, the route would course westward to a pass in the Medicine Bow Mountains in eastern Wyoming, with the future cities of Cheyenne to the east and Laramie to the west. The route then roughly followed the old Overland Trail westward to the Green River and then further westward toward the Great Salt Lake. The railroad route cut off the old trail dogleg to Fort Bridger, so that the railroad passed several miles to the north of the fort (Stone 1924:82).

Tent towns sprang up as the grading and track-laying crews moved westward. Bryan was the first big camp west of Green River, and it had more permanence than most of the camps because it

became the railroad center for supplying the Sweetwater Mining District gold mining camps at South Pass. The railroad built a wye at Bryan, and the town had several stores, most of which were later moved to Evanston (Stone 1924:83)

In November 1868, the graders reached Beartown, about 40 miles west of Green River. A slaughter house was established at this camp to provide beef to the railroad crews, and the camp soon had a newspaper, a clothing store, a general merchandise store, a shoe store, and several saloons and gambling houses. In November 1868, a vigilance committee formed by camp residents and merchants attempted to keep order in the camp by arresting several troublemakers, but that action precipitated a riot by railroad graders. During the ensuing melee, 14 men were shot to death in the camp and three more were lynched, probably by the vigilance committee. Troops from Fort Bridger arrived the next morning to find relative calm in the camp. Beartown was later known as Bear River and was abandoned by the mid-1920s (Stone 1924:87).

After entering Uinta County, the UPRR coursed nearly due west to the junction of Muddy Creek with Blacks Fork River. The first station was Verne, which consisted only of a section house and a water tank. About five miles west of Verne was a station called Church Buttes, named for a nearby landform to the south. From Church Buttes, the railroad followed the valley of the Big Muddy Creek about six miles to a station called Hampton for an early ranch near the station. Six miles from Hampton Station was Elkhurst Station, and Carter was about six miles to the southwest of Elkhurst. Carter became the main shipping point for Fort Bridger, about 15 miles to the south, and for the agricultural settlement in Bridger Valley. Carter was named for William A. Carter of Fort Bridger; by the 1920s Carter had two stores and a school (Stone 1924:87-88).

Antelope Station was 5 miles from Carter, and Bridger Station was six miles from Antelope Station. From Bridger Station, the railroad followed Muddy Creek, climbed the divide, and descended to Beartown. Within this segment of original railroad route were the stations of Piedmont, Hilliard, and Aspen, which became locally important as shipping points for livestock. Piedmont was initially named Byrne after an early settler, but the name was changed to avoid confusion with nearby Bryan. Piedmont was named for Piedmont, Italy, the birthplace for two settlers. The summit of the divide was known as Quakenasp Hill because of the groves of aspens, and this gave rise to the name for Aspen Station. Hilliard Station was named for a conductor on the Union Pacific (Stone 1924:88)

The original grade over the divide was steep and had multiple curves. In 1901 the Union Pacific built a new route that more closely followed the Mormon Trail to Aspen Hill, but then passed through a tunnel 5,900 feet long. Construction of the cut-off route cost \$12 million, but it shortened the route by 10 miles and eliminated the steep grades and curves. Spring Valley Station was established east of the tunnel and named for numerous springs in the vicinity. West of the tunnel and near the Bear River bridge crossing was Knight Station, named for the Knight Ranch along the river. Three miles west was Millis Station, named for a conductor on the railroad. Six miles west of Millis Station was Evanston. A mile west of Evanston, a side track branched to the north to the Almy coalfields. Six miles west of Evanston was Wyuta Station, where the railroad passed into Utah (Stone 1924:88-90).

Evanston, the next town west of Beartown, was named in honor of J.A. Evans, a surveyor on the UPRR. The first train arrived in Evanston on December 16, 1868, and 500 people were involved in building Evanston when the railroad decided to place its division point facilities at the town site of Wasatch to the west. Wooden machine shops were constructed at Wasatch, and 2,000 people flocked into the booming camp. However, after the meeting of the Union Pacific and Central

Pacific at Promontory Point, Utah, in May 1869, the Union Pacific decided to move the division point to Evanston. A roundhouse and stone machine shops were constructed, among other buildings. Evanston was incorporated as a city in 1873, but in 1876 city government was abandoned because of the expense. City government was not re-established until 1888. The public land office for all of Wyoming was located in Cheyenne from 1868 to 1876, when a land office was established at Evanston. Evanston also became the home for the Wyoming State Hospital for the Insane, at a campus east of the original town (Stone 1924:85,91,102,159).

2.2.4.2 Oregon Short Line Railroad

In February 1881, the UPRR announced plans to build a standard gauge railway from its main transcontinental line at Granger, Wyoming, to Baker City, in eastern Oregon. The UPRR incorporated the Oregon Short Line Railroad in April 1881, with a stated purpose not only to build to Baker City but also from that point to “such point or points on the Columbia River or the Pacific Ocean as the Company may select.” By building this line, the Union Pacific hoped to capture some of the trade of Oregon and the Pacific Northwest from the Northern Pacific Railroad. The Union Pacific entered into an agreement with Henry Villard and the Oregon Railway and Navigation Company, which then controlled movement of freight in the Columbia River Valley. By means of this agreement, the Oregon Short Line Railroad was extended across Idaho and Oregon to the port of Portland (Lewty 1987:126-127; Rosenberg 1984).

From the Union Pacific main line at Granger, the Oregon Short Line Railroad route ran up the Hams Fork Valley, over a relatively low gap between Oyster Ridge and the Hogsback, descended Twin Creek, and then followed Bear River northward into Idaho. Initial and subsequent stations along the main line of this railroad were, from southeast to northwest, Moxa, Nutria, Opal, Waterfall, Hams Fork (Kemmerer), Fossil, Nugget, Sage, Beckwith, Pixley, Cokeville, and Marse. From Granger to Sage Station, the route closely followed the Hams Fork Cutoff of the Oregon Trail. The railroad was completed from Granger to Sage in 1881, to Shoshone, Idaho in 1882, and to Portland, Oregon in 1884 (Rosenberg 1984).

The Oregon Short Line Railroad was built to provide a connection for the Union Pacific to the Pacific Northwest, but it also (and perhaps more importantly) encouraged coal mining development and other economic changes in the Kemmerer Planning Area. Opal and Fossil became important livestock shipping points for the extensive ranches of the region, and annual stock drives terminated at the railroad yards (Henry 1940:35; Rosenberg 1984). Opal and Kemmerer became important collection and shipping points for the pioneer LaBarge oil field, and the first pipeline in the region was built from the LaBarge field to Opal in 1928. By far the most important effect of the railroad was encouragement of coal mining, which resulted in construction of a branch line from Kemmerer north about 8.2 miles to the mining community of Sublet. A second branch line left the main line about 5 miles west of Kemmerer and extended south about 15 miles to the Cumberland coal mining district. A branch to the west of this line also served the Elkol mining district. Many small branch lines and sidings were constructed to serve individual coal mines in the Kemmerer Planning Area.

2.2.4.3 Expansion Era Wagon Roads

The first roads or trails in southwestern Wyoming were the emigrant trails, which generally coursed east to west. This general travel pattern changed with the construction of the UPRR, and again with the construction of the Oregon Short Line Railroad and its attendant coal mining districts and communities. The railroads allowed freight and passengers to be moved into and through the

Kemmerer Planning Area, but stagecoach and freight wagon transportation was needed from the railroads to communities not on the rail lines (and between those communities).

Gold was discovered at South Pass in 1867, setting off a rush of several thousand prospectors and others to the Sweetwater Mining District in 1868 and 1869. The Sweetwater mining rush coincided with completion of the UPRR through western Wyoming. Freight and stagecoach routes were established from a number of towns along the rail line to the gold mining district, including routes from Rock Springs, Green River, Bryan, Granger, and Fort Bridger. The Bryan to South Pass City route was in heavy use for a number of years beginning in 1867, but the town of Bryan had largely disappeared by the 1880s, as Green River and Rock Springs became the dominant trade centers. A small portion of this road has been recorded within the Kemmerer Planning Area as site 48SW3869 (Ficenec 2001).

A number of other freight and stage line roads came into use between the time of construction of the transcontinental railroad and the advent of general automobile travel in the region. Most of these routes are shown and identified on General Land Office survey plats from the 1870s through about 1912. Wagon and stagecoach roads recorded within the Kemmerer Planning Area include the Kemmerer-Evanston Road (48LN2700), the Elkol-Oakley Road (48LN2701), the Kemmerer-Cumberland Road (48LN2735), the Spring Creek Road (48LN3962), the Granger to Green River Road (48SW8660), the Bryan to Browns Park Road (48SW8976), the Evanston to Cumberland Road (48UT1512 and 48LN2249), the Mountain View to Lonetree Road (48UT2281), the Carter to Cumberland Road (48UT2357), the Carter to Opal Road (48UT2373), and the Opal Wagon Road or Montana Road (48LN949). Two other wagon roads were also associated with the military history of the region, the Fort Bridger to Browns Park Road (48UT667), and the Fort Bridger to Carter Military Road/Fort Bridger to Carter Road (48UT884).

2.2.4.4 Lincoln Highway

Automobile travel was a relatively new phenomenon in the U.S. in 1903, when the first transcontinental automobile journey was made. On a \$50 wager, Dr. H. Nelson Jackson and a mechanic set off from San Francisco on May 23 and arrived at New York City on July 26. The pair had driven some 6,000 miles and had spent about 3 weeks repairing their car, waiting for parts, or resting. The trip was made on some of the best available roads or trails of the time, which in many areas were nearly impassible. Their route was from San Francisco northeastward to Sacramento and then to Caldwell, Idaho; then southeastward through Pocatello and Soda Springs, Idaho and Diamondville, Wyoming, to Green River; and then eastward along the old Overland Trail route. This first transcontinental trip occurred at the changing of eras: the pair in their automobile met an emigrant wagon train on the Oregon Trail in Idaho. Also in 1903, the Wright brothers accomplished their first powered flight and the Ford Motor Company was incorporated (Nicholson 1969:12-16; Hokanson 1988:xvi).

A great automobile race from New York to Paris in 1908 followed much the same route from New York to Rock Springs, but from that point the route diverted to Granger, Wyoming, Ogden, Utah, and southwestward to Los Angeles (Nicholson 1969:8). About 180,000 automobiles were on the nation's roads by 1910; a movement was born to improve roads specifically for automobile use and to extend highways across the country. The American Automobile Association had first recommended establishment of a transcontinental highway in 1902, and in 1912 Carl Fisher began promoting a plan to create a "Coast-to-Coast Rock Highway" that could be traveled in all seasons. Late that year, Fisher received a donation for the project from Henry Joy, the president of the

Packard Motor Company, who suggested that good roads should be built as a real memorial to Abraham Lincoln (Hokanson 1988:8-9). Joy thereafter became a key promoter of the project, and the prospective highway became known as the Lincoln Way or Lincoln Highway.

More than \$4 million in private subscriptions had been raised for the Lincoln Highway project by the spring of 1913. In August of that year, Joy announced that the highway would be routed along much of the old Platte River route in Nebraska, cross to Cheyenne, and then head west on easy grades to cross the continental divide at less than 9,000 feet above sea level. Announcement of this route bitterly disappointed project promoters in Colorado, but their proposed route would have crossed the continental divide at 11,300 feet and would have required difficult construction. To appease Colorado interests, the route was initially changed to dogleg into Denver, then angle north to Cheyenne; this dogleg route was dropped from the official route in 1915. The announced route was virtually identical in most areas of Wyoming to the route chosen 60 years later for Interstate 80 (Hokanson 1988:11-13). The location of the route was lauded by an Evanston newspaper as “an event second only to the location of the Union Pacific Railroad” through the community (Franzwa 1999:58).

Although it was proclaimed to be a highway, and millions of dollars had been raised for construction, very little actual improvement of the route occurred in the following years. Most of the route was marked with stakes in 1913, but the route actually included multiple wagon trails in several locations across Wyoming. From Rawlins westward nearly to Wamsutter, the route adopted a grade of the UPRR that had been abandoned in 1901. Beginning at Point of Rocks, the Lincoln Highway route coursed westward along the old Overland stage route, and the highway route followed the main Oregon/Mormon/California trail from Granger to Fort Bridger. The highway followed the Mormon/Utah trail for many miles westward from Fort Bridger toward the Great Salt Lake. The highway also followed the Pony Express Route from near Granger most of the way to California (Hokanson 1988:60-61).

The Federal Aid Road Act of 1916 provided the first federal funding for improvement of public roads: \$75 million to be distributed to states on a matching basis to improve rural post roads. However, entry of the U.S. into World War I effectively delayed highway improvements, other than improvements made by local governments. When the war ended, the Lincoln Highway Association again solicited private donations for improvement of the route, and the Willys-Overland Company contributed \$20,000 for road construction in Wyoming. The need for federal funding of major highways was demonstrated by a joint military and civilian convoy that drove the Lincoln Highway route in July 1919; the Army contingent included heavy trucks that broke through more than 100 bridges along the route. Among the Army contingent was Dwight Eisenhower, who was to be instrumental in creating the interstate highway system after World War II (Hokanson 1988:88-91).

The Federal Highway Act of 1921 provided an additional \$75 million for road improvements, but the funding could only be used on the 7.0 percent of a state’s roads that were identified as “primary” routes. The State of Wyoming responded to the availability of funds, and in 1923 the state spent nearly \$500,000 on improvements to 75 miles of the Lincoln Highway. As originally improved in the 1920s, the highway had a graveled surface 16 feet wide on a 24-foot-wide grade. Multiple improvements were made to the highway in the following years, including realignments and paving (Franzwa 1999:1-2, 40).

In 1925, a simplified numbering system was initiated for major highways, to replace the confusing names applied to many major roads, including the Lincoln Highway. Most of the Lincoln Highway

was designated as part of U.S. Highway 30, which ran from Atlantic City, New Jersey to Astoria, Oregon, and the Lincoln Highway officially ceased to exist. In Wyoming, U.S. Highway 30 diverted from the Lincoln Highway route at Granger, and followed a course to the northwest. To the west of Granger, the Lincoln Highway was initially known as 30 South, and segments of the road were subsequently incorporated into other roads (Franzwa 1999:50-58). Franzwa (1999) prepared maps showing the precise location of the Lincoln Highway through the Kemmerer Planning Area.

2.2.5 Ranching and Agricultural Settlement

Open range ranching in the Kemmerer Planning Area arose from a different historical base than that of most of Wyoming, and it blended more easily into homestead settlement than was the case in some other parts of the state. For most of Wyoming, the advent of ranching awaited two developments: the interruption of markets for southern herds during and after the Civil War, which left tens of thousands of “excess” cattle on the plains of Texas; and the construction of the UPRR, which provided a means to transport cattle and sheep to markets (Rosenberg 1990b:42). For at least parts of the Kemmerer Planning Area, the origins of ranching were directly associated with overland emigration and the colonization efforts of the Mormon Church.

Probably the first intentional ranching in the region occurred in the Bridger Valley in the 1840s, when Jim Bridger bought worn-out emigrant stock, turned the animals out on the range to recuperate, and then sold the revitalized animals to other emigrants. Another survivor of the fur trade era, John Robinson, apparently did the same. Robinson had come to the region with the Hudson Bay Company, and in 1834 he built a cabin on Blacks Fork of the Green River about 10 miles above Fort Bridger, where he kept cattle. He also had a place about a mile south of current Mountain View, known as Jack Robinson’s Indian Camp, where he had corrals (Stone 1924:41, 45).

The availability of stock for low cost on the emigrant trails led other entrepreneurs to follow suit, and apparently on a much larger scale:

In 1850 Captain Richard Grant with his sons John and James Grant began trading along the Emigrant road in Utah for footsore and worn-out cattle and horses. This stock was usually of good quality and only needed rest and a little care to make them fine animals. The Grants spent the summers along the Emigrant road between Bridger and Salt Lake, and in the fall drove their stock up into what is now Montana. In 1856 Robert Dempsey, John M. Jacobs, Robert Hereford, and Jacob Meek began trading along the Emigrant road and drove six hundred head of cattle and horses up into Montana (Granville Stuart, quoted in Gardner 1988)

Extensive ranch settlement in the region followed the construction of the UPRR in 1867 and 1868. Judge William Carter, who was post trader at the Fort Bridger military post beginning in 1868, developed large herds of cattle and sheep, and he dug at least one diversion ditch to irrigate hay fields near the fort. Immediately upon completion of the railroad through the area, Carter imported purebred Shorthorn bulls to improve his herd (Rosenberg 1990b:48).

The arid conditions of most of the Kemmerer Planning Area resulted in a dendritic pattern of ranches, much like what occurred elsewhere in Wyoming during the open range period. Permanent ranch headquarters were established in well-watered locations, usually adjacent to major streams. To gain title to the lands containing the ranch headquarters, adjacent hay meadows, and other particularly desirable water or forage resources, ranchers typically claimed lands under the Homestead Act of 1862, the Timber Culture Act of 1873, the Desert Land Act of 1877, and later the

Enlarged Homestead Act of 1909 and the Stock Raising Act of 1916. By the 1880s, a rancher could claim a maximum of 1,120 acres under the laws then in place, but that amount was far short of the acreage needed for a viable cattle or sheep ranch in the region. In 1879, the Public Land Commissioner at Evanston recommended that pastoral homesteads in the region should be 3,000 to 5,000 acres (Rosenberg 1990b:44).

With the exception of Star Valley, the agricultural settlement in the Kemmerer Planning Area was generally accomplished with a mixed strategy of livestock husbandry and limited farming of hay and grain in areas that could be irrigated. The earliest attempt at intensive farming began in the fall of 1853, when the Mormon conference at Salt Lake City commissioned a company for the colonization of the Green River tributaries in the vicinity of Fort Bridger, primarily for the purpose of raising wheat. The colony settled on Smiths Fork, about nine miles above Fort Bridger and established a fort and storehouse called Fort Supply. Plowing began on April 3, 1884. They raised crops of potatoes and wheat, although they had troubles with Native Americans shooting cattle (Stone 1924:68). This colony was abandoned permanently in 1857 upon the approach of Colonel Johnson's army from the U.S.

After Fort Bridger was decommissioned in 1890, the lands of the military reservation were made available for agricultural settlement. King Durant, Joshua Stewart, and S. R. Brough settled land about 5 miles west of Fort Bridger. In 1891, an irrigation canal was built from the Blacks Fork River under the direction of a Mormon bishop, and three additional homesteads were settled. A colony from Utah followed, bringing herds of cattle and horses. The colony purchased a diversion canal that had been built by Judge Carter, and a settlement called Minersville was established around a meeting house and school about 1.5 miles east of present-day Lyman. In 1898, Francis M. Lyman, a representative of the Mormon Church, selected a town site that was initially called Owen but is now known as Lyman. In 1952, the Mountain Fuel Supply Company built a large natural gas dehydration plant near Lyman. The largest canal in the region was built by the Biglows of Ogden and bears their name. Although Stone (1924:189-190) refers to "Biglow," modern maps indicate "Bigelow" for the canal and other topographic features. The canal provides water for the Biglow Ranch west of Fort Bridger and many other ranches in the valley (Stone 1924:189-190; Spencer 1970:210).

In the early 1870s, a rancher named John Forshay took up land on Henry's Fork, a short distance west of the present site of Lonetree. The community of Lonetree was first established in 1872, and a post office was established in 1888. By the mid-1920s, the community of Lone Tree consisted of a schoolhouse with two rooms, the meeting house of the Mormon Church and a store, in which the post office was located (Stone 1924:196).

In 1891, a post office was established on Smiths Fork about 6 miles above Fort Bridger. The place was called Mountain View. In 1898, a town site was platted nearby, and the first house and store were built. A community hall was built that served as a social and business meeting location until a Woodmen of the World Hall was constructed in 1907. A branch of the Mormon Sunday School of Lyman was started at Mountain View in 1909, but it was soon discontinued. In 1912 a Presbyterian church and manse were built in the community. About 5 miles west of Mountain View was the settlement of Milburn, where John Wade ran a grist mill for several years (Stone 1924:190-191).

The first permanent settlement on Bear River was established by rancher John Myers in 1860, at a point where the "Salt Lake Trail" (Mormon Trail) crossed the stream. That location thereafter was known as Myers' Crossing or Myers Bridge. A man named Ferguson was the first person to settle on upper Bear River, but he did not patent his claim. In 1881, George C. L. Goodman settled land

near Ferguson; in 1882 his father Elias Goodman also claimed land in that area. Elias and George Goodman had come to the region in 1872 to work on the Hilliard flume (see section 2.2.6, Industry) and engage in sheep ranching. The Bear River Valley north of Almy was first settled in 1869; the settlement was called Woodruff for the Mormon apostle of that name (Stone 1924:177,181,185).

Agriculture in the Kemmerer Planning Area has always been dominated by livestock husbandry that relies to a large extent on grazing on public lands. Some of the ranches in the region grew to substantial size. The Beckwith & Quinn Ranch on Bear River is reported to have had 40 regular employees and 300 employees during haying season. The ranch reportedly had 1,000 head of horses and 10,000 head of cattle on 11,000 acres of land (Henry 1940:35; Stone 1924:246). Open range cattle ranching apparently expanded rapidly after the completion of the railroad, as it did in other areas of Wyoming, until the severe winter of 1886 to 1887. In that winter, one ranch on the eastern edge of the Kemmerer Planning Area is reported to have lost 15,000 cattle (Spencer 1970:199).

Although the region was dominated by cattle ranching, sheep ranching was always an important element of the economy. Jim Bridger maintained a small flock of sheep at Fort Bridger in the 1840s, and Judge Carter later raised sheep on a larger scale in the Bridger Valley. Like the cattle, initial sheep stocks came from flocks owned by emigrants passing through the region toward Utah or Oregon. From 1865 to 1885, most sheep brought into the region came from California, and from 1885 to 1901, most of the sheep brought to the region came from Oregon. Evanston and Cokeville became centers for large sheep operations in Uinta and Lincoln counties, and Cokeville was called the “Sheep Capital of the World.” Many ranchers raised both cattle and sheep, particularly after the devastating blizzards of 1886 to 1887 killed many cattle and damaged many hay meadows (Rosenberg 1990b:111-114; Blair 1970:160).

A common pattern was, and is still, for ranchers to drive cattle and sheep to higher elevations for summer forage, usually within the National Forests, and then to winter the animals in the lower desert or valley areas. The natural grass available during the winter was/is augmented with hay cut in the irrigated land or lowland meadows during the summer. Until well after the advent of trucks in the 1920s, animals intended for market were driven in herds to railroad centers. After the construction of the Oregon Short Line Railroad, the towns of Opal and Fossil became major shipping points for ranchers who had herds from as far away as the upper end of the Green River Basin. In 1917, sheep ranchers of the region constructed a shearing plant at Opal, where thousands of sheep were sheared each year before the animals were driven to summer range (Stone 1924:257).

The striking exception to the ranching pattern of agriculture in the Kemmerer Planning Area is the Star Valley. The valley is topographically and, to an extent, climatically different from much of the rest of the Kemmerer Planning Area because it is a relatively flat basin rimmed with high mountains. The Mormons explored the Star Valley in 1877 or 1878; their first settlements occurred in 1879 and 1880. Freedom is the oldest settlement in the valley. “In the summer of 1879, a party of Mormon emigrants entered the valley over the Crow Creek route from Bear Lake Valley, Idaho, and built the first wagon road connecting with settlements further south. After a careful exploration, they settled here. One of the party, surveying his new domains, declared enthusiastically, ‘Here we shall find freedom’—and the settlement was named accordingly” (WPA 1984:395). Swiss immigrants later settled in the town. Auburn, originally called Stump Creek, was the second settlement. Mormons erected cabins here in 1879, and then moved, but the town was later revived. “Because the vacant cabins reminded some rustic Sappho of Oliver Goldsmith’s *Deserted Village*, the place was named Auburn” (WPA 1984:396).

The Edmunds Anti-Polygamy Act of 1882 accelerated the migrations of Mormons to Star Valley (WPA 1984: 394). Several towns were founded in Star Valley in the 1880s: Thayne, Auburn, Bedford and Afton. Located on the east side of the valley at the mouth of Swift Creek, Afton was surveyed in 1886 and 30 blocks of 10 acres each were platted (Call 2000:34). Incorporated in 1901, Afton became the premier valley town, with the first weekly newspaper, the *Star Valley Pioneer*, which began in 1901. In 1902 electric power and telephone service began. Construction began on a Mormon tabernacle in 1904 (Call 2000: 4).

Primarily farmers, the Mormons and later settlers, most notably Swedish and Danish, successfully raised alfalfa, hay, and barley during the short growing season. They also became dairy farmers—the cows were stabled in winter and fed on hay. Dairying became the premier industry. There was not a high demand for milk, so creameries were constructed, and butter and cheese became the main valley products. William W. Burton and Sons built their first creamery at Afton in 1902, and three others in Smoot, Auburn and Freedom. Union Creamery, a co-op, operated west of Afton. The Mutual Creamery Association established a creamery in Thayne in 1913, and built additional plants in Grover, Etna and Fairview (Call 2000:39).

These creameries made American cheese. Because a higher profit could be made from Swiss cheese, the Star Valley Swiss Company, established in Freedom, brought in Ernest Brog, a Swiss immigrant cheesemaker, and started making Swiss cheese (Call 2000: 39). Kraft bought the Burton cheese factories, which continued to produce American cheese and butter, then in 1931 sold out to Star Valley Swiss Cheese Co. In 1932 the Star Valley Creamery Co. was organized at Afton, which made cheese until 1937, and after that powdered milk. Over the years there was a decline in dairying in the valley. The Star Valley Cheese plant located in Thayne was the last remaining cheese factory in Wyoming as of the year 2000 (Call 2000:40).

Other less law-abiding characters also visited Star Valley. Men of vague occupations often dropped in from nowhere and disappeared again. Their coming was not always regarded as an intrusion, as they spent money freely for shelter and food and financed, directly or indirectly, many early community enterprises. In 1889, Matt Warner and Tom McCarthy, members of the notorious McCarthy gang, holed up in Afton after a series of bank and mail robberies. They posed as wealthy Montana cattlemen, snowed in for the winter. Legend has it that their barroom, the first in the valley, was papered with bank notes. During their stay they wooed and won two valley maidens, who remained true even after they learned their husband's identities. Butch Cassidy, then serving his apprenticeship as horse thief with the McCarthy gang, was with Warner in Star Valley (WPA 1984:397).

2.2.6 Industry

2.2.6.1 Tie Hacks and Lumbermen

Construction of the UPRR through the Kemmerer Planning Area in 1867 and 1868 created a market for railroad ties, bridge and trestle beams, and milled lumber for building construction. Probably the greatest demand was for railroad ties for the treeless areas across the deserts of Utah and Nevada. Portions of the Kemmerer Planning Area region contained large stands of lodgepole pine, which was particularly useful for ties, and the area contained watercourses that could be used to float the ties to the railroad line. In 1867, the UPRR contracted with Charles DeLoney to cut ties in the Green River drainage and deliver the ties to the point where the river crossed the railroad route at the present town of Green River. The firm of Davis, Sprague and Company also operated in the

Green River, Blacks Fork, and Bear River drainages in 1867 and 1868, and by 1868, an estimated 600 men were at work cutting ties in the region. An estimated 200,000 ties were floated down the Green River in 1868 (Rosenberg 1990b:134).

The firm of Ellis and Fairbanks was also contracted by the Union Pacific to supply ties for the railroad, probably sometime after 1868. The company cut timber about 40 miles from Evanston and floated the ties and beams down Bear River to a dam and mill at Evanston. The first log drive in the region was run by Charles DeLoney, who had previously produced ties on the Green River drainage. In the mid-1920s, two timber companies had branches in Evanston. The Standard Timber Company had been in operation since 1913, cutting timber in the Green River drainage. The Overland Lumber Company was owned by the George A. Merrill Company of Salt Lake City (Stone 1924:104-105, 163).

William K. Sloan, a Utah pioneer, built a sawmill at the mouth of Mill Creek where it enters Bear River about 30 miles above Hilliard. Because hauling lumber by wagon was expensive and slow, Sloan conceived a plan to build a flume to move timber down river. The flume began at the mouth of Fish Creek, where the company town of Mill City included a sawmill, a company store, and boarding houses for workers (at one time reportedly reaching 500 men). A branch called the Howard flume extended 6 miles above Mill City, and there were two feeder flumes from East Fork and Mill Creek to provide additional water to the main flume. The flume was a V-shaped structure of 2-inch-thick planks supported on a pole scaffold. The height of the flume depended on the terrain and other factors, from ground level in some locations to more than 30 feet over the railroad tracks at Hilliard. The gradient in the flume was sufficient for timber to move the 30 miles from Mill City to Hilliard in about two hours, barring jams along the way. Sloan initially moved milled lumber down the flume, but the damage to the milled lumber led him to move the mill to the lower end of the flume at Hilliard. At Hilliard, the various ties and props were distributed to the railroad (Stone 1924:178-179).

Sloan's company also made use of smaller trees and limbs to make charcoal, which was used in smelting ores. Thirty-six charcoal kilns were constructed at Hilliard, each of which was a brick beehive-shaped structure 33 feet in diameter and 30 feet tall. The kilns were filled with wood, and a smoldering fire was maintained for several days to produce uniformly charred wood. The company did a large business with smelting companies throughout the West, and a small but unsuccessful smelter was built near the charcoal kilns. The flume was operated for a number of years, but it was abandoned and eventually deteriorated into ruin, and parts were scavenged by ranchers for building materials. By the mid-1920s, the reported principal surviving features of flumes were lines of vegetation marking the route (Stone 1924:179-180).

Piedmont, located in Uinta County, also produced charcoal. It was first called Byrne after Moses Byrne, a pioneer settler. Because the name was so similar to Bryan, the name was changed to Piedmont meaning "at the foot of the mountains." Mrs. Byrne suggested the name in memory of the Italian region where she once lived (Urbanek 1988:155). The town consisted of a general store, hotel, post office, newspaper and school, in addition to the round house, water tank, and telegraph office associated with the Union Pacific.

At its peak Piedmont was a center for charcoal processing, with more than 40 charcoal kilns constructed in the area. Moses Byrne built five large stone kilns to produce charcoal for Utah smelters. The ruins of the Byrne kilns still stand and are listed in the NRHP. In 1902 the railroad bypassed Piedmont when it routed tracks through Aspen Tunnel, 7 miles to the northwest (King

2003:38) and Piedmont became a ghost town. The charcoal industry declined as coke, made from coal in a roughly similar process, replaced charcoal in the smelting operations.

The railroad tie industry provided a substantial and sustained economic boost to the Kemmerer Planning Area region, by providing employment to local residents and markets for goods and services. Tie drives down the rivers continued until 1940, when the railroad no longer accepted hand-hewn, river-driven ties. By that time the traditional process of hand hewing the ties had been largely replaced by portable sawmills, and trucks had become available to more efficiently transport the ties to the railroad collection centers. One such collection point for the northern part of the Kemmerer Planning Area was at Susie Landing, on a railroad spur line built to serve coal mines north of Kemmerer (Rosenberg 1990b:153).

2.2.6.2 Coal Mining

Large deposits of coal were noted by Stansbury on his map published in 1852. Geologist James T. Hodge of the Hayden Expedition spent several weeks studying the coal fields near Evanston. By that time, however, coal mining had begun in earnest near Evanston. In the summer of 1868 the Union Pacific sent two men to prospect for coal in western Wyoming, and the men located coal claims about three miles north of Evanston. Under a series of owners and company iterations, this operation first contracted to sell coal to the Union Pacific and later to the Central Pacific Railroad. James T. Almy was the clerk for the operation, and the adjoining mining camp (actually a district of camps) was named for him. By 1870, there were a number of competing coal mines in the district, and the Union Pacific constructed a branch line from west of Evanston to the mining district (Stone 1924:121-122).

In 1875, the UPRR directly entered the mining at Almy by purchasing the assets of the Wyoming Coal and Mining Company. Thereafter, although the Wyoming Coal and Mining Company competed with the Rocky Mountain Company as the largest of the coal mining operations at Almy, there were also a number of smaller companies operating in the vicinity. Each of the big companies had its company store and camp. At one time, Almy had seven saloons, three butcher shops, two millinery shops, two creameries, five mercantile stores, a confectionery, five post offices, four churches, four fraternal lodges, and numerous boarding houses (Almy Centennial Committee 1990; Stone 1924:124). Miners at Almy were initially Scots, English, and Welsh, but the Rocky Mountain Coal & Iron Company also brought in Chinese miners. By 1872, at least 240 Chinese were working at the mines, most of whom lived on the north side of Evanston (Gardner and Rosenberg 1984:19). In 1875, the Union Pacific brought in 400 Chinese to break a strike in the Rock Springs coal mines. Ten years later the Rock Creek Massacre, a “spontaneous mob action,” resulted in the deaths of 28 Chinese miners and the destruction of the Rock Springs Chinatown. Afterwards, the citizens of Evanston insisted that the Chinese in their town must leave; the governor acceded to this request, and the miners were transported out of town (Gardner and Rosenberg 1984:25-26).

Japanese workers came into the area in the 1890s and early 1900s, concentrating in Lincoln and Uinta communities such as Oakley and Frontier. Although there was no violence toward them as had been directed at the Chinese, and some Japanese became shopkeepers and mine owners, racism was still a factor in their lives. Between 1930 and 1940 the population declined from about 200 to around 50, due to both the climate and economic difficulties (Gardner 2004; Gardner and Rosenberg 1984:42). After the beginning of World War II, Japanese railroad workers were deported from the area, but mine workers remained.

Large scale coal mining occurred in the Almy district from 1871 to 1900. Each of the mines had its own camp, which moved as the mines moved along the hillside. During the 1870s, the Almy mines produced 46 percent of Wyoming's coal. Coal mining at Almy was extremely dangerous because of the high concentration of methane in the coal seams. An explosion in one mine killed 29 men in March 1881; a similar explosion in 1886 killed 11 men. The worst of the explosions occurred in March 1895, when 60 men were killed in one mine and seven more were killed on the outside by flying debris. The latter explosion is reported to have changed the ethnic makeup of Almy; several of the original mining families left to take up land on the upper Bear River, and their places in the mines were taken by Finnish immigrants. The Union Pacific ceased its mining operations at Almy in 1900. Although some mining continued at least through the mid-1920s, Almy was by then a ghost town (Stone 1924:124, 127-128, 134).

Harrison Church, who reportedly found coal on the Hams Fork River/Creek in 1868, built a cabin where Diamondville was later established. Construction of the Oregon Short Line Railroad from 1881 to 1884 opened the area for commercial coal mining. Church interested investors from Minneapolis in forming the Hamsfork Coal Company in 1884. S.H. Fields, a Salt Lake City entrepreneur, assumed management of the company and reorganized it in 1894 as the Diamondville Coal and Coke Company, a subsidiary of the Anaconda Mining Company. Diamondville was supposed to have been named for Mrs. Diamond Foote, who may have had a financial interest in the mining venture before 1894 (Henry 1940:33; Blair 1970:160).

The Diamondville Coal and Coke Company opened its Mine Number One at Diamondville in 1894, where they found coal of superior quality. The company soon opened another mine at Oakley, to the south of Diamondville, and in 1900 opened a third mine at what became the community of Glencoe, about 6 miles south of Diamondville. Company towns were established at all three of the mines, including substantial brick housing and a school building at Glencoe. Miners of different ethnic groups formed social groups such as the "Finlanders of Wyoming," which held dances in Finn Hall. Northern Italian and Austria-Hungarians both used the Slovenski Dom, also known as "Bucket of Blood" for the "often violent Saturday night dances held there" (Gardner and Rosenberg 1984:35). With the closing of mines at Almy, many miners from that area came to work in the Diamondville area mines (Stone 1924:253-255).

Outcroppings of coal were identified in Spring Valley by Stansbury and other explorers. About 1898, the Union Pacific Coal Company sent miners to open a mine there. "Going back to 1847, heavy oil from a seep at Fossil and Spring Valley was reported to have been used for greasing wagons, and ranchers and cowboys noted in 1892 that oil from a seep at Birch Creek was seen on horses' hooves" (McKinley 2003:1).

The Union Pacific started mining operations in Spring Valley after the Almy mines became unproductive (Gardner and Rosenberg 1984:19). Spring Valley was established as a Union Pacific coal company town in 1899 where "sidewalks were laid, trees were planted, a schoolhouse was built and several brick homes boasted of the modern convenience of electric lights" (Pence and Homsher 1956:203). Three hundred families settled in the town, among them a group of Finns who built a sauna.

Union Pacific constructed a turntable, mine tracks, tipple, coal scale and a large depot. However, wells filled with oil and water had to be shipped in. Oil also seeped into the coal mines. A San Francisco oil company filed a claim, which the Union Pacific disputed, and ultimately won the case. Although the coal was high grade, the mines could not be worked with so much oil seepage and the

dangerous presence of explosive gas. In 1905 Superintendent Sandy Briggs was ordered to close and seal the mines (Pence and Homsher 1956:204). The town lasted only six years, but some of the buildings and mining equipment were moved to Cumberland and Hanna (Miller 1977:86). At least one other independent mine also operated in Spring Valley (Stone 1924:185).

In 1890, James Lee homesteaded on Hams Fork and discovered a rich vein of coal. His holdings were later developed by the Union Pacific Coal Company. However, the major driving force behind coal development in this area was Patrick Quealy, who had been associated with mining at Almy and who had also served as Wyoming's coal inspector. Twin Creek was a Union Pacific coal camp located west of Kemmerer. It was in operation from 1881 to 1885; the coal was used as fuel for the Oregon Short Line. About 400 miners, mostly English, Scots, and Irish worked in the mines. However, the lignite was of inferior quality, so the mines were closed, and many of the structures were moved to Rock Springs, a nearby town (Gardner and Rosenberg 1984:28, 30; Miller 1977:99).

Patrick J. Quealy managed the mine for its short duration. Following the demise of the mine, Quealy began acquiring about 2,560 acres of land north of the Diamondville mines, calling the prospective mining area the Willow Creek Group. Quealy formed a partnership with Mahlon S. Kemmerer, who was chairman of the board of the Carbon Iron and Steel Company in Pennsylvania. Together, they opened coal mines around Frontier and in 1898 succeeded in getting a spur that linked the Frontier Mine to a main line of the Oregon Short Line Railroad (Bruder and Rhodes 1992:1-27).

They formed the Kemmerer Coal Company to manage coal development, but they also formed three other corporations to handle ranching, general merchandising in their towns, and real estate development. The company established the town of Kemmerer at the river crossing, but they also established a smaller company town called Frontier about a mile north of Kemmerer. Kemmerer grew to become the major trade center for the area, and was designated the county seat in 1912.

The Kemmerer Coal Company had three mines in operation at Frontier by December 1897. A 1-mile long rail spur was constructed from the Oregon Short Line Railroad northward to serve the mines. The company subsequently found other promising coal deposits along Willow Creek to the north of Kemmerer, and in 1907 the company extended the rail spur line up the Willow Creek valley to the new mines. The company had at least three additional mines in operation by 1913, with more mines opening in 1926 and 1932. Mining camps named Sublet and Susie (after Quealy's wife) were located along the line. Like the mines at Almy, these mines also harbored dangers from methane gas. An explosion in Frontier Mine No. 1 killed 99 miners on August 14, 1923, and an explosion in a mine at Sublet on September 16, 1924 killed 39 miners (Stone 1924:264; Rosenberg 1991; Henry 1940:33).

By 1946, all of the Kemmerer Coal Company mines had been permanently closed, ending the major purpose for the camps and the rail line. However, this rail line also served two timber-cutting companies that operated in the vicinity (see subsection Tie Hacks and Lumbermen, above), and the line remained in use for hauling logs and milled ties and lumber until the early 1960s (Rosenberg 1991).

In 1900, the Union Pacific Coal Company began prospecting for new coal deposits about 17 miles south of Kemmerer. The company opened its first operation in that year to mine two coal seams about 8 feet apart, with one seam 14 feet thick and the other 5 feet thick. Located in Lincoln County, Cumberland was a coal mining settlement which at its peak produced 2,500 to 3,000 tons

daily (Miller 1977:25). In 1900, August Paulson and a gathering of his prospector associates opened a mine at the convergence of Little Muddy Creek and Dry Creek at a coal deposit located in 1843 by John C. Fremont. The mine site was first called Camp Muddy, then Reliance and finally Cumberland. The name Cumberland was chosen by coalmine superintendent F.L. McCarty who believed the area looked like the Blue Ridge Mountains near Cumberland, West Virginia (Bruder and Rhodes 1992:1-28).

Cumberland consisted of four distinct enclaves. Cumberland No. 1 consisted of the railroad depot, post office, company store, company hall, high school, and residential structures. A second mine was opened within a few months, and a second camp was created near the mine. Cumberland No. 2, which was located north of Cumberland No. 1, also had a company store and company hall, along with residences. Cumberland South, located outside of the company town limits, had one or more drinking establishments and a sporting house. Halfway, located between Cumberland No. 1 & Cumberland No. 2, was the location of a church. The bakery, lumber yard, several groceries, and a Golden Rule store have been placed in both Halfway and Cumberland South (Gardner and Rosenberg 1984:52; Jensen 1978).

The towns were settled by several different ethnic groups: Swedes, Finns, Russian, Austrian, Welsh, Poles, and Italians (Gardner and Rosenberg 1984:52; Jensen 1978). Although the mines were unionized in the first decade of operation, there was no violence or agitation, the ethnic groups got along, and there were few serious accidents. Cumberland was a “place of intensive camaraderie, and management – labor relationships appear to be quite unusual if not unique” (Jensen 1978). The combined settlements merged into a single town, but by 1930 mining operations had ceased, company structures were torn down, and houses were auctioned and removed to Diamondville and Kemmerer. The Cumberland townsite has been determined eligible for the NRHP (Bruder and Rhodes 1992:1-28).

Other coal mines south of Kemmerer include the Elkol Mine, the Lincoln Star Mine, and the Blazon Mine. In 1908, the Elk Coal Company, based in Utah, opened the Elkol Mine, about 6 miles southwest of Kemmerer. The town of Elkol was incorporated in 1911 (Gardner and Rosenberg 1984:46). In 1913, Quealy acquired the mine, which was later part of the Kemmerer Coal Company expansion. The Kemmerer Coal Company also opened the Brilliant coalmine north of Cumberland in 1937 (Bruder and Rhodes 1992: 1-28). Strip mining began in the area in 1950. The Lincoln Star and Blazon Mines were located about 8 miles south of Kemmerer, on the Spring Valley coal vein. The Lincoln Star Mine opened in 1918 and was in production until 1942. A post office was established at the site in 1936. The land is now owned by the Kemmerer Coal Company (Gardner and Rosenberg 1984:47). Lincoln-Star Coal Company employed Japanese workers during World War II (Gardner 2004). The Blazon Coal Company, a Utah company, established the Blazon Mine in 1923 about 0.25 mile south of the Lincoln Star Mine. A post office opened in 1929, and there was a joint Lincoln Star/Blazon school. The Blazon Mine closed in 1936 (Gardner and Rosenberg 1984:47). Demand for coal lessened substantially after World War II as a result of widespread use of diesel-electric locomotives on railroads and the availability of natural gas for heating. Coal mining in the Kemmerer area revived in the 1970s with the opening of a huge open-pit coal mine run by the Morrison Knudsen Company. The mine provides fuel to fire steam turbines at electric generating plants run by the Utah Power and Light Company (now PacifiCorp) (Blair 1970:161).

Kemmerer is also famous as the birthplace of the J.C. Penney retail chain (Stone 1924:258-260; Rosenberg 1991). The son of a Missouri Baptist minister, James Cash Penney had wanted to be a storekeeper since his early years. He moved west and settled in Kemmerer, Wyoming, and with two

partners started his first store. He sent out flyers to all the local residents, advertising that he would sell quality goods in general demand, and would accept cash payments only. The store, named the Golden Rule, opened April 14, 1902, and was open seven days a week. In the first year he grossed \$28,898.11 (Beasley 1948:38). In 1906, there were two stores, by 1911, 22, with gross sales over \$1 million (Beasley 1948:60). Starting in Wyoming, he expanded into Utah, Idaho, Nevada, Oregon, Washington, Colorado and Montana. The no-frills stores were on the main streets of small towns.

Penney bought out his original partners in 1907, and in 1913 he incorporated into one company and changed the name to The J. C. Penney Store. In 1914, he moved his corporate headquarters to New York. His store policy was described in the Penney Principles:

1. To serve the public, as nearly as we can, to its complete satisfaction.
2. To offer the best possible dollar's worth of quality and value.
3. To strive constantly for a high level of intelligent and helpful service.
4. To charge a fair profit for what we offer—and not all the traffic will bear.
5. To apply this test to everything we do: “Does it square with what is right and just?” (Beasley 1948:90).

By 1920, there were J.C. Penney stores throughout the country. Between 1920 and 1930 1,250 new stores were opened, most of them in the downtowns of small towns. After World War II Penney's joined the trend to the suburbs, opening the first store not on a main street in the Hampton Village Shopping Center outside of St. Louis, Missouri. The stores are now most often anchor stores in large shopping centers.

2.2.6.3 Trona and Other Mineral Mining and Processing

Trona is a mineral that contains soda ash, which is used in production of glass, pharmaceuticals, fertilizers, and a variety of other products. The world's largest known trona deposit is mostly within the eastern portion of the Kemmerer Planning Area. This deposit extends from the Uinta Mountains on the south to Seedskaadee on the north, and from Green River westward to Little America. The trona deposit was first found in 1938 by the Mountain Fuel Supply Company which was drilling for natural gas. The UPRR drilled additional test holes in 1940 to confirm the deposit. In 1947, Westvaco Chlorine Products Corporation sank the first mine shaft and began production of trona ore. Westvaco was a precursor of the FMC Corporation which built the first refined soda ash plant in 1953. FMC Corporation was joined in the mining operations in 1961 by the OCI Corporation of Wyoming, in 1968 by General Chemical, and in 1982 by Solvay Minerals. The four companies together produce nearly 10 million tons of trona ore annually, which amounts to 90 percent of the soda ash used in the U.S. The industry provides jobs for 2,800 persons and pays \$50 million in taxes and royalties annually (Sweetwater Joint Travel and Tourism 2003).

Other mineral exploration, extraction and processing has occurred within the Kemmerer Planning Area. The Dempsey Basin is reported by one source to have “hills of aluminum...It is surrounded with mountains of aluminum clay and all filed on once by a Syndicate” (Henry 1940:32). Stauffer Chemical Company operated a phosphate mine at Sage, which furnished employment for many Cokeville and Kemmerer residents in the 1970s (Blair 1970:160). In the southern portion of the

Kemmerer Planning Area, clay was mined from hills around Almy and shipped to Utah for processing into light brick (Richards 1970:211). A building stone quarry to the south of the coal mine at Diamondville was developed by A.S. Barrett and later operated by Lee Craig; this quarry was in operation in the mid-1920s (Stone 1924:258).

2.2.6.4 Early Oil Exploration

The presence of oil in the Kemmerer Planning Area was known to trappers possibly as early as the 1820s, but the first written account was published in 1848 by W. Clayton in *Latter Day Saints' Emigrants Guide*. After describing the crossing of Sulphur Creek, the passage reads as follows:

About a mile from this place in a southwest course is a tar or oil spring, covering a surface of several rods of ground. There is a wagon trail running within a short distance of it. It is situated in a small hollow on the left of the wagon trail, at a point where the trail rises to a higher bench of land. When the oil can be obtained free of sand, it is useful to oil wagons. It gives a nice polish to gun stocks, and has been proved highly beneficial when applied to the sores on horses (quoted in Rosenberg 1990b:207).

This oil seep was located southwest of the later site of Bear River City in Uinta County. Brigham Young sent Mormons from Utah to develop the oil source by digging a shallow well, and the site became known as the Brigham Young Oil Spring. Oil was skimmed from the surface and either sold to emigrants on the nearby trail or shipped to Salt Lake City. Several other oil springs were later developed in the vicinity, including the White Oil Spring developed by Judge C.M. White in 1867 (Stone 1924:185; Rosenberg 1990a:208).

In 1868, Judge Carter struck a flow of oil while trying to dig a coal tunnel about 3 miles west of Spring Valley. He developed a well that produced about six barrels per day of heavy lubricating oil, which he sold to the UPRR at \$.40 to \$1.00 per gallon. In 1867, C.M. White tried to drill an oil well, but he abandoned the well at a depth of 480 feet because of the difficulty in replacing equipment. In 1900, oil was discovered when the Union Pacific constructed the Aspen Tunnel, and in the same year the railroad attempted to drill a deep water well in Spring Valley but instead struck high-grade oil at less than 500 feet below the surface. This discovery set off the first oil boom in the region, with many prospectors staking out claims under placer mining laws (used previously primarily for claims for free gold in streams) (Stone 1924:186; Rosenberg 1990b:208).

While surveying for an alternate route for the Oregon Trail in 1857, Lieutenant F. W. Lander discovered oil seeps on the south fork of Twin Creek, to the west of current Kemmerer. The Twin Creek Land and Oil Company drilled two oil wells in this area between 1885 and 1887, the deepest of which produced heavy oil (Rosenberg 1990ab:209). The Fossil Oil Field was west of Kemmerer, along the Oregon Short Line Railroad. It had been an oil seep noted by pioneers (McKinley 2003:1). In 1918, eight companies had drilling operations there. It was a shallow field—the first well came in at a depth of 242 feet. However, companies were preparing to test for “deep and more productive sands after the shallow oils” were at a profitable stage (Kemmerer Camera 1918:44). Founded in 1899, the town of Fossil “stands in a desolate setting” (WPA 1941:249) 12 miles west of Kemmerer. The town consisted of train depot, section house, saloon, store and residences. Never a large settlement, the population peaked at 150. The post office was discontinued in 1945 (Urbanek 1988:74).

Oil was discovered in 1907 at what would become the La Barge oil field in Sublette County, but major development of that field began in the early 1920s, in part because the location was accessible

only by the rough Opal Wagon Road and by another primitive road from Kemmerer. The first production in the La Barge field began in 1923, and the well field soon had several wells with impressive production. In 1927, the California Petroleum Company, which had become the dominant player in the La Barge field, built a small refinery near the well field (Rosenberg 1990b:212)

Oil from the La Barge field was initially trucked to the Oregon Short Line Railroad spur at Susie, north of Kemmerer, and from there the oil went by rail to a refinery in Salt Lake City. In 1928, the Midwest Pipeline Company built a 4-inch pipeline from the well field to Opal, this beginning the position of that small community as the center of pipelines in the region (Rosenberg 1990b:214). Besides major oil companies, many small local firms were established and drilled for oil within the Kemmerer Planning Area. Most of the smaller companies soon failed, but three of the local companies were combined into the Mountain Oil Company, which operated at least until the mid-1920s (Stone 1924:186).

2.2.6.5 Contemporary Culture

The two main industries in Wyoming, mineral extraction and tourism, are both important in the planning area today. Among the states Wyoming ranks first in coal production, fifth in natural gas production, and seventh in oil production. It has the largest trona reserve in the world. Flaming Gorge Recreational Area and Fossil Butte National Monument, the most visited tourist destination in the state, after Yellowstone, the Grand Tetons, and Devil's Tower, bring tourists into southwestern Wyoming

The landscape has been described as desolate, and in the state with the lowest number of residents, the population of the planning area is smaller than that of Cheyenne. There are cattle and sheep ranches. Star Valley remains a farming area, with the largest milk production in the state. Coal mining is no longer a prominent industry, even though one of the world's largest open pit mines, the P & M Coal Mine, now Wyoming's longest continually operating mine, is 6 miles south of Kemmerer. In Uinta County the Yellow Creek Oil Field, discovered in 1976, produces both oil and natural gas. Sublette, Sweetwater, Uinta and Lincoln counties are the leading producers of natural gas in Wyoming. Sweetwater and Uinta counties each produce about eight percent of the oil from the state, placing both of them in the top five oil-producing counties, while 97 percent of the state's sulfur production comes from Lincoln and Uinta counties (Jordan and DeBoer 1996:162, 164,166).

County seats are the hubs of the area: Kemmerer is a regional shopping center, with a large natural gas processing plant. Evanston, set in "an ideal location with a good water supply and bottom lands for farming and ranching" has rebuilt the Joss House that burned in the 1920s and celebrates the Chinese New Year (Burt 1998:305,307; Gardner and Rosenberg 1984:8). The restored Fort Bridger, and other sites such as Emigrant Springs and Johnston Scout Rocks celebrate the early Euroamerican history of the area.

2.3 Cultural Resource Synthesis

Nearly all of the major prehistoric and historic themes of the Rocky Mountain West are represented in events that occurred in the Kemmerer Planning Area. Prehistoric occupation and use of the area is represented in archeological sites ranging in age from the Paleoindian Period through the Historic Era. In the prehistoric and early historic periods, the Kemmerer Planning Area was a cultural transition zone between the Great Basin to the west and the Great Plains to the east. These two

regions offered differing resources to aboriginal people, and the archeological sites of the Kemmerer Planning Area may be particularly rich sources of information concerning the influences of cultures from these regions.

During the Historic Era, the Kemmerer Planning Area was first a focus of the American and British fur trade, then a scene of massive overland migration to Oregon, California, and Utah. Frontier military activities included extensive exploration and mapping expeditions, conflict with Mormons in 1857, and protection of the Pony Express, the transcontinental telegraph, and transcontinental railroad routes. Open range ranching began in the Kemmerer Planning Area as an outgrowth of overland emigration on the Oregon / California / Utah trails and the Overland Trail. Initial homestead settlement largely resulted from Mormon colonization efforts. Much of the route of the Overland Trail was adopted in 1913 for the Lincoln Highway, one of the first transcontinental automobile routes in the U.S.

Completion of the UPRR through the area in 1868 encouraged both large-scale tie and lumber production in forested mountain areas of the Kemmerer Planning Area and development of coal mining near the railroad. Completion of the Oregon Short Line Railroad from 1881 to 1884 allowed development of extensive deposits of coal in the Overthrust Foothills. Oil extraction in the Kemmerer Planning Area began with Mormon emigrants in the 1840s; drilling for oil began in the 1860s. Massive exploration and extraction of oil and gas began in the 1920s in the LaBarge field on the eastern edge of the Kemmerer Planning Area.

3.0 CULTURAL RESOURCES INVESTIGATIONS IN THE KEMMERER PLANNING AREA

3.1 Introduction and Data Sources

Cultural resources investigations have occurred extensively in the Kemmerer Planning Area since the early 1970s. Most investigations have been accomplished pursuant to compliance with Section 106 of the NHPA and provisions of the National Environmental Policy Act (NEPA), both of which require federal agencies to consider potential effects of federally-assisted or permitted projects on significant cultural resources. Cultural resources investigations in the Kemmerer Planning Area have also been conducted by the BLM pursuant to BLM's stewardship responsibilities under Section 110 of the NHPA, which requires federal land-managing agencies to identify and manage significant cultural resources on lands administered by those agencies.

The primary purpose of this Class I Overview is to provide information that will be useful to the BLM for management of cultural resources on lands for which BLM has stewardship responsibilities. However, this overview is intended to be regional in extent, and includes lands owned or managed by the BLM; the USFS; the United States Fish and Wildlife Service (USFWS); other federal, state, county, and local agencies; and private companies and individuals. The following discussion of investigations to date and the discussion of cultural resources types and patterns address all lands within the exterior boundaries of the Kemmerer Planning Area, regardless of surface or mineral ownership of the lands.

The Kemmerer Field Office maintains records of cultural resources investigations on lands that it administers. The Wyoming SHPO, WYCRO maintains records of all cultural resources investigations and all recorded cultural resources in Wyoming. WYCRO's on-line database was

queried on October 26, 2003 for records of cultural resources investigations in the Kemmerer Planning Area. The query returned 27,385 entries for all types of cultural resources investigations within all areas of the Kemmerer Planning Area, including multiple entries for many of the 5,136 individual investigations. In most cases, the multiple entries reflect multiple land areas in which the investigations occurred, such as multiple sections or part-sections. Database entries were sorted according to subregions within Kemmerer Planning Area, and the entries were analyzed for the purpose of providing both absolute and comparative information concerning types and levels of cultural resources investigations to date. Database limitations and deficiencies are discussed in detail in Chapter 1.

3.2 Cultural Resources Investigations

The WYCRO database yielded information on 5,136 cultural resources projects that have occurred in the Kemmerer Planning Area from 1967 to 2003. These investigations have included inventory, project monitoring, site testing, evaluation of eligibility for nomination to the NRHP, and mitigation of potential adverse effects through data recovery and other documentation.

3.2.1 Inventories in the Kemmerer Planning Area

The Wyoming SHPO specifically recognizes four levels or scopes of cultural resource inventory, plus monitoring. In this section, the SHPO's definition for each type of investigation is presented in italics below.

Class I: Existing Data Inventory

A Class I inventory is a compilation and analysis of existing cultural resource data and a management-focused, interpretive narrative overview and synthesis of the data. It includes, but is not limited to, a file search of the Wyoming SHPO Cultural Records Office database.

Class I Overviews may be stand-alone documents or may be included as portions of reports for Class II or Class III inventories, site testing or evaluations, or mitigation projects. The WYCRO database identifies only three stand-alone Class I Overviews that are pertinent to portions of the Kemmerer Planning Area:

Cumberland-Hams Fork Overview, prepared by Archeological Services, Western Wyoming College for the Wyoming Department of Environmental Quality, 1983. This overview is pertinent to the Overthrust Belt, Overthrust Foothills, and Wyoming Range subregions of the Kemmerer Planning Area.

Riley Ridge Natural Gas Project Class I Overview, prepared by Metcalf-Zier Archaeological Consultants for the BLM Kemmerer Resource Area, 1993. This overview is pertinent primarily to the Overthrust Foothills Subregion, but also peripherally to the Overthrust Belt and Green River Basin subregions.

Whisky Buttes 84 Pipeline Overview, prepared by Independent Archeological Consultants for Amoco, 1994. This document is pertinent primarily to the Green River Basin Subregion of Kemmerer Planning Area.

Class I Overviews include specific information from the WYCRO records concerning previous cultural resources projects and recorded resources for a subject area. Class I Overviews also include pertinent historic contexts that provide a basis for understanding and anticipating cultural resources in an area. The Wyoming SHPO has completed or partially completed a number of historic contexts or multiple properties NRHP nominations. Table 3-1 lists those that may be pertinent to the Kemmerer Planning Area. Many of these are scheduled for revision, but most provide guidance on research questions.

Table 3-1. Contexts Available from the Wyoming SHPO

<i>Historic Context or Multiple Property Documentation</i>	
Architecture	Ranching (cattle)
Civilian Conservation Corps (CCC)	Ranching (sheep)
Community Development	Recreation/Tourism
Historic U.S. Post Offices	Tie Hack Industry
Homesteading	Transportation/Trails
Military	Truss Bridges
Mining	Vehicular Truss and Arch Bridges
Oil Industry	
<i>Prehistoric Contexts or Multiple Property Documentation</i>	
Aboriginal Lithic Source Areas in Wyoming	
Aboriginal Rock Alignments and Effigies in Wyoming	
Domestic Stone Circle Sites in Wyoming	
Early and Middle Archaic House Pit Sites in Wyoming	
Late Prehistoric and Early Historic Shoshonean Occupation in Wyoming	

Class II: Sampling Field Inventory

A Class II inventory provides the database for making an objective estimate of the nature and distribution of cultural resource sites within a study area. Field investigations usually include transects of greater than 30 meters (100 feet). A sampling strategy must be justified with a written proposal, and reviewed and accepted by all reviewing agencies in advance of the inventory.

Despite the fairly specific definition above, Class II inventories in the Kemmerer Planning Area are of two types. Some Class II inventories are sampling projects that are intended to provide a basis for further investigations, and this type of Class II inventory commonly includes overview background research, construction and execution of a sampling design, and predictive analysis of the types and physical contexts of cultural resources within a broad geographic area. Survey methods typically include 30 meter or less transect intervals within sampling areas.

A second type of inventory that is commonly called a Class II consists primarily of spot surveys of locations within a project area that are thought to be relatively likely to contain cultural resources. The latter type of Class II may be based on the experience of previous intensive or sampling surveys within or near the project area. The latter type of Class II inventory has been used extensively by the BLM and USFS for addressing Section 106 compliance for large prescribed burn areas and timber sales within the Kemmerer Planning Area. The latter type has also been used for

Section 106 compliance for a number of privately-funded projects in the Kemmerer Planning Area, particularly for linear projects with very limited potential disturbance zones.

WYCRO records indicate that 75 Class II inventories were conducted in the Kemmerer Planning Area from 1972 to 2001. The Class II inventories vary substantially in size and focus, from a very small area addressed for a single well in 1977, to the large Overthrust Belt Inventory by the BLM in 1979. Class II inventories in the Kemmerer Planning Area are listed chronologically in Table 3-2.

Class III: Intensive Field Inventory

A Class III Inventory provides cultural resource specialists and managers with a record of all cultural properties, which can be identified from surface indications, for a specific area. Thirty-meter (100-foot) transect spacing (at a maximum) is required for a Class III inventory.

Class III inventory is the standard minimum level of investigation to provide information for compliance with Section 106, although site testing/evaluation and mitigation efforts may also be required. In the Kemmerer Planning Area, 4,738 individual Class III inventories were conducted from 1967 to 2003. Class III inventories included virtually all of the 192,787 acres surveyed in the Kemmerer Planning Area, because the Wyoming SHPO normally does not consider territory examined in reconnaissance or Class II sampling surveys to have been definitively surveyed for cultural resources.

Class III inventories in the Kemmerer Planning Area have ranged in size from 0.5 acre isolated tracts to large mine or wellfield blocks of several thousand acres. Portions of the Kemmerer Planning Area have had massive energy development on federal lands since the NHPA was enacted in 1966. A majority of Class III inventories in Kemmerer Planning Area have been for oil or gas well locations, pipelines, coal mines, and roads and other facilities supporting energy development. The resulting pattern of surveys is highly varied within Kemmerer Planning Area, with energy development areas like the Moxa Arch and other wellfields receiving intensive and often redundant surveys, while large areas of the Kemmerer Planning Area have received virtually no survey. Because of the disparate survey pattern, the database of surveys and recorded cultural resources is generally not adequate for predictive purposes. Class III inventories, and all other cultural resources projects in the Kemmerer Planning Area, are listed by subregion and legal location in Appendix B.

Reconnaissance Inventory

A reconnaissance inventory is a focused or special-purpose information tool that is less systematic, less intensive, less complete, and otherwise does not meet Class III inventory standards.

The WYCRO database lists only two reconnaissance level surveys within the Kemmerer Planning Area. The reader should be aware that in other states the term “reconnaissance” is sometimes understood to mean survey essentially at a Class II level (Table 3-3). In the following table, the year is represented by the first two numbers in the left-hand column: “80” refers to 1980; “92” to 1992.

**Table 3-2. Class II Inventories in Kemmerer Planning Area
(Page 1 of 2)**

<i>Title/Subject</i>	<i>Date</i>	<i>Pertinent Subregion(s)</i>
CIG Pipeline	1955(?)	Green River Basin
Jim Bridger Powerline	1972	Overthrust Belt Overthrust Foothills Green River Basin
Motocross Track	1975	Bridger Valley
Twin Creek Mining Area	1975	Overthrust Belt Overthrust Foothills
Drill Hole Locations	1976	Green River Basin
South Haystack Draw Field	1976	Overthrust Foothills
SW-Kemmerer & Hanna-Atlantic Rim	1976	Overthrust Belt Overthrust Foothills
WY-40-6-130 Sand & Gravel	1976	Green River Basin
Dump Site	1977	Green River Basin
Huff Lake Fed 1	1977	Overthrust Belt
Lincoln Road Gathering System	1977	Green River Basin
Snake River Scenic Corridor	1977	Wyoming Range
Well	1977	Bear River Divide Overthrust Belt
Wyoming 042-7-108 Road Project	1977	Overthrust Foothills
Corral Creek Well 2	1978	Wyoming Range
Lost Man Timber Sale	1978	Uinta Foothills
Overthrust Belt Inventory	1979	Bear River Divide Bear River Valley Overthrust Foothills Wyoming Range
Blasting Buffer Zone Survey	1980	Overthrust Foothills
Moon Lake Project	1980	Bear River Valley Bridger Valley Overthrust Belt Overthrust Foothills Uinta Foothills
National Trails Project	1980	Overthrust Belt
Soda Springs Warehouse, Caribou National Forest	1980	Star Valley Wyoming Range
Altamont Fed 1-22 BLM Field Check	1981	Overthrust Belt
Kemmerer Resource Area Class II	1981	Bear River Divide
Skull Point Mine Expansion Area	1981	Overthrust Belt Overthrust Foothills
Trunk A Extension Reassessment	1981	Green River Basin
LaBarge Area Class II	1982	Green River Basin
3 Forks Cable Timber Sale	1983	Wyoming Range
Fogarty Creek 32	1983	Wyoming Range
Little Burke Park	1983	Overthrust Belt Wyoming Range
Seedskafee Cultural Assessment	1983	Green River Basin
Alpine Village Resort	1984	Wyoming Range
Fish Creek & Darby Beetle Sale	1984	Wyoming Range
Minnie Holden Timber Sale	1984	Wyoming Range
South Three Forks Cable Timber Sale	1984	Wyoming Range

**Table 3-2. Class II Inventories in Kemmerer Planning Area
(Page 2 of 2)**

<i>Title/Subject</i>	<i>Date</i>	<i>Pertinent Subregion(s)</i>
Buck Creek Timber Sale	1985	Wyoming Range
Corral Creek Timber Sale	1985	Wyoming Range
Forest Park Timber Sale	1985	Wyoming Range
Black Bug Timber Sale	1986	Wyoming Range
Deadman Coal Co. Permit Area	1986	Wyoming Range
Irene Creek Timber Sale	1986	Wyoming Range
U.S. Telecom Fiber Optic Cable	1986	Bear River Valley Green River Basin Overthrust Belt Overthrust Foothills
Hobble Creek Road	1987	Wyoming Range
Kelley Corral Spring Develop.	1987	Wyoming Range
Krall Water System	1987	Overthrust Foothills
Poison Meadows Reseeding	1987	Wyoming Range
Salt Pass Trough Replacement	1987	Wyoming Range
Scaler Cabin Corral	1987	Wyoming Range
Table Mountain Survey	1987	Uinta Foothills
Whiskey Springs #1 Pipeline	1988	Uinta Foothills
AH #1 Well	1989	Green River Basin
Pat Lacey Gravel Sales	1990	Green River Basin
Dry Fork Prescribed Burn	1991	Wyoming Range
Pine Creek Fence	1991	Overthrust Belt Wyoming Range
Rock Creek Vegetation Treatment	1991	Wyoming Range
Afton Water Storage Tank	1992	Wyoming Range
Red Eye Basin Burn	1992	Bear River Divide Overthrust Belt
#20-4 Well, Access Re-exam.	1993	Green River Basin
Coal Mine Drill Hole Sites	1994	Overthrust Foothills
Hams Fork-Whiskey Buttes Pipeline	1994	Green River Basin
Diamondville Moss Rock Sale	1995	Overthrust Belt
Blind Bull Run	1995	Wyoming Range
Proposed Trail Ridge Pipe	1995	Bear River Divide Overthrust Belt
STPUEV-4861(1) Holland Drive	1995	Bear River Valley
Lincoln Road 21-21	1996	Green River Basin
Moose Creek Burn	1996	Wyoming Range
Pipeline to Granger Meter	1996	Green River Basin
Upper Grey's Timber Salvage	1996	Wyoming Range
Painter Reserv. #23-32 Well	1997	Overthrust Belt
Aspen 3D Compliance	1998	Green River Basin
Little Gilbert Timber Sale	1998	Uinta Foothills
North Slope Land Exchange	1998	Uinta Foothills
Sage Creek Burn	1998	Uinta Foothills
Field Inspection of 48LN25 for a Powerline	2000	Overthrust Foothills
Viva Naughton X-Country Trail	2000	Overthrust Belt
Ryan Creek Prescribed Burn	2001	Overthrust Belt Wyoming Range

Table 3-3. Reconnaissance Surveys in the Kemmerer Planning Area

<i>Date/WYCRO No.</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregions</i>
80-2476-5 (7276)	MAPCO Wrc-Lta- Pioneer Site Recon	other, pipeline, linear survey	Bridger Valley Green River Basin Overthrust Foothills
92-1045 (34711)	Raymond Mt Land Exchange Recon	other, miscellaneous, block survey	Wyoming Range

Project Monitoring

Two types of project monitoring are represented in the WYCRO database, both of which are a form of inventory. The most common type of project monitoring is most often applied to pipeline construction and other developments that include excavation in areas where buried cultural resources may exist (and where such resources are not readily discernable through surface examination or shallow probing). When done during construction of pipelines, this type of monitoring is also sometimes called open trench inspection in the WYCRO database. A second type of monitoring has been inspection of initial surface disturbance of well pad areas, when snow cover has not allowed adequate surface visibility for traditional intensive survey. Reports of monitoring projects for pipelines and other relatively large projects can provide useful information about geomorphology and the types, contexts, and relative number of buried sites in an area. The WYCRO database indicates that 95 monitoring projects have occurred within the Kemmerer Planning Area (Table 3-4). In the following table, the year of the investigation is represented by the first two numbers in the left-hand column: “77” refers to 1977; “00” to 2000; etc.

3.2.2 Testing and Evaluation Projects

Archeological site testing is conducted to define the vertical and horizontal extent, content, age, cultural affiliation, depositional context, integrity, and potential for a site to yield information that would be important for expanding current knowledge of prehistory or history (depending on the age of the site). Archeological testing provides information necessary for determining whether a site is eligible for the NRHP under any of the Criteria for Evaluation published in 36 Code of Federal Regulations (CFR) 60. Archeological testing addresses the potential scientific information content of a property, which is usually considered under Criterion D. Other possible cultural values for resources are usually considered under Criteria A, B, and C, and are addressed primarily by means of documentary research or comparative field investigations to establish the relative importance of specific cultural resources within historical, architectural, or engineering contexts. Traditional Cultural Properties (TCPs) associated with Native Americans are usually identified and evaluated largely on the basis of oral interviews, although evidence of the importance of some TCPs to Native Americans and other cultural groups may also be found in documentary sources. To date, no TCPs have been identified in the Kemmerer Planning Area.

**Table 3-4. Monitoring Projects in Kemmerer Planning Area
(Page 1 of 5)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregions</i>
77-24-2 (663)	Ryckman Creek Nitrogen Pipeline	monitor, pipeline, linear survey	Overthrust Belt
77-24-3 (664)	48UT222-Shurtleff Creek Loc	monitor, pipeline, linear survey	Overthrust Belt
78-1024 (2320)	Uteland 22-1	snow monitor, well pad and access, combination block/linear	Overthrust Belt
78-165-3 (1381)	Bruff #7 Lateral Monitor	monitor, pipeline, linear survey	Green River Basin
78-175 (1394)	Uteland 22-1 Monitor	snow monitor, well pad, block survey	Overthrust Belt
78-214 (1438)	Road Construction	monitor, road/access, linear survey	Green River Basin
78-225 (1449)	.5 Mile Access Monitor	monitor, road/access, linear survey	Overthrust Belt
78-226 (1451)	True Fed 11-20A Monitor	snow monitor, well pad and access, combination block/linear	Overthrust Belt
78-226 (1451)	True Fed 11-20A Monitor	snow monitor, well pad and access, combination block/linear	Overthrust Foothills
78-241 (1466)	Monitor	snow monitor, well pad and access, combination block/linear	Bear River Valley
78-546-2 (1793)	Champlin 206 Amoco C Well #1	snow monitor, well pad and access, combination block/linear	Green River Basin
78-547 (1795)	Champlin 149 H Well #1	snow monitor, well pad and access, combination block/linear	Green River Basin
79-1619 (4140)	Church Buttes 29 Pipeline	snow monitor, pipeline, linear survey	Green River Basin
79-1765 (4291)	Thistle II, Unit 6-1 Access Road	snow monitor, road/access, linear survey	Overthrust Belt
79-1924-2 (4452)	Champlin 358g 1 Access Monitor	monitor, road/access, linear survey	Green River Basin
79-23-2 (2378)	Caterpillar Cut Inspection	monitor, seismic line, linear survey	Overthrust Belt
79-246 (2616)	Corral Creek #3	snow monitor, well pad and access, combination block/linear	Wyoming Range
79-248-2 (2618)	Scpf-012-1(21) Kemmerer Bypass	monitor, road/access, linear survey	Overthrust Foothills
80-180-2 (4728)	Resurvey Church Buttes #30 Well	snow monitor, well pad, block survey	Green River Basin
80-1811 (6535)	Shute Creek 1 Lateral A1 Monitor	monitor, pipeline, linear survey	Green River Basin
80-207-2 (4758)	Pipeline Champlin Cpc-Udc 23-1	monitor, pipeline, linear survey	Green River Basin
80-2076 (6825)	Berkeley Fed 1 Access Monitor	monitor, road/access, linear survey	Green River Basin
80-2102-2 (6852)	1-24-h Snow Monitor	snow monitor, road/access, linear survey	Bear River Valley

**Table 3-4. Monitoring Projects in Kemmerer Planning Area
(Page 2 of 5)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregions</i>
80-2204-2 (6971)	New Route Trans. Pipeline Monitor	monitor, pipeline, linear survey	Overthrust Belt Overthrust Foothills
80-2476-3 (7274)	Open Trench/West Leg Loop MAPCO	monitor, pipeline, linear survey	Bear River Valley Overthrust Belt Overthrust Foothills
80-2476-7 (7278)	MAPCO Monitoring	monitor, pipeline, linear survey	Bear River Valley Bridger Valley Green River Basin Overthrust Belt Overthrust Foothills
80-62 (4578)	Shute Creek Unit Well 6	snow monitor, well pad and access, combination block/linear	Green River Basin
81-158-2 (7455)	Bradshaw Fed #1 Monitor	monitor, well pad and access, combination block/linear	Green River Basin
81-222 (7527)	Fed 1-34 g	snow monitor, well pad and access, combination block/linear	Overthrust Belt
81-2405-3 (9882)	Monitor of Access 2-6-1710	monitor, core holes, combination block/linear	Green River Basin
81-2446-2 (33980)	Monitor of Lateral 446	monitor, pipeline, linear survey	Green River Basin
81-2489-2 (9975)	Moxa Arch Open Trench Inspection	monitor, pipeline, linear survey	Green River Basin
81-567-2 (39433)	Scp-1906(6) Dodge/Refuge Pit	monitor, road/access, linear survey	Green River Basin
81-702-2 (8039)	Monitor-Access-#w-30496	monitor, road/access, linear survey	Overthrust Foothills
82-1172-2 (11244)	Monitor Lat Pipeline Marathon Fed 1	monitor, pipeline, linear survey	Uinta Foothills
82-1217-2 (11294)	Mapping & Monitor 48UT693	monitor, well pad and access, combination block/linear	Uinta Foothills
82-1372-2 (11453)	Reroute & Pipeline Monitor Slate Ck	monitor, pipeline, linear survey	Overthrust Foothills
82-1448-2 (11532)	Champlin Well 384b#2 Monitor	monitor, road/access, linear survey	Overthrust Belt
82-281 (10281)	Marathon Fed 16-1 Snow Monitor	snow monitor, well pad and access, combination block/linear	Uinta Foothills
82-376-2 (10381)	Monitor of Core Access Rd	monitor, road/access, linear survey	Green River Basin
82-51-2 (10037)	Gov 1-12 Well Monitor	monitor, well pad and access, combination block/linear	Green River Basin
82-656-2 (10680)	Monitor for 7 Mile Wash 14 Pipeline	monitor, pipeline, linear survey	Green River Basin
83-1005-2 (12750)	Monitor Henry Unit # 11	monitor, well pad and access, combination block/linear	Bridger Valley

**Table 3-4. Monitoring Projects in Kemmerer Planning Area
(Page 3 of 5)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregions</i>
83-1053-2 (12802)	Monitor and Test of 48SW5695	monitor, pipeline, linear survey	Green River Basin
83-1233-3 (12993)	Usa-Labarge Fogarty ck #32 Monitoring	monitor, well pad and access, combination block/linear	Wyoming Range
83-1267-2 (13031)	Monitor Verne & Main Line 35	monitor, pipeline, linear survey	Bridger Valley
83-130-2 (11835)	Stp-011-2(4) Weber Pit Haul Rd	monitor, road/access, linear survey	Overthrust Foothills
83-1344 (13141)	Snow Monitor of Exxon Gravel Pit	snow monitor, mine/block, block survey	Green River Basin
83-32 (11732)	18-1	snow monitor, well pad and access, combination block/linear	Overthrust Belt
84-1110-2 (14304)	Snow Monitor Exxon Gravel Pit	snow monitor, miscellaneous, linear survey	Green River Basin
84-1214-2 (14420)	Monitor Henry Unit 12 Pipeline	monitor, pipeline, linear survey	Uinta Foothills
84-1351 (14584)	Access Road Dempsey Ridge	monitor, road/access, linear survey	Overthrust Belt
84-455-2 (13613)	Monitor Pipeline Rd Hollow # 9	monitor, pipeline, linear survey	Overthrust Belt
84-972-2 (14157)	Monitor Shannon-Wilson Geotech	monitor, miscellaneous, combination block/linear	Green River Basin
85-1064 (15726)	Trunkline Trench Inspection	monitor, pipeline, linear survey	Green River Basin
85-218-2 (14820)	Monitor Thru SW2450 & SW6175	monitor, pipeline, linear survey	Green River Basin
85-860 (15497)	Monitor of Gravel Pit Exploration Tests	monitor, mine/block, block survey	Green River Basin
86-221-3 (15959)	Open Trench Inspection	monitor, pipeline, linear survey	Green River Basin
86-335-2 (16086)	Subsurface Test-Pumphouse Loc.	monitor, miscellaneous, block survey	Green River Basin
86-335-3 (16087)	Trenching Monitor	monitor, pipeline, linear survey	Green River Basin
86-369-2 (16124)	Salvage 2 Sites During Monitor	monitor, pipeline, linear survey	Bear River Divide Overthrust Belt
86-653-2 (16416)	Open Trench Inspection Moxa Arch	monitor, pipeline, linear survey	Green River Basin
87-254-2 (16928)	Unit 22-11 Monitor	monitor, well pad and access, combination block/linear	Green River Basin
87-77-2 (16736)	State of WY Well No W-1 Monitor	monitor, road/access, linear survey	Green River Basin
87-794-3 (17506)	Open Trench Inspect Lincoln Rd pp	monitor, pipeline, linear survey	Green River Basin
87-825-3 (17542)	Wolverine 1/Weco-Wpre- Wwrc 21-15	monitor, well pad and access, block survey	Bridger Valley

**Table 3-4. Monitoring Projects in Kemmerer Planning Area
(Page 4 of 5)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregions</i>
87-967-2 (17714)	Shute Creek Pipeline Open Trench	monitor, pipeline, linear survey	Green River Basin
88-789 (18575)	Kemmerer City Reservoir Test Pits	monitor, miscellaneous, linear survey	Overthrust Belt
90-302 (20739)	Swan Federal A-2 and A-2 Lateral	monitor, pipeline, linear survey	Green River Basin
91-599-4 (21709)	5 Prehistoric Site Monitors (NWP)	monitor, pipeline, combination block/linear	Overthrust Belt
92-226 (22024)	UPRC #14913 Well Pad	monitor, well pad, block survey	Green River Basin
92-816-3 (22566)	Naughton Power Plant Pipe Inspect	monitor, pipeline, linear survey	Green River Basin Overthrust Foothills
93-437 (23137)	Painter-Anschutz Pipeline	monitor, pipeline, linear survey	Bear River Valley Overthrust Belt
93-438 (23138)	Naughton Pipeline	monitor, road/access, linear survey	Overthrust Foothills
94-1541 (33956)	Monitor of Well Pad Mesa 30-30	monitor, well pad, block survey	Green River Basin
94-632 (24478)	Fiber Optic Cable	monitor, telephone line/buried cable, linear survey	Green River Basin
94-660 (24510)	Blacks Fork (Cut Throat) Sales 1	monitor, pipeline, linear survey	Green River Basin
94-661 (24511)	Blacks Fork Plant Pipelines	monitor, pipeline, linear survey	Green River Basin
94-662 (24512)	Blacks Fork Meter Site	monitor, pipeline, combination block/linear	Green River Basin
95-399-2 (25584)	Gen. Chem. Pipeline open Trench Ins.	monitor, pipeline, linear survey	Green River Basin
96-85-2 (26127)	Eakin Ranch 1 Fence Monitor	monitor, miscellaneous, block survey	Green River Basin
97-305-2 (27204)	Sullivan Hollow Road Monitor	monitor, well pad and access, combination block/linear	Overthrust Foothills
97-856 (27777)	Preb-010-3(45) Snake River Canyon	monitor, road/access, block survey	Wyoming Range
98-1021-3 (41797)	16" Loop Pipeline	monitor, pipeline, unknown	Green River Basin
98-1022-5 (29704)	Bird Canyon-Grngr Pipeline/Opal Seg.	monitor, pipeline, linear survey	Green River Basin
98-1106-2 (34244)	Monitor of Opal 30-30 Well	monitor, well pad and access, combination block/linear	Green River Basin
98-112 (28120)	Monitor Const & Salvage 48LN3453	monitor, well pad, block survey	Green River Basin
98-229 (28237)	MAPCO Parallel Tie-In Pipeline	monitor, pipeline, combination block/linear	Green River Basin

**Table 3-4. Monitoring Projects in Kemmerer Planning Area
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<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregions</i>
98-943 (29479)	W. Loop Pipeline Trench Inspection	monitor, pipeline, linear survey	Green River Basin
99-1140-9 (33168)	Little America Segment	monitor, miscellaneous, linear survey	Green River Basin
99-1584 (35780)	Fort Bridger ADA Monitor	monitor, miscellaneous, unknown	Bridger Valley
99-1601-2 (37945)	Haven 10-4 Well/Access	monitor, well pad and access, combination block/linear	Green River Basin
99-82-2 (35018)	Testing- N Lateral Loop Pipeline	monitor, pipeline, linear survey	Green River Basin
00-1228 (33653)	Pioneer Pipeline Expansion Monitor	monitor, pipeline, unknown	Green River Basin
02-360-2 (43186)	Emigrant Springs 28-22 Monitor	monitor, well pad and access, unknown	Green River Basin

The WYCRO database lists 67 testing or other evaluation projects within Kemmerer Planning Area. These testing/evaluation projects range from testing of single archeological sites to documentation and evaluation of extensive segments of historic emigrant trails. The testing and evaluation projects listed in Table 3-5 below do not constitute all NRHP evaluations by the Wyoming SHPO for cultural resources within the Kemmerer Planning Area (see site discussions in Section 3.2 below and Appendix C). In the following table, the year of the investigation is represented by the first two numbers in the left-hand column: “76” refers to 1976; “01” to 2001, etc.

3.2.3 Mitigation and Major Excavation Projects

Major archeological excavations are usually required to mitigate potential adverse effects of projects, but other excavations have been performed purely as scientific inquiries. Full-scale archeological excavations have been relatively rare occurrences in the Kemmerer Planning Area, in part because avoidance of impacts to significant archeological sites is usually a preferred mitigation alternative, and because full-scale excavation destroys the resource. More common is limited excavation to mitigate unanticipated impacts to archeological sites, such as data recovery from features found in pipeline trenches. Mitigation of potential adverse effects to historic sites and structures is usually accomplished through documentation, including photography, detailed mapping, and preparation of a detailed history of the subject property.

Thirty-one major excavations or other mitigation projects have occurred within the Kemmerer Planning Area. At least three of the excavations have contributed substantially to the body of knowledge about prehistoric lifeways in the Kemmerer Planning Area and in the wider region: the Taliaferro site, the Vegan site, and the Pescadero site. Major excavations and other mitigations projects in the Kemmerer Planning Area are listed in Table 3-6. In the following table, the year of the investigation is represented by the first two numbers in the left-hand column: “80” refers to 1980; “00” to 2000, etc.

3.2.4 Other Cultural Resources Projects in the Kemmerer Planning Area

The WYCRO database includes a variety of projects under an “other” category. Many of these projects appear to have been survey or testing/evaluation efforts, and the reasons for listing the projects as “other” are not readily evident from the database itself. Key elements of reports, such as project maps, may be missing, or the methods of the investigation may not meet current standards. For example, both reconnaissance level surveys in the Kemmerer Planning Area are listed as “other” projects. Many of the “other” projects in the database appear to be relatively small, but some projects address historical documentation and assessment of historic emigrant trails and other historic and prehistoric resources. Table 3-7 presents the 51 cultural resources projects listed as “other” in the WYCRO database, including the two reconnaissance level investigations discussed above. In the following table, the year of the investigation is represented by the first two numbers in the left-hand column: “75” refers to 1975; “01” to 2001, etc.

**Table 3-5. Testing and Evaluation Projects in Kemmerer Planning Area
(Page 1 of 4)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion</i>
76-130-2 (285)	1978 Cultural Resource Investigation	site testing/NRHP evaluation, mine/block, block survey	Overthrust Belt Overthrust Foothills
76-130-2 (285)	1978 Cultural Resource Investigation	site testing/NRHP evaluation, mine/block, block survey	Overthrust Belt Overthrust Foothills
78-813-2 (2084)	Mapping and Testing SW1017	site testing/NRHP evaluation, miscellaneous, block survey	Green River Basin
78-953-2 (2239)	Survey Access Rd & Site Testing	site testing/NRHP evaluation, road/access, linear survey	Green River Basin
79-936-2 (36393)	Smp-1208(6) WY State Hwy 240	site testing/NRHP evaluation, snow fence, block survey	Green River Basin
80-2476-4 (7275)	MAPCO Pmz Site Testing	site testing/NRHP evaluation, pipeline, block survey	Bridger Valley Green River Basin Overthrust Foothills
80-2476-6 (7277)	MAPCO WRC-LTA-Pioneer Testing	site testing/NRHP evaluation, pipeline, block survey	Bridger Valley Green River Basin Overthrust Foothills
80-704-2 (5312)	Final Report, Testing 10 Sites	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
81-1497-4 (8903)	Trunk a Extension Testing LN830	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
81-2397-1 (9870)	Skull Point Mine Eleven Sites	site testing/NRHP evaluation, mine/block, block survey	Overthrust Foothills
81-2414-3 (9893)	Sulphur Term Test, Monitor LN829, 825	site testing/NRHP evaluation, pipeline, linear survey	Overthrust Foothills
81-2492 (9979)	Wyoming Truss Bridge Survey	site testing/NRHP evaluation, miscellaneous, block survey	Bear River Valley Bridger Valley Green River Basin Green River Basin Overthrust Foothills
81-792-2 (8134)	Testing NWP Row Construction	site testing/NRHP evaluation, miscellaneous, linear survey	Green River Basin
83-1271-2 (13036)	Scpf-011-1(3) Kemmerer/Lazeart	site testing/NRHP evaluation, road/access, linear survey	Overthrust Foothills
83-1331-4 (13118)	Testing-Playa 3 Tailings Pond	site testing/NRHP evaluation, mine/block, block survey	Green River Basin
84-1345-2 (14577)	Skull Point Mine Testing Sec 30	site testing/NRHP evaluation, mine/block, block survey	Overthrust Foothills
84-251-2 (13403)	Mitigation 48SW1242	site testing/NRHP evaluation, powerline, linear survey	Green River Basin
84-311-2 (13465)	12 Henry Unit Site Test 48UT940	site testing/NRHP evaluation, well pad, block survey	Uinta Foothills

**Table 3-5. Testing and Evaluation Projects in Kemmerer Planning Area
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<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion</i>
85-1068 (38805)	The Bridger Gap Burial (HR132)	site testing/NRHP evaluation, road/access, block survey	Overthrust Foothills
86-813-2 (16595)	48SW6498 Test Excavations	site testing/NRHP evaluation, mine/block, block survey	Green River Basin
86-862 (39799)	Bear River Divide Segment Ore. Trail	site testing/NRHP evaluation, miscellaneous, linear survey	Bear River Divide Overthrust Belt Overthrust Foothills
87-226-2 (41152)	Chicken Creek Road, Fossil Butte	site testing/NRHP evaluation, road/access, unknown	Overthrust Belt
87-339-4 (17016)	Test/Monitor 24 Eligible Sites	site testing/NRHP evaluation, telephone line/buried cable, linear survey	Bridger Valley
87-928-2 (39451)	Preb-016-1(8) Mountain View Streets	site testing/NRHP evaluation, road/access, block survey	Bridger Valley
88-1005-2 (18811)	Testing at 48SW6489	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
88-1005-4 (18813)	Test Excavations 48W7332	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
88-1080-2 (18901)	Evaluative Testing at 48LN1861	site testing/NRHP evaluation, well pad, block survey	Green River Basin
88-659-2 (18436)	S Trona-Monument Test SW7187/7188	site testing/NRHP evaluation, powerline, linear survey	Green River Basin
89-1109 (20199)	Blue Forest Unit No. 13-2 Test	site testing/NRHP evaluation, well pad and access, combination block/linear	Green River Basin
89-811-2 (19889)	McNamara Nct-1 Well #2	site testing/NRHP evaluation, well pad, block survey	Green River Basin
89-898-2 (19981)	Prea-010-3(45) Alpine/Hoback	site testing/NRHP evaluation, road/access, linear survey	Wyoming Range
90-153-8 (20566)	The Disney Site	site testing/NRHP evaluation, pipeline, block survey	Green River Basin
90-153-A (20568)	Cumberland Gap Reroute	site testing/NRHP evaluation, pipeline, combination block/linear	Overthrust Foothills
90-153-B (20569)	Twelve Discovery Sites	site testing/NRHP evaluation, pipeline, block survey	Overthrust Foothills
90-217-2 (20643)	Mesquite Federal 20-24 Testing	site testing/NRHP evaluation, well pad and access, block survey	Green River Basin
90-243 (20672)	Graham Reservoir 1-14	site testing/NRHP evaluation, well pad, block survey	Green River Basin

**Table 3-5. Testing and Evaluation Projects in Kemmerer Planning Area
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<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion</i>
90-246-2 (20675)	Lincoln Road Federal 2-4	site testing/NRHP evaluation, well pad and access, block survey	Green River Basin
90-251-2 (20681)	Smp-sf-1208(8) Opal North	site testing/NRHP evaluation, snow fence, linear survey	Green River Basin
90-261 (20692)	Lansdale 28-2	site testing/NRHP evaluation, well pad and access, combination block/linear	Green River Basin
90-275 (20707)	Wilson Ranch Lat. Gathering System	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
90-286-2 (20718)	Trumpeter Unit #1 Well Pad	site testing/NRHP evaluation, well pad and access, combination block/linear	Green River Basin
91-50-2 (21216)	Altamont Gas Pipeline Testing	site testing/NRHP evaluation, pipeline, block survey	Green River Basin
91-599-5 (21710)	Test Excavations for 48LN2555	site testing/NRHP evaluation, pipeline, combination block/linear	Overthrust Belt
91-599-8 (21713)	Phase 2 NWP Expansion 2 n Loops	site testing/NRHP evaluation, pipeline, linear survey	Bear River Valley Overthrust Belt Overthrust Foothills
91-599-G (44869)	Historical Background & NRHP Evaluation LN2705	historic overview/evaluations, pipeline, linear survey	Overthrust Belt
92-225 (22023)	Lansdale 28-2 Lat. Pipeline	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
92-228 (22026)	Lansdale Fed. 28-2 Lat. Pipeline	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
92-278-2 (22079)	Bruff 21 Lateral Evaluative Test	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin
92-284-2 (22086)	Hagood Federal 12-4 Site Testing	site testing/NRHP evaluation, well pad and access, block survey	Green River Basin
92-298-2 (22101)	Kern River- Overland Trail Transportation	site testing/NRHP evaluation, pipeline, linear survey	Green River Basin Overthrust Belt
92-353 (22161)	Engleman 30-18 Well & Access	site testing/NRHP evaluation, well pad and access, combination block/linear	Green River Basin
93-1498-2 (35298)	Test Excavations, SW2310 SW10003	site testing/NRHP evaluation, telephone line/buried cable, unknown	Green River Basin
93-1498-4 (35299)	Field Inspection 6 Sites-Reroute	site testing/NRHP evaluation, telephone line/buried cable, linear survey	Bridger Valley Green River Basin

**Table 3-5. Testing and Evaluation Projects in Kemmerer Planning Area
(Page 4 of 4)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion</i>
93-705 (23407)	Rock Springs-Granger Fiber Optic	site testing/NRHP evaluation, telephone line/buried cable, linear survey	Green River Basin Green River Basin
94-1390-2 (33625)	Testing-48LN2946-Fossil Reservoir	site testing/NRHP evaluation, range improvement, block survey	Overthrust Belt
94-1446-2 (33729)	Site Testing 48LN2947	site testing/NRHP evaluation, miscellaneous, unknown	Overthrust Belt
96-59-2 (26097)	Preb-012-2(9), Granger Section	site testing/NRHP evaluation, road/access, block survey	Green River Basin
98-1417-9 (37361)	Mountain View to Bryan Segment	site testing/NRHP evaluation, powerline, block survey	Overthrust Belt Bridger Valley
98-243-2 (44267)	48SW2629 and 48SW12048	site testing/NRHP evaluation, pipeline, unknown	Green River Basin
99-82-3 (44079)	Site Testing 48LN3701	site testing/NRHP evaluation, pipeline, block survey	Green River Basin
00-1168-2 (37869)	Powerline Re-Location & 48LN25	site testing/NRHP evaluation, powerline, block survey	Overthrust Foothills
00-1228-1 (43204)	Pioneer Pipeline Test Excavation	site testing/NRHP evaluation, pipeline, block survey	Bridger Valley Green River Basin
00-1435-4 (42958)	NWP Rockies Expansion Project	site testing/NRHP evaluation, pipeline, block survey	Green River Basin Overthrust Foothills
01-1436-2 (41473)	Area 4 Federal Well	site testing/NRHP evaluation, well pad and access, unknown	Green River Basin
01-1839-2 (42739)	48LN2357 Testing/ Evaluation	site testing/NRHP evaluation, miscellaneous, unknown	Green River Basin
01-2046-2 (43719)	Stp-0p-11-03(024) Kemmerer/Labrg	site testing/NRHP evaluation, road/access, combination block/linear	Green River Basin
01-2061 (39104)	Evaluation of BTNF Admin. Sites	historic overview/evaluations, miscellaneous, unknown	Overthrust Foothills Star Valley Wyoming Range
02-1084-2 (43160)	Willow Bend 23-1 His. Assessment	historic overview/evaluations, well pad and access, combination block/linear	Overthrust Foothills

**Table 3-6. Major Excavation/Mitigation Projects
in the Kemmerer Planning Area
(Page 1 of 2)**

<i>Date (WYCRO No).</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion</i>
77-557 (1212)	Rail Spur Excavations UT35, 37, 38	mitigation/major excavation, miscellaneous, linear survey	Overthrust Foothills
80-2467-2 (7263)	Mitigation UT524 & UT525	mitigation/major excavation, road/access, block survey	Overthrust Foothills
80-2476-2 (7273)	Bessie Bottom/48UT1186	mitigation/major excavation, pipeline, block survey	Bear River Valley
81-2422-2 (9902)	Arch Excavations at LN797	mitigation/major excavation, mine/block, block survey	Overthrust Foothills
82-1446-2 (11529)	SCPF-011-2(4) Kemmerer/Lazeart	mitigation/major excavation, road/access, linear survey	Overthrust Foothills
82-331-2 (10334)	Mitigation of 3 Prehistoric Sites	mitigation/major excavation, mine/block, block survey	Green River Basin
83-1271-3 (13037)	Scpf-011-1(3) Kemmerer/Lazeart	mitigation/major excavation, road/access, linear survey	Overthrust Foothills
83-1325-7 (13108)	5500 Yrs-Excavation Vol III	mitigation/major excavation, mine/block, linear survey	Green River Basin
84-639-3 (13802)	Taliaferro Site/48LN1468	mitigation/major excavation, pipeline, linear survey	Green River Basin
84-980-2 (38830)	IR-80-1(97)18 Lazeart Jct. East	mitigation/major excavation, road/access, linear survey	Overthrust Foothills
85-1057 (15719)	Investigations at 48LN1469	mitigation/major excavation, pipeline, block survey	Green River Basin
85-1058 (15720)	South Cumberland	mitigation/major excavation, reclamation, block survey	Overthrust Foothills
87-339-9 (17021)	Excavations at UT1241 & UT1247	mitigation/major excavation, telephone line/buried cable, linear survey	Bridger Valley
87-967-3 (30225)	Shute Creek Pipeline	mitigation/major excavation, pipeline, block survey	Green River Basin
89-1263 (30130)	Vegan Site 48LN1880	mitigation/major excavation, pipeline, linear survey	Green River Basin
90-1481 (40634)	Excavations, Mormon Fort – 48UT29	data recovery/mitigation plan, miscellaneous, block survey	Bridger Valley
90-153-D (20571)	Data Recovery UT1447, 786, 186	mitigation/major excavation, pipeline, block survey	Overthrust Foothills
90-158 (20578)	Data(90-91) Historic Overview(92)	mitigation/major excavation, miscellaneous, block survey	Bridger Valley
90-218-2 (20645)	48UT122: the Gemma Site Mitigation	mitigation/major excavation, pipeline, block survey	Green River Basin

**Table 3-6. Major Excavation/Mitigation Projects
in the Kemmerer Planning Area
(Page 2 of 2)**

<i>Date (WYCRO No).</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion</i>
90-295-3 (20729)	Pescadero Site Excavations	mitigation/major excavation, pipeline, block survey	Green River Basin
90-307-3 (20745)	Archeological Excavation at LN1185	mitigation/major excavation, pipeline, block survey	Green River Basin
91-599-6 (21711)	Data Recovery Excavation 48LN2555	mitigation/major excavation, pipeline, combination block/linear	Overthrust Belt
91-599-D (21718)	Weston Site Data Recovery NWP	mitigation/major excavation, pipeline, block survey	Bear River Valley
92-531-2 (42794)	Tenneco Sales Line -W1651, 9196	data recovery/mitigation plan, pipeline, unknown	Green River Basin
93-1606 (43203)	Investigations at site 48LN2450	mitigation/major excavation, pipeline, block survey	Green River Basin
96-194 (26237)	Sjhoberg Cabin Evaluation	mitigation/major excavation, miscellaneous, fix this data	Wyoming Range
96-81 (26123)	Salvage Excavations of 48SW4141	mitigation/major excavation, miscellaneous, block survey	Green River Basin
98-1021-4 (44512)	16 inch Loop Pipeline	data recovery/mitigation plan, pipeline, unknown	Green River Basin
98-1065 (29947)	Discovery Excavation/Trail 22-17 Well	mitigation/major excavation, well pad, block survey	Green River Basin
00-1441 (43061)	Aspen Section Camp	mitigation/major excavation, miscellaneous, block survey	Overthrust Belt
00-1443 (43093)	Excavations at UT375	mitigation/major excavation, pipeline, block survey	Bridger Valley

**Table 3-7. Other Cultural Resource Projects in Kemmerer Planning Area
(Page 1 of 3)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion(s)</i>
75-35 (109)	Pipeline w-50631	other, pipeline, linear survey	Green River Basin
76-130-6 (289)	Data recovery plan for S. Haystack	other, mine/block, block survey	Bridger Valley Overthrust Foothills
80-1003-2 (5649)	Field check 41 fmc drill holes	other, core holes, block survey	Overthrust Foothills
80-2476-5 (7276)	MAPCO WRC-LTA- pioneer site reconnaissance	other, pipeline, linear survey	Bridger Valley Green River Basin Overthrust Foothills
81-1167-2 (8541)	Reroute around Oregon Trail Crossing	other, road/access, linear survey	Overthrust Foothills
81-2293-2 (9755)	Field check fed 41-10	other, well pad and access, combination block/linear	Overthrust Foothills
81-329-2 (7643)	48UT226/Chevron 1-26 well	other, well pad and access, combination block/linear	Bear River Valley
82-1565-2 (11661)	Emigrant trail inspection	other, pipeline, linear survey	Bear River Valley
82-511-2 (10523)	Pipeline to Mao Hams Fork 1-43 reroute	other, pipeline, linear survey	Green River Basin
82-554-2 (10570)	BVEA transmission Blacks fork	other, powerline, linear survey	Green River Basin
83-1053-3 (12803)	Data recovery plan for 48SW5695	other, pipeline, linear survey	Green River Basin
83-1053-4 (12804)	Mapping of 48SW5695	other, pipeline, linear survey	Green River Basin
83-1331-2 (13116)	Playa #3 district nomination	other, mine/block, block survey	Green River Basin
83-813-2 (12551)	Dempsey-Hockaday cutoff photos	other, road/access, linear survey	Overthrust Belt Wyoming Range
84-1070-2 (14260)	48UT983/Faulkner homestead	other, miscellaneous, block survey	Bear River Valley
84-1110-5 (14307)	Sec 106 case rpt-preliminary	other, road/access, linear survey	Green River Basin
85-360-2 (14970)	Pipeline for unit 20-2/48UT667	other, pipeline, linear survey	Uinta Foothills
86-109-2 (15841)	Historical evaluation Oregon Trail segment	other, well pad and access, linear survey	Overthrust Belt
86-510 (16268)	Historic US Post Offices 1900-19	other, miscellaneous, block survey	Bear River Valley Overthrust Foothills
86-851 (16643)	Historical overview phase 1-3	other, miscellaneous, linear survey	Wyoming Range
87-825-2 (17541)	Carter to opal road overview	other, road/access, linear survey	Bridger Valley

**Table 3-7. Other Cultural Resource Projects in Kemmerer Planning Area
(Page 2 of 3)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion(s)</i>
87-928 (17654)	Preb-016-1(8) mountain view streets	other, road/access, linear survey	Bridger Valley
87-938-2 (17666)	Open trench inspection Green River Gas Pipeline	other, pipeline, linear survey	Green River Basin
88-1078 (18899)	Whiskey Springs wells #4	other, well pad, block survey	Uinta Foothills
90-1 (20383)	1990 excavations at "Mormon Fort"	other, miscellaneous, block survey	Bridger Valley
90-242-2 (20670)	Wilson Ranch trunkline gat. Systems	other, pipeline, linear survey	Green River Basin
90-254 (20685)	Whiskey Buttes crossover pipeline	other, pipeline, linear survey	Green River Basin
90-307-2 (20744)	Historical assessment of trails & canal	other, pipeline, linear survey	Green River Basin
91-64-2 (21233)	Historical assessment 48SW827	other, well pad and access, linear survey	Green River Basin
92-1045 (34711)	Raymond Mountain land exchange recon	other, miscellaneous, block survey	Overthrust Belt Wyoming Range
93-1489 (34663)	Historic Evanston pipeline	other, miscellaneous, linear survey	Bear River Valley Overthrust Belt
93-15-2 (22707)	Cherokee Trail & Bryan-Browns Park	other, mine/block, combination block/linear	Green River Basin
93-578 (23279)	Granger Stage Station addition	other, miscellaneous, block survey	Green River Basin
94-1334 (33123)	Historical assessment Oregon trail variation	other, pipeline, linear survey	Green River Basin
94-1444 (33727)	Road hollow field snowfences	other, snow fence, linear survey	Bear River Divide
95-1020 (33482)	Temp. Storage & access	other, miscellaneous, combination block/linear	Overthrust Foothills
95-1045 (35551)	Who built the little rock houses	other, miscellaneous, unknown	Green River Basin
96-1204 (32707)	Painter res. 41-18a well, acc, pipeline	other, well pad and access, combination block/linear	Overthrust Belt
96-142 (26185)	Moxa vegetation treatment sites	other, range improvement, block survey	Green River Basin
96-688 (26737)	Lost Creek prescribed burn	other, miscellaneous, linear survey	Overthrust Belt
97-1047 (27964)	Gormandizer electrical fence	other, range improvement, linear survey	Overthrust Foothills
97-1116 (29158)	Rock Creek enclosures	other, range improvement, linear survey	Bear River Valley Overthrust Belt

**Table 3-7. Other Cultural Resource Projects in Kemmerer Planning Area
(Page 3 of 3)**

<i>Date (WYCRO No.)</i>	<i>Project Name</i>	<i>Project Type/Description</i>	<i>Pertinent Subregion(s)</i>
97-1230 (29731)	Raymond Carter direct land sale	other, miscellaneous, block survey	Overthrust Belt
97-1394 (31671)	Henry unit 60-20 well pipeline access	other, well pad and access, combination block/linear	Uinta Foothills
97-1564 (32136)	Lost Creek #3 prescribed burn	other, range improvement, linear survey	Overthrust Belt
97-1614 (32259)	Medicine Butte Mountain Bike Race	other, miscellaneous, linear survey	Bear River Divide Overthrust Belt
97-954 (27871)	Muddy Creek exclosures	other, miscellaneous, linear survey	Overthrust Belt
97-981 (27898)	Bleumel sand material sale	other, miscellaneous, block survey	Bridger Valley
01-1728 (41363)	STPP-011(3)19 Kemmerer/Labarge	other, road/access, unknown	Overthrust Foothills
01-730 (38477)	Zieglers flat mowing project	other, range improvement, unknown	Green River Basin
01-829 (38626)	Horse trap 3D geophysical project	other, miscellaneous, unknown	Overthrust Foothills
02-418 (42071)	Shute Creek Plant Water Pipeline	other, pipeline, unknown	Green River Basin

Source: Wyoming SHPO 2004a.

3.2.5 Summary of Cultural Resources Projects

Cultural resources investigations began in the Kemmerer Planning Area in 1967 for purposes of compliance with the NHPA. From 1967 to 2003, approximately 5,136 cultural resources investigations or other projects were conducted within Kemmerer Planning Area. Surveys have been conducted on over 192,000 acres, which constitutes about 4.75 percent of the Kemmerer Planning Area. Surveys completed prior to 1982 are generally considered to be inadequate under current standards of investigation and reporting; surveys in the Kemmerer Planning Area after 1981 covered approximately 127,437 acres, or about 3.14 percent of the land area of the Kemmerer Planning Area. Table 3-8 summarizes the percentage of each subregion surveyed, both total and after 1981.

Surveys both before and after 1981 have been highly concentrated in oil, gas, and coal producing areas, resulting in substantial disparity of survey attention among the nine subregions of the Kemmerer Planning Area. The Bear River Divide Subregion has had the highest percentage of land area surveyed, about 12.4 percent, but that subregion has had only about 4.14 percent of its land area surveyed under current standards. The Overthrust Belt has had the highest percentage of land area surveyed since 1981, approximately 4.92 percent. The subregions with virtually no energy development have had very little survey completed: the Wyoming Range Subregion has had approximately 1.4 percent of its area surveyed, and the Star Valley Subregion has had even less, approximately 0.97 percent, surveyed.

In addition to the 4,844 Class I, Class II, and Class III inventories, 106 monitoring projects, 93 testing and evaluation projects, 31 major excavation or other mitigation projects, and 62 other projects have occurred within the Kemmerer Planning Area. Cultural resources projects within the Kemmerer Planning Area are summarized in Table 3-8. A listing of all cultural resources projects within the Kemmerer Planning Area is presented in Appendix B.

3.3 Present Research Emphasis Summary

The reality of fieldwork on most BLM or other federal projects in southwestern Wyoming is that these projects have been driven primarily by Section 106 or NEPA compliance. This usually means that instead of a project beginning with a problem-oriented focus or detailed research design, the data collected is later applied to a pertinent research question. The following section present prehistoric and protohistoric research questions (section 3.3.1) and historic research questions (3.3.2).

3.3.1 Prehistoric and Protohistoric Research Questions

Thompson and Pastor (1995) summarized research questions for the Prehistoric and Protohistoric periods, and these remain pertinent to the Kemmerer Planning Area (personal communication, Wyoming SHPO 2004f). They summarize research questions and topics by period, and also by more general topic.

Table 3-8. Summary of Cultural Resource Projects in Kemmerer Planning Area

	<i>Bear River Divide</i>	<i>Bear River Valley</i>	<i>Bridger Valley</i>	<i>Green River Valley</i>	<i>Overthrust Belt</i>	<i>Overthrust Foothills</i>	<i>Star Valley</i>	<i>Uinta Foothills</i>	<i>Wyoming Range</i>	<i>Kemmerer Planning Area</i>
Area in Acres ¹	48,000	276,480	311,040	934,400	869,120	514,560	112,000	134,400	860,800	4,060,800
Total Area Surveyed ²	5,951	11,488	7,431	48,241	53,623	44,447	1,167	5,703	14,736	192,787
% Area Surveyed	12.40%	4.15%	2.38%	5.16%	6.18%	8.60%	1.04%	4.24%	1.71%	4.75%
Area Surveyed After 1981 ³	1,989	6,245	6,162	38,140	42,748	12,490	1,085	4,491	14,087	127,437
% Area Surveyed after 1981	4.14%	2.26%	1.98%	4.08%	4.92%	2.43%	0.97%	3.34%	1.64%	3.14%
No. of Projects ⁴	148	225	243	2,990	743	406	20	131	230	5136
Class I Projects	0	1	1	1	1	2	0	0	1	77
Class II Surveys	4	4	3	19	18	14	1	8	31	102
Class III Surveys	140	205	217	2,830	680	345	15	115	188	7354
Testing/Evaluation Projects	1	2	7	51	11	16	1	1	3	93
Monitoring Proj.	1	5	5	57	20	11	0	4	3	106
Mitigation/Excavation Proj.	0	2	4	14	2	8	0	0	1	31
Other Projects	2	6	6	18	11	10	3	3	3	62

Notes: 1. Calculated on number of land sections x 640 acres; area is likely to be slightly overstated because some border sections in some subregions contain less than 640 acres. The Kemmerer Planning Area also includes many cadastral correction points, which result in many sections both smaller and larger than 640 acres.

2. All block surveys reported in SHPO database, including redundant surveys and surveys completed before 1982.

3. Includes redundant surveys after 1981.

4. Corrected to eliminate projects that occurred in more than one subregion.

3.3.1.1 *Paleoindian Period*

- Late Pleistocene/ early Holocene Paleoenvironmental data calls for further exploration.
- Which is preferred: classic Paleoindian big game foraging or broad based resource collecting?
- What are the "wheres" and "whens" of Paleoindian caching and storage of lithic and subsistence materials?
- A Paleoindian projectile point chronology is needed.

3.3.1.2 *Early Archaic Period*

- What are the site location foci during the Altithermal?
- What was the hunting focus during the Altithermal (medium or small mammals)?
- Were floral resources utilized more than in previous periods?
- Is an increased use of floral resources reflected by the toolkit?
- What was the season of occupation and function of the Opal phase house pit?
- What are the variation and distribution changes of features through the Archaic Period?

3.3.1.3 *Late Archaic Period*

- Did the Neoglacial climate change or other preservation factors affect the apparent population reduction that occurred after the Pine Spring phase and into the Deadman Wash phase?
- Why did features become more varied during the Archaic?
- Is increased floral resource use associated with feature variation?
- Is there evidence for trade networks and reduced foraging ranges?
- Are the increases in frequencies of house pits due to any recognizable phenomena?
- What is the significance of the presence of McKean artifact types? Is it evidence of a McKean migration or a regional subsistence adaptation?

3.3.1.4 *Late Prehistoric Period*

- Uinta phase
 - Is the high frequency of radiocarbon dates related to environmental changes or population increases?
 - Is there evidence of competition over resources resulting in longer site occupations and the use of smaller specialized sites?
 - Were marginal areas utilized more heavily? Were formerly seasonal sites used for longer periods as a result of territory reductions?

-
- Did long distance trade and interaction systems develop as a result of increased territoriality?
 - Can evidence of migrations of external ethnic groups into the northern areas of the region be secured as they have been in the south?
 - To what extent and where did horticulture develop in the region?
 - What are the relationships between bison exploitation and point type variation at kill site, ethnic group migration and climate change?
 - What is the origin of Rose Spring/Rosegate projectile point technology and tradition?
 - The groundwork research behind ceramic roots, form, style, material, and functions has been established but little else has been explored.
 - What are the similarities and differences between house pit styles, functions and occupations between this phase and others?
 - Firehole phase
 - Why is there a general decrease in the frequency of Firehole phase sites?
 - Is the decrease due to environmental changes, population decreases, or subsistence strategy decreases?
 - What did the faunal resource base consist of?
 - How did this resource base change during the Little Altithermal and Little Ice Age?

3.3.1.5 Protohistoric Period

- How did interior-basin usage change after the introduction of the horse?

3.3.1.6 Research Issues That Involve All Periods

PALEOENVIRONMENTAL RECONSTRUCTION

According to Johnson and Pastor (2003:39), the current application of extra-regional paleoenvironmental reconstructive tools to the region of the Wyoming Basin is inadequate. Because paleoenvironmental histories vary greatly across the landscape, the necessary steps towards the understanding of a more complete picture of past environments include paleobotanical investigation and the chemical analysis of faunal data (Johnson and Pastor 2003:39).

GEOMORPHOLOGY AND GEOARCHEOLOGY

It is necessary to more fully understand landscape changes in order to understand the Prehistoric Period. Understanding of these processes can lead to a comprehension of past environmental processes and the location and understanding of sites that were previously unknown or anomalous (Johnson and Pastor 2003:39-40).

SETTLEMENT AND SUBSISTENCE PATTERNS

An understanding of the use and the periods of use of the uplands and lowlands is necessary. Floral and faunal data can provide evidence that leads to the understanding of seasonal use. An

understanding of Prehistoric Period storage strategies can also enable a level of comprehension and vice-versa. In order to draw balanced conclusions, sites in all environmental zones must be examined (Johnson and Pastor 2003:40).

REGIONAL POPULATIONS

It has been postulated that an indigenous population resided in the Wyoming Basin since the Late Paleoindian or perhaps the Early Archaic Period. If this theory holds true then the culture of the Wyoming Basin was first affected by outside influences during the Uinta Phase of the Late Prehistoric Period. This remains to be solidly proven (Johnson and Pastor 2003:40-41).

CHANGING ARCHEOLOGICAL SITE FEATURES OVER TIME

Feature construction, excavation, season of utility, typology, use and reuse, all call for increased analysis (Johnson and Pastor 2003:41).

LITHIC RESOURCES

Increased research that is focused on lithic sources can provide hints to group movement and the interactions between groups. Quarry sites need to be mapped and studied with increased intensity (Johnson and Pastor 2003:41).

3.3.2 Historic Research Questions

3.3.2.1 Community Development

This topic relates to the period from the Protohistoric Period to modern times. It overlaps with research questions associated with mining, ranching, architecture and other developmental phenomenon through the state of Wyoming. The Wyoming SHPO has developed a context that poses a number of research questions (Davidson and Massey 1992).

- What are the number, ethnic and sexual composition, and historical significance of transportation-related ghost towns on the Wyoming landscape from 1840 to 1940?
- What are the number, ethnic and sexual composition, and historical significance of mining-related ghost towns on the Wyoming landscape from 1840 to 1940?
- What is the architectural and social composition of locally significant service centers throughout Wyoming during the height of the open range cattle era (1860 to 1887)?
- What is the architectural and social composition of locally significant service centers throughout Wyoming after the height of the open range cattle era and the emergence of small scale cattle ranching and agriculture in Wyoming (after 1887) [Davidson and Massey 1992:17]?

3.3.2.2 Historic Trails

- What aspects of the environment influenced the historic trail routes? As the environment changed, did the routes change over time?

3.3.2.3 Homesteading

- What evidence from homesteads will provide information on ethnicity, crops, and numbers of occupants?

3.3.2.4 Military

In the Wyoming SHPO's historic context for the oil and gas industry (Massey 1992), a number of research questions are posed. At the data-focused level, these are:

- What examples, outside of Fort Bridger and historic trails, can be found of military property sub-types? These could include: rifle pits and fortifications; military campsites; military telegraph lines; gravesites; and bridges or road improvement directly tied to military actions or needs.
- What can be learned about oil and gas exploration and about life in the early oil field through a study of the physical remains?

3.3.2.5 Oil and Gas Industry

In the Wyoming SHPO's historic context for the oil and gas industry (Massey 1992), a number of research questions are posed. At the data-focused level, these are:

- What can be learned about oil and gas exploration and about life in the early oil field through a study of the physical remains?
- What is the frequency of common artifacts being adapted to new purposes?
- How are the artifacts distributed throughout the site and how does this relate to their function?
- How does the actual artifact type list and density relate to the expected artifact type list and density [Massey 1992:42]?

At the regional research level, questions include:

- What is the relationship between the perceived environment and the technological and social developments relating to the oil industry in region?
- How does technology interact with and influence the social and economic aspects of the Wyoming oil and gas industry?
- What effect did the development of the industry have on the sociocultural development of Wyoming?
- How did the national economic situation influence the development of the industry in Wyoming [Massey 1992:47]?

3.3.2.6 Ranching

- Identify ranches within the Kemmerer Planning Area that can be added to the Multiple Property nomination for Pioneer Ranches/Farms.

3.3.2.7 Recreation and Tourism

- Do examples of recreation and tourism from the Kemmerer Planning Area follow the general trends of the rest of the region as outlined in the state's historic context?

3.3.2.8 Sheepherding Camps

- What evidence from camps can be used to identify the ethnicity of sheepherders?

4.0 INVESTIGATIONS AND CULTURAL RESOURCES BY SUBREGION

4.1 Cultural Resource Types in the Kemmerer Planning Area

According to the definitions of the Wyoming SHPO (2004b), cultural manifestation may be recorded as sites, isolated finds, or not at all, as described below.

Site. A site is defined as two or more prehistoric or historic artifacts, or one or more prehistoric or historic features, including cairns. A site must be recorded on a Wyoming Cultural Properties Form and include a Smithsonian site number assigned by the Wyoming SHPO Cultural Records Office.

Isolated Find. An isolated find is defined as a single prehistoric or historic artifact or multiple fragments of a single prehistoric or historic artifact. Isolates must be recorded on a Wyoming Isolate Form.

The following types of cultural features can also be recorded on a Wyoming Isolate Form:

- Temporary sawmill sites such as a temporary sawmill depression, sawdust piles, slash piles, railroad tie piles with no associated features and not containing more than 50 associated artifacts;
- Historic period prospect pits with no associated features and not containing more than 50 associated artifacts. If ten or more associated prospect pits are located, they should collectively be treated as one site and recorded on a Wyoming Cultural Properties Form.

No Form Required. Formal documentation of certain types of locations of any age is not required, and in general, Smithsonian numbers will not be assigned to the location types listed below. However, their existence within the area surveyed and justification for exclusion should be mentioned in the project report. If any of the resources listed below exhibit significant architectural or engineering features, or are associated with NRHP-eligible sites or districts, they should be recorded on a Wyoming Cultural Properties Form.

- Utility lines (i.e., power lines, towers, telephone, fiber optic);
- Pipelines (i.e., water, gas, etc. This does not include early wooden pipelines.);
- Stock dams, troughs, spring boxes;
- Elevation, bench, and section markers;
- Carbanks (i.e., the use of abandoned cars, farm machinery, appliances, etc. to stabilize river banks);
- Rip-rap (i.e., the use of cobbles, rock, or wood to stabilize river banks);

-
- Isolated abandoned vehicles, appliances, and all mobile homes;
 - Fences (i.e., barbed wire, chain link, buck and pole, or other types of pasture fence. This does not include corrals, roundup or loadout facilities.);
 - Recent trash (i.e., highway trash, etc.);
 - Producing oil/gas wells and dry hole markers;
 - Underground mine fire fissures (i.e., fissures created on the ground surface from the heat of an underground mine fire);
 - Bear baiting sites;
 - Small concrete and metal culverts;
 - Unnamed two-track roads (i.e., ranch roads, seismic roads, etc.) This will require that the consultant check General Land Office (GLO) maps and determine if the roads are named. Named roads need to be formally recorded. Specify in the report the results of the GLO check;
 - An irrigation canal that has a capacity of 7 cubic feet per second (cfs) or less and is not the first appropriated canal in an area. Approximately 1 cfs irrigates 70 acres; the cfs is measured from the headgate and information can be found in regional water references such as “Tabulation of Adjudicated Surface Water Rights of the State of Wyoming: Water Division Numbers One-Four.” For example, a canal constructed to carry 4 cfs of water to irrigate an ineligible ranch's hay meadow and is not the first canal in the area, would fit into this category. Document the relative date of appropriation from water source (i.e., first appropriator) (Wyoming SHPO 2004b).

This Class I Overview only addressed cultural resources that are recorded as sites and have been entered into the WYCRO database. As was discussed in section 1.2, reliance on the WYCRO database could conceivably cause misrepresentation of the existence or nonexistence of cultural resource sites. Several properties that have been destroyed remain in the database; conversely, sites that are culturally significant to Native Americans or other cultural groups (including TCPs) may not be included in available information in the database, or may be in the database but are not specifically recorded as culturally significant to ethnic groups.

4.1.1 Prehistoric Property Types

Wyoming has adopted a descriptive nomenclature for prehistoric sites that allows expansion of a site type designation to reflect all the major elements of the site. For example, a site that has a lithic scatter, a hearth, and fire-cracked rock (FCR) might be designated “prehistoric lithic scatter – habitation – hearth/FCR.” This method of designating site types is more precise and informative than use of former gross categories such as “open camp,” but this method also allows an almost unlimited number of variations in site type designations, and the site could also be designated “prehistoric lithic scatter– hearth/FCR– habitation”.

However, once these variations are sorted, prehistoric sites in the Kemmerer Planning Area are listed in the WYCRO database according to 146 site types/categories/descriptions. Table 4-1 lists these sites alphabetically, and also by number of occurrences.

The 146 descriptive site types or characteristics listed for prehistoric sites in the Kemmerer Planning Area can be grouped into 15 general site types, as described below (alphabetically).

**Table 4-1. Prehistoric Property Types in the Kemmerer Planning Area
(Page 1 of 6)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Artifacts and features - unknown use - cairns	1	Prehistoric artifacts and features - habitation - hearths/FCR	2510
Artifacts and features - unknown use - hearths/fire-cracked rock (FCR)	4	Prehistoric lithic scatter - lithic procurement - secondary	1798
Bison kill, pound	2	Prehistoric lithic scatter - chipping/knapping station	877
Cairn, cache, rock piles	8	Prehistoric artifacts and features - chipping/knapping - hearths/FCR	412
Ceramics	1	Lithic Scatter	303
Features - unknown use - alignments	1	Prehistoric lithic scatter	214
Features - unknown use - other	2	Open camp, occupation	153
Features only - unknown use	1	Prehistoric feature - habitation - hearths/FCR	136
Hearth, FCR/bison pound, kill	1	Prehistoric artifacts and features - lithic procurement - secondary - hearths/FCR	99
Hearth, firepit, FCR	14	Prehistoric artifacts and features - milling/vegetable processing - hearths/FCR	90
Hearths, FCR/lithic scatter	30	Prehistoric lithic scatter - habitation	87
Hearths/ground stone	1	Prehistoric lithic scatter - lithic procurement-primary	86
Hearths/historic site	1	Quarry/lithic source	62
Hearths/lithic scatter	36	Prehistoric lithic scatter - activity areas - lithic procurement - secondary	50
Hearths/open camp, occupation	1	Prehistoric artifacts and features - habitation	46
Lithic scatter	303	Prehistoric lithic scatter - FCR - chipping/knapping station	44
Lithic scatter/groundstone	6	Hearths/lithic scatter	36
Lithic scatter/historic site	24	Prehistoric lithic scatter - FCR - habitation	36
Lithic scatter/open camp	13	Hearths, FCR/lithic scatter	30
Lithic scatter/quarry	14	Prehistoric artifacts and features - habitation - stone rings	25
Lithic scatter/rock art	1	Lithic scatter/historic site	24
Lodge site, prehistoric structure, blind/hunting stand	1	Prehistoric artifacts and features - habitation - ceramics	17
Metate, mano, mortar, ground stone	1	Prehistoric lithic scatter - milling/vegetable processing	17
Metate, mano, mortar, ground stone/historic component	1	Prehistoric artifacts and features - habitation - bone	16
Misc. bone bed, bone scatter	1	Hearth, firepit, FCR	14
Open camp, occupation	153	Lithic scatter/quarry	14
Open camp/ceramics	2	Lithic scatter/open camp	13
Open camp/ground stone	10	Open camp/historic site	12

**Table 4-1. Prehistoric Property Types in the Kemmerer Planning Area
(Page 2 of 6)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Open camp/hearth	1	Open camp/ground stone	10
Open camp/hearth, lithics	1	Prehistoric feature - habitation - stone rings	9
Open camp/historic site	12	Cairn, cache, rock piles	8
Open camp/lithic scatter	5	Prehistoric artifacts and features - lithic procurement - secondary	8
Open camp/miscellaneous bone bed, bone scatter	1	Prehistoric artifacts and features - milling/vegetable processing	7
Open camp/miscellaneous type	3	Lithic scatter/groundstone	6
Open camp/multiple components, stratified site	5	Prehistoric artifacts and features - habitation - activity areas	6
Open camp/petroglyphs, rock art	1	Stone circle	6
Open camp/quarry	2	Open camp/lithic scatter	5
Petroglyphs, rock art	1	Open camp/multiple components, stratified site	5
Prehistoric - historic debris	3	Prehistoric artifacts and features - butchering/processing - hearths/FCR	5
Prehistoric - milling/vegetable processing	2	Prehistoric artifacts and features - habitation - other	5
Prehistoric artifacts and features	4	Prehistoric artifacts and features - lithic procurement - primary - hearths/FCR	5
Prehistoric artifacts and features - butchering & processing	2	Prehistoric lithic scatter - chipping/knapping -bone	5
Prehistoric artifacts and features - butchering/processing – bone	3	Prehistoric lithic scatter - use unknown	5
Prehistoric artifacts and features - butchering/processing - hearths/FCR	5	Prehistoric unknown	5
Prehistoric artifacts and features - chipping/knapping - activity areas	2	Artifacts and features - unknown use - hearths/fire-cracked rock (FCR)	4
Prehistoric artifacts and features - chipping/knapping - hearths/FCR	412	Prehistoric artifacts and features	4
Prehistoric artifacts and features - chipping/knapping - stone rings	3	Prehistoric artifacts and features - habitation - alignments	4
Prehistoric artifacts and features - habitation	46	Prehistoric artifacts and features - habitation - rockshelter	4
Prehistoric artifacts and features - habitation - activity areas	6	Prehistoric artifacts and features - hearths/FCR	4
Prehistoric artifacts and features - habitation - alignments	4	Prehistoric artifacts and features - lithic procurement/secondary - activity areas	4
Prehistoric artifacts and features - habitation - bone	16	Prehistoric lithic scatter - other	4
Prehistoric artifacts and features - habitation - cairns	3	Quarry/lithic scatter	4
Prehistoric artifacts and features - habitation - ceramics	17	Open camp/miscellaneous type	3
Prehistoric artifacts and features - habitation - hearths/FCR	2510	Prehistoric - historic debris	3

**Table 4-1. Prehistoric Property Types in the Kemmerer Planning Area
(Page 3 of 6)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Prehistoric artifacts and features - habitation - house pits	2	Prehistoric artifacts and features - butchering/processing – bone	3
Prehistoric artifacts and features - habitation - interment/burial	1	Prehistoric artifacts and features - chipping/knapping - stone rings	3
Prehistoric artifacts and features - habitation - other	5	Prehistoric artifacts and features - habitation - cairns	3
Prehistoric artifacts and features - habitation - pictographs/petroglyphs/rock art	1	Prehistoric cairn	3
Prehistoric artifacts and features - habitation - rockshelter	4	Prehistoric feature - other - cairns	3
Prehistoric artifacts and features - habitation - stone rings	25	Bison kill, pound	2
Prehistoric artifacts and features - hearths/FCR	4	Features - unknown use - other	2
Prehistoric artifacts and features - hunting blind	1	Open camp/ceramics	2
Prehistoric artifacts and features - kill site	2	Open camp/quarry	2
Prehistoric artifacts and features - kill site - corral/drivelines	1	Prehistoric - milling/vegetable processing	2
Prehistoric artifacts and features - lithic procurement - primary	2	Prehistoric artifacts and features - butchering & processing	2
Prehistoric artifacts and features - lithic procurement - primary - hearths/FCR	5	Prehistoric artifacts and features - chipping/knapping - activity areas	2
Prehistoric artifacts and features - lithic procurement - primary - quarry pits	2	Prehistoric artifacts and features - habitation - house pits	2
Prehistoric artifacts and features - lithic procurement - secondary	8	Prehistoric artifacts and features - kill site	2
Prehistoric artifacts and features - lithic procurement - secondary - hearths/FCR	99	Prehistoric artifacts and features - lithic procurement - primary	2
Prehistoric artifacts and features - lithic procurement/primary - activity areas	1	Prehistoric artifacts and features - lithic procurement - primary - quarry pits	2
Prehistoric artifacts and features - lithic procurement/secondary - activity areas	4	Prehistoric artifacts and features - lithic procurement/secondary - other	2
Prehistoric artifacts and features - lithic procurement/secondary - other	2	Prehistoric artifacts and features - milling/vegetable processing - ceramics	2
Prehistoric artifacts and features - milling/vegetable processing	7	Prehistoric feature - cairns	2
Prehistoric artifacts and features - milling/vegetable processing - ceramics	2	Prehistoric lithic scatter - activity areas - habitation	2
Prehistoric artifacts and features - milling/vegetable processing - hearths/FCR	90	Prehistoric lithic scatter - cache	2
Prehistoric artifacts and features - milling/vegetable processing - stone rings	1	Prehistoric lithic scatter - butchering/processing	2
Prehistoric cairn	3	Prehistoric other	2
Prehistoric ceramic scatter - habitation	1	Rockshelter, cave, overhang	2

**Table 4-1. Prehistoric Property Types in the Kemmerer Planning Area
(Page 4 of 6)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Prehistoric composite scatter - chipping/knapping	1	Rockshelter, cave/historic site	2
Prehistoric composite scatter - habitation	1	Stone circle/lithic scatter	2
Prehistoric composite scatter - lithic procurement - secondary	1	Artifacts and features - unknown use - cairns	1
Prehistoric composite scatter - other	1	Ceramics	1
Prehistoric feature - bone	1	Features - unknown use - alignments	1
Prehistoric feature - cairns	2	Features only - unknown use	1
Prehistoric feature - ceremonial	1	Hearth, FCR/bison pound, kill	1
Prehistoric feature - habitation - hearths/FCR	136	Hearths/ground stone	1
Prehistoric feature - habitation - house pits	1	Hearths/historic site	1
Prehistoric feature - habitation - stone rings	9	Hearths/Open Camp, Occupation	1
Prehistoric feature - habitation - war lodge	1	Lithic scatter/rock art	1
Prehistoric feature - hunting blind	1	Lodge site, prehistoric structure, blind/hunting stand	1
Prehistoric feature - lithic procurement-secondary	1	Metate, mano, mortar, ground stone	1
Prehistoric feature - milling/vegetable processing - hearth/FCR	1	Metate, mano, mortar, ground stone/historic component	1
Prehistoric feature - other - alignments	1	Misc. bone bed, bone scatter	1
Prehistoric feature - other - cairns	3	Open camp/hearth	1
Prehistoric feature - other - hearth/FCR	1	Open camp/hearth, lithics	1
Prehistoric feature - other - rock art	1	Open camp/miscellaneous bone bed, bone scatter	1
Prehistoric feature - stone rings	1	Open camp/petroglyphs, rock art	1
Prehistoric feature only	1	Petroglyphs, rock art	1
Prehistoric lithic scatter	214	Prehistoric artifacts and features - habitation - interment/burial	1
Prehistoric lithic scatter - activity areas - habitation	2	Prehistoric artifacts and features - habitation - pictographs/petroglyphs/rock art	1
Prehistoric lithic scatter - activity areas - lithic procurement - secondary	50	Prehistoric artifacts and features - hunting blind	1
Prehistoric lithic scatter - cache	2	Prehistoric artifacts and features - kill site - corral/drivelines	1
Prehistoric lithic scatter - chipping/knapping -bone	5	Prehistoric artifacts and features - lithic procurement/primary - activity areas	1
Prehistoric lithic scatter - FCR - chipping/knapping station	44	Prehistoric artifacts and features - milling/vegetable processing - stone rings	1
Prehistoric lithic scatter - FCR - habitation	36	Prehistoric ceramic scatter - habitation	1

**Table 4-1. Prehistoric Property Types in the Kemmerer Planning Area
(Page 5 of 6)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Prehistoric lithic scatter - FCR - lithic procurement - primary	1	Prehistoric composite scatter - chipping/knapping	1
Prehistoric lithic scatter - habitation - bone	1	Prehistoric composite scatter - habitation	1
Prehistoric lithic scatter - habitation - rockshelter	1	Prehistoric composite scatter - lithic procurement - secondary	1
Prehistoric lithic scatter - lithic procurement - secondary	1798	Prehistoric composite scatter - other	1
Prehistoric lithic scatter - lithic procurement-primary	86	Prehistoric feature - bone	1
Prehistoric lithic scatter - milling/vegetable processing	17	Prehistoric feature - ceremonial	1
Prehistoric lithic scatter - use unknown	5	Prehistoric feature - habitation - house pits	1
Prehistoric lithic scatter - butchering/processing	1	Prehistoric feature - habitation - war lodge	1
Prehistoric lithic scatter - butchering/processing	2	Prehistoric feature - hunting blind	1
Prehistoric lithic scatter - chipping/knapping station	877	Prehistoric feature - lithic procurement-secondary	1
Prehistoric lithic scatter - habitation	87	Prehistoric feature - milling/vegetable processing - hearth/FCR	1
Prehistoric lithic scatter - other	4	Prehistoric feature - other - alignments	1
Prehistoric other	2	Prehistoric feature - other - hearth/FCR	1
Prehistoric other material scatter - habitation - fire hearths/FCR	1	Prehistoric feature - other - rock art	1
Prehistoric other material scatter - other	1	Prehistoric feature - stone rings	1
Prehistoric rock art - ceremonial	1	Prehistoric feature only	1
Prehistoric rock art - other	1	Prehistoric lithic scatter - FCR - lithic procurement - primary	1
Prehistoric unknown	5	Prehistoric lithic scatter - habitation - bone	1
Quarry/lithic source	62	Prehistoric lithic scatter - habitation - rockshelter	1
Quarry/historic sites	1	Prehistoric lithic scatter - butchering/processing	1
Quarry/lithic scatter	4	Prehistoric other material scatter - habitation - fire hearths/FCR	1
Quarry/open camp	1	Prehistoric other material scatter - other	1
Rock alignment, medicine wheel, rock feature/lithic scatter	1	Prehistoric rock art - ceremonial	1
Rock alignments - habitation - hearths/FCR	1	Prehistoric rock art - other	1
Rock alignments - other	1	Quarry/historic sites	1
Rockshelter, cave, overhang	2	Quarry/open camp	1
Rockshelter, cave, overhang, ceramics	1	Rock alignment, medicine wheel, rock feature/lithic scatter	1

**Table 4-1. Prehistoric Property Types in the Kemmerer Planning Area
(Page 6 of 6)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Rockshelter, cave, overhang, hearth	1	Rock alignments - habitation - hearths/FCR	1
Rockshelter, cave, overhang, multiple component, stratified, buried sites	1	Rock alignments - other	1
Rockshelter, cave/historic site	2	Rockshelter, cave, overhang, ceramics	1
Stone circle	6	Rockshelter, cave, overhang, hearth	1
Stone circle/bison pound/kill	1	Rockshelter, cave, overhang, multiple component, stratified, buried sites	1
Stone circle/lithic scatter	2	Stone circle/bison pound/kill	1

Note: 1. Sites may have more than one attribute

Burials, Native American are a site type that is rarely encountered in the Kemmerer Planning Area (personnel communication, Harrell 2004). With adherence to Native American Graves and Repatriation Act (NAGPRA) guidelines and procedures, and the cooperation and assistance of the appropriate tribal members, Prehistoric Period burials may present rare opportunities to research Prehistoric Period cultures. Analysis of Prehistoric Period burials gives investigators the chance to study evidence of individual ethnicity, cultural identity, cultural complexity, cultural climates, subsistence traditions, lifeway impacts, ailments, mortality, treatment of the deceased and the burial preparation traditions of Prehistoric Period cultures. However, the scientific importance of prehistoric or historic Native American burials may, in some cases, be eclipsed by the cultural importance of the burials to Native American tribes or individuals.

Cairns are piles of stones deposited by prehistoric people for a variety of reasons and purposes, including stockpiling of lithic source materials, marking burials or other ceremonial events, or as locational markers for trails, water sources, or other resources. Many stone cairns in the Kemmerer Planning Area and the surrounding region were also constructed by historic stockherders, and discrimination between historic and prehistoric cairns is often difficult.

Campsites are locations that contain evidence of at least short-term occupation by prehistoric people. For current purposes, campsites include prehistoric sites that have been designated as open camps or habitations, or any site that includes a hearth, FCR, or evidence of vegetable resource processing. Certain historic sites may also include hearths and FCR, including campsites associated with overland emigration and stockherding, and numerous sites containing evidence of both historic and prehistoric occupation have been recorded in the Kemmerer Planning Area and the wider area of southwestern Wyoming.

Ceramic sites are sites of any other type that contain prehistoric pottery. This type of prehistoric site is discriminated from other site types because ceramics may be a particularly distinctive indicator of cultural group identity and the interaction among groups in the region. Sites that contain basketry might also be included in this specialized category or type, for the same reason. Ceramic sites are rare in the Kemmerer Planning Area and the surrounding areas of southwestern Wyoming.

House pits are a distinctive type of campsite or occupation that includes an excavated pit or depression. The excavation or pit provides a venue for preservation of plant and animal remains as well as cultural items, and therefore these sites have relatively high potential to yield information that will expand current knowledge of prehistory. House pits date at least from the Late Archaic Period to the Late Prehistoric Period. House pit sites are relatively rare in the Kemmerer Planning Area and elsewhere in the region, but the rarity may be more evident than real because many of these sites are buried.

Hunting blinds or traps are structures built by prehistoric people to aid in hunting of big game and possibly birds used for ceremonial purposes. Such structures include stone walls or enclosures used by one or more persons, probably for hunting antelope. The most prominent of these sites in the Kemmerer Planning Area is the Bridger Antelope Trap, a wooden enclosure used in prehistoric and possibly historic times for communal hunting of antelope near an ancient playa. Very few sites of this type have been recorded in the Kemmerer Planning Area and elsewhere in the general region.

Kill sites or butchering/processing sites are locations that contain extensive bone or other evidence of the killing and processing of big game by prehistoric, protohistoric, or early historic aboriginal people.

These sites may include bone beds at slaughter sites such as bison jumps or near water sources, secondary butchering sites (usually near primary slaughter sites and campsites), and fire pits used for reducing grease or marrow. These sites appear to be relatively rare in the Kemmerer Planning Area and surrounding area of southwestern Wyoming.

Lithic scatters are assemblages of flakes, tested or worked stone cores, roughly-shaped performs for tools, and sometimes finished tools that are the products of reduction of stone material into useable tools. Lithic scatters are by far the most common type of prehistoric site found in the Kemmerer Planning Area and in the region as a whole. Lithic scatters commonly are found in association with other prehistoric features, including primary lithic sources (quarries), secondary lithic sources (lag gravels or similar depositional features), open campsites that include hearth features and FCR, stone circles, and stone cairns. Many lithic scatters are surface occurrences only, but lithic scatters may also represent the uppermost evidence of extensive, important buried sites. Lithic scatters may represent any prehistoric period or phase, or may represent multiple periods and phases.

Quarries are primary procurement sources for lithic materials used by prehistoric people. Quarries are usually physically evident as excavations and earthen or stone refuse piles, and quarries are usually accompanied by extensive nearby lithic reduction sites. Quarries are relatively rare in the Kemmerer Planning Area and the wider region of southwestern Wyoming.

Rock art may be pictographs or petroglyphs on rock faces or individual rocks. Rock art is generally understood to be memorials of events by prehistoric people, including battles, hunting success, observation of wildlife, deaths and burials, spiritual visions, or perhaps the simple visitation of a person or group to a location. Rock art is among the most visible prehistoric cultural resources, and for that reason, rock art is vulnerable to damage or destruction. Most rock art in the Kemmerer Planning Area and surrounding areas is attributed to Shoshone/Shoshonean traditions or patterns.

Rock shelters or caves are naturally occurring depressions or overhangs that afforded protection from the elements to prehistoric people. Rock shelters provide a relatively stable setting for preservation of cultural and environmental information over long periods of time, and therefore this type of site may yield information that is very important in expanding the understanding of prehistory. Rock shelters or rock alcoves also sometimes contain prehistoric and historic human interments.

Secondary lithic procurement sites are locations where lithic materials have been deposited by glacial or stream actions or have otherwise eroded from primary geological contexts. This type of site commonly occurs on ridgetops or stream courses, where wind or water has exposed gravel deposits. Some secondary lithic procurement sites are extremely large and were used repeatedly throughout most, if not all, of the prehistoric period; these extensive secondary procurement sites are sometimes known as lithic landscapes.

Stone alignments and effigies usually were associated with ceremonial or spiritual activities, but some alignments may also have been associated with big game hunting or may have been locational landmarks. Stone alignments may consist of single aligned stones or may be series of stone cairns. Probably the most profound stone alignments are “medicine wheels,” which have concentric circles or stones, radiating lines or spokes, and often an altar stone or cairn at center. Prehistoric stone alignments are nearly always sites of cultural concern to Native Americans.

Stone circles are rings of rocks that may represent former locations of tipi structures or other kinds of structures, or may represent prehistoric ceremonial activities. Most stone circles in Wyoming date

from the Late Prehistoric, Protohistoric, and the early historic periods, but some circles may have originated in the Late Archaic Period. Stone circles are relatively rare in the Kemmerer Planning Area and elsewhere in southwestern Wyoming, and sites in this area generally include a small number of stone circles.

Other prehistoric site types include sites that cannot be assigned to one or more of the other general site types, usually because the WYCRO database does describes the site only as “Prehistoric artifacts and features” or as “No available information.”

Occurrences of these general prehistoric property types are listed in Table 4-2 and are shown in Figure 4-1. Because sites commonly have multiple components, many sites are represented in more than one general site type.

Campsites are by far the most common general type of prehistoric site found in the Kemmerer Planning Area (4,995 sites, 53 percent of all site type occurrences). The vast majority of campsites contain hearths and/or FCR, but other campsites contain evidence of vegetable processing or stone circles or other stone alignments. Many campsites (particularly those with hearths and/or FCR) are also found in association with the second most common site type, lithic scatters (3,429 sites, 36 percent of all site type occurrences). However, other lithic scatters are found as part of quarries/primary lithic sources (181 sites, 2 percent of all site type occurrences) or secondary lithic procurement sources (504 sites, 5 percent of all site type occurrences).

All other prehistoric site types are relatively rare in the Kemmerer Planning Area. Prehistoric burials, cairns, ceramic sites, hunting blinds, kill/butchering sites, house pit sites, rock art, rock shelters/caves, stone alignments/effigies, stone circles, and other site types together occur at only 231 recorded sites in the planning area, or approximately 2.5 percent of all site type occurrences. The rarity of these site types may make these sites particularly valuable, because these site types often reflect particular prehistoric human activities. Burials, rock art, stone alignments/effigies, and stone circles also may have cultural importance to Native American tribes and individuals.

Based on the information available from the WYCRO database, the incidence of some general prehistoric site types, by percentage of total site type occurrences, varies considerably among some subregions. For example, the incidence of campsites in the Green River Basin Subregion is more than twice that of the Bear River Valley Subregion, with this ratio nearly reversed for recorded lithic scatters in the same two subregions. These apparent differences between these two subregions may be due to: (1) agricultural disturbance/destruction of many campsites in the Bear River Valley; (2) more abundant or available lithic sources in Bear River Valley Subregion or nearby; (3) different prehistoric patterns of seasonal occupation or use of the two subregions; or other factors. However, the apparent differences may also result from substantial differences in the amount and geographical foci of surveys in the two subregions.

**Table 4-2. Occurrences of General Prehistoric Site Types in the Kemmerer Planning Area
(Page 1 of 2)**

	<i>Bear River Divide</i>	<i>Bear River Valley</i>	<i>Bridger Valley</i>	<i>Green River Basin</i>	<i>Overthrust Belt</i>	<i>Overthrust Foothills</i>	<i>Star Valley</i>	<i>Uinta Foothills</i>	<i>Wyoming Range</i>	<i>Kemmerer Planning Area (entire)</i>
# of Prehistoric Sites Recorded	24	95	536	4,837	459	705	0	35	75	6766
Total # of Occurrences of Site Types in Kemmerer Planning Area (some sites are more than one type)	30	128	722	6027	590	1056	0	65	722	9340
Burials	0	0	0	1	0	2	0	0	0	3
Percentage of Total Sites	0.00%	0.00%	0.00%	0.02%	0.00%	0.19%	N/A	0.00%	0.00%	0.03%
Cairns	0	0	0	14	5	4	0	1	0	24
Percentage of Total Sites	0.00%	0.00%	0.00%	0.23%	0.85%	0.38%	N/A	1.54%	0.00%	0.26%
Campsites	13	36	381	3494	234	441	0	15	381	4995
Percentage of Total Sites	43.33%	28.13%	52.77%	57.97%	39.66%	41.76%	N/A	23.08%	52.77%	53.48%
Ceramic Sites	1	1	2	10	1	5	0	0	2	22
Percentage of Total Sites	3.33%	0.78%	0.28%	0.17%	0.17%	0.47%	N/A	0.00%	0.28%	0.24%
House Pit Sites	0	0	0	3	0	1	0	0	0	4
Percentage of Total Sites	0.00%	0.00%	0.00%	0.05%	0.00%	0.09%	N/A	0.00%	0.00%	0.04%
Hunting Blinds/Traps	0	0	0	2	0	1	0	0	0	3
Percentage of Total Sites	0.00%	0.00%	0.00%	0.03%	0.00%	0.09%	N/A	0.00%	0.00%	0.03%
Kill/Butchering Sites	0	1	0	15	7	15	0	0	0	38
Percentage of Total Sites	0.00%	0.78%	0.00%	0.25%	1.19%	1.42%	N/A	0.00%	0.00%	0.41%
Lithic Scatters	13	72	307	1926	269	501	0	34	307	3429
Percentage of Total Sites	43.33%	56.25%	42.52%	31.96%	45.59%	47.44%	N/A	52.31%	42.52%	36.71%

**Table 4-2. Occurrences of General Prehistoric Site Types in the Kemmerer Planning Area
(Page 2 of 2)**

	<i>Bear River Divide</i>	<i>Bear River Valley</i>	<i>Bridger Valley</i>	<i>Green River Basin</i>	<i>Overthrust Belt</i>	<i>Overthrust Foothills</i>	<i>Star Valley</i>	<i>Uinta Foothills</i>	<i>Wyoming Range</i>	<i>Kemmerer Planning Area (entire)</i>
Quarries/Primary Lithic Procurement	0	7	23	74	21	30	0	3	23	181
Percentage of Total Sites	0.00%	5.47%	3.19%	1.23%	3.56%	2.84%	N/A	4.62%	3.19%	1.94%
Rock Art	0	0	0	3	0	3	0	0	0	6
Percentage of Total Sites	0.00%	0.00%	0.00%	0.05%	0.00%	0.28%	N/A	0.00%	0.00%	0.06%
Rock Shelters/Caves	0	1	0	1	3	6	0	0	0	11
Percentage of Total Sites	0.00%	0.78%	0.00%	0.02%	0.51%	0.57%	N/A	0.00%	0.00%	0.12%
Secondary Lithic Procurement	2	10	0	422	37	24	0	9	0	504
Percentage of Total Sites	6.67%	7.81%	0.00%	7.00%	6.27%	2.27%	N/A	13.85%	0.00%	5.40%
Stone Alignments/ Effigies	0	0	0	4	0	1	0	2	0	7
Percentage of Total Sites	0.00%	0.00%	0.00%	0.07%	0.00%	0.09%	N/A	3.08%	0.00%	0.07%
Stone Circles	1	0	8	39	8	13	0	0	8	77
Percentage of Total Sites	3.33%	0.00%	1.11%	0.65%	1.36%	1.23%	N/A	0.00%	1.11%	0.82%
Other	0	0	1	19	5	9	0	1	1	36
Percentage of Total Sites	0.00%	0.00%	0.14%	0.32%	0.85%	0.85%	N/A	1.54%	0.14%	0.39%

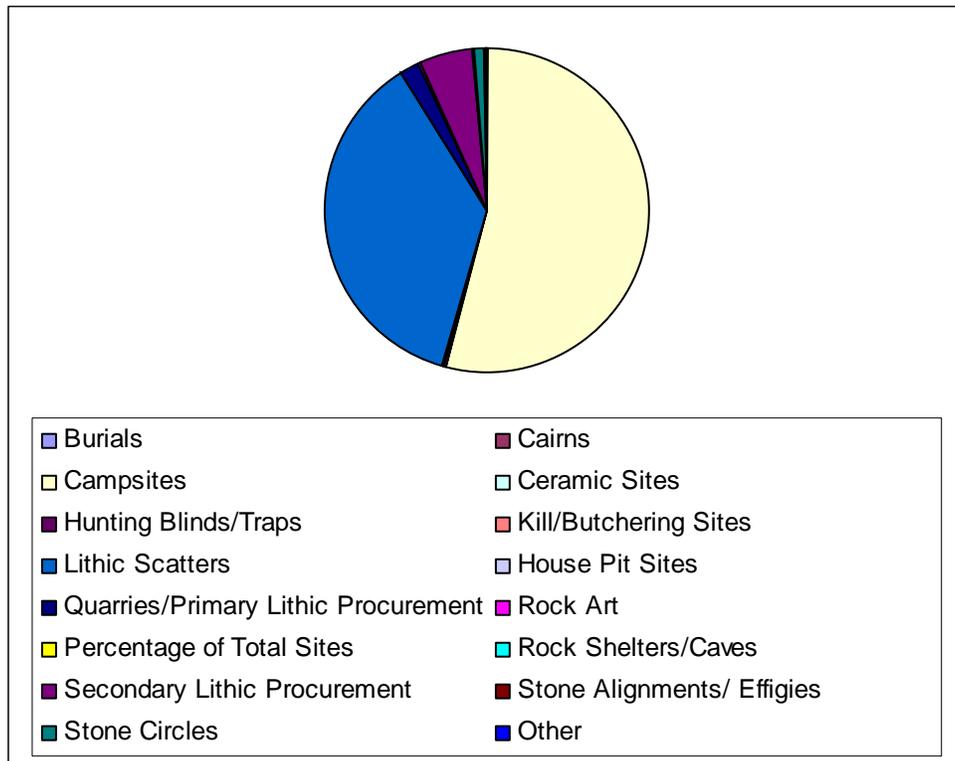


Figure 4-1. Kemmerer Planning Area Prehistoric Site Categories

Prediction of sensitivity for any site type is hampered by the lack of comparable survey data and the relatively small number of recorded sites for many site types. For example, although 67 percent of prehistoric burials in the Kemmerer Planning Area have been discovered in the Overthrust Foothills Subregion, since only three prehistoric burials have been found anywhere in the Kemmerer Planning Area, this is not a meaningful statistic. Similarly, although the Green River Basin Subregion contains 75 percent of the recorded house pit sites in the planning area, this represents only three house pits as only four such sites are represented in the database. Certainly, areas that contain abundant rock outcroppings can generally be expected to contain more quarries, rock art, and rock shelters or caves than areas that do not contain rock faces or outcroppings, but the existing database does not support more precise prediction of sensitivity of subregions or areas within subregions to contain particular site types.

4.1.2 Historic Property Types

Like prehistoric site types, historic period resource types are also descriptively categorized by the WYCRO database, but certain broad categories are also commonly used, particularly for emigrant trails and expansion-era roads. Historic sites in the Kemmerer Planning Area are listed in the WYCRO database according to the 131 site characteristics listed in Table 4-3.

**Table 4-3. Historic Property Types in the Kemmerer Planning Area
(Page 1 of 4)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Architecture – bridge	1	Historic debris	392
Architecture – cattle ranch	2	Overland migration – trail	242
Architecture – other	1	Ranching – stockherding camp	219
Architecture – urban building	1	Irrigation – canal	213
Burials – cemetery	1	Historic trail – stage route	150
Burials – historic sites	1	Transportation – freight road	142
Communication – telegraph/telephone	1	Historic site	130
Communication – trail/stage route	4	Historic – transportation – trail/stage route	104
Conservation – building	2	Historic road	80
Conservation – other	2	Transportation – railroad	79
Energy exploration – mine	1	Transportation – road	60
Energy exploration – oil/gas well/field	9	Transportation – bridge	51
Energy exploration – other	1	Urban – building	50
Energy exploration – railroad	2	Historic mining mine	42
Exploration – other	1	Ranching – cattle ranch	30
Farming – stockherding camp	1	Historic canal	28
Fur trade – cabin	1	Historic trash dump	28
Historic – transportation – trail/stage route	104	Ranching – homestead	28
Historic – transportation – unknown	1	Historic stockherding camp	20
Historic alignment/historic debris	1	Historic other	16
Historic bridge	4	Ranching – historic debris	15
Historic building (rural)	2	Ranching – trash dump	15
Historic building (urban)	13	Urban – other	15
Historic cabin	12	Historic building (urban)	13
Historic cairn	8	Historic cabin	12
Historic canal	28	Historic homestead	12
Historic cemetery – grave	3	Energy exploration – oil/gas well/field	9
Historic corral/fence	2	Historic cairn	8
Historic dam	1	Military – military camp	7
Historic debris	392	Historic foundation	6
Historic dugout	1	Historic mine	6

**Table 4-3. Historic Property Types in the Kemmerer Planning Area
(Page 2 of 4)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Historic foundation	6	Historic mining camp/mill	6
Historic freight road	2	Overland migration cemetery/grave	6
Historic homestead	12	Historic-ranching-corrals/fence	5
Historic inscriptions	4	Ranching - cairn	5
Historic mine	6	Timber - building	5
Historic mining	1	Transportation - stage road	5
Historic mining building	3	Communication - trail/stage route	4
Historic mining camp/mill	6	Historic bridge	4
Historic mining debris	2	Historic inscriptions	4
Historic mining mine	42	Industry – other	4
Historic mining - oil/gas/well/field	3	Ranching dugout	4
Historic mining – other	1	Historic cemetery - grave	3
Historic mining - mineral exploration	1	Historic mining - oil/gas/well/field	3
Historic Native American - contact federal agency	1	Historic mining building	3
Historic Native American - freight road	1	Historic site - hearths	3
Historic Native American - grave/cemetery	1	Historic site - lithic scatter	3
Historic Native American other	2	Historic unknown	3
Historic Native American site	1	Irrigation - other	3
Historic other	16	Ranching cabin	3
Historic ranching - oil/gas well/field	2	Reclamation - dam	3
Historic road	80	Reclamation - other	3
Historic site	130	Religion - building/church	3
Historic site - hearths	3	Timber - tie hack camp	3
Historic site - lithic scatter	3	Transportation - ferry	3
Historic sites - historic inscriptions/rock art	2	Urban - trash dump	3
Historic sites - prehistoric open camp	1	Architecture - cattle ranch	2
Historic stage station	2	Conservation - building	2
Historic stockherding camp	20	Conservation - other	2
Historic timber camp	1	Energy exploration - railroad	2
Historic trail - stage route	150	Historic building (rural)	2
Historic transmission line/power line	1	Historic corral/fence	2
Historic trash dump	28	Historic freight road	2

**Table 4-3. Historic Property Types in the Kemmerer Planning Area
(Page 3 of 4)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Historic unknown	3	Historic mining debris	2
Historic-ranching-coral/fence	5	Historic Native American other	2
Human remains - interment/burial	1	Historic ranching - oil/gas well/field	2
Human remains - mortuary	1	Historic sites - historic inscriptions/rock art	2
Industry - mineral exploration	2	Historic stage station	2
Industry - other	4	Industry - mineral exploration	2
Industry - railroad	1	Overland migration historic debris	2
Irrigation - canal	213	Overland migration inscription	2
Irrigation - oil/gas well field	1	Overland migration other	2
Irrigation - other	3	Ranching - foundation	2
Military - military camp	7	Religion - church/shrine	2
Military - mine	1	Transportation - building (rural)	2
Overland migration - trail	242	Transportation - other	2
Overland migration cemetery/grave	6	Transportation - railroad camp	2
Overland migration historic debris	2	Urban – cairn	2
Overland migration inscription	2	Urban - dugout	2
Overland migration other	2	Architecture - bridge	1
Overland migration trash dump	1	Architecture - other	1
Ranch	1	Architecture - urban building	1
Ranching - cairn	5	Burials – cemetery	1
Ranching - cattle ranch	30	Burials - historic sites	1
Ranching - foundation	2	Communication - telegraph/telephone	1
Ranching - historic debris	15	Energy exploration - mine	1
Ranching - homestead	28	Energy exploration - other	1
Ranching - inscription	1	Exploration – other	1
Ranching - school	1	Farming - stockherding camp	1
Ranching - sheep ranch	1	Fur trade – cabin	1
Ranching - stockherding camp	219	Historic - transportation - unknown	1
Ranching - trash dump	15	Historic alignment/historic debris	1
Ranching cabin	3	Historic dam	1
Ranching dugout	4	Historic dugout	1
Reclamation - dam	3	Historic mining	1
Reclamation - other	3	Historic mining - mineral exploration	1

**Table 4-3. Historic Property Types in the Kemmerer Planning Area
(Page 4 of 4)**

<i>Sorted by Site Type</i>		<i>Sorted by Number of Occurrences</i>	
<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>	<i>Site Characteristic/Description</i>	<i>Number of Occurrences¹</i>
Reclamation building	1	Historic mining – other	1
Religion - building/church	3	Historic Native American - contact federal agency	1
Religion - church/shrine	2	Historic Native American - freight road	1
Scientific - inscription	1	Historic Native American - grave/cemetery	1
Timber - building	5	Historic Native American site	1
Timber - building (rural)	1	Historic sites - prehistoric open camp	1
Timber - cabin	1	Historic timber camp	1
Timber – CCC camp/construction	1	Historic transmission line/power line	1
Timber - foundation	1	Human remains - interment/burial	1
Timber - tie hack camp	3	Human remains - mortuary	1
Tourism - stage route	1	Industry – railroad	1
Transportation - bridge	51	Irrigation - oil/gas well field	1
Transportation - building (rural)	2	Military - mine	1
Transportation - building (urban)	1	Overland migration trash dump	1
Transportation - cemetery/grave	1	Ranch	1
Transportation - ferry	3	Ranching - inscription	1
Transportation - freight road	142	Ranching – school	1
Transportation - historic debris	1	Ranching - sheep ranch	1
Transportation - other	2	Reclamation building	1
Transportation - railroad	79	Scientific – inscription	1
Transportation - railroad camp	2	Timber - building (rural)	1
Transportation - road	60	Timber – cabin	1
Transportation - stage road	5	Timber – CCC camp/construction	1
Urban - building	50	Timber – foundation	1
Urban - cairn	2	Tourism - stage route	1
Urban - church/shrine	1	Transportation - building (urban)	1
Urban - dugout	2	Transportation - cemetery/grave	1
Urban - foundation	1	Transportation - historic debris	1
Urban - other	15	Urban - church/shrine	1
Urban - trash dump	3	Urban - foundation	1

Note: 1. Sites may have more than one characteristic

Most of the historic cultural resources in the Kemmerer Planning Area can be grouped into 11 thematic or site type groups: Homesteads/Ranches, Urban Buildings, Transportation, Stockherding, Irrigation, Mineral Exploration and Extraction, Military, Fur Trade, Historic Debris, Burials, and Other. Occurrences of these composite site types or characteristics for historic cultural resources are presented in Table 4-4, and relative comparisons of the incidence of these site types are shown in Figure 4-2.

Burials, Historic are identified through headstones or archival research as belonging to the historic period.

Fur Trade sites are those that can be directly tied to this industry. They may include camps, trading posts, cabins, or trails definitely attributable to the fur trade. Only one recorded site is identified in the WYCRO database as being associated with the fur trade, a cabin in the Bridger-Teton National Forest (Wyoming Range Subregion). However, a number of other locations in the Kemmerer Planning Area are known to have been associated with the fur trade, including the first and second trading posts of Jim Bridger and at least one extended rendezvous site or complex. These other fur trade sites have either not been recorded or are designated in the database according to other site types. Fort Bridger is listed in the WYCRO database as “Historic Native American Other” and “Military – Military Fort.”

Historic Debris encompasses those refuse scatters that cannot be identified as associated directly with another category.

Homesteads/Ranches consist of the residence and outbuildings, fields and facilities associated with operation of a farm or ranch or, on occasion, with recreation or the tourism industry

Irrigation-related sites include ditches, canals, pumps or other debris or features directly related to irrigation projects.

Mineral Exploration and Extraction includes oil, gas, coal, and other mining. Sites and features might include pipelines, mines, debris, and structures associated with the location, extraction and transportation of natural resources.

Military sites include forts, camps and battlefields, as well as transportation or communication features that can be directly related to military activities.

Stockherding primarily refers to camps and cairns that are not principal ranch or farm headquarters.

Transportation sites include emigrant trails, Expansion Era stagecoach and freight wagon roads, roads, bridges, and railroads. These kinds of linear resources are grouped together in part because database entries for these resources are sometimes vague, and because management considerations and options are similar for all of the component site types.

Urban Buildings, as the name implies, refers to historic buildings in cities, towns or villages not directly associated with other categories.

Other includes a large number of historic sites for which the WYCRO database does not provide enough information to allow the sites to be assigned to another category.

Table 4-4. Occurrences of Composite Historic Property Types in the Kemmerer Planning Area

	<i>Bear River Divide</i>	<i>Bear River Valley</i>	<i>Bridger Valley</i>	<i>Green River Basin</i>	<i>Overthrust Belt</i>	<i>Overthrust Foothills</i>	<i>Star Valley</i>	<i>Uinta Foothills</i>	<i>Wyoming Range</i>	<i>Kemmerer Planning Area (entire)</i>
# of Historic Sites Recorded	15	135	145	502	290	460	22	25	62	1656
# of Occurrences of Site Types (a site may be represented by more than one site type)	15	163	171	526	295	475	25	26	64	1760
Burials	0	1	0	5	5	2	0	0	0	13
Percentage of Total Sites	0.00%	0.61%	0.00%	0.95%	1.69%	0.42%	0.00%	0.00%	0.00%	0.74%
Fur Trade	0	0	0	0	0	0	0	0	1	1
Percentage of Total Sites	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.56%	0.06%
Historic Debris	2	17	74	231	40	90	1	1	8	464
Percentage of Total Sites	13.33%	10.43%	43.27%	43.92%	13.56%	18.95%	4.00%	3.85%	12.50%	26.36%
Homestead/Ranches	1	12	9	48	39	24	1	11	8	153
Percentage of Total Sites	6.67%	7.36%	5.26%	9.13%	13.22%	5.05%	4.00%	42.31%	12.50%	8.69%
Irrigation	0	29	6	11	5	3	2	2	2	60
Percentage of Total Sites	0.00%	17.79%	3.51%	2.09%	1.69%	0.63%	8.00%	7.69%	3.13%	3.41%
Military	0	1	3	0	0	0	0	1	0	5
Percentage of Total Sites	0.00%	0.61%	1.75%	0.00%	0.00%	0.00%	0.00%	3.85%	0.00%	0.28%
Mineral Extraction & Exploration	0	2	0	4	25	74	0	0	3	108
Percentage of Total Sites	0.00%	1.23%	0.00%	0.76%	8.47%	15.58%	0.00%	0.00%	4.69%	6.14%
Stockherding	6	9	19	111	72	95	0	2	4	318
Percentage of Total Sites	40.00%	5.52%	11.11%	21.10%	24.41%	20.00%	0.00%	7.69%	6.25%	18.07%
Transportation	1	31	29	87	41	81	7	1	3	281
Percentage of Total Sites	6.67%	19.02%	16.96%	16.54%	13.90%	17.05%	28.00%	3.85%	4.69%	15.97%
Urban Buildings	0	28	17	1	5	21	5	0	0	77
Percentage of Total Sites	0.00%	17.18%	9.94%	0.19%	1.69%	4.42%	20.00%	0.00%	0.00%	4.38%
Other	5	33	14	28	63	85	9	8	35	280
Percentage of Total Sites	33.33%	20.25%	8.19%	5.32%	21.36%	17.89%	36.00%	30.77%	54.69%	15.91%

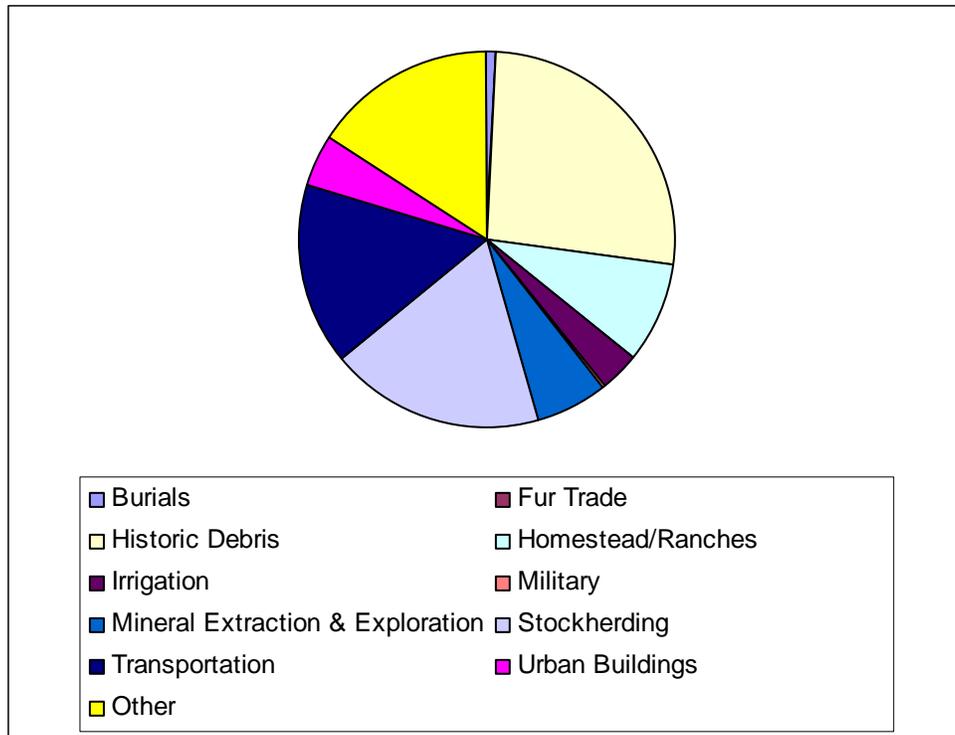


Figure 4-2. Kemmerer Planning Area Historic Site Categories

Historic debris is the most common historic site type recorded in the Kemmerer Planning Area (464 sites, 26 percent of total site characteristic occurrences); this site type includes historic refuse from all historic time periods, including at least one site associated with pioneer overland emigration. Stockherding is the next most common site type (318 recorded sites, 18 percent of total site characteristic occurrences), and by far the most common stockherding sites are temporary sheep or cattle herding camps. Transportation sites (281 sites, 16 percent of total site characteristic occurrences) include the historic routes of the Union Pacific transcontinental railroad, the Oregon Short Line Railroad, and railroad spurs built to support coal mining; the main and alternative routes of the Oregon/Mormon/California Trail (including the Lander Cutoff or Route), the Overland Trail and Pony Express Route, and several Expansion Era military and civilian wagon routes. The “Other” site type (280 sites, 16 percent of site characteristic occurrences) includes a large number of sites identified only as “historic site” in the database; some of these site designations were made on the basis of archival research only, and the sites have not actually been recorded.

The “Burial” site type (13 sites, less than 1.0 percent of site characteristic occurrences) includes a number of graves of emigrants along or near the emigrant trails.

Apparent patterns of occurrence of site types may be misleading regarding the actual frequency of occurrence in the Kemmerer Planning Area, however. For purposes of this comparison, linear sites such as the Oregon Trail are counted only once per site number, regardless of the number of locations where the trail has been recorded under the same site number. Apparent relative incidence of a site type also has virtually no correlation with the potential significance of properties of that type.

The locations of most major historic period cultural resources are either already documented or can be predicted on the basis of the known history of the Kemmerer Planning Area. Virtually all

historic trails, roads, and railroads are depicted on General Land Office maps. Historic trails occur in all nine subregions, and therefore all of the subregions are sensitive for the occurrence of transportation sites. Mineral extraction has also occurred in all of the subregions, but the Star Valley and Wyoming Range subregions have experienced relatively little mineral extraction and are therefore somewhat less sensitive for the existence of properties of this general type. Coal mining has occurred in most of the subregions, but the Overthrust Belt and Overthrust Foothills subregions are most sensitive for coal mining sites. Early irrigation projects were primarily the work of Mormon settlers in the Bridger Valley, Bear River Valley, and Star Valley subregions, and these subregions are relatively more sensitive for existence of the site type. Stockherding has also occurred in all of the subregions, but the Bear River Divide, Green River Basin, Overthrust Belt, and Overthrust Foothills are most likely to contain the common campsites and debris scatters associated with stockherding. Ranches and farms occur throughout the Kemmerer Planning Area, almost always adjacent to major streams, but this site type is most likely to occur in the Bridger Valley, Bear River Valley, and Star Valley subregions because of the intensive farming settlement that occurred in those subregions.

4.1.3 Summary of Recorded Cultural Resources

Cultural resources investigations to date have resulted in the recording of more than 8,000 historic and prehistoric cultural resources in the Kemmerer Planning Area. More than 95 percent of the 6,766 recorded prehistoric sites are campsites or habitations of various kinds, lithic scatters, or secondary lithic procurement sites. Other prehistoric site types include burials, ceremonial stone alignments, rock art, rock shelters, ceramic-bearing sites, quarries/primary lithic procurement sites, hunting blinds, house pit features, and bison kill and butchering sites.

A total of 1,656 historic period sites have been recorded in the Kemmerer Planning Area. Recorded historic sites include emigrant trails, freight wagon and stagecoach trails, military camp and fort sites, an historic highway, early ranches and farms, stockherding camps, irrigation systems, coal mines, early oil fields, railroads, bridges, and urban buildings. Outstanding historic cultural resources in the Kemmerer Planning Area are Fort Bridger, the Oregon/Mormon/California Trail (with alternates and associated sites), and the J.C. Penney National Historic Landmark in Kemmerer.

Survey for cultural resources to date has not been sufficient in scope to allow for construction of dependable models of prehistoric site occurrences and types. The available database of recorded prehistoric sites does not contain sufficient information to allow dependable patterning of types of different prehistoric periods, phases, and functions. Locations of most historic period cultural resources can be discerned from available General Land Office maps and other archival sources, but many potential historic resources, including segments of major historic trails, have not been systematically surveyed and evaluated.

4.2 *Investigations and Resources by Subregion*

The nine subregions within the Kemmerer Planning Area, defined to allow more specific cultural resource management for portions of the planning area, are mostly based on topographic features. The exception is the Bridger Valley Subregion, which is defined primarily on the basis of historic farming activity within the Bridger Basin. The following discussion of the subregions is intended to bring together information on the cultural resources investigations that have been performed and on the cultural resources that have been identified within each subregion. For each subregion, the

previous investigations are summarized, followed by a summary of the cultural resources recorded there. These resources are presented first in the categories under which they are listed in the WYCRO database, followed by a summary by composite site types, as has been discussed previously. While the former listing may seem confusing, it is important to know the way sites have been recorded at the state level.

4.2.1 Bear River Divide Subregion

The crest of the southern part of the Overthrust Belt is also the divide between the Bear and Green Rivers. This subregion is surrounded by the Overthrust Belt and distinguished by its relatively high elevations, greater than 7,500 feet amsl. The subregion includes about 48,000 acres. About 75 percent of the subregion has sagebrush/grassland vegetative cover, and approximately 25 percent of the subregion has forest vegetative cover, primarily aspen and pine on higher slopes and ridges (see Figure 4-3). Areas that have been inventoried in this subregion have generally revealed low cultural resource site densities, regardless of site type. Sites tend to be surface expressions consisting of prehistoric lithic scatters, camps, and historic debris scatters left by shepherders. Several variants of the nationally significant Oregon-California Trail cross the subregion at its north end.

4.2.1.1 Cultural Resources Investigations, Bear River Divide Subregion

WYCRO records indicate that 148 cultural resources projects occurred within the Bear River Divide Subregion from 1976 to 2003. No stand-alone Class I projects were conducted for areas in the subregion, although background and historic context information undoubtedly is included in larger Class III reports. Five Class II projects were conducted in the subregion, addressing BLM range improvements, a proposed mine area, and proposed construction of a power line. Class III investigations included 64 well pad and access surveys, 12 additional access surveys for oil and gas development, 7 seismic line surveys, 32 pipeline surveys, 3 mine surveys, and 14 projects that addressed BLM range improvements and other projects for government agencies. Approximately 5,951 acres have been surveyed in the subregion since 1976, or about 12.4 percent. Since 1981, about 1989 acres have been surveyed, or about 4.14 percent of the subregion area. One site testing/evaluation project (documentation and evaluation of 48LN42, the Oregon Trail) was conducted in association with oil and gas development, and no mitigation or other major excavations occurred within the subregion. Cultural resources projects in this subregion are listed in Appendix B.

4.2.1.2 Recorded Cultural Resources, Bear River Divide Subregion

WYCRO records indicate that 39 cultural resource sites have been recorded in the Bear River Divide Subregion. The recorded sites are listed in the database under 19 characteristics, as shown in order of frequency in Table 4-5. All recorded cultural resources in the subregion are listed in Appendix C.

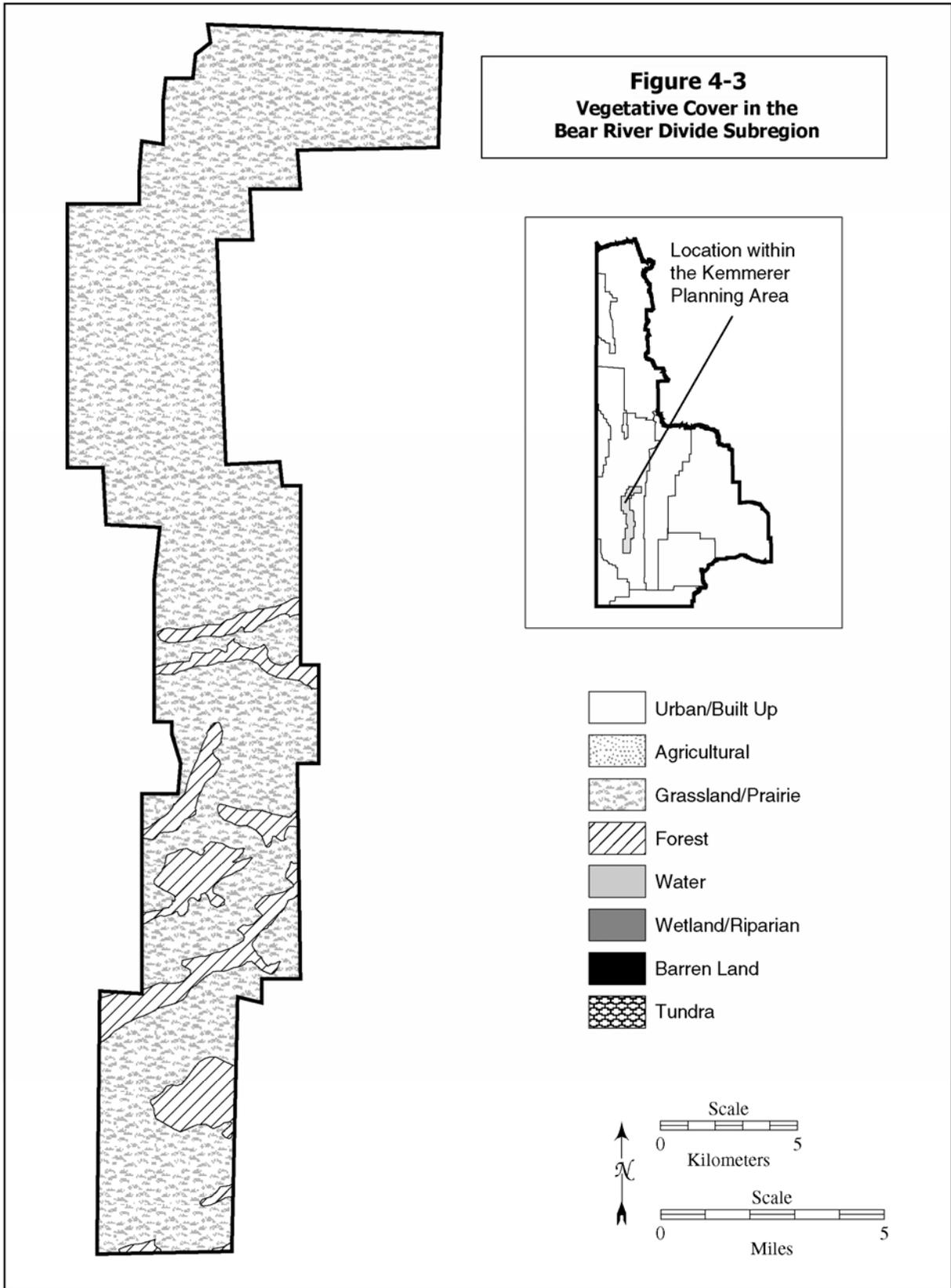


Table 4-5. Recorded Cultural Resource Types in the Bear River Divide Subregion

<i>Site Type</i>	<i>Number of Sites</i>
Hearths, FCR/Lithic Scatter	1
Historic Debris	2
Historic Road	4
Historic Site	5
Lithic Scatter	6
Open Camp, Occupation	6
Open Camp/Ceramics	1
Prehistoric Artifacts And Features – Habitation - Hearths/FCR	2
Prehistoric Feature - Habitation - Hearths/FCR	1
Prehistoric Lithic Scatter	1
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	2
Prehistoric Lithic Scatter - Milling/Vegetable Processing	1
Prehistoric Lithic Scatter/Chipping/Knapping Station	2
Ranching – Homestead	1
Ranching - Stockherding Camp	6
Stone Circle	1
Transportation - Freight Road	1
Transportation – Road	2
Unknown	1

Note: 1. Resources may be listed in more than one category

The 24 recorded prehistoric sites are predominantly campsites (13 sites, 43 percent of total prehistoric site characteristic occurrences) and lithic scatters (13 sites, 43 percent of total prehistoric site characteristic occurrences). Two of the lithic scatters are also secondary lithic procurement sites. Other prehistoric sites include: one ceramic-bearing site, and a site containing stone circles. One very large prehistoric site in the subregion is the Hams Fork Conglomerate Archeological Landscape (48LN3203), which is one of the two recorded secondary lithic sources in the subregion.

Fifteen historic cultural resource sites have been recorded in the Bear River Divide Subregion. Six of these sites are stockherding camps (40 percent of total historic site characteristic occurrences), and five other historic sites (33 percent of total historic site characteristic occurrences) are “other” historic sites for which additional information is not listed in the WYCRO database. Other historic sites include the Oregon Trail and Spring Creek Road, two historic debris sites, and one homestead/ranch site. All cultural resources recorded in the subregion are listed by major composite site types in Table 4-6 (note that the table lists all site types, regardless of whether or not they are represented in the Bear River Subregion). Relative occurrences of prehistoric and historic site types are shown in Figures 4-4 and 4-5, respectively.

Table 4-6. Recorded Cultural Resources in the Bear River Subregion by Composite Site Types

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	0
Cairns	0
Campsites	13
Ceramic Sites	1
House Pit Sites	0
Hunting Blinds/Traps	0
Kill/Butchering Sites	0
Lithic Scatters	13
Quarries/Primary Lithic Procurement	0
Rock Art	0
Rock Shelters/Caves	0
Secondary Lithic Procurement	2
Stone Alignments/Effigies	0
Stone Circles	1
Other	0
<i>Historic Sites</i>	
Burials	0
Fur Trade	0
Historic Debris http://www.ajp.com/shop/sbtalit.html	2
Homesteads-Ranches	1
Irrigation	0
Military	0
Mineral Extraction & Exploration	0
Stockherding	6
Trans http://www.ajp.com/shop/sbtalit.html portation	1
Urban Buildings	0
Other	5

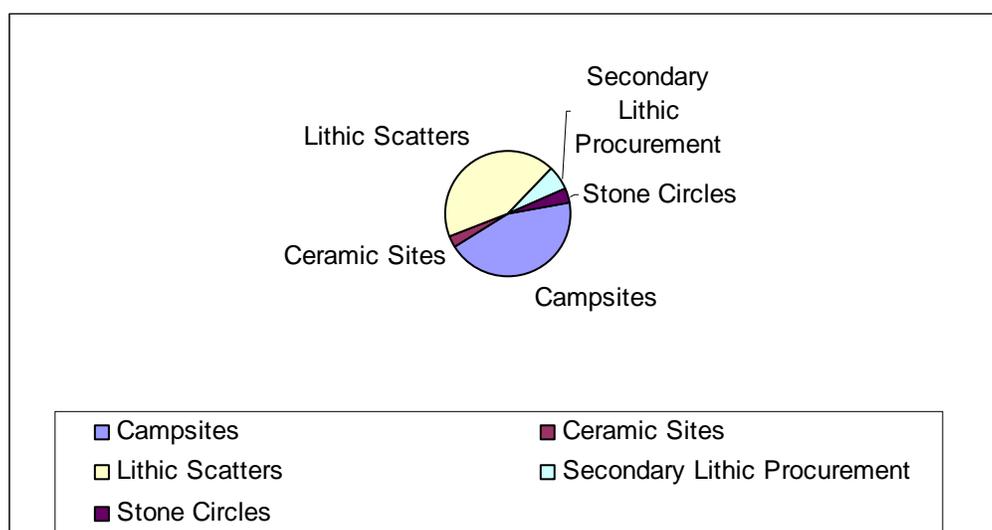


Figure 4-4. Bear River Divide Subregion Prehistoric Site Categories

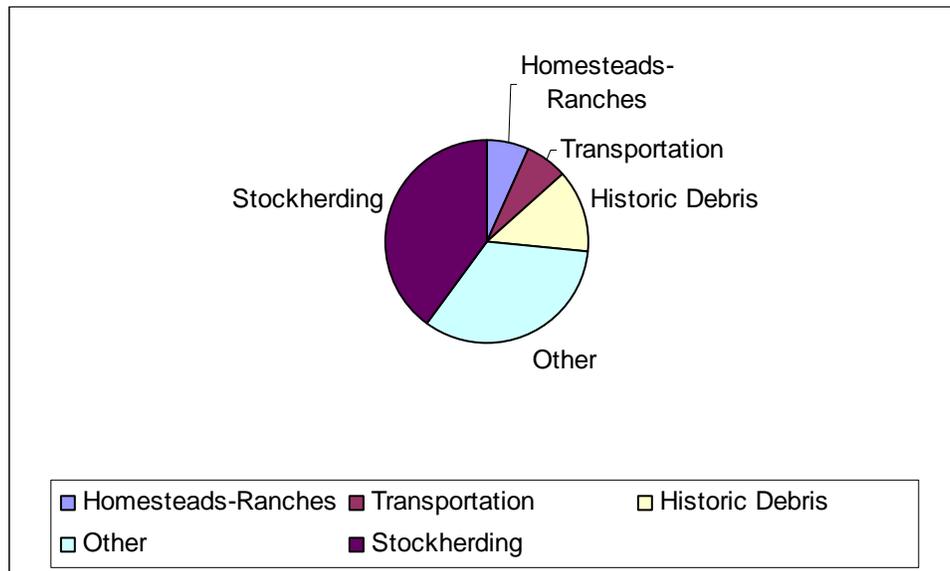


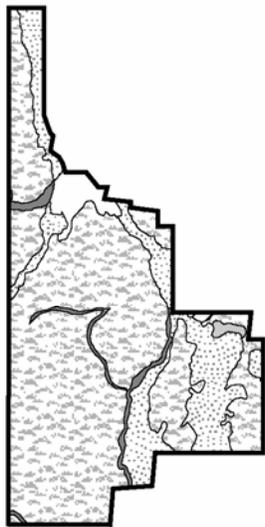
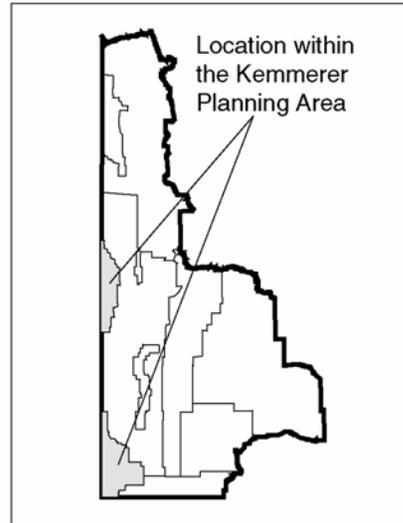
Figure 4-5. Bear River Divide Subregion Historic Site Categories

4.2.2 Bear River Valley Subregion

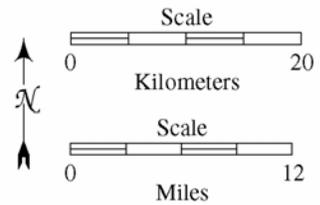
The subregion is defined by the valley of the Bear River, which is located along the western border of the Kemmerer Planning Area. The Bear River flows north out of the Uinta Mountains south of Evanston and meanders along the state line, so that it is divided into two distinct areas, Bear River Valley South and Bear River Valley North. These areas also encompass some upland zones particularly between the river’s major tributaries in the southwest corner of the planning area. The Bear River Valley Subregion ranges in elevation from 7,800 feet amsl at the south end to 6,100 feet amsl at the north. The subregion contains about 276,480 acres. Nearly all of the area has sagebrush grassland vegetative cover, although a small area on the southeastern periphery of the subregion has forest vegetative cover. An estimated 20 percent of the subregion has been converted to irrigated farmland. Narrow riparian zones border some streams, and dams have created open water and adjacent wetlands to the west and north of Evanston and to the south of Cokeville (Figure 4-6).

A moderate number of cultural resources is documented within this subregion, although higher numbers are expected to exist in the valley bottoms where limited inventories have been conducted primarily due to private ownership. Important prehistoric sites include the Weston site in the north and the Bessie Bottom site in the south. Nationally significant historic properties include the Oregon-California Trail, which passes through the north area largely beneath Highway 30; the Mormon-California Trail in the south area; the Union Pacific Oregon Short Line Railroad in the north; and the Union Pacific Transcontinental Railroad in the south. The Bear River Valley also contains concentrations of significant historic era resources related to homesteading and ranching development, as well as the Hilliard charcoal kilns in the south, most of the resources of which are located on private lands.

Figure 4-6
Vegetative Cover in the
Bear River Valley Subregion



-  Urban/Built Up
-  Agricultural
-  Grassland/Prairie
-  Forest
-  Water
-  Wetland/Riparian
-  Barren Land
-  Tundra



4.2.2.1 Cultural Resources Investigations, Bear River Valley Subregion

WYCRO records indicate that 225 cultural resources projects have occurred in the Bear River Valley Subregion. One stand-alone Class I Overview addresses a portion of the subregion: the Cumberland-Hams Fork Overview prepared by Western Wyoming College in 1983. Four Class II inventories have occurred in the subregion: a large-scale Overthrust Belt Inventory by the BLM in 1979 and three sampling surveys directed at specific development projects. Class III inventories have been conducted for a wide variety of projects, including oil and gas wells, pipelines, highways, transmission lines, parks, airports, and range improvements. Approximately 11,488 acres have been surveyed in the subregion, or about 4.15 percent of the area; since 1981, approximately 6,245 acres have been surveyed, or about 2.26 percent of the subregion area.

Two testing and evaluation projects have been conducted in the subregion: archeological site testing in association with looping expansion of a pipeline, and evaluation of selected bridges as part of the Wyoming Truss Bridge Survey. Two major excavations have also occurred in the subregion. In 1980, the Bessie Bottom site (48UT1186) was excavated by Western Wyoming College in mitigation of potential adverse effects of a pipeline. In 1991, the Weston site (48LN3117) was similarly excavated by TRC Mariah in mitigation of adverse effects of pipeline construction. Cultural resources projects in the subregion are listed in Appendix B.

4.2.2.2 Cultural Resources Recorded, Bear River Valley Subregion

The WYCRO database indicates that 223 cultural resource sites have been recorded in the Bear River Valley Subregion. The recorded properties are listed in the database under 77 characteristics, as shown in order of frequency in Table 4-7. All cultural resources recorded in the subregion are listed in Appendix C.

The database includes records of 95 prehistoric sites in the subregion. General prehistoric site types in the subregion are dominated by lithic scatters (72 sites, 56 percent of total prehistoric site characteristic occurrences) and campsites (36 sites, 28 percent of total prehistoric site characteristic occurrences). Secondary lithic procurement sources (10 sites, 7.81 percent of characteristic occurrences) and quarries/primary lithic procurement sources (7 sites, 5.5 percent of characteristic occurrences) are the other major site types in the subregion. One ceramic-bearing site, one butchering site, and one rock shelter have also been recorded in the subregion.

The database includes records of 135 recorded historic sites in the subregion. Transportation sites are the largest single historic site type recorded in the subregion (31 sites, 19 percent of total historic site characteristic occurrences); this site type includes the Oregon/Mormon/California emigrant trails, bridges, and the original route of the UPRR transcontinental route. The irrigation site type (29 sites, 18 percent of characteristic occurrences) includes a number of early canals and reservoirs. Urban buildings (28 sites, 17 percent of characteristic occurrences), historic debris (17 sites, 10 percent of characteristic occurrences), homesteads/ranches (12 sites, 7 percent of characteristic occurrences), and stockherding sites (nine sites, 5.52 percent of characteristic occurrences) are the other major historic site types recorded in the subregion. One military-related site and one historic burial (associated with an emigrant trail) have also been recorded in the subregion. Thirty-three (20 percent of site occurrences) “other” historic sites have also been recorded in the subregion. The database does not contain information to allow assignment of these sites to more precise categories.

**Table 4-7. Recorded Cultural Resources in the Bear River Valley
Subregion by Site Characteristics
(Page 1 of 2)**

<i>Site Type¹</i>	<i>Number of Occurrences</i>
Architecture - Cattle Ranch	1
Architecture - Urban Building	1
Conservation – Building	1
Energy Exploration - Oil/Gas Well/Field	1
Hearth, Firepit, FCR	1
Hearths, FCR/Lithic Scatter	5
Hearths/Ground Stone	1
Historic Alignment/Historic Debris	1
Historic Bridge	1
Historic Building (Rural)	2
Historic Building(Urban)	5
Historic Canal	7
Historic Dam	2
Historic Debris	13
Historic Homestead	2
Historic Mine	1
Historic Mining Mine	1
Historic Other	3
Historic Road	2
Historic Site	21
Historic Site/Lithic Scatter	1
Historic Sites/Prehistoric Open Camp	2
Historic Stockherding Camp	7
Historic Trail/Stage Route	3
Historic Trash Dump	3
Industry – Other	2
Industry – Railroad	1
Irrigation – Canal	13
Irrigation - Oil/Gas Well Field	1
Irrigation – Other	2
Lithic Scatter	19
Lithic Scatter/Historic Site	2
Lithic Scatter/Quarry	1
Military – Mine	1
Open Camp, Occupation	7
Open Camp/Historic Site	1
Overland Migration - Trail	2
Overland Migration Cemetery/Grave	1
Overland Migration Other	1
Prehistoric - Milling/Vegetable Processing	1
Prehistoric Artifacts And Features - Butchering/Processing - Activity Areas	1
Prehistoric Artifacts And Features - Chipping/Knapping - Hearths/FCR	3
Prehistoric Artifacts And Features - Habitation - Ceramics	1

**Table 4-7. Recorded Cultural Resources in the Bear River Valley
Subregion by Site Characteristics
(Page 2 of 2)**

<i>Site Type¹</i>	<i>Number of Occurrences</i>
Prehistoric Artifacts And Features - Habitation - Hearths/FCR	13
Prehistoric Artifacts And Features - Lithic Procurement - Primary - Quarry Pits	1
Prehistoric Artifacts And Features - Lithic Procurement - Secondary - Hearths/FCR	1
Prehistoric Artifacts And Features - Lithic Procurement - Secondary - Quarry Pits	1
Prehistoric Artifacts And Features - Milling/Vegetable Processing - Hearths/FCR	1
Prehistoric Feature - Habitation - Hearths/FCR	1
Prehistoric Lithic Scatter	11
Prehistoric Lithic Scatter - Activity Areas - Lithic Procurement - Secondary	1
Prehistoric Lithic Scatter - FCR - Chipping/Knapping Station	1
Prehistoric Lithic Scatter - FCR - Habitation	1
Prehistoric Lithic Scatter - FCR - Lithic Procurement - Primary	1
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	9
Prehistoric Lithic Scatter - Lithic Procurement-Primary	1
Prehistoric Lithic Scatter - Milling/Vegetable Processing	1
Prehistoric Lithic Scatter/Chipping/Knapping Station	23
Prehistoric Lithic Scatter/Habitation	3
Quarry, Lithic Source	3
Ranching - Cattle Ranch	4
Ranching - Homestead	4
Ranching - Stockherding Camp	3
Ranching Cabin	1
Reclamation – Other	2
Rockshelter, Cave, Overhang, Multiple Component, Stratified, Buried Sites	1
Timber – Building	1
Transportation – Bridge	13
Transportation - Building (Urban)	2
Transportation – Other	1
Transportation – Railroad	5
Transportation – Road	2
Transportation - Stage Road	1
Urban – Building	19
Urban - Church/Shrine	1
Urban – Foundation	1
Urban – Other	1

Note: 1. Sites may be listed under more than one category.

All recorded prehistoric and historic sites in the subregion are listed by composite site types in Table 4-8, and the relative occurrences of site types are shown in Figures 4-7 and 4-8.

Table 4-8. Recorded Cultural Resources in the Bear River Valley Subregion by Composite Site Types

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	0
Cairns	0
Campsites	36
Ceramic Sites	1
House Pit Sites	0
Hunting Blinds/Traps	0
Kill/Butchering Sites	1
Lithic Scatters	72
Quarries/Primary Lithic Procurement	7
Rock Art	0
Rock Shelters/Caves	1
Secondary Lithic Procurement	10
Stone Alignments/Effigies	0
Stone Circles	0
Other	0
<i>Historic Sites</i>	
Burials	1
Fur Trade	0
Historic Debris	17
Homesteads-Ranches	12
Irrigation	29
Military	1
Mineral Extraction & Exploration	2
Stockherding	9
Transportation	31
Urban Buildings	28
Other	33

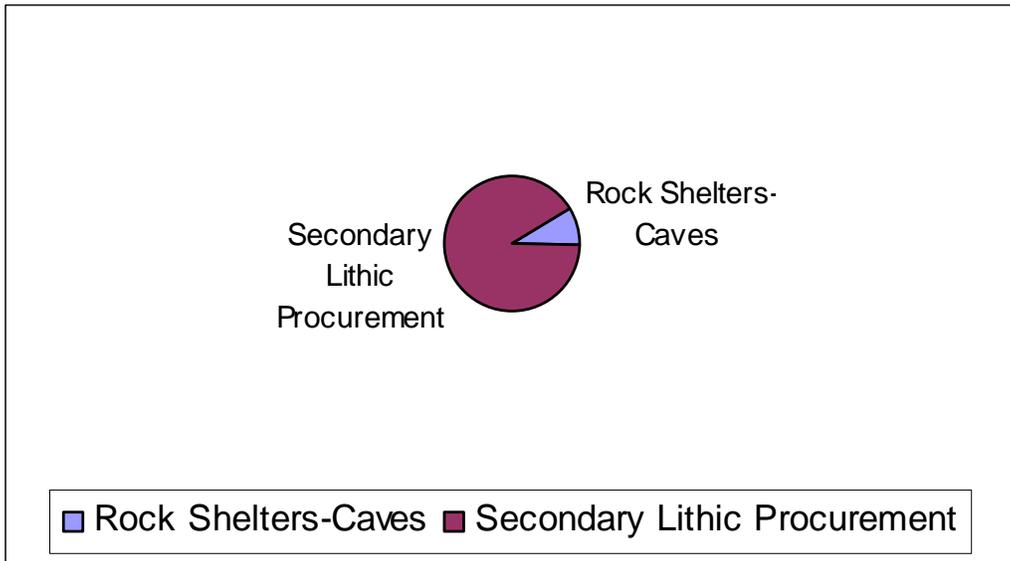


Figure 4-7. Bear River Valley Subregion Prehistoric Site Categories

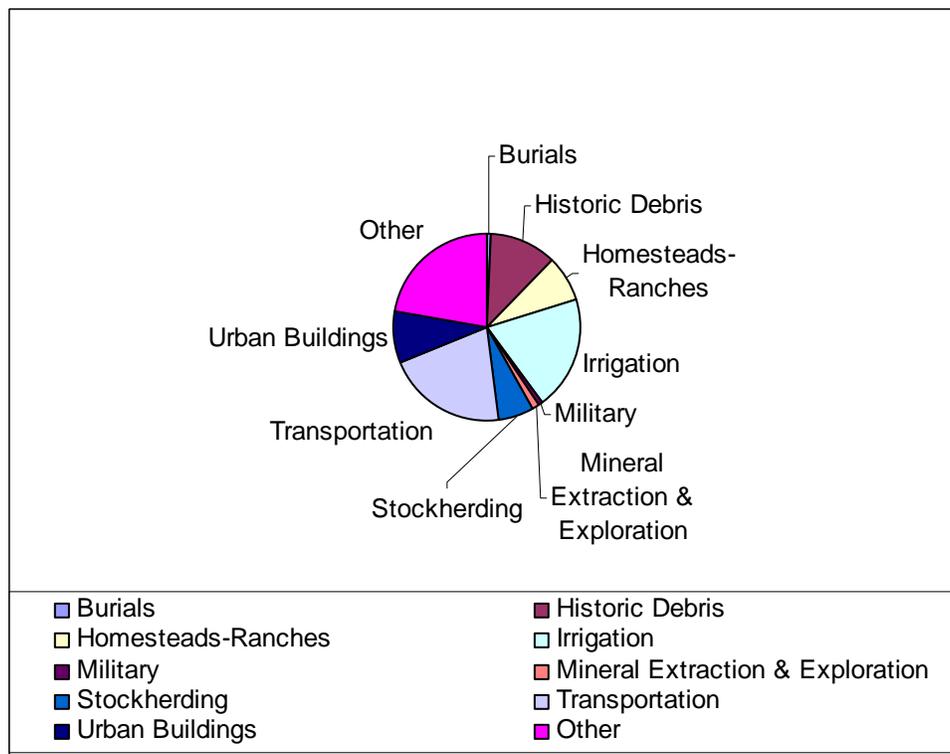


Figure 4-8. Bear River Valley Subregion Historic Site Categories

4.2.3 Bridger Valley Subregion

Geologically known as “Bridger Basin” because of the Bridger Formation, this subregion is defined as Bridger Valley because it is distinguished primarily on the basis of its unique cultural history which revolved around Fort Bridger, located in its central portion. Ranging in elevation from 6,500-7,800 feet amsl, the area is bordered on the south by the Uinta Foothills, on the west by the Overthrust Foothills, and on the north and east by the Green River Basin. The Blacks Fork and Smiths Fork Rivers and their many tributaries flow northeast through the center of the valley, all of which originate in the Uinta Mountains to the south. The subregion contains about 311,000 acres. Vegetative cover in the subregion is an estimated 65 percent sagebrush grasslands, 15 percent forest in higher elevations in the west side of the subregion, 15 percent barren ground in the eastern portion of the subregion, and less than 5 percent wetland or riparian vegetation along the Blacks Fork, Henrys Fork and other streams (Figure 4-9).

The valley contains a great concentration of historic sites that are highly significant in national and regional history, including the Oregon, California, Mormon and Pony Express Trails, Fort Bridger, Fort Supply, and various expressions of Mormon agrarian development such as homesteads, ranches and irrigation districts, as well as the town of Carter on the Union Pacific Transcontinental Railroad. Prehistoric camps also occur in great numbers as in the Green River Basin. The Eakin site is an important prehistoric property that has contributed significantly to scientific knowledge. Extensive upland areas above the valleys are characterized by badland outcrops of the Bridger Formation, known nationally among paleontologists for its Eocene fossils.

4.2.3.1 *Cultural Resources Investigations, Bridger Valley Subregion*

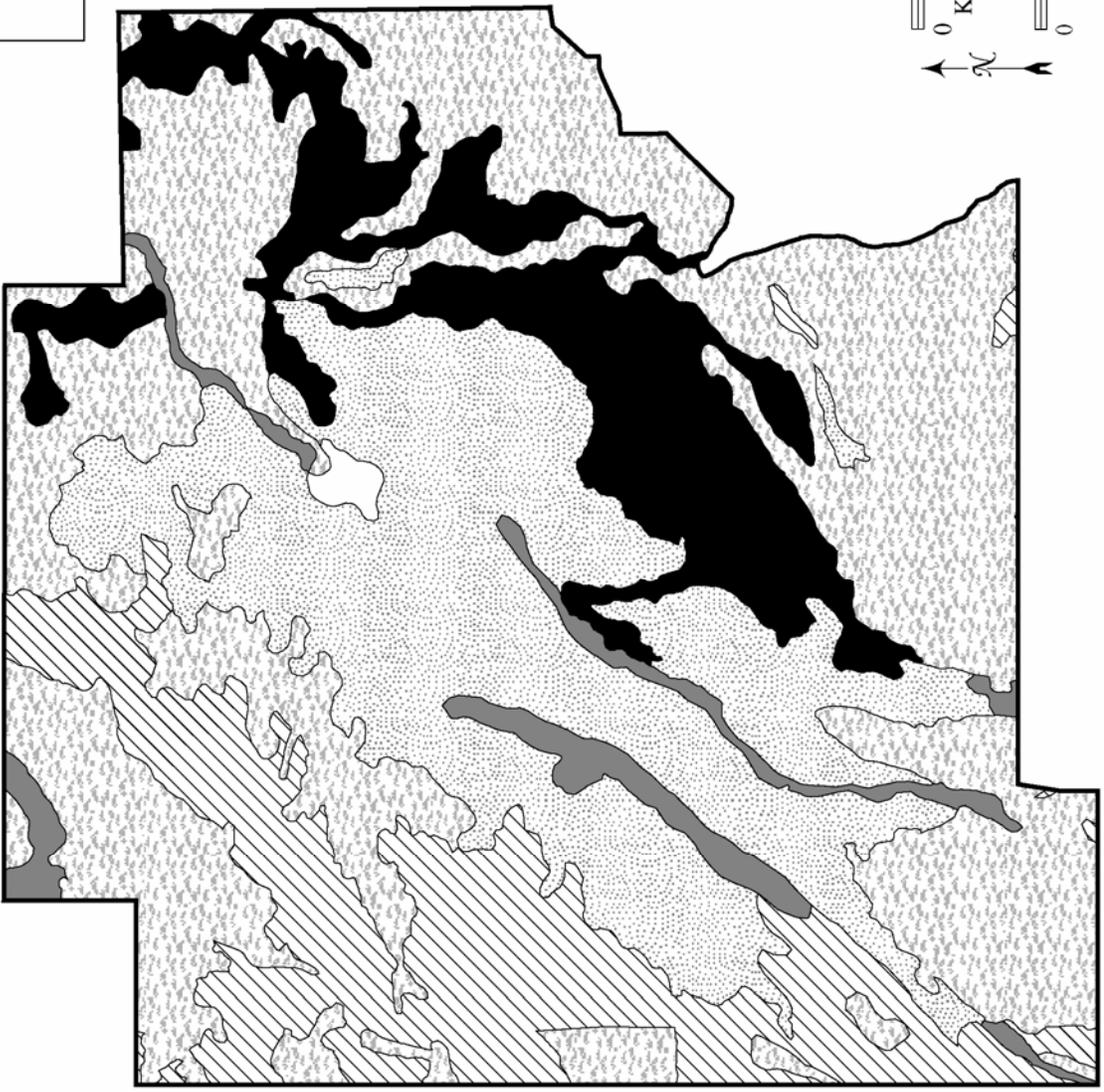
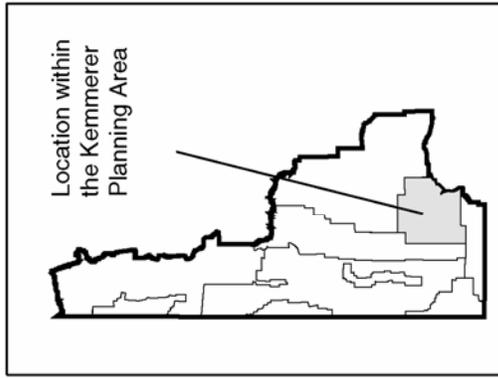
WYCRO records indicate that 243 cultural resources projects have occurred in the Bridger Valley Subregion from 1975 to 2003. No stand-alone Class I Overviews addressed this subregion, but background research and historical context information is likely to be found in reports of larger Class III inventories and testing/evaluation projects. Three Class II inventories have been conducted entirely or partly within the subregion, and all were sampling inventories for specific development projects. Class III inventories have addressed projects of a wide variety of types and sizes, including oil/gas well pads, pipelines, mines and gravel pits, roads and highways, land sales, water reservoirs and sewage systems, and airport expansions. Three major excavations have occurred in the subregion: at the Mormon Fort at Fort Bridger (48UT29), 48UT375, and UT1247. Cultural resources investigations in the subregion are listed in Appendix B.

4.2.3.2 *Cultural Resources Recorded, Bridger Valley Subregion*

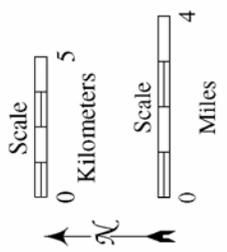
The WYCRO database indicates that 622 cultural resource sites have been recorded in the Bridger Valley Subregion. The recorded properties are listed in the database under 70 characteristics, as is shown in Table 4-9. All cultural resources recorded in the subregion are listed in Appendix C.

As indicated above, this subregion is relatively rich in prehistoric sites, possibly as a result of the water and other natural resources of the area. More than 95 percent of the prehistoric sites in the subregion are campsites/habitations (381 sites, 53 percent of total prehistoric characteristic occurrences) and lithic scatters (307 sites, 42 percent of total characteristic occurrences). Other recorded prehistoric site types are ceramic-bearing sites (two), quarries/primary lithic procurement sources (23), and stone circles (eight).

Figure 4-9
Vegetative Cover in the
Bridger Valley Subregion



- Urban/Built Up
- Agricultural
- Grassland/Prairie
- Forest
- Water
- Wetland/Riparian
- Barren Land
- Tundra



**Table 4-9. Recorded Cultural Resources in the Bridger Valley
Subregion by Characteristics
(Page 1 of 2)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Artifacts And Features - Unknown Use - Hearths/FCR	1
Features - Unknown Use - Other	1
Hearths, FCR/Lithic Scatter	5
Historic - Transportation - Trail/Stage Route	3
Historic Cabin	1
Historic Canal	2
Historic Debris	62
Historic Dugout	1
Historic Homestead	4
Historic Native American Other	1
Historic Road	45
Historic Site	8
Historic Site / Hearths	1
Historic Sites	1
Historic Stockherding Camp	2
Historic Trail/Stage Route	4
Historic Trash Dump	3
Historic-Ranching-Corral/Fence	2
Irrigation - Canal	3
Lithic Scatter	30
Lithic Scatter/Historic Site	1
Lithic Scatter/Open Camp	4
Lithic Scatter/Quarry	2
Military - Military Camp	1
Military - Military Fort	2
No Information	2
Open Camp, Occupation	7
Overland Migration - Trail	2
Prehistoric - Historic Debris	1
Prehistoric Artifacts And Features - Chipping/Knapping - Hearths/FCR	111
Prehistoric Artifacts And Features - Habitation	7
Prehistoric Artifacts And Features - Habitation - Bone	6
Prehistoric Artifacts And Features - Habitation - Ceramics	2
Prehistoric Artifacts And Features - Habitation - Hearths/FCR	25
Prehistoric Artifacts And Features - Habitation - Stone Rings	3
Prehistoric Artifacts And Features - Lithic Procurement - Primary	1
Prehistoric Artifacts And Features - Lithic Procurement - Secondary - Hearths/FCR	3
Prehistoric Artifacts And Features - Milling/Vegetable Processing - Ceramics	1
Prehistoric Artifacts And Features - Milling/Vegetable Processing - Hearths/FCR	17
Prehistoric Feature - Cairns	1
Prehistoric Feature - Habitation - Hearths/FCR	10
Prehistoric Feature - Habitation - Stone Rings	4

**Table 4-9. Recorded Cultural Resources in the Bridger Valley
Subregion by Characteristics
(Page 2 of 2)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Prehistoric Lithic Scatter	19
Prehistoric Lithic Scatter - Activity Areas - Habitation	1
Prehistoric Lithic Scatter - Activity Areas - Lithic Procurement - Secondary	1
Prehistoric Lithic Scatter - Chipping/ Knapping -Bone	2
Prehistoric Lithic Scatter - FCR - Chipping/Knapping Station	7
Prehistoric Lithic Scatter - FCR - Habitation	1
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	15
Prehistoric Lithic Scatter - Lithic Procurement-Primary	14
Prehistoric Lithic Scatter - Milling/Vegetable Processing	2
Prehistoric Lithic Scatter - Use Unknown	1
Prehistoric Lithic Scatter/Chipping/Knapping Station	94
Prehistoric Lithic Scatter/Habitation	15
Quarry, Lithic Source	9
Quarry/Lithic Scatter	2
Ranching - Historic Debris	2
Ranching - Homestead	1
Ranching - Stockherding Camp	17
Ranching - Trash Dump	5
Ranching Dugout	1
Stone Circle	1
Transportation - Bridge	5
Transportation - Freight Road	5
Transportation - Railroad	2
Transportation - Road	4
Urban - Building	18
Urban - Cairn\	1
Urban - Dugout	1
Urban - Trash Dump	1

One hundred forty-five historic sites have been recorded in the subregion. Historic site types are dominated by historic debris sites (74 sites), transportation sites (29 sites), stockherding sites (19 sites), and urban buildings (17 sites). Other recorded historic site types in the subregion are homesteads/ranches (nine), irrigation canals (six), military camps or forts (three), and 14 “other” historic sites that cannot be more precisely classified from information available in the database. Important historic sites include Fort Bridger, military camps from the Utah/Mormon War of 1857 and emigrant trails. Recorded cultural resources in the subregion are listed by composite site categories in Table 4-10, and relative occurrences of site types are shown in Figures 4-10 and 4-11.

Table 4-10. Recorded Cultural Resources in the Bridger Valley Subregion by Composite Site Types

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	0
Cairns	0
Campsites	381
Ceramic Sites	2
House Pit Sites	0
Hunting Blinds/Traps	0
Kill/Butchering Sites	0
Lithic Scatters	307
Quarries/Primary Lithic Procurement	23
Rock Art	0
Rock Shelters/Caves	0
Secondary Lithic Procurement	0
Stone Alignments/Effigies	0
Stone Circles	8
Other	1
<i>Historic Sites</i>	
Burials	0
Fur Trade	0
Historic Debris	74
Homesteads-Ranches	9
Irrigation	6
Military	3
Mineral Extraction & Exploration	0
Stockherding	19
Transportation	29
Urban Buildings	17
Other	14

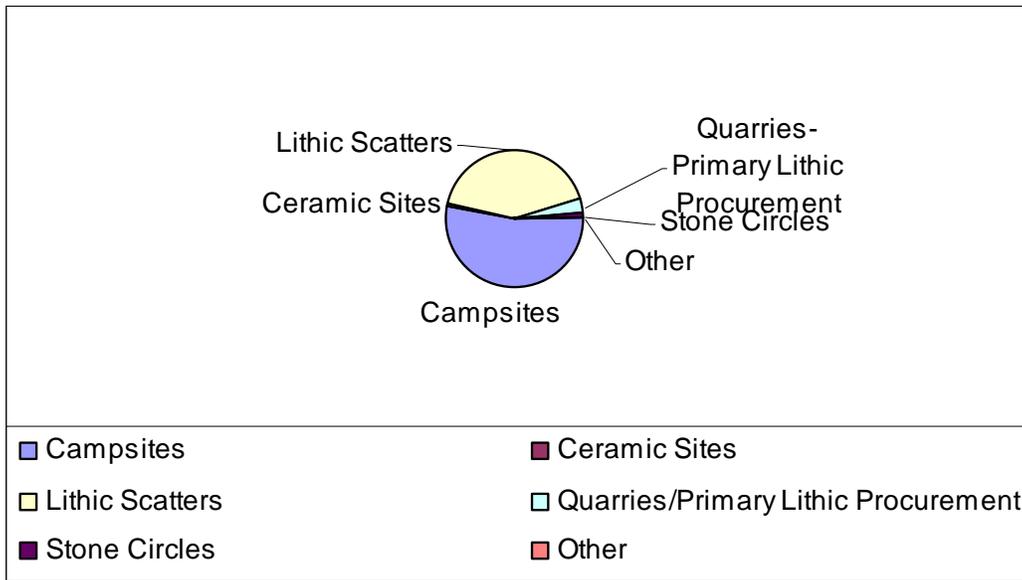


Figure 4-10. Bridger Valley Subregion Prehistoric Site Categories

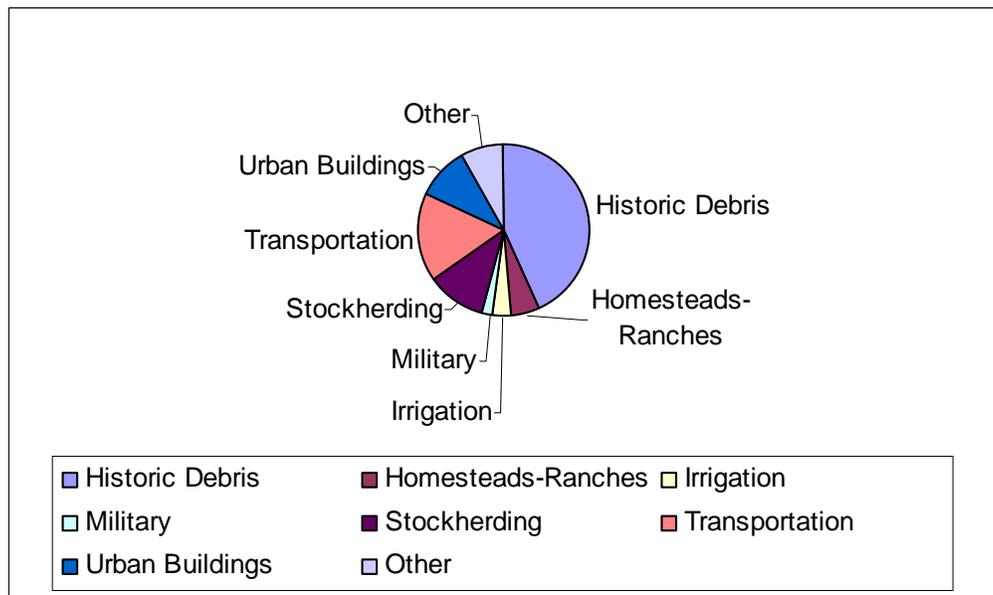


Figure 4-11. Bridger Valley Subregion Historic Site Categories

4.2.4 Green River Basin Subregion

The second-largest of subregions (and the largest in terms of BLM land responsibility) is in the central eastern portion, where the lowest part of the region descends to the Green River at the eastern border of the Kemmerer Planning Area. The Green River Basin is a broad structural depression characterized by expansive open topography with low buttes and mesas formed by erosion of the Green River, Bridger and Wasatch Formations. Small internally drained playas are common on the basin floor, and extensive sand deposits that often contain some of the most scientifically significant evidence of prehistoric occupations are prevalent. Elevations range from 6,100 feet amsl to roughly 6,800 feet amsl. Many intermittent and ephemeral drainages flow east and southeast into the Green River and its main tributaries, the Blacks Fork and Hams Fork Rivers. The subregion contains approximately 934,400 acres. The entire subregion has dominant sagebrush grassland vegetative cover, although small areas of forest occur at the northern and southern ends of the subregion. Narrow bands of riparian/wetland vegetation occur along the Blacks Fork and Green Rivers, Hams Fork River/Creek, and Muddy Creek, and other smaller creeks, and some areas of barren ground occur in the southeastern and northeastern portions of the subregion (Figure 4-12).

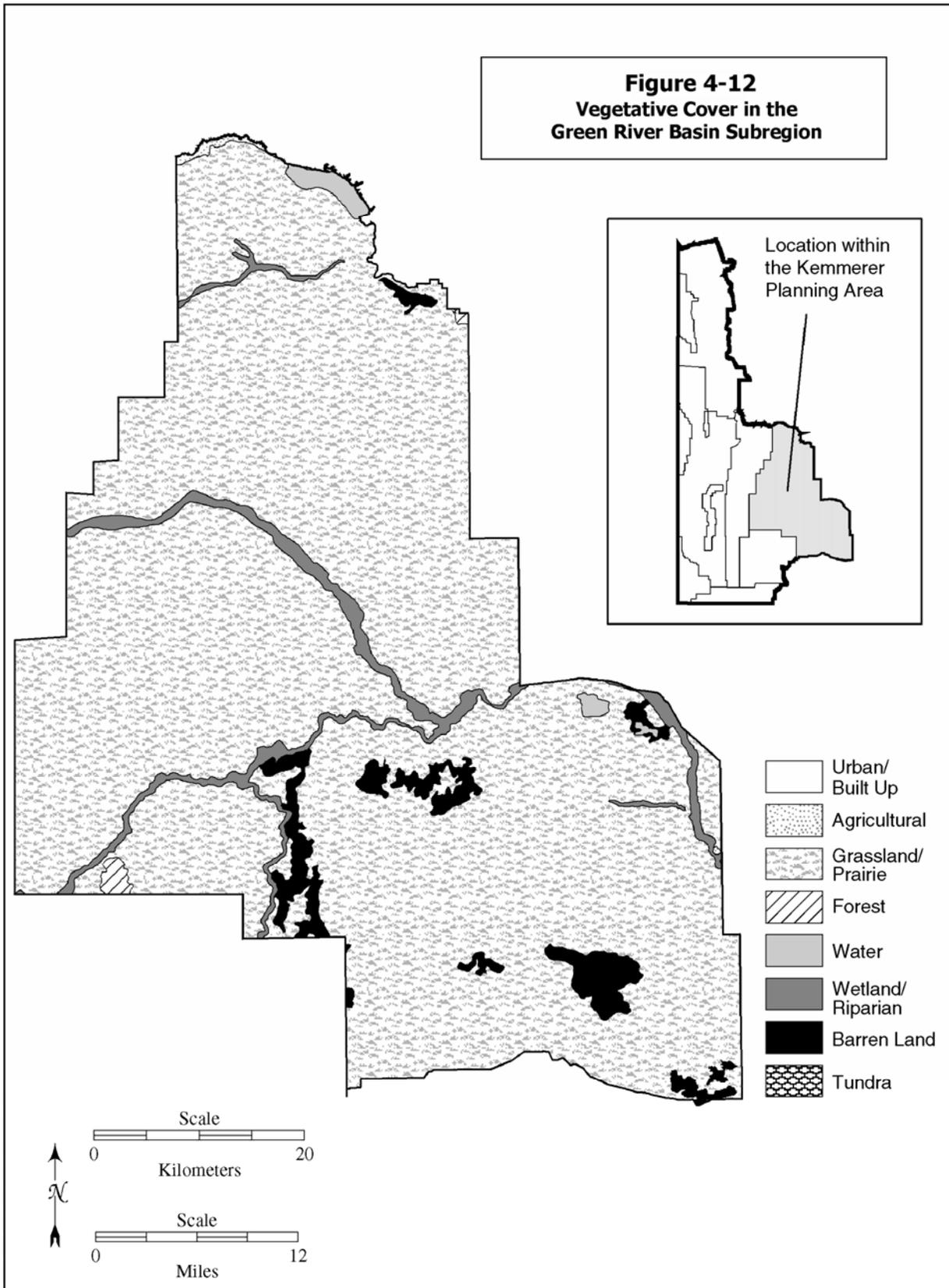
This subregion contains the greatest concentrations of identified cultural resources in the planning area, in part because its eastern portion is the Moxa Arch Natural Gas Field where more than half of the cultural inventories in the planning area have been conducted over the past 30 years. However, the tremendous densities of prehistoric camps, lithic scatters and archeological landscapes are certainly also reflections of concentrated ancient land use, in which prehistoric occupants utilized a variety of critical resources that occurred throughout the basin for thousands of years.

Dozens of benchmark prehistoric sites have been scientifically studied, most significantly including Austin Wash, Church Butte Four, Cow Hollow Creek, Dixie Cup, Disney, Fontenelle Twelve, Gemma, Hams Fork, MAK, Moxa Twenty-eight, Moxa Housepit, Old-and-in-the-way, Porter Hollow, Sevenmile Wash, Shute Creek Plant, Taliaferro and Vegan sites. Nationally significant historic resources also pass through this area, including the Oregon, California, Mormon, and Pony Express Trails and most of their variants, the Union Pacific Transcontinental Railroad and the Oregon Short Line Railroad, and the Lincoln Highway. Regionally significant routes also lie partially within the subregion, including the Opal Wagon Road and a small portion of the Bryan to South Pass City Road.

4.2.4.1 Cultural Resource Investigations, Green River Basin Subregion

The WYCRO database indicates that 2,990 cultural resource projects have occurred in the Green River Basin Subregion from 1975 to 2003. One stand-alone Class I Overview addressed part of the subregion, the Whiskey Buttes Pipeline Overview prepared in 1994. Nineteen Class II inventories have been completed in the subregion. The LaBarge Area Class II Inventory (1982) was a broad-scale investigation, and the remaining Class II inventories have all been conducted for specific development projects. More than 2,800 Class III inventories in the subregion have predominantly been associated with oil, gas, and pipeline development, but other substantial Class III inventories in the subregion have addressed fiber optics, mining, highway, and a variety of other projects. Fifty-one testing or evaluation projects have occurred in the subregion. Fourteen major excavations or impact mitigation studies have occurred in the subregion, the most prominent of which are mentioned above. Cultural resource projects in the Green River Basin are listed in Appendix B.

Figure 4-12
Vegetative Cover in the
Green River Basin Subregion



4.2.4.2 Recorded Cultural Resources, Green River Basin Subregion

The Green River Basin Subregion dwarfs the other subregions in the number and variety of cultural resources recorded, largely as a result of investigations associated with massive oil and gas field development in parts of the subregion. The WYCRO database includes records of 5,105 sites that have been recorded in this subregion. These sites are listed in the database under 146 characteristics, as is shown in Table 4-11. All recorded cultural resources in this subregion are listed in Appendix C.

The WYCRO database indicates that 4,837 prehistoric sites have been recorded in the Green River Basin Subregion. Recorded site types are heavily dominated by campsites/habitations (3,494 sites, 58 percent of site characteristic occurrences) and lithic scatters (1,926 sites, 32 percent of site characteristic occurrences). The only other site types that exceed 1 percent of the total site characteristic occurrences are secondary lithic procurement sources (422 sites, 7 percent) and quarries/primary lithic procurement sources (74 sites, 1 percent). Other prehistoric site types recorded in the subregion are burials (one), cairns (14), hunting blinds (two), kill/butchering sites (15), house pits (three), rock art (three), rock shelters (one), stone alignments/effigies (four), and stone circles (39).

The database includes records of 502 historic sites that have been recorded in the subregion. These sites are dominated by historic debris sites (231), stockherding sites (111), transportation sites (29), and homestead/ranch sites (48). Other historic sites recorded in the subregion are five historic burials (mostly associated with emigrant trails), 11 irrigation canals, four mineral exploration or extraction sites, one urban structure, and 28 “other” historic sites that cannot be more precisely classified from information in the database. All recorded cultural resources in the Green River Basin Subregion are listed by composite site types in Table 4-12 below, and relative occurrences of site types are shown in Figures 4-13 and 4-14.

4.2.5 Overthrust Belt Subregion

This subregion occupies the western central portion of the planning area, and is characterized by dominant, north-south oriented linear ridges and intervening narrow valleys. Geologically, the subregion is part of an intensely faulted belt of mountain ranges that extend from northwestern Canada to southern Utah. The Overthrust Foothills Subregion, described below, is distinguished from the Overthrust Belt because of its lower elevations and consequent differences in cultural occupation through time. Elevations of the Overthrust Belt Subregion range from roughly 7,000 to 7,500 feet amsl, with overall precipitous terrain dominated by steep slopes, hogsbacks and narrow ridge tops, and long restricted valleys. Its highest crests are distinguished as the Bear River Divide and Wyoming Range subregions, to the south and north respectively, where steep slopes increase at higher elevations. The Overthrust Belt Subregion contains about 869,000 acres. Higher ridges in the southern and northern portions of the subregion support forest vegetation covers, but sagebrush grasslands occupy the central portion and lower elevations of the northern and southern extents of the subregion (Figure 4-15).

**Table 4-11. Recorded Cultural Resources in the Green River Basin
Subregion by Characteristics
(Page 1 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Artifacts and Features - Unknown Use - Hearths/FCR	2
Communication - Telegraph/Telephone	1
Communication - Trail/Stage Route	1
Energy Exploration - Oil/Gas Well/Field	1
Energy Exploration - Other	1
Farming - Homestead	1
Farming - Stockherding Camp	1
Hearth, Firepit, FCR	5
Hearths, FCR/Lithic Scatter	5
Hearths/Lithic Scatter	17
Hearths/Open Camp, Occupation	1
Historic - Transportation - Trail/Stage Route	4
Historic - Transportation - Unknown	2
Historic Bridge	1
Historic Cabin	2
Historic Canal	2
Historic Cemetery/Grave	3
Historic Corral/Fence	1
Historic Debris	215
Historic Ferry	1
Historic Foundation	1
Historic Freight Road	1
Historic Homestead	5
Historic Inscriptions	1
Historic Mining Building	1
Historic Mining Camp/Mill	1
Historic Native American Site	1
Historic Other	3
Historic Road	12
Historic Site	13
Historic Site/Lithic Scatter	2
Historic Sites/Prehistoric Open Camp	1
Historic Stage Station	2
Historic Stockherding Camp	9
Historic Trail/Stage Route	13
Historic Trash Dump	13
Historic Unknown	5
Historic-Ranching-Corral/Fence	2
Irrigation - Canal	9
Irrigation - Other	1
Lithic Scatter	129
Lithic Scatter/Historic Site	3

**Table 4-11. Recorded Cultural Resources in the Green River Basin
Subregion by Characteristics
(Page 2 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Lithic Scatter/Open Camp	2
Needs Repair	2
No Information	10
Open Camp, Occupation	76
Open Camp/Ceramics	1
Open Camp/Hearths, Lithics	1
Open Camp/Historic Site	1
Open Camp/Lithic Scatter	4
Open Camp/Multiple Components, Stratified Site	2
Overland Migration - Trail	14
Overland Migration Cemetery/Grave	2
Overland Migration Historic Debris	2
Overland Migration Inscription	1
Overland Migration Natural Landmark	4
Overland Migration Other	1
Overland Migration Trash Dump	1
Prehistoric - Milling/Vegetable Processing	1
Prehistoric Artifacts and Features	4
Prehistoric Artifacts and Features - Butchering/Processing - Bone	2
Prehistoric Artifacts and Features - Butchering/Processing - Hearths/FCR	6
Prehistoric Artifacts and Features - Chipping/Knapping - Activity Areas	3
Prehistoric Artifacts and Features - Chipping/Knapping - Beads	1
Prehistoric Artifacts and Features - Chipping/Knapping - Hearths/FCR	337
Prehistoric Artifacts and Features - Chipping/Knapping - Stone Rings	2
Prehistoric Artifacts and Features - Habitation	28
Prehistoric Artifacts and Features - Habitation - Activity Areas	4
Prehistoric Artifacts and Features - Habitation - Alignments	3
Prehistoric Artifacts and Features - Habitation - Bone	6
Prehistoric Artifacts and Features - Habitation - Cairns	1
Prehistoric Artifacts and Features - Habitation - Ceramics	8
Prehistoric Artifacts and Features - Habitation - Hearths/FCR	2966
Prehistoric Artifacts and Features - Habitation - House Pits	4
Prehistoric Artifacts and Features - Habitation - Interment/Burial	1
Prehistoric Artifacts and Features - Habitation - Stone Rings	16
Prehistoric Artifacts and Features - Hearths/FCR	4
Prehistoric Artifacts and Features - Lithic Procurement - Primary - Hearths/FCR	3
Prehistoric Artifacts and Features - Lithic Procurement - Primary - Quarry Pits	1
Prehistoric Artifacts and Features - Lithic Procurement - Secondary	4
Prehistoric Artifacts and Features - Lithic Procurement - Secondary - Hearths/FCR	80
Prehistoric Artifacts and Features - Lithic Procurement - Secondary - Stone Rings	1
Prehistoric Artifacts and Features - Lithic Procurement/Secondary - Activity Areas	1
Prehistoric Artifacts and Features - Lithic Procurement/Secondary - Other	2
Prehistoric Artifacts and Features - Milling/Vegetable Processing	3

**Table 4-11. Recorded Cultural Resources in the Green River Basin
Subregion by Characteristics
(Page 3 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Prehistoric Artifacts and Features - Milling/Vegetable Processing - Hearths/FCR	90
Prehistoric Artifacts and Features - Milling/Vegetable Processing - Stone Rings	1
Prehistoric Ceramic Scatter - Habitation	1
Prehistoric Composite Scatter - Habitation	1
Prehistoric Composite Scatter - Lithic Procurement - Secondary	1
Prehistoric Composite Scatter - Other	1
Prehistoric Feature - Habitation - Hearths/FCR	124
Prehistoric Feature - Habitation - House Pits	1
Prehistoric Feature - Hunting Blind	1
Prehistoric Feature - Lithic Procurement-Secondary	1
Prehistoric Feature - Milling/Vegetable Processing - Hearth/FCR	1
Prehistoric Feature - Other - Rock Art	2
Prehistoric Feature Only	1
Prehistoric Lithic Scatter	174
Prehistoric Lithic Scatter - Activity Areas - Lithic Procurement - Secondary	6
Prehistoric Lithic Scatter - Cache	1
Prehistoric Lithic Scatter - Chipping/ Knapping -Bone	3
Prehistoric Lithic Scatter - FCR - Chipping/Knapping Station	33
Prehistoric Lithic Scatter - FCR - Habitation	37
Prehistoric Lithic Scatter - Habitation - Pottery/Ceramics	1
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	242
Prehistoric Lithic Scatter - Lithic Procurement-Primary	35
Prehistoric Lithic Scatter - Milling/Vegetable Processing	10
Prehistoric Lithic Scatter - Use Unknown	7
Prehistoric Lithic Scatter/Butchering & Processing	1
Prehistoric Lithic Scatter/Chipping/Knapping Station	919
Prehistoric Lithic Scatter/Habitation	42
Prehistoric Lithic Scatter/Other	4
Prehistoric Other	3
Prehistoric Other Material Scatter - Other	1
Prehistoric Rock Art - Ceremonial	1
Prehistoric Rock Art - Other	1
Prehistoric Unknown	3
Quarry, Lithic Source	26
Ranching - Building (Rural)	1
Ranching - Cairn	4
Ranching - Cattle Ranch	14
Ranching - Foundation	2
Ranching - Historic Debris	13
Ranching - Homestead	7
Ranching - Other	1
Ranching - Stockherding Camp	102
Ranching - Trash Dump	5
Ranching Dugout	2

**Table 4-11. Recorded Cultural Resources in the Green River Basin
Subregion by Characteristics
(Page 4 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Reclamation Building	1
Rock Alignments - Hunting Blind	1
Rockshelter, Cave, Overhang, Hearth	1
Stone Circle/Bison Pound/Kill	1
Tourism - Stage Route	5
Tourism - Trash Dump	2
Transportation - Bridge	24
Transportation - Building (Rural)	1
Transportation - Ferry	3
Transportation - Freight Road	13
Transportation - Historic Debris	3
Transportation - Other	1
Transportation - Railroad	9
Transportation - Railroad Camp	3
Transportation - Road	2
Transportation - Stage Road	3
Urban - Building	1

Table 4-12. Recorded Cultural Resources in the Green River Subregion by Composite Site Type

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	1
Cairns	14
Campsites	3,494
Ceramic Sites	10
House Pit Sites	3
Hunting Blinds/Traps	2
Kill/Butchering Sites	15
Lithic Scatters	1,926
Quarries/Primary Lithic Procurement	74
Rock Art	3
Rock Shelters/Caves	1
Secondary Lithic Procurement	422
Stone Alignments/Effigies	4
Stone Circles	39
Other	19
<i>Historic Sites</i>	
Burials	5
Fur Trade	0
Historic Debris	231
Homesteads-Ranches	48
Irrigation	11
Military	0
Mineral Extraction & Exploration	4
Stockherding	111
Transportation	87
Urban Buildings	1
Other	28

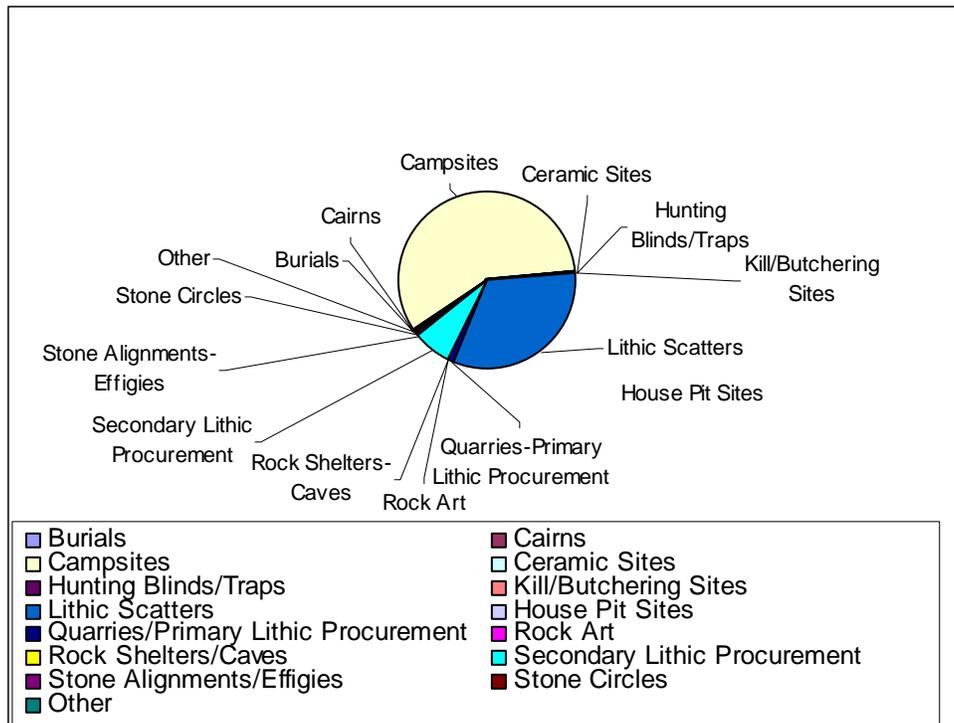


Figure 4-13. Green River Basin Subregion Prehistoric Site Categories

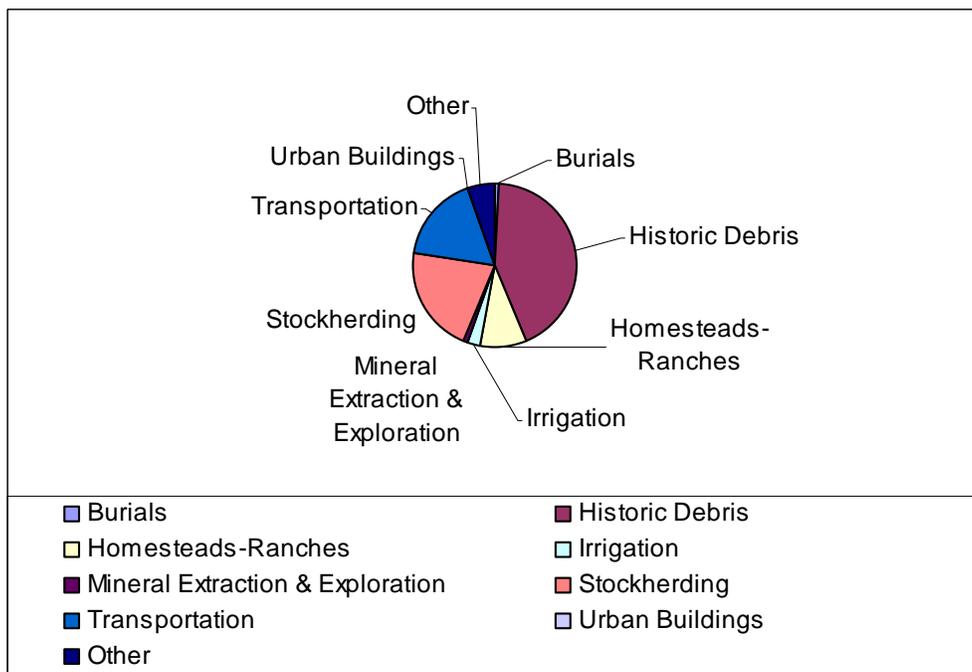
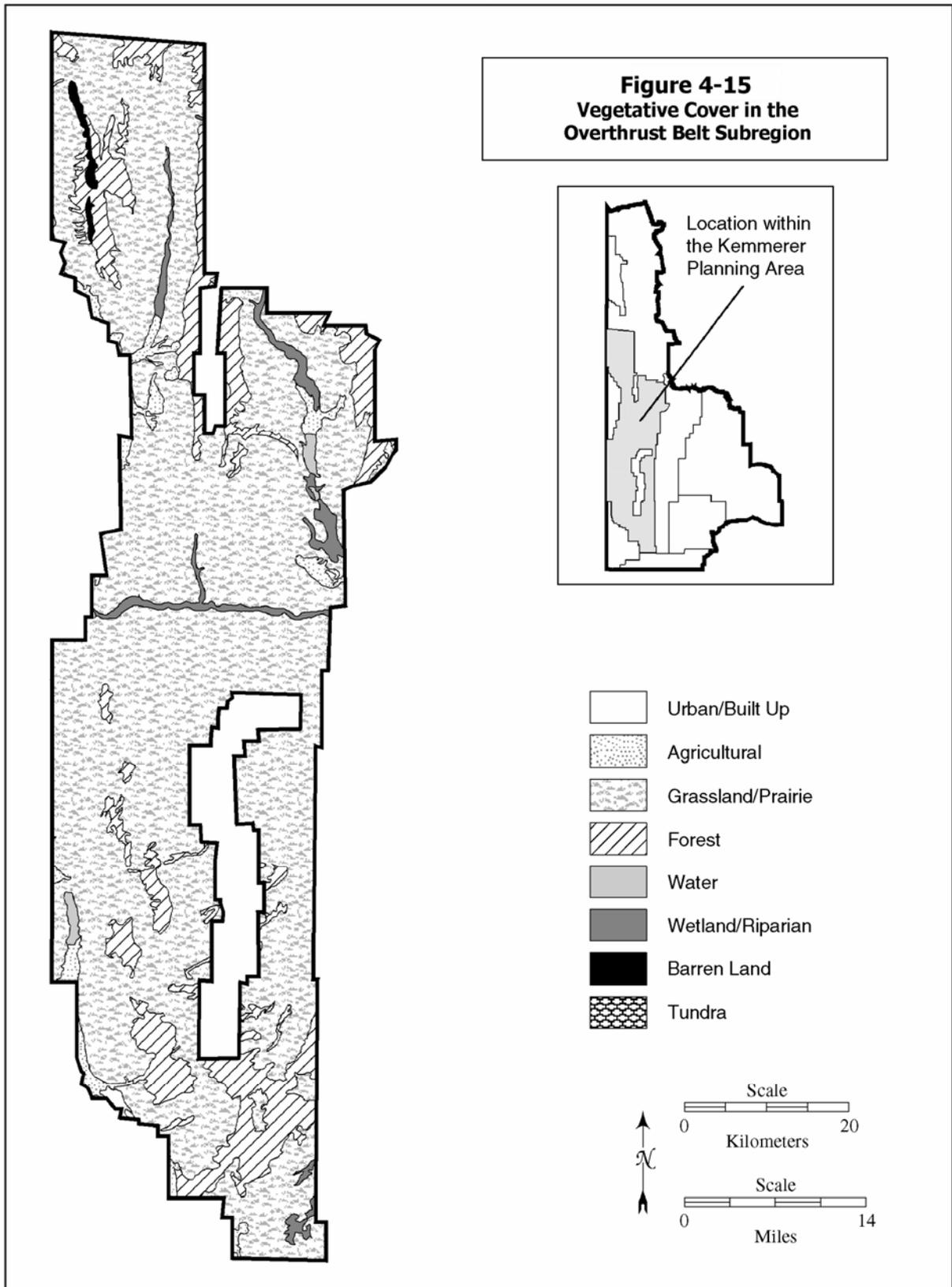


Figure 4-14. Green River Basin Subregion Historic Site Categories

Figure 4-15
Vegetative Cover in the
Overthrust Belt Subregion



Overall site densities are generally low throughout the area, due to the steep terrain that affords limited habitable contexts, although sites tend to be located near sources of permanent water and in valley bottoms where prehistoric occupants and historic shepherders camped. The Sublette and Dempsey-Hockaday Cutoffs of the Oregon-California National Historic Trail cross this subregion at its north end, as do all other major variants of the Oregon, California, Mormon, and Pony Express Trails through the central and southern portions of the subregion. Also passing through this subregion are the Union Pacific Transcontinental and Oregon Short Line Railroads, and the Lincoln Highway. The central portion of the subregion is known geologically as the Fossil Basin because of its internationally renowned fossil fish.

4.2.5.1 Cultural Resource Investigations, Overthrust Belt Subregion

The WYCRO database indicates that 743 cultural resources investigations have occurred in the Overthrust Belt Subregion from 1972 to 2003. The Cumberland-Hams Fork Overview prepared by Western Wyoming College in 1983 is the only Class I Overview represented in the WYCRO database for this subregion. Eighteen Class II inventories have occurred in the subregion, all of which have been associated with specific development projects, rather than being broad-scale sampling investigations. Class III inventories have addressed a wide variety of projects, the largest of which have been coal mines and pipelines (including the Kern River Pipeline). Eleven site-testing or other evaluation projects have occurred in the subregion, including examinations and evaluations of segments of emigrant trails. Two major excavations or mitigations have occurred in the subregion, at the Aspen Section Camp in 2002 and at site 48LN2555 in 1991. Cultural resources investigations in the Overthrust Belt Subregion are listed in Appendix B.

4.2.5.2 Recorded Cultural Resources, Overthrust Belt Subregion

The WYCRO database indicates that 779 cultural resources have been recorded in the Overthrust Belt Subregion. These sites are listed in the subregion under 99 characteristics, as is shown in Table 4-13. All recorded cultural resources in the Overthrust Belt Subregion are listed in Appendix C.

The database indicates that 459 prehistoric sites and 290 historic sites (or sites with historic or prehistoric components) have been recorded in this subregion. Prehistoric sites are dominated by lithic scatters (501) and campsites/habitations (441), and these two categories comprise more than 85 percent of all sites recorded in the subregion. The database indicates that 290 historic sites have been recorded in the subregion, with the largest number of sites being associated with stockherding. Recorded sites in the subregion are listed in Table 4-14 according to composite site types, and relative occurrences of site types are shown in Figures 4-16 and 4-17.

**Table 4-13. Recorded Cultural Resources in the Overthrust Belt
Subregion by Characteristics
(Page 1 of 3)**

<i>Characteristic</i>	<i>Number of Occurrences</i>
Bison kill, pound	1
Burials/cairn	1
Burials/historic sites	1
Cairn, cache, rock piles	3
Energy exploration - oil camp	1
Energy exploration - oil/gas well/field	4
Energy exploration - railroad	1
Farming - other	1
Hearth, FCR/bison pound, kill	1
Hearth, firepit, FCR	10
Hearths, FCR/lithic scatter	15
Hearths/historic site	1
Hearths/lithic scatter	15
Historic - transportation - trail/stage route	4
Historic bridge	1
Historic building(urban)	3
Historic cabin	9
Historic cairn	3
Historic cemetery/grave	1
Historic debris	38
Historic foundation	2
Historic homestead	1
Historic mine	1
Historic mining	1
Historic mining mine	18
Historic mining other	1
Historic Native American freight road	1
Historic road	7
Historic site	45
Historic site / hearths	2
Historic site/cairn	2
Historic site/lithic scatter	4
Historic site/misc. bone bed, bone scatter	1
Historic stockherding camp	13
Historic trail/stage route	4
Historic trash dump	3
Historic-ranching-corrals/fence	1
Irrigation - canal	4
Lithic scatter	85
Lithic scatter/groundstone	5

**Table 4-13. Recorded Cultural Resources in the Overthrust Belt
Subregion by Characteristics
(Page 2 of 3)**

<i>Characteristic</i>	<i>Number of Occurrences</i>
Lithic scatter/historic site	9
Lithic scatter/open camp	5
Metate, mano, mortars, ground stone	1
Misc. Bone bed, bone scatter	1
No information	15
Open camp, occupation	42
Open camp/ground stone	2
Open camp/hearths	1
Open camp/historic site	3
Open camp/misc. Bone bed, bone scatter	1
Overland migration - trail	4
Overland migration cemetery/grave	2
Prehistoric artifacts and features	1
Prehistoric artifacts and features - butchering & processing	1
Prehistoric artifacts and features - chipping/knapping - hearths/FCR	8
Prehistoric artifacts and features - habitation - activity areas	1
Prehistoric artifacts and features - habitation - ceramics	1
Prehistoric artifacts and features - habitation - hearths/FCR	93
Prehistoric artifacts and features - habitation - stone rings	5
Prehistoric artifacts and features - lithic procurement - secondary - hearths/FCR	6
Prehistoric artifacts and features - milling/vegetable processing - hearths/FCR	4
Prehistoric cairn	2
Prehistoric feature - habitation - hearths/FCR	15
Prehistoric feature - habitation - stone rings	3
Prehistoric feature - other - hearth/FCR	1
Prehistoric feature - stone rings	1
Prehistoric lithic scatter	19
Prehistoric lithic scatter - cache	1
Prehistoric lithic scatter - FCR - chipping/knapping station	1
Prehistoric lithic scatter - FCR - habitation	3
Prehistoric lithic scatter - lithic procurement - secondary	30
Prehistoric lithic scatter - lithic procurement-primary	2
Prehistoric lithic scatter - milling/vegetable processing	1
Prehistoric lithic scatter/butchering & processing	1
Prehistoric lithic scatter/chipping/knapping station	56
Prehistoric lithic scatter/habitation	11
Prehistoric other material scatter - kill site - fire hearths/FCR	1
Quarry, lithic source	19
Quarry/historic sites	3
Ranching - cairn	6
Ranching - cattle ranch	11

**Table 4-13. Recorded Cultural Resources in the Overthrust Belt
Subregion by Characteristics
(Page 3 of 3)**

<i>Characteristic</i>	<i>Number of Occurrences</i>
Ranching - homestead	12
Ranching - inscription	1
Ranching - school	1
Ranching - sheep ranch	1
Ranching - stockherding camp	58
Ranching - trash dump	1
Ranching cabin	1
Reclamation - dam	1
Rockshelter, cave, overhang	3
Scientific - inscription	1
Timber - foundation	1
Timber - tie hack camp	1
Transportation - bridge	4
Transportation - freight road	2
Transportation - other	2
Transportation - railroad	18
Transportation - road	6
Transportation - stage road	1
Urban - building	2

**Table 4-14. Recorded Cultural Resources in
the Overthrust Belt Subregion by Composite
Site Types**

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	0
Cairns	5
Campsites	234
Ceramic Sites	1
House Pit Sites	0
Hunting Blinds/Traps	0
Kill/Butchering Sites	7
Lithic Scatters	269
Quarries/Primary Lithic Procurement	21
Rock Art	0
Rock Shelters/Caves	3
Secondary Lithic Procurement	37
Stone Alignments/Effigies	0
Stone Circles	8
Other	5
<i>Historic Sites</i>	
Burials	5
Fur Trade	0
Historic Debris	40
Homesteads-Ranches	39
Irrigation	5
Military	0
Mineral Extraction & Exploration	25
Stockherding	72
Transportation	41
Urban Buildings	5
Other	63

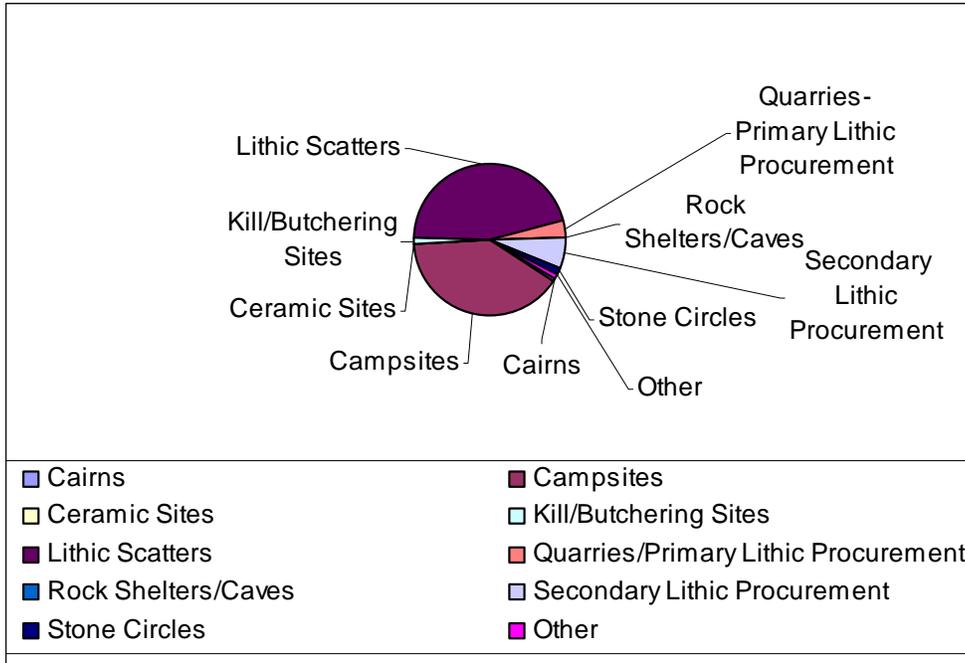


Figure 4-16. Overthrust Belt Subregion Prehistoric Site Categories

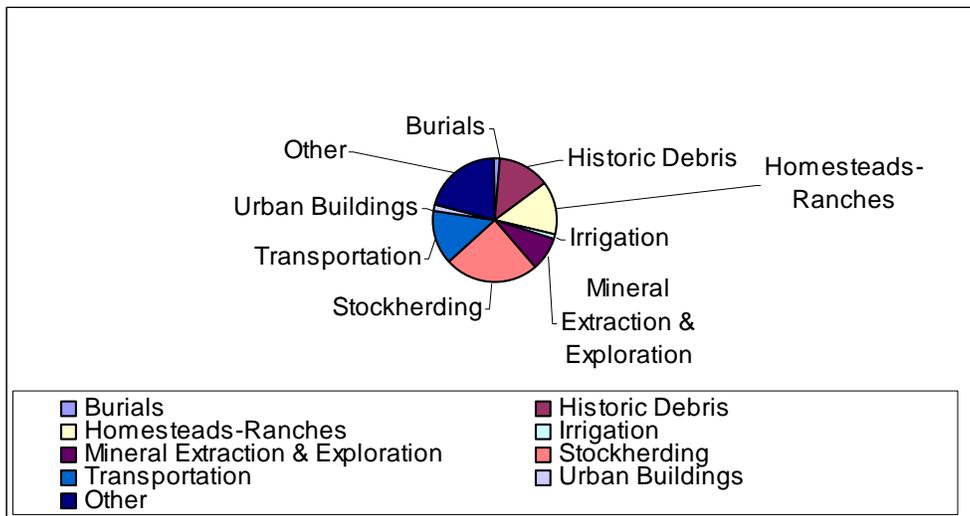


Figure 4-17. Overthrust Belt Subregion Historic Site Categories

4.2.6 Overthrust Foothills Subregion

This subregion is distinguished from the larger Overthrust Belt geographic unit because of lower elevations (roughly 6,800 to 7,000 feet amsl), less precipitous topography, variable orientations of dominant topographic features, and overall higher site densities. It represents the intermediate zone between the lower Green River Basin and Bridger Valley to the east, and the higher Overthrust Belt to the west. Several north-south trending, overthrust ridges occur at its west edge (Oyster Ridge, The Hogsback and Slate Creek Ridge), although their elevations are generally lower than those of the Overthrust Belt and they are separated by wide valleys and isolated hills in this transitional topographic zone. The subregion contains approximately 514,560 acres. Vegetation cover includes extensive forest areas in the southern portion of the subregion and lesser forest areas in the far northern portion, sagebrush grasslands over most of the remaining areas of the subregion, and bands of riparian/wetland vegetation primarily along Muddy Creek and Hams Fork River/Creek (see Figure 4-18).

Culturally, this subregion contains the greatest diversity of site types and periods of occupation, although sheer numbers of sites and densities are lower than in the Green River Basin and Bridger Valley. Notable sites that have contributed significantly to our understanding of prehistory include Broken Home, Deep Hearth, Meadow Draw Ten, Meadow Draw Thirteen, Oyster Ridge, Skull Point, South Slate Creek and Wishful sites. The Bridger Antelope Trap, a Protohistoric-Historic game drive and trap, is also located in this subregion. All but one of the National Historic Trails and variants pass through this subregion, as do the Union Pacific Transcontinental and Oregon Short Line Railroads, and the Lincoln Highway. Most of the numerous historic coal mines in the planning area are also located in this subregion, as are the historic Piedmont charcoal kilns and town.

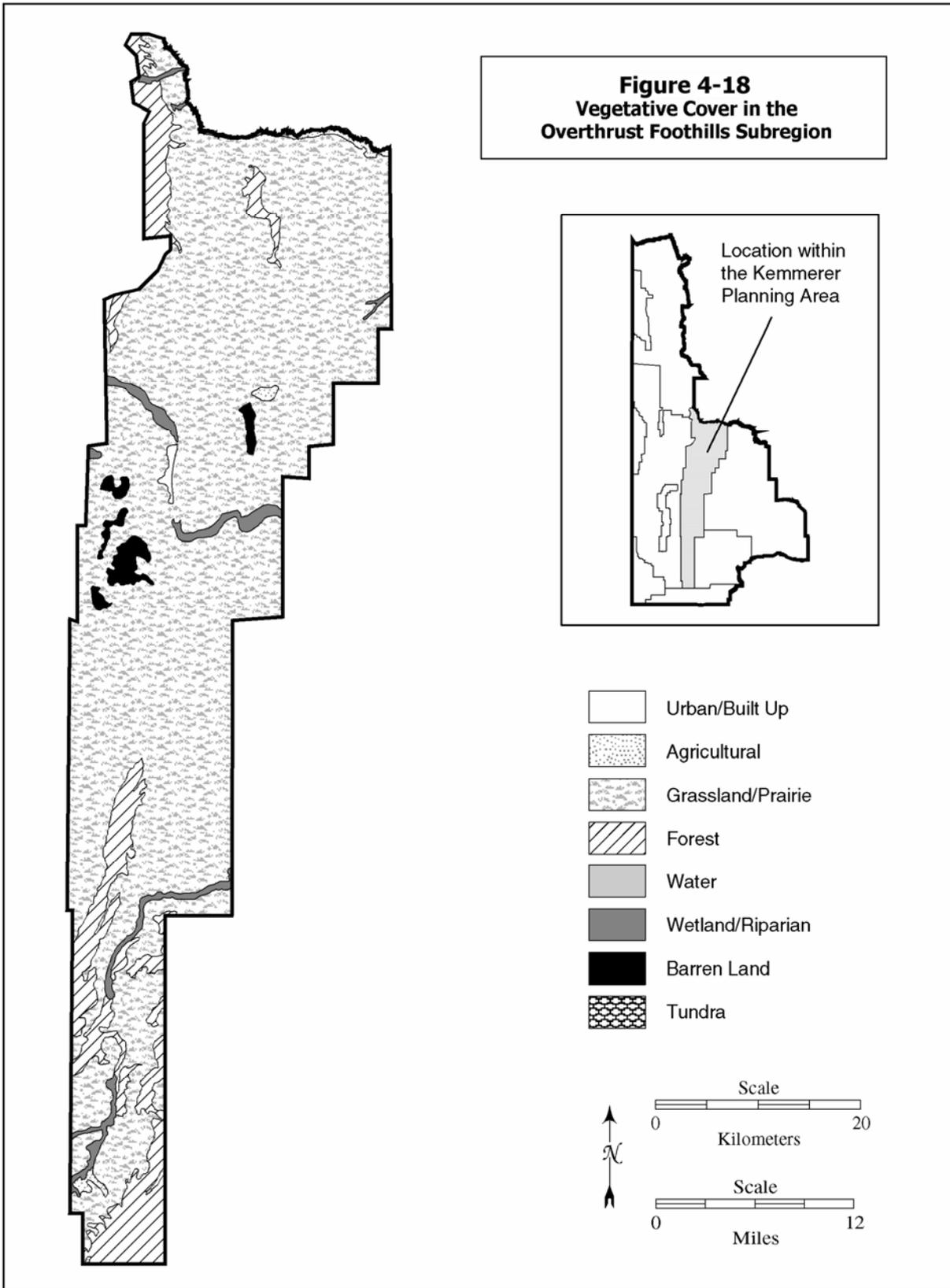
4.2.6.1 *Cultural Resources Investigations, Overthrust Foothills Subregion*

The WYCRO database indicates that 405 cultural resources investigations have occurred in the Overthrust Foothills Subregion. Two stand-alone Class I Overviews have addressed parts of this subregion: the Cumberland-Hams Fork Overview prepared by Western Wyoming College in 1983 and the Riley Ridge Overview prepared by Metcalf-Zier Archaeological Consultants in 1983. Fourteen Class II inventories have been completed in the subregion, including the Overthrust Belt Class II Inventory conducted by BLM in 1979. All other Class II inventories have been restricted to specific project areas. Class III inventories have predominantly addressed oil, gas, pipeline, and coal mining projects. Approximately 8.6 percent of the subregion has been surveyed for cultural resources since 1975, but only approximately 2.3 percent of the subregion has been surveyed since 1982. Cultural resource investigations in the Overthrust Foothills Subregion are listed in Appendix B.

4.2.6.2 *Recorded Cultural Resources, Overthrust Foothills Subregion*

The WYCRO database indicates that 1,148 cultural resource sites have been recorded in the Overthrust Foothills Subregion. Sites are represented in the database under 143 characteristics, as indicated in Table 4-15. All sites recorded in the subregion are listed in Appendix C.

Figure 4-18
Vegetative Cover in the
Overthrust Foothills Subregion



**Table 4-15. Recorded Cultural Resources in the Overthrust Foothills
Subregion by Characteristics
(Page 1 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Architecture - Bridge	1
Architecture - Urban Building	1
Bison Kill, Pound	1
Cairn, Cache, Rock Piles	3
Communication - Telegraph/Telephone	1
Conservation - Building	1
Energy Exploration - Mine	1
Energy Exploration - Oil/Gas Well/Field	3
Energy Exploration - Railroad	2
Features Only - Unknown Use	1
Hearth, Firepit, FCR	10
Hearths, FCR/Lithic Scatter	12
Hearths/Lithic Scatter	28
Historic - Transportation - Trail/Stage Route	7
Historic - Transportation - Unknown	1
Historic Bridge	3
Historic Building(Urban)	5
Historic Cairn	6
Historic Cemetery/Grave	1
Historic Debris	78
Historic Foundation	7
Historic Inscriptions	1
Historic Mine	23
Historic Mining	2
Historic Mining Building	3
Historic Mining Camp/Mill	6
Historic Mining Debris	4
Historic Mining Foundation	1
Historic Mining Mine	42
Historic Mining Oil/Gas/Well/Field	1
Historic Mining Other	1
Historic Mining-Mineral Exploration	1
Historic Other	1
Historic Ranching - Oil/Gas Well/Field	7
Historic Road	1
Historic Site	8
Historic Site/Cairn	61
Historic Sites/Historic Inscriptions/Rock Art	1
Historic Stockherding Camp	2
Historic Trail/Stage Route	12
Historic Transmission Line/Power Line	5
Historic Trash Dump	1

**Table 4-15. Recorded Cultural Resources in the Overthrust Foothills
Subregion by Characteristics
(Page 2 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Human Remains - Interment/Burial	9
Human Remains – Mortuary	1
Industry - Mineral Exploration	1
Industry - Other	1
Irrigation - Canal	1
Lithic Scatter	3
Lithic Scatter/Ceramics	144
Lithic Scatter/Groundstone	1
Lithic Scatter/Historic Site	1
Lithic Scatter/Open Camp	5
Lithic Scatter/Quarry	5
Lithic Scatter/Rock Art	4
Metate, Mano, Mortars, Ground Stone/ Historic Component	1
Needs Repair	1
No Information	7
Open Camp, Occupation	55
Open Camp/Ground Stone	5
Open Camp/Hearths	1
Open Camp/Hearths, Lithics	1
Open Camp/Historic Site	5
Open Camp/Lithic Scatter	1
Open Camp/Misc. Bone Bed, Bone Scatter	1
Open Camp/Miscellaneous Type	2
Open Camp/Petroglyphs, Rock Art	1
Open Camp/Quarry	1
Overland Migration - Trail	6
Overland Migration Cemetery/Grave	1
Overland Migration Inscription	3
Petroglyphs, Rock Art	1
Prehistoric Artifacts And Features	5
Prehistoric Artifacts And Features - Butchering/Processing - Bone	1
Prehistoric Artifacts And Features - Butchering/Processing - Hearths/FCR	3
Prehistoric Artifacts And Features - Chipping/Knapping - Cairns	1
Prehistoric Artifacts and Features - Chipping/Knapping - Hearths/FCR	1
Prehistoric Artifacts and Features - Chipping/Knapping - Stone Rings	55
Prehistoric Artifacts and Features - Habitation	1
Prehistoric Artifacts and Features - Habitation - Bone	3
Prehistoric Artifacts and Features - Habitation - Cairns	1
Prehistoric Artifacts and Features - Habitation - Ceramics	4
Prehistoric Artifacts and Features - Habitation - Hearths/FCR	238
Prehistoric Artifacts and Features - Habitation - House Pits	3
Prehistoric Artifacts and Features - Habitation - Other	1
Prehistoric Artifacts and Features - Habitation - Pictographs/Petroglyphs/Rock Art	1
Prehistoric Artifacts and Features - Habitation - Rockshelter	4

**Table 4-15. Recorded Cultural Resources in the Overthrust Foothills
Subregion by Characteristics
(Page 3 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Prehistoric Artifacts And Features - Hunting Blind	1
Prehistoric Artifacts and Features - Kill Site	1
Prehistoric Artifacts and Features - Kill Site - Corral/Drivelines	1
Prehistoric Artifacts and Features - Lithic Procurement - Primary - Hearths/FCR	1
Prehistoric Artifacts and Features - Lithic Procurement - Secondary	1
Prehistoric Artifacts and Features - Lithic Procurement - Secondary - Hearths/FCR	1
Prehistoric Artifacts and Features - Lithic Procurement/Primary - Activity Areas	1
Prehistoric Artifacts and Features - Lithic Procurement/Secondary - Activity Areas	1
Prehistoric Artifacts and Features – Milling/Vegetable Processing	2
Prehistoric Artifacts and Features - Milling/Vegetable Processing - Hearths/FCR	5
Prehistoric Composite Scatter – Chipping/Knapping	1
Prehistoric Feature – Bone	1
Prehistoric Feature – Habitation	2
Prehistoric Feature – Habitation - Hearths/FCR	16
Prehistoric Feature - Other - Cairns	2
Prehistoric Lithic Scatter	40
Prehistoric Lithic Scatter - Activity Areas - Lithic Procurement - Secondary	5
Prehistoric Lithic Scatter - Chipping/ Knapping -Bone	1
Prehistoric Lithic Scatter - FCR - Chipping/Knapping Station	1
Prehistoric Lithic Scatter - FCR – Habitation	17
Prehistoric Lithic Scatter - Habitation – Bone	1
Prehistoric Lithic Scatter - Habitation – Rockshelter	1
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	20
Prehistoric Lithic Scatter - Lithic Procurement-Primary	6
Prehistoric Lithic Scatter - Milling/Vegetable Processing	3
Prehistoric Lithic Scatter/Butchering & Processing	3
Prehistoric Lithic Scatter/Chipping/Knapping Station	162
Prehistoric Lithic Scatter/Habitation	36
Prehistoric Other	1
Quarry, Lithic Source	17
Quarry/Lithic Scatter	1
Quarry/Open Camp	3
Ranching – Cairn	3
Ranching - Cattle Ranch	5
Ranching - Historic Debris	3
Ranching - Homestead	7
Ranching - Stockherding Camp	88
Ranching - Trash Dump	4
Religion - Church/Shrine	2
Rock Alignment, Medicine Wheel, Rock Feature/Lithic Scatter	1
Rock Alignments - Habitation - Hearths/FCR	1
Rockshelter, Cave, Overhang	1
Rockshelter, Cave, Overhang, Ceramics	1
Rockshelter, Cave/Historic Site	1

**Table 4-15. Recorded Cultural Resources in the Overthrust Foothills
Subregion by Characteristics
(Page 4 of 4)**

<i>Site Type</i>	<i>Number of Occurrences</i>
Stone Circle	1
Stone Circle/Lithic Scatter	3
Timber - CCC Camp/Construction	1
Timber – Sawmill	1
Transportation – Bridge	33
Transportation - Building (Rural)	2
Transportation - Cemetery/Grave	1
Transportation - Freight Road	5
Transportation - Historic Debris	4
Transportation – Railroad	15
Transportation – Road	4
Urban – Building	16
Urban - Trash Dump	2

Recorded prehistoric and historic sites in the Overthrust Foothills Subregion are presented according to composite site types in Table 4-16 below. Relative occurrences of site types are shown in Figures 4-19 and 4-20.

Table 4-16. Recorded Cultural Resources in the Overthrust Foothills Subregion by Composite Site Types

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	2
Cairns	4
Campsites	441
Ceramic Sites	5
House Pit Sites	1
Hunting Blinds/Traps	1
Kill/Butchering Sites	15
Lithic Scatters	501
Quarries/Primary Lithic Procurement	30
Rock Art	3
Rock Shelters/Caves	6
Secondary Lithic Procurement	24
Stone Alignments/Effigies	1
Stone Circles	13
Other	9
<i>Historic Sites</i>	
Burials	2
Fur Trade	0
Historic Debris	90
Homesteads-Ranches	24
Irrigation	3
Military	0
Mineral Extraction & Exploration	74
Stockherding	95
Transportation	81
Urban Buildings	21
Other	85

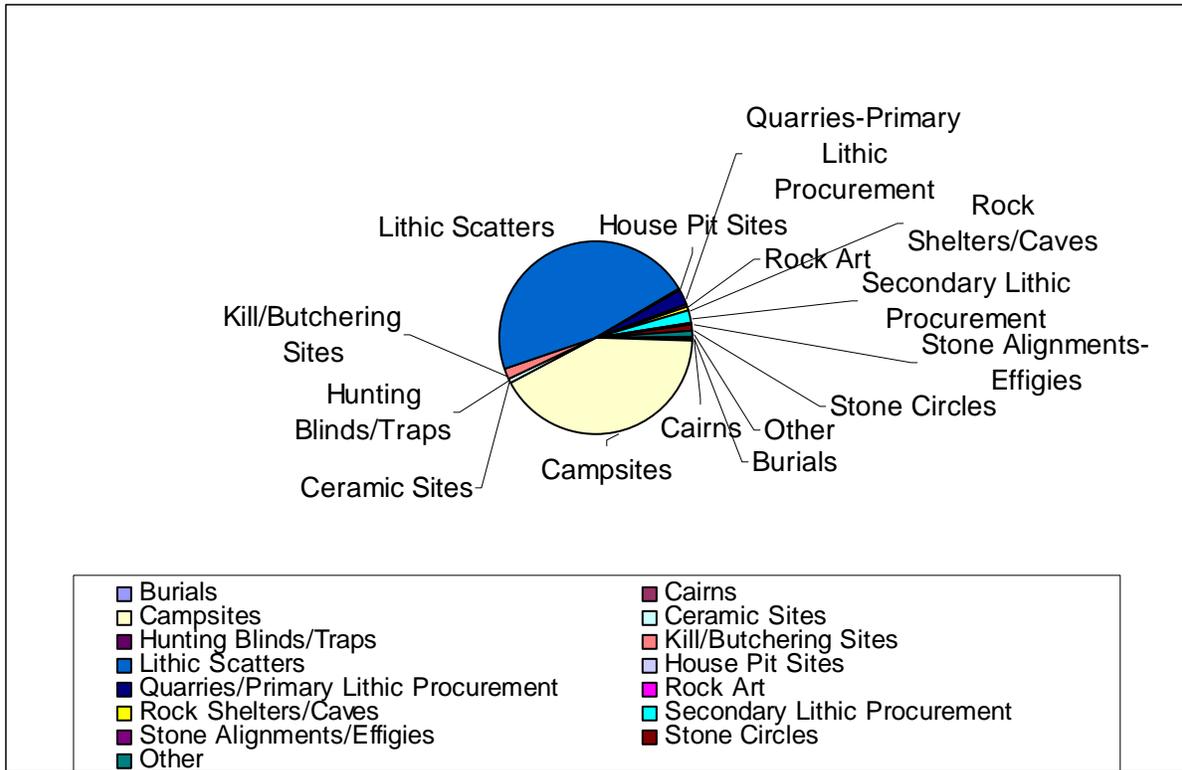


Figure 4-19. Overthrust Foothills Subregion Prehistoric Site Categories

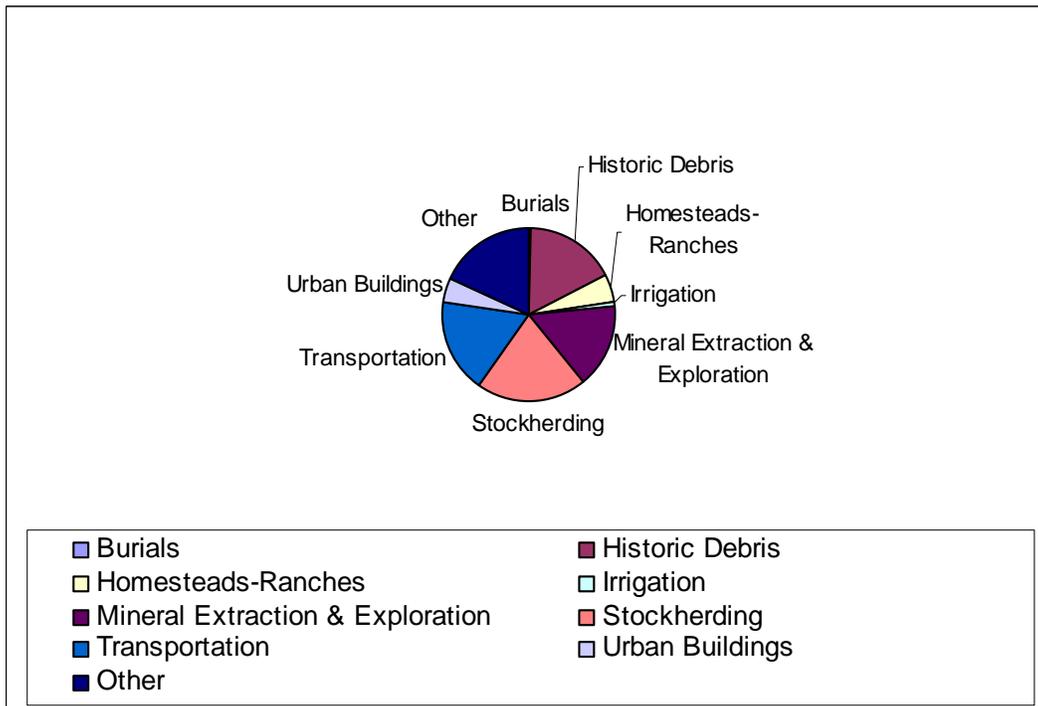


Figure 4-20. Overthrust Foothills Subregion Historic Site Categories

4.2.7 Star Valley Subregion

This isolated subregion in the northern panhandle of the Kemmerer Planning Area is distinguished because it is separated from the rest of the Kemmerer Planning Area by USFS lands and is characterized by large expanses of private land with few small dispersed tracts of BLM lands. The Salt River flows north through the subregion, which is bordered on the south, east and north by the Wyoming Range and on the west by the Wyoming-Idaho border. Elevations in Star Valley range from 7,400 feet amsl at the south end to 6,500 feet amsl on the north end. The Star Valley Subregion contains approximately 105,600 acres. The subregion includes two areas of forested lands and small areas of tundra or barren ground in the southern portion. However, most of the valley was sagebrush grasslands, much of which is now irrigated farmland. Riparian/wetland vegetation occurs along the Salt River (Figure 4-21).

The few cultural inventories that have been conducted in this subregion documented very few cultural resources. Only one significant cultural property is known: the Lander Road National Historic Trail, which crosses only private land in Star Valley and therefore receives negligible BLM management.

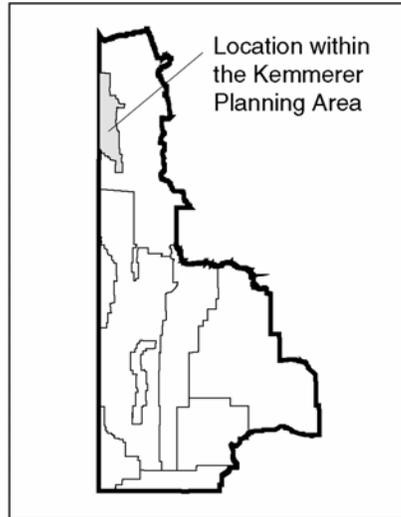
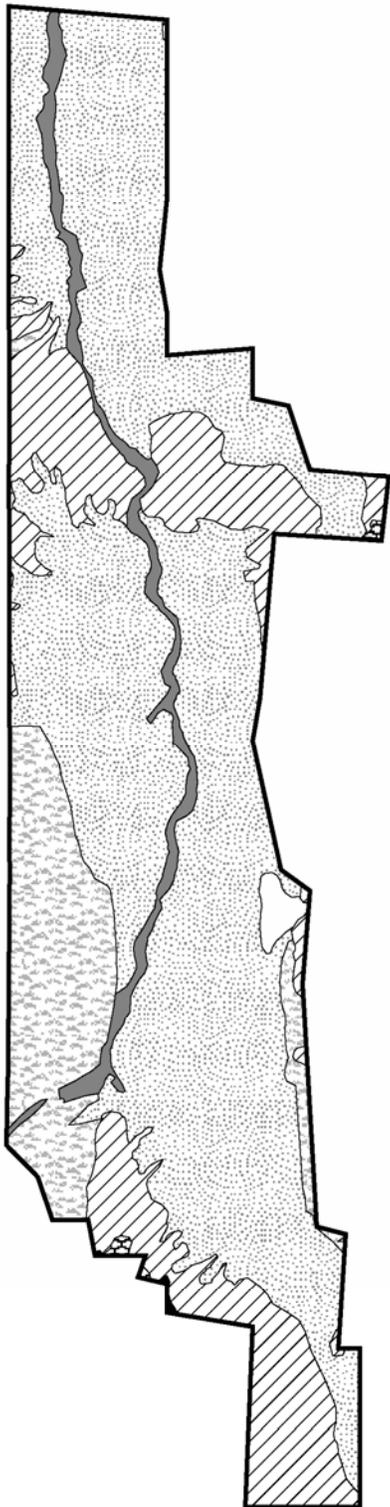
4.2.7.1 Cultural Resources Investigations, Star Valley Subregion

Only 21 cultural resources investigations are represented in the WYCRO database for the Star Valley Subregion. Stand-alone Class I Overviews have not been prepared for this subregion. One Class II inventory is represented in the database: a very limited investigation for the Soda Spring Warehouse in 1980. Class III inventories have addressed land sales and exchanges, utility development, road and bridge projects, and other relatively small projects. Only about one percent of the subregion area has been surveyed for cultural resources. The WYCRO database does not indicate that any archeological testing projects have occurred in the subregion. The only evaluation project in the subregion has addressed administration sites for the Bridger-Teton National Forest. Major excavation or other mitigation projects have not occurred. Cultural resources investigations in this subregion are listed in Appendix B.

4.2.7.2 Recorded Cultural Resources, Star Valley Subregion

The WYCRO database indicates that only 22 cultural resource properties have been recorded in the Star Valley Subregion, none of which are prehistoric archeological sites. The absence of prehistoric sites in the database is probably due to lack of survey, because Native Americans are known to have used Star Valley extensively in the early historic period (refer to Chapter 2.0). The historic sites notably include a portion of the Lander Cutoff of the Oregon Trail. Recorded sites in this subregion are listed in Appendix C and are summarized according to composite site type in Table 4-17. Relative comparison of incidence of these historic site types is shown in Figure 4-22.

Figure 4-21
Vegetative Cover in the
Star Valley Subregion



-  Urban/Built Up
-  Agricultural
-  Grassland/Prairie
-  Forest
-  Water
-  Wetland/Riparian
-  Barren Land
-  Tundra

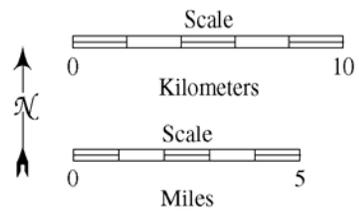


Table 4-17. Recorded Cultural Resources in the Star Valley Subregion by Composite Site Type

<i>Historic Sites</i>	<i>Number of Sites</i>
Burials	0
Fur Trade	0
Historic Debris	1
Homesteads-Ranches	1
Irrigation	2
Military	0
Mineral Extraction & Exploration	0
Stockherding	0
Transportation	7
Urban Buildings	5
Other	9

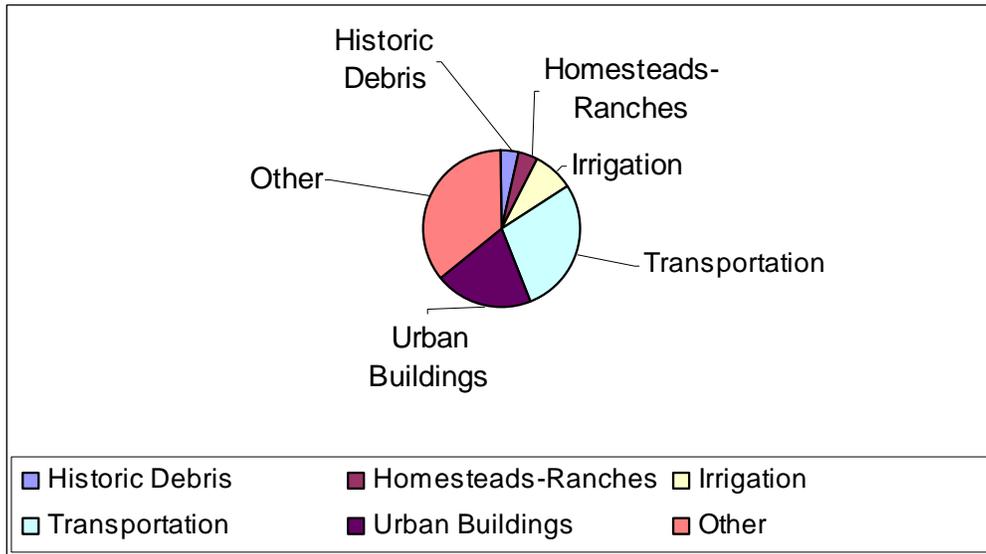


Figure 4-22. Star Valley Historic Site Categories

4.2.8 Uinta Foothills Subregion

On the southern border of the planning area, this subregion encompasses the foothills of the Uinta Mountains, located to the south in Utah. It is distinguished from the subregions to the north by higher elevations, generally above 8,200 feet amsl, and the accompanying changes in ecosystems and human use. About one third of this subregion is managed by the USFS Ashley National Forest. The subregion contains about 134,400 acres. Vegetative cover is dominated by forests in an estimated 85 percent of the subregion, by sagebrush grasslands in most of the remaining area, and by riparian/wetland vegetation in narrow bands along upper reaches of the Blacks Fork River and its tributaries (Figure 4-23).

Most of inventories were conducted in the eastern one-third of this subregion as a result of gas development in the last two decades of the 20th century. A moderate number of cultural resources are recorded, primarily consisting of prehistoric lithic scatters, historic cabins, and sawmills. The area around Meeks Cabin Reservoir contains a concentration of potentially significant historic era resources, although recent accelerated recreational and residential development in that area has altered the historic landscape significantly.

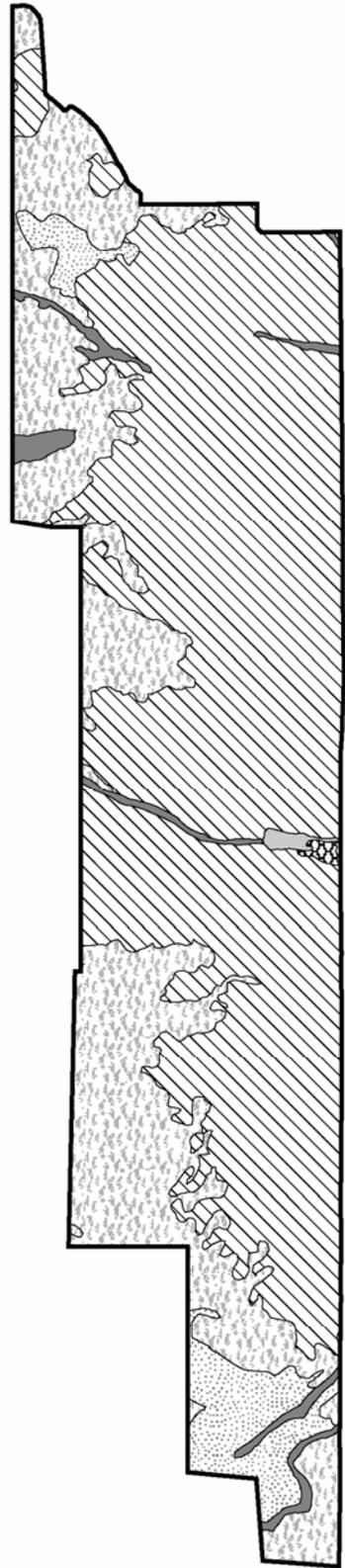
4.2.8.1 Cultural Resources Investigations, Uinta Foothills Subregion

The WYCRO database indicates that 131 cultural resources projects have occurred in the Uinta Foothills Subregion from 1977 to 2002 (no projects reported in 2003). Stand-alone Class I Overviews have not been prepared for the subregion. Eight Class II inventories have been completed for portions of the subregion, for USFS prescribed burn areas, land exchanges, timber sales, and an oil well pad and pipeline. Class III inventories have addressed grazing allotments, roads, oil and gas wells and pipelines, trails, reservoir improvements, and other relatively small development projects. Approximately 4.24 percent of the area of this subregion has been surveyed for cultural resources. Approximately 3.34 percent of the subregion has been surveyed under current standards since 1981. One testing and evaluation project has occurred within the subregion at site 48UT940. The WYCRO database does not indicate that major excavations or other mitigation projects have occurred in the Uinta Foothills subregion. Cultural resources investigations in this subregion are listed in Appendix B.

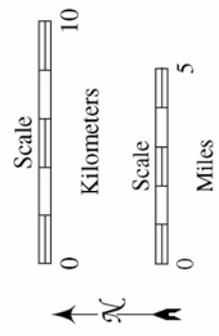
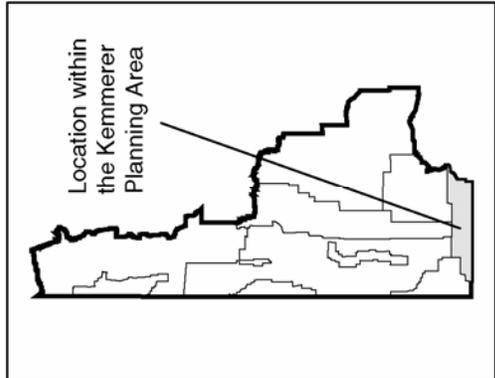
4.2.8.2 Recorded Cultural Resources, Uinta Foothills Subregion

The WYCRO database includes records of 64 cultural resources sites that have been recorded in the Uinta Foothills Subregion. The recorded sites are listed in the database under 34 characteristics, as is shown in Table 4-18 below. Cultural resources recorded in this subregion are listed in Appendix C.

Figure 4-23
Vegetative Cover in the
Uinta Foothills Subregion



- Urban/Built Up
- Agricultural
- Grassland/Prairie
- Forest
- Water
- Wetland/Riparian
- Barren Land
- Tundra



**Table 4-18. Recorded Cultural Resources in the Uinta Foothills
Subregion Site by Characteristic**

<i>Site Type</i>	<i>Number of Occurrences</i>
Historic - Transportation - Trail/Stage Route	1
Historic Cabin	2
Historic Corral/Fence	1
Historic Debris	1
Historic Trail/Stage Route	1
Historic Transmission Line/Power Line	1
Historic-Ranching-Corral/Fence	1
Irrigation – Canal	9
Lithic Scatter	3
Military – Sawmill	1
Open Camp, Occupation	1
Prehistoric Artifacts and Features - Habitation	1
Prehistoric Artifacts and Features – Habitation - Cairns	1
Prehistoric Artifacts and Features - Habitation - Hearths/FCR	9
Prehistoric Artifacts and Features - Hearths/FCR	1
Prehistoric Artifacts and Features - Lithic Procurement - Secondary - Hearths/FCR	3
Prehistoric Feature - Ceremonial	1
Prehistoric Feature - Habitation – Alignments	1
Prehistoric Lithic Scatter	3
Prehistoric Lithic Scatter - FCR – Habitation	1
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	8
Prehistoric Lithic Scatter - Lithic Procurement-Primary	3
Prehistoric Lithic Scatter - Milling/Vegetable Processing	1
Prehistoric Lithic Scatter/Chipping/Knapping Station	12
Prehistoric Lithic Scatter/Habitation	3
Prehistoric Other Material Scatter - Habitation - Fire Hearths/FCR	1
Ranching - Cattle Ranch	1
Ranching – Homestead	1
Ranching – Inscription	2
Ranching – Other	1
Ranching - Stockherding Camp	2
Timber – Cabin	2
Timber – Sawmill	5
Transportation - Freight Road	1

The WYCRO database indicates that 35 prehistoric sites have been recorded in the Uinta Foothills Subregion. More than half of the recorded prehistoric sites are lithic scatters (34 sites, 52 percent of characteristic occurrences), and an additional 25 percent of recorded sites are campsites or habitations (15 sites, 23 percent of occurrences). Nine secondary lithic procurement source sites have been recorded in the subregion. Other prehistoric sites include one cairn, three quarries/primary lithic procurement sources, two stone alignments, and one “other” prehistoric site that cannot be more precisely classified on the basis of information in the database. The database indicates that 25 historic cultural resource sites have been recorded in the subregion. The historic sites are numerically dominated by homestead/ranch sites (42 percent of occurrences). Other recorded historic sites are one historic debris site, two irrigation canals, one military-related site, two stockherding camps, one transportation site (Oregon Trail), and eight “other” historic sites that cannot be more precisely classified on the basis of database information. Site types recorded in the subregion are presented in Table 4-19. Relative occurrences of site types are shown in Figures 4-24 and 4-25.

**Table 4-19. Recorded Cultural Resources
in the Uinta Foothills Subregion by
Composite Site Type**

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	0
Cairns	1
Campsites	15
Ceramic Sites	0
House Pit Sites	0
Hunting Blinds/Traps	0
Kill/Butchering Sites	0
Lithic Scatters	34
Quarries/Primary Lithic Procurement	3
Rock Art	0
Rock Shelters/Caves	0
Secondary Lithic Procurement	9
Stone Alignments/Effigies	2
Stone Circles	0
Other	1
<i>Historic Sites</i>	
Burials	0
Fur Trade	0
Historic Debris	1
Homesteads-Ranches	11
Irrigation	2
Military	1
Mineral Extraction and Exploration	0
Stockherding	2
Transportation	1
Urban Buildings	0
Other	8

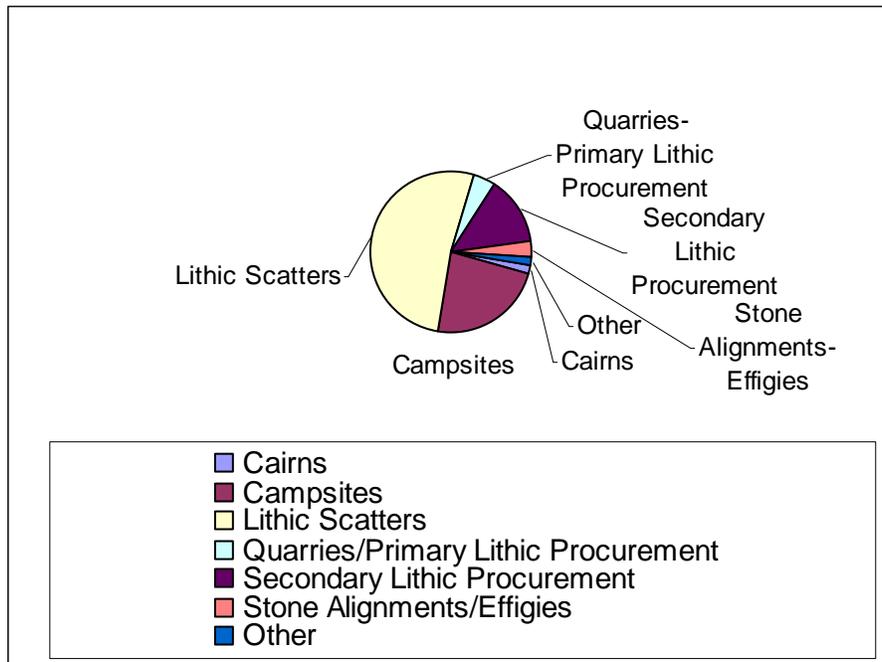


Figure 4-24. Uinta Foothills Subregion Prehistoric Site Categories

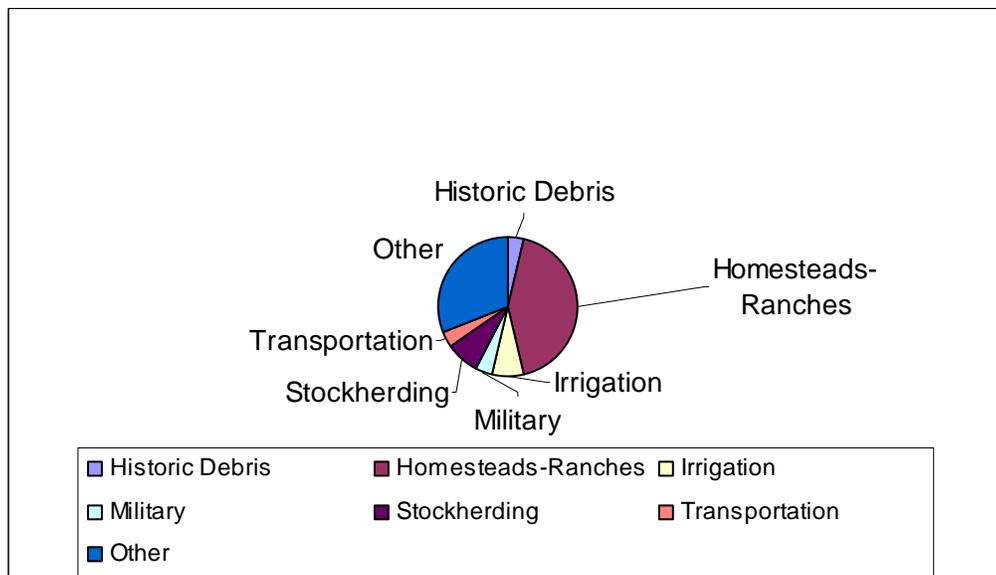


Figure 4-25. Uinta Foothills Subregion Historic Site Categories

4.2.9 Wyoming Range Subregion

The Wyoming Range Subregion includes a majority of the northern panhandle of the Kemmerer Planning Area. This subregion is mountainous and is primarily defined by elevations above 8,200 feet amsl, distinguishing it from the surrounding Overthrust Belt. Most of this subregion is managed by the USFS Bridger-Teton National Forest. Only a small fraction of lands administered by BLM-Kemmerer Planning Area occur within the Wyoming Range Subregion. The subregion is the largest of the subregions in Kemmerer Planning Area, with approximately 860,800 acres. The subregion is generally dominated by forest vegetative cover on mountain slopes and substantial areas of tundra and barren ground on upper slopes (Figure 4-26).

The limited cultural inventories conducted in the subregion have documented few cultural resources. The two significant cultural properties known to exist in this subregion are the Sublette and Dempsey-Hockaday Cutoffs of the Oregon-California National Historic Trail, which pass through the southern tip of the subregion on BLM and private lands.

4.2.9.1 Cultural Resources Investigations, Wyoming Range Subregion

The WYCRO database includes records of 230 cultural resources projects in the Wyoming Range Subregion from 1975 to 2003. One Class I Overview, the 1983 Cumberland-Hams Fork Overview, addresses the extreme southern portion of the subregion. Thirty-one Class II inventories have been conducted in the subregion, all for specific development projects and most for, or by, the USFS. Class III inventories have addressed oil and gas wells and access routes, roads, mining claims, timber salvage and timber sales, gravel pits, USFS facilities, and other relatively small projects. Approximately 4.59 percent of the subregion has been surveyed for cultural resources. Approximately 3.03 percent of the subregion area has been surveyed under current standards after 1981. Three testing and evaluation projects have occurred in the subregion, most notably historical evaluations of administration facilities of Bridger-Teton National Forest. Major excavations or other mitigation projects are not identified in the database for this subregion. Cultural resources investigations in this subregion are listed in Appendix B.

4.2.9.2 Recorded Cultural Resources, Wyoming Range Subregion

The WYCRO database contains information for 127 sites recorded in the Wyoming Range Subregion. The recorded sites are listed under 38 characteristics in the database, as is shown in Table 4-20. All cultural resources recorded in this subregion are listed in Appendix C.

The database includes information on 75 prehistoric sites in the subregion. More than 95 percent of prehistoric sites recorded in the subregion are campsites/habitations. Sixty-two historic cultural resources have also been recorded in the subregion, including mines, emigrant trails, irrigation canals, stockherding sites, and historic debris sites. However, more than half of the historic sites cannot be classified to one or more of the composite site types on the basis of database information. Site types recorded in the Wyoming Range Subregion are presented in Table 4-21, and relative occurrences of site types are shown in Figures 4-27 and 4-28.

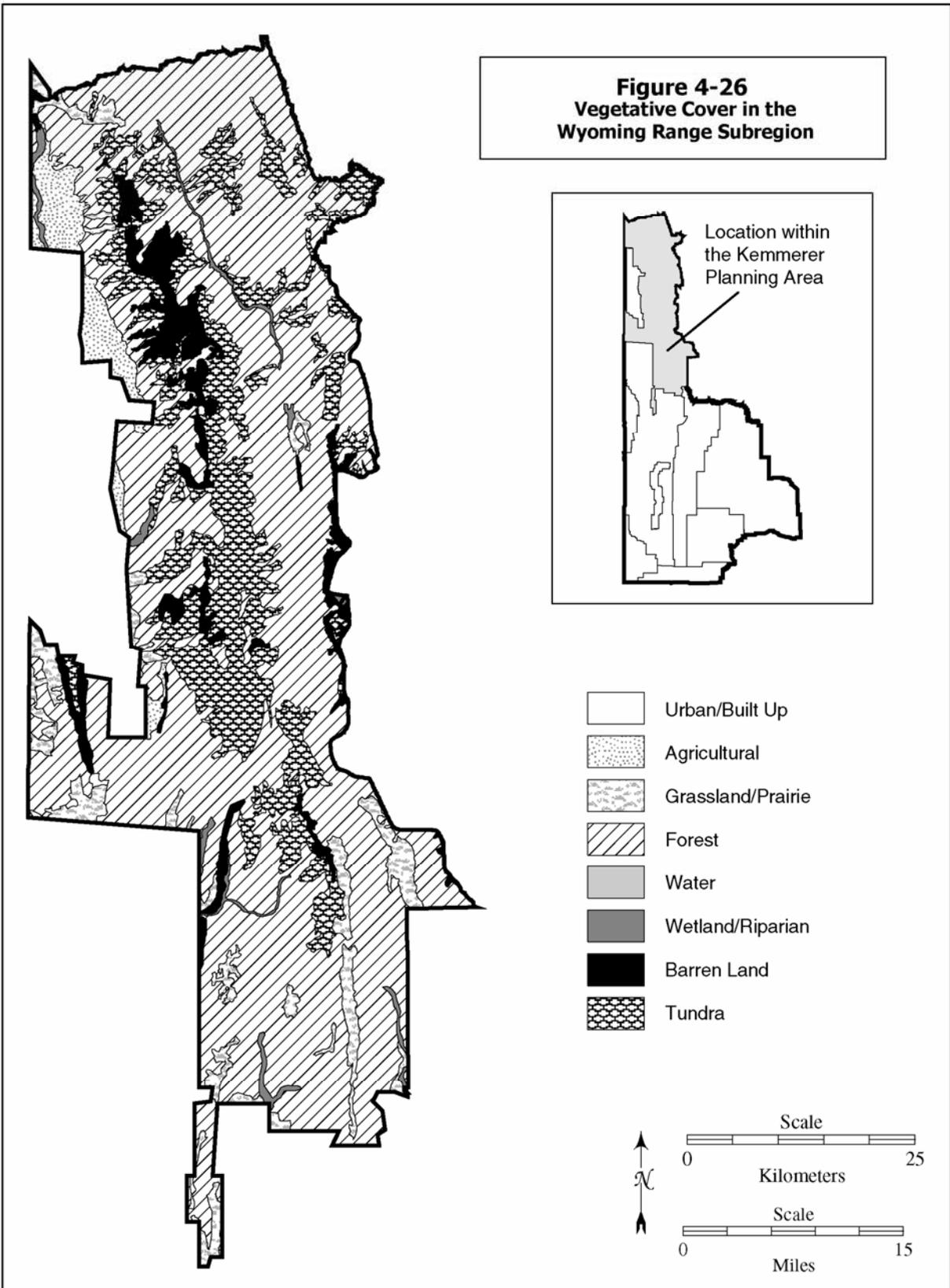


Table 4-20. Recorded Cultural Resources in the Wyoming Range Subregion Site by Characteristics

<i>Site Type</i>	<i>Number of Occurrences</i>
Architecture - Other	1
Conservation - Building	6
Conservation - Cabin	1
Conservation - Other	1
Fur Trade - Cabin	1
Historic Building (Rural)	1
Historic Cabin	7
Historic Corral/Fence	1
Historic Debris	7
Historic Foundation	2
Historic Inscriptions	4
Historic Mining Cabin	1
Historic Mining Mine	3
Historic Other	1
Historic Site	8
Historic Site/Cairn	1
Historic Site/Lithic Scatter	1
Industry - Other	1
Irrigation - Canal	2
Lithic Scatter	1
Overland Migration - Trail	1
Prehistoric Artifacts And Features - Habitation - Hearths/FCR	1
Prehistoric Feature - Habitation - Stone Rings	1
Prehistoric Lithic Scatter	18
Prehistoric Lithic Scatter - Lithic Procurement - Secondary	1
Prehistoric Lithic Scatter/Chipping/Knapping Station	51
Prehistoric Lithic Scatter/Habitation	1
Ranching - Sheep Ranch	1
Ranching - Stockherding Camp	3
Ranching Cabin	1
Reclamation - Other	2
Recreation - Other	1
Rock Alignments - Other	1
Timber - Building	8
Timber - Cabin	4
Timber - Other	4
Transportation - Bridge	1
Transportation - Road	1

**Table 4-21. Recorded Cultural Resources
in the Wyoming Range Subregion by
Composite Site Types**

<i>Prehistoric Sites</i>	<i>Number of Sites</i>
Burials	0
Cairns	0
Campsites	3
Ceramic Sites	0
House Pit Sites	0
Hunting Blinds/traps	0
Kill/Butchering Sites	0
Lithic Scatters	72
Quarries/Primary Lithic Procurement	0
Rock Art	0
Rock Shelters/Caves	0
Secondary Lithic Procurement	1
Stone Alignments/Effigies	1
Stone Circles	0
Other	0
<i>Historic Sites</i>	
Burials	0
Fur Trade	1
Historic Debris	14
Homesteads-Ranches	23
Irrigation	1
Military	0
Mineral Extraction & Exploration	5
Stockherding	4
Transportation	7
Urban Buildings	0
Other	21

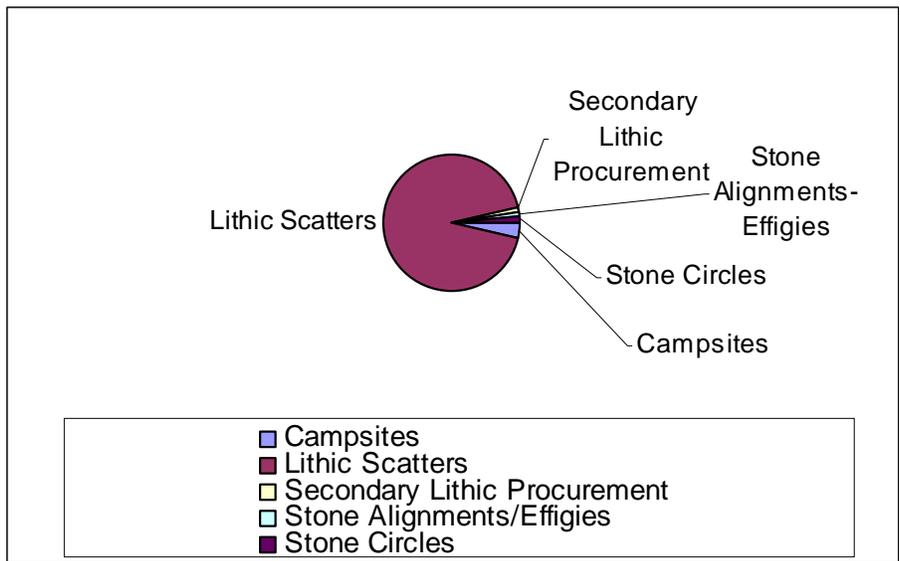


Figure 4-27. Wyoming Range Subregion Prehistoric Site Categories

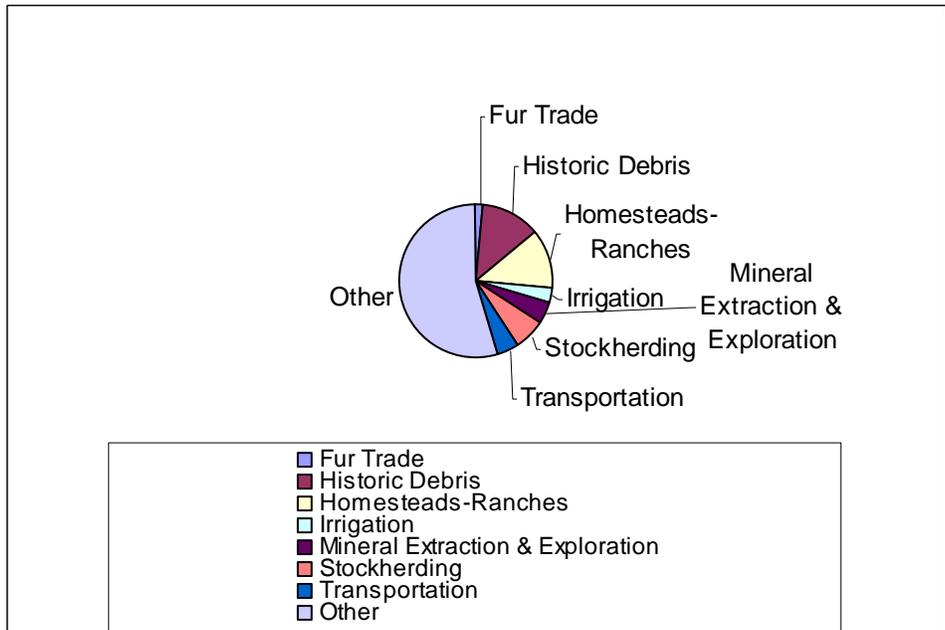


Figure 4-28. Wyoming Range Subregion Historic Site Categories

4.3 Historic Trails and Associated Sites

The Kemmerer Planning Area is rich in historic trails, with at least 11 National Historic Trails, variations, and cutoffs passing throughout the area. These are:

- Blacks Fork Cutoff
- California-Mormon – Pony Express
- Dempsey – Hockaday Cutoff
- Hams Fork Cutoff
- Lander Road
- Oregon – California
- Oregon – California – Mormon – Pony Express
- Overland
- Pony Express
- Slate Creek Cutoff
- Sublette Cutoff

The Wyoming BLM's 1986 (BLM 1986) trail plan for these resources examined historic trails throughout Wyoming. Although the plan's update has not been completed, recent work on the plan has included inventorying every mile of every trail, and assigning a management classification based on physical remains, setting, and historical records. Every subregion has a portion of at least one trail traversing it. Site types associated with the trails include: burials; ruts; stage stations; historic campsites; battlefields; debris; inscriptions; and forts.

4.4 Native American Sensitive Sites

Native American tribes have not identified sensitive sites within the Kemmerer Planning Area. This does not mean that no such sites exist: people are typically reluctant to identify resources with traditional or religious significance. Sites that may fall into the category could include: rock art sites; rock alignments; natural formations; viewsheds; landscapes; the former location of historically recognized villages; or other locales. Should a specific management need arise that concerns one of these types of resources, the Wyoming BLM may, at any time, consult with “the Eastern Shoshone and Northern Arapaho in Wyoming (Wind River Indian Reservation); the Nez Perce (Colville Confederated Tribes) and Shoshone Bannock in Idaho; the Crow, Blackfeet, and Northern Cheyenne in Montana; the Oglala Nation (Pine Ridge), Rosebud Sioux, Cheyenne River Sioux, and Lower Brulé Sioux in South Dakota; the Standing Rock Sioux and Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) of North Dakota; the Northern Ute (Uintah and Ouray Tribes) of Utah; the

Southern Cheyenne, Southern Arapaho, Pawnee, and Comanche Tribes located in Oklahoma [and the] Winnebago, Santee Sioux, Omaha, Ponca, Iowa, Sac, and Fox Tribes” (BLM 2004a).

5.0 MANAGEMENT EXPECTATIONS AND CRITERIA

5.1 Management Regulatory Framework

BLM is legally mandated to identify, evaluate, and manage cultural resources under at least 10 federal laws and four presidential executive orders, most prominently the Antiquities Act of 1906, the NHPA of 1966, NEPA of 1969, and the Federal Land Policy and Management Act (FLPMA) of 1976, as amended, and Executive Order (EO) 11593. BLM policy and cultural resource program guidance are outlined in Manual Sections 8100, 8110, 8120, and 8130. The BLM’s approach to management of National Historic Trails was detailed in 1986 in the *Oregon/Mormon Pioneer National Historic Trails Management Plan* (BLM 1986), which is now under revision to meet current demands and preservation needs.

In 1998, the BLM developed an agreement regarding means of complying with NHPA, expressed in the “Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in which BLM will meet its Responsibilities Under the National Historic Preservation Act.” Pursuant to this National Programmatic Agreement, the BLM Wyoming State Office developed a specific process by which NHPA compliance is accomplished, detailed in the “State Protocol Agreement Between the Wyoming BLM State Director and the Wyoming State Historic Preservation Officer.” Apart from certain considerations derived from specific cultural resource statutes, management of cultural resources on the public lands is primarily based on FLPMA, and is fully subject to the same multiple use principles and the same planning and decision making processes as are followed in managing other public land resources.

Specific objectives for cultural resource management are expressed in BLM Information Bulletin No. 2002-101, *Cultural Resource Considerations in Resource Management Plans*, which states that all Resource Management Plans (RMPs) will include at least the following two goals:

1. Preserve and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations. This goal requires use allocation decisions in the RMP, in which all cultural properties in the planning area must be allocated to the following uses according to their nature and relative preservation value:
 - Scientific Use – preserved until research potential is realized;
 - Conservation for Future Use – preserved until conditions for use are met;
 - Traditional Use – long-term preservation;
 - Public Use – long-term preservation and on-site interpretation;
 - Experimental Use – protected until used; and
 - Discharged from Management – no use after recordation and not preserved.
2. Imminent threats from natural or human-caused deterioration or potential conflict with other resources’ uses are reduced by identifying priority geographic areas for new field inventory based upon a probability for unrecorded significant resources. This goal requires a

Class I regional overview of the planning area in order to identify priority areas in need of new field inventory where unrecorded significant resources could be found.

5.2 Classification of Site Types

BLM Manual 8110, *Identifying Cultural Resources*, defines six use categories: scientific use; conservation for future use; traditional use; public use; experimental use; and discharged from management. “A cultural property may be allocated to more than one use category....Allocations should be reevaluated and revised, as needed, when circumstances change or new data become available” (BLM 1998:8110.41).

The Kemmerer Planning Area contains more than 8,000 recorded cultural resource properties, including prehistoric and historic archeological sites, historic trails and wagon roads, buildings and building complexes, stockherding camps, historic mines, historic railroads, segments of the Lincoln Highway, fur trade and frontier military sites, and other site types. TCPs have not been identified within the Kemmerer Planning Area to date. A majority of the recorded prehistoric archeological sites have not been tested or otherwise evaluated for NRHP eligibility, which is a major threshold for management consideration of the sites. Some segments of emigrant trails and Expansion Era wagon roads have been recorded in general from archival sources but have not been recorded in the field or evaluated for integrity or significance within respective historical contexts. Available field documentation of some recorded cultural resources was done more than 25 years ago and is inadequate for purposes of evaluating NRHP eligibility of the recorded resources. Finally, cultural resources in the Kemmerer Planning Area have been recorded under at least 200 descriptive site types.

As a result of these conditions, most of the recorded cultural resources in the Kemmerer Planning Area can be assigned to one or more of the BLM use categories only in a general or categorical sense, as recommended by Manual 8110 (BLM 1998:8110:41) and described below. Although some specific sites or site types are mentioned as examples under each classification, these are not exhaustive lists.

5.2.1 Scientific Use

Scientific use implies that the value (or a value) of the property is contained in information that can be extracted from the property. This use category primarily corresponds to NRHP Criterion D, which recognizes the value to society of properties that can yield or have yielded information important in expanding understanding of history or prehistory. Archeological sites are generally evaluated under this Criterion, although other kinds of cultural resources may rarely also be evaluated under Criterion D. The regulatory threshold for management of a cultural resource for its scientific values is eligibility for the NRHP under Criterion D. Management opportunities include on site preservation and protection, or extraction of the scientific information by means of excavation and analysis. In the latter case, the physical cultural resource is destroyed, and the management requirement shifts to analysis and preservation of the information extracted from the site.

This use category applies to archeological resources that have been determined to be eligible for the NRHP under Criterion D; it also applies to all archeological resources that have not yet been evaluated for NRHP eligibility under Criterion D. Isolated occurrences of prehistoric artifacts are categorically excluded from NRHP eligibility in Wyoming. Many other archeological properties,

particularly sparse lithic scatters, have been recommended by recorders to be ineligible under Criterion D. However, this use category applies to all archeological sites until consensus of ineligibility is reached between the BLM and the Wyoming SHPO. This use category does not apply to emigrant trails, railroads or historic roads, most buildings and other structures, historic graves, or sites of primarily commemorative value.

The scientific value or potential of most archeological sites is largely dependent on the ability of individual sites to contribute meaningful information toward expanded understanding of one or more themes of prehistory or history. That is, an archeological site is scientifically valuable if study of the site will help fill data needs for research questions that have been developed (research questions that are not yet developed are an appropriate consideration under the following conservation use category). Although nearly all archeological investigations in the past several years in the Kemmerer Planning Area have been driven by Section 106 compliance, research questions have been developed that are applicable to prehistoric sites in the planning area. Research questions and domains, including those proposed by Thompson and Pastor (1995), are presented in section 3.3.

Specific examples of sites that should be preserved until their research potential is realized would be sites where formal evaluation has not yet occurred, or sites with deep, stratified deposits, such as: the Shute Creek Plant site (48LN373); the Deep Hearth site (48UT786); Dixie Cup site (48SW6911); the Vegan site (48LN1880); the intact and buried deposits of the Porter Hollow site (48UT401); the Broken Home site (48UT186), and the Moxa Housepit site (48LN616), all with relatively rare house pit features; the Hams Fork site (48LN2450); site 48LN919, with its rare artifact types; and the Oyster Ridge site (48UT35) with its subsurface features.

5.2.2 Conservation for Future Use

Manual 8110 (BLM 1998:8110.42.B) defines this category as “reserved for any unusual cultural property which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration.”

Use of cultural resource properties can include scientific uses, recreation, education and interpretation, and access for purposes unrelated to the cultural resources. For example, some segments of historic emigrant trails have been used continuously by ranchers and hunters for access to remote locations. This use category pertains to all cultural resources regardless of age or thematic associations, unless the resources have been formally determined to be ineligible for the NRHP under all of the Criteria for Evaluation. Because the Kemmerer Planning Area cannot feasibly conduct site testing for archeological sites and otherwise evaluate the NRHP eligibility of all of the recorded cultural resources, conservation for future use effectively resolves into monitoring of public land uses, evaluation of specific proposed activities that might disturb specific cultural resources, control of erosion of the resources, and active stabilization of the resources as appropriate.

Sites where conservation is an issue of primary importance include sites or portions of sites (such as trails or other linear features) that are at risk for obliteration through overuse. This would include portions of the National Historic Trails; Fort Bridger; historic buildings and structures that are currently not in use but may fall into disrepair if not conserved.

5.2.3 Traditional Use

Traditional use of cultural resources is interpreted to mean use of the cultural resource itself, rather than uses of a property that do not rely directly on the existence of the cultural resource. Cultural resources may include TCPs, which are properties that are critical to a living community's beliefs, customs, and practices. TCPs may include religious or ceremonial sites, other locations important in the belief systems of the community, and areas used by the community for gathering or otherwise producing materials used for traditional ceremonial, spiritual, medicinal, or subsistence purposes. TCPs may be topographic features; stone alignments, rock art, or other physical artifacts; sources of plants or other materials; or areas without obvious physical manifestation of the site's cultural significance. The regulatory threshold for management of a property as a TCP is eligibility for the NRHP under any of the Criteria for Evaluation (usually Criterion A, for representation of an event or broad pattern in history). Although TCPs are commonly associated with Native Americans, this site type is not limited to them.

TCPs have not been identified within the Kemmerer Planning Area to date. Native Americans and the tribes of the area were removed to reservations outside the Kemmerer Planning Area in the 1860s. Native Americans are reported to have visited parts of the Kemmerer Planning Area as late as the early 20th century, but discontinuity of occupation and lack of use of specific locales within the Kemmerer Planning Area since that time is likely to have resulted in loss of locations' critical importance to living Native American communities. At least one geologic feature ("The Needles") is known to have importance to the Mormons, but it has not been designated a TCP.

Archeological sites, such as stone alignments or petroglyphs, may also have spiritual or other cultural meaning to Native Americans, but many of those sites are not directly important in maintaining and continuing the cultural identity of the living community. The latter category of sites may be considered to be "sites of cultural concern." The distinction between TCPs and sites of cultural concern is important, because TCPs are by definition eligible for nomination to the NRHP and may be further protected under provisions of the American Indian Religious Freedom Act (AIRFA). Unless importance for maintaining and continuing cultural identity can be demonstrated, archeological sites and other properties are not considered to be TCPs. Through precedent, BLM consults with Native Americans concerning the "sites of cultural concern" found on BLM-administered lands.

5.2.4 Public Use

Long-term preservation and on-site interpretation are most appropriate for cultural resources that have visually obvious manifestations of the site's historical or archeological importance. BLM and the State of Wyoming currently maintain many interpretive locations, particularly at places where modern highways intersect visible remnants of emigrant wagon trails. On-site interpretation invites public access to the site, which is usually not appropriate for cultural resources that can be easily vandalized or degraded, including most archeological sites that may be important for their scientific values. On-site interpretation is also not appropriate for most Native American TCPs, because of the possible degrading effects of public presence on the setting and feel of these locations. This category can apply to standing buildings and structures that are suitable for continued use or adaptive reuse.

All BLM lands are managed for public uses of one kind or another, and there is no distinct regulatory threshold for management of cultural resources by long-term preservation and on-site

interpretation. Considerations for management in this manner are: (1) the relative significance of the resource within historical, archeological, or other cultural context(s); (2) sensitivity of the cultural resource to loss or degradation as a result of increased public access; and (3) the ability of BLM to install and maintain interpretive features and support facilities. Management under this use category is therefore likely to be driven more by practical considerations than by regulatory requirements.

Examples of management for public use in the Kemmerer Planning Area are well-defined wagon ruts and marked graves on the emigrant trails, tipples and machinery at historic underground coal mines, and building remnants at Fort Bridger.

5.2.5 Experimental Use

An existing site may be consigned to experimental use if the site is “judged well-suited for controlled experimental study, to be conducted by BLM or others concerned with the techniques of managing cultural properties” (BLM 1998:8110.42E). Experimental use is rarely appropriate for cultural resources, because of the singular, nonrenewable, and typically fragile nature of the resource. However, certain archeological sites that contain well-defined stratified deposits or abundant raw material resources may be appropriate for management under this use category. Certain lithic sources, particularly primary source quarries, may provide samples useful in identifying sources and possibly ages of lithic materials found in archeological sites over a wide region. The regulatory threshold for management of cultural resources for experimental use is likely to be eligibility under NRHP Criterion D, the likelihood to yield information important in expanding knowledge of history or prehistory. Alternatively, under the auspices of the “experimental use” category, archeologists could create a site for the purpose of replicative experiments requiring long-term monitoring to document the affects of natural and human-caused forces on simulated cultural resources.

Examples of sites that could be considered under this category include: the Shute Creek Plant site (48LN373) with its large quarry area; the Vegan site (48LN1880), with its stratification and evidence of the effects of environmental change; the well-stratified Eakin site (48UT375); site 48UT1247, with its lithic tool manufacturing loci; and the Gemma site (48UT122), with the possibility of buried components from the Uinta Phase.

5.2.6 Discharged from Management

This use category applies to any cultural resource that has been determined by BLM and the Wyoming SHPO to be ineligible for nomination to the NRHP, including isolated finds. All recorded cultural resources in Kemmerer Planning Area that have been determined to be ineligible for the NRHP or have subsequently been destroyed are listed in Appendix C. As discussed in section 5.2.1, BLM remains responsible for analysis and protection of information obtained during mitigation of potential adverse effects to cultural resources. Sites placed in this use category “remain in the inventory, but they are removed from further management attention and do not constrain other land uses (BLM 1998:8110.42.F).

5.3 Cultural Property Sensitivity

Cultural property sensitivity can mean the likelihood that significant cultural resources exist in an area, and/or that those resources are sensitive to disturbance or destruction as a result of foreseeable events. As discussed in Chapters 3.0 and 4.0, available information about the occurrence and nature of property types is highly variable among the Kemmerer Planning Area subregions. The WYCRO

database indicates that areas surveyed in all years range from 12.4 percent of the Bear River Divide Subregion to 1.1 percent of the Star Valley Subregion. Surveys conducted under current standards range from 4.9 percent of the area in the Overthrust Belt Subregion to 1.0 percent of the Star Valley Subregion. All surveys completed according to current standards total only 3.0 percent of the land area within the exterior boundaries of the Kemmerer Planning Area.

The surveys to date also have not been uniformly distributed within the subregions or among topographic or physiographic regions or zones. A majority of surveys to date have been Class III inventories for oil and gas wells and related pipelines within fairly limited portions of the Kemmerer Planning Area. Three general Class II sampling inventories were completed in the 1980s, but these studies also addressed only limited parts of the Kemmerer Planning Area, and substantial survey has been done in each of the subject areas since the reports were prepared. The available database is therefore inadequate for even elementary assessment of relative sensitivity for occurrence of cultural resources within the Kemmerer Planning Area as a whole and within and among the subregions.

Table 5-1 below presents comparative information for recorded resources within Kemmerer Planning Area as a whole and the subregions. Please note that this information is presented for gross comparison of known cultural resources only, and that it does not represent a scientific or statistically valid analysis of actual conditions in Kemmerer Planning Area. For example, prehistoric archeological resources have not been recorded in the Star Valley Subregion, but the table below should not be interpreted to mean that no such resources can be expected to exist in that subregion.

Despite the major shortcomings of the available data, certain patterns are apparent. In general, the incidence of prehistoric sites appears to dramatically decrease with increases in elevation. Relatively large numbers of prehistoric sites have been found in the Green River Basin Subregion and adjacent Bridger Valley Subregion (which is actually a part of the Green River Basin). The Overthrust Foothills Subregion has had nearly as much survey completed as the Green River Basin Subregion, but the recorded number of prehistoric sites in the adjacent Overthrust Foothills Subregion is only about one-third that of the Green River Basin Subregion as a whole. The Overthrust Belt Subregion has had more survey done than the adjacent and surrounding Overthrust Foothills Subregion, but prehistoric site incidence is only about half that of the latter subregion. The Wyoming Range Subregion has the highest elevations, and the apparent incidence of prehistoric sites in this subregion is only approximately 1/16th that of the Green River Basin Subregion, which is the lowest subregion in elevation. However, little systematic survey has been done in the Wyoming Range Subregion relative to the land area of the subregion.

The WYCRO database does not provide sufficient, reliable information to allow for pattern analysis for large numbers of prehistoric sites of various ages, phases, and complexes. Information for many sites may be available in site forms or reports, but extraction of that information for more than 8,000 sites in the Kemmerer Planning Area could not be feasibly completed for this Class I Overview. The statistics for historic resources in Table 5-1 are highly biased, because a site designation was only considered once, regardless of the geographical incidence of the resource. For example, the Oregon Trail or the Union Pacific transcontinental railroad might have a single site number in each county, even though the resource has been recorded in multiple locations.

**Table 5-1. Comparative Statistics for Cultural Resource Site Occurrence
in Kemmerer Planning Area**

<i>Subregions</i>	<i>Total Area Surveyed</i>	<i>Prehistoric Sites Recorded</i>	<i>Per Acre Occurrence of Prehistoric Sites</i>	<i>Historic Sites Recorded</i>	<i>Per Acre Occurrence of Historic Sites</i>	<i>All Recorded Sites</i>	<i>Per Acre Occurrence of All Sites</i>	<i>Overall Site Density¹</i>
Bear River Divide	5,951	24	0.004	15	0.003	39	0.007	1 site in 153 acres
Bear River Valley	11,488	95	0.008	135	0.012	230	0.020	1 site in 50 acres
Bridger Valley	7,431	536	0.072	145	0.020	681	0.092	1 site in 11 acres
Green River Basin	48,241	4,837	0.100	502	0.010	5339	0.111	1 site in 9 acres
Overthrust Belt	53,623	459	0.009	290	0.005	749	0.014	1 site in 72 acres
Overthrust Foothills	44,447	705	0.016	460	0.010	1165	0.026	1 site in 38 acres
Star Valley	1,167	0	0.000	22	0.019	22	0.019	1 site in 53 acres
Uinta Foothills	5,703	35	0.006	25	0.004	60	0.011	1 site in 95 acres
Wyoming Range	14,736	75	0.005	62	0.004	137	0.009	1 site in 108 acres
Kemmerer Planning Area Totals	192,787	6,766	0.035	1,656	0.009	8,422	0.044	1 site in 23 acres

Note: 1. Rounded to nearest acre.

5.4 *Management Options and Research Directions*

5.4.1 **General Management Prescriptions**

Management of cultural resources by the BLM within the Kemmerer Planning Area will be accomplished within the regulatory framework discussed in Management Regulatory Frameworks, Section 5.1, particularly within actions and programs outlined in the Kemmerer Planning Area Resource Management Plan. The various uses of BLM-administered public lands will continue to be managed to avoid damage to cultural resources; to minimize conflicts between uses of cultural resources and other uses of public lands; to provide for appropriate mitigation of unavoidable adverse effects on cultural resources prior to their disturbance or destruction; and to identify and protect cultural resources.

Specific Cultural Resource Project Plans (CRPP) should be completed in accordance with *BLM Manual 8110, Identifying Cultural Resources, Appendix 2, Guidelines for Preparing Cultural Resource Project Plans*, for appropriate properties listed on, or determined eligible for, the NRHP. These properties may include the Bridger Antelope Trap, Gateway site, South Slate Creek site, Emigrant Springs (Slate Creek), Emigrant Springs (Dempsey), Nancy Hill and Alfred Corum Emigrant Graves, and significant segments of the Oregon-California Trail (Bear River Divide, Sublette Cutoff, Slate Creek Cutoff, Dempsey-Hockaday Cutoff).

Other management actions that should be addressed in the RMP are listed below:

- Ensure that all authorizations for land and resource use comply with Section 106 of the NHPA, consistent with and subject to the objectives established in the RMP for proactive use of cultural properties in the public interest. All sections of the RMP that address the development of lands and resources will contain standard language stating that managers must not approve proposed activities until compliance with Section 106 of NHPA has been completed and documented.
- Expand the analysis in the current Class I Regional Overview to categorize geographic areas as high, medium, or low priority for future inventory of cultural properties. This effort can be accomplished in part with existing survey information, but additional sampling survey will be required in order to obtain reliable representative information. Geographical areas should be defined on the basis of physical characteristics, including soils, vegetative cover, slope, and elevation. Much of the physical information necessary for such a study was not available for application in this Class I Regional Overview. The analysis might specifically focus on BLM lands, rather than on the general region and subregions addressed in the current Class I Regional Overview.
- Nominate significant cultural properties to the NRHP.
- Pursue withdrawals on land parcels to protect significant cultural resources, well-preserved trail segments, and Native American culturally sensitive properties from new land developments.

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- Stipulate “No Surface Occupancy” and prohibit all activities that result in surface disturbance within the boundaries of the Bridger Antelope Trap and any other significant properties that are determined appropriate to preserve their outstanding values.
 - In addition to these management actions, a number of management opportunities should be addressed for their potential to improve standard processes of cultural resource review in reaction to land use proposals and to enhance management capabilities of resources that are consistent with BLM’s overall goals and mission.
 - Incorporate consideration of identified Native American culturally sensitive sites as a standard element in the land use decision planning process.
 - Integrate treatment of NAGPRA, AIRFA, and EO 13007 as part of the routine planning process and execution of daily work.
 - Develop a standard process for analyzing the effects of proposals on the viewsheds of National Historic Trails using the principles of Visual Resource Management. Incorporate appropriate data into the GIS system, and integrate it into the routine planning process at the earliest stage feasible. Develop a standard set of mitigation measures, tailored appropriately for various land uses, to expeditiously resolve ambiguities and conflicts.
 - Develop regional management models that create probabilistic patterns of human activity across defined landscapes that, with appropriate field-testing, can be used to generate a reasonable and defensible basis for resource planning. The final product would define zones of low, medium and high probability for presence of various types of cultural resources, and be used to develop appropriate levels of inventory requirements. The defined zones could also be used to outline specific management guidelines for energy exploration and development, and other land uses. Consideration of the management guidelines should be incorporated into the early stages of the planning process.
 - Provide for inventories pursuant to Section 110 of NHPA to facilitate future planning and to enhance management capabilities, particularly to allow and utilize the classification of lands as low, medium, or high sensitivity for cultural resources, as recommended above.
 - As new resources are recorded, assign them to one of the six classification types described in section 5.2: scientific use, conservation for future use, traditional use, public use, experimental use, or discharge the resource from management.

5.4.2 Data Gaps and General Questions for Future Research

This section presents a brief discussion of general questions and issues that should be addressed by future cultural resources research and management approaches, by subregion. Development of these questions and issues centers around identifying and filling data gaps through research, including archival and field investigations.

This future work can be broadly categorized as complying with either Section 110 or Section 106 of the NHPA. Section 110 requires federal land management agencies to inventory and manage cultural resources. Funds for this type of compliance work should be directed toward research questions and filling data gaps. Section 106 compliance is almost always in response to a federal

undertaking, including natural resource extraction, permitting, and leasing. While the BLM has less control over where these efforts go, choices in project design may arise where the decision is directed by research questions and filling data gaps, particularly if impact mitigation is required. For example, if a proposed undertaking will potentially impact areas with both high and low probability for the presence of cultural resources, efforts can be focused on the higher probability areas. Some low probability areas may be suitable for Class II inventory, including either sampling using Class III standards, or wider transect intervals, or some large areas with isolated high probability areas may be suitable for reconnaissance-level survey.

The data gaps that have become apparent during development of this overview of the Kemmerer Planning Area will be used to develop future research goals, priorities, and strategies for field inventory. These can be summarized as follows:

- Develop a reliable, geographically-based sensitivity model.
- Make geographical representation a top priority across all subregions so that all cultural resource data are digitized into BLM's and WYCRO's GIS systems within five years.
- Whenever possible (e.g., for Section 110 compliance surveys) ensure that under-represented geographical areas are examined.
- Pursue opportunities to investigate site types that are rare throughout the Kemmerer Planning Area, such as prehistoric burials, cairns, ceramic sites, hunting blinds, kill/butchering sites, house pit sites, rock art, rock shelters/caves, stone alignments/effigies, stone circles.

The following section provides recommendations to focus future investigations in each of the nine subregions of the Kemmerer Planning Area.

5.4.2.1 *Bear River Divide Subregion*

In this, the smallest of the subregions, the highest proportion of the area has been surveyed, compared with the other subregions. Although most of the surveys were completed in the 1970s and 1980s, prior to the stricter standards instituted in 1982, these surveys indicate a low potential for the presence of sites in most of the subregion, with the probable exception of sites associated with the historic trails that pass through the region. Prehistoric campsites and lithic scatters dominate the site assemblage, and almost twice as many prehistoric sites have been recorded as historic sites.

Recommendations for the Bear River Divide subregion include:

- Resources to be used for Kemmerer Planning Area's compliance with Section 110 should go to other subregions before being used in the Bear River Divide Subregion.
- For Section 106 surveys, less than Class III survey will be appropriate in the following cases:
 - Where the survey area is on a steep slope (greater than 30 percent); and
 - Where previous surveys, even if done prior to 1982, did not locate any cultural resources.

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- Use Class III methods wherever the project area is near a permanent water source, located on a level surface (slope less than 15 percent), or in the immediate vicinity of known historic trails (within 1/4 mile of documented trails).
 - Note especially the presence of under-represented site types. For prehistoric resources, these include most site types, but especially those commonly associated with ceremonial activities: cairns, burials, stone alignments, rock art. For historic sites, these include sites associated with development: fur trade, and mineral extraction and exploitation.

5.4.2.2 *Bear River Valley Subregion*

Because this subregion follows the Bear River as it meanders between southwestern Wyoming and northeastern Utah, it has a northern and southern area. Much of the valley bottom land is privately owned, and is not well-represented in surveys. Historic sites dominate the site assemblage, with 135 sites, compared to 95 prehistoric sites. Recommended foci for future investigations include those listed below.

- Target valley bottoms, where relatively little survey has been accomplished, for Section 110 resources.
- Take advantage of any opportunity to include private land in Section 106 compliance surveys.

5.4.2.3 *Bridger Valley Subregion*

Although it includes one of the smallest percentages of land area surveyed (2.4 percent), and also one of the smallest number of acres surveyed (7,431), this subregion has one of the highest site densities, at one site per 11 acres. Future efforts should concentrate on increasing the percentage of this subregion that is inventoried. The central portion of this subregion is private land, while the area northwest of Interstate 80 and also the eastern and southeastern portions consist of large blocks of contiguous BLM land.

- Section 110 investigations should target areas with less inventory and focus on topographic settings that are poorly sampled for information that could address research domains concerning settlement and subsistence, and paleoenvironmental reconstruction.
- Take advantage of any opportunity to include private land in Section 106 compliance surveys.
- Conduct Class II inventories with Class III standards. In other words, sample blocks, possibly 1-mile square, surveyed at 30 meters or less intervals, will locate sites with accuracy, yet allow a large area to be examined and characterized.
- Locate archeological sites representing military activity (e.g., rifle pits and fortifications; military campsites; military telegraph lines; gravesites; and bridges or road improvement directly tied to military actions or needs).

5.4.2.4 Green River Basin Subregion

In the Green River Basin Subregion, site density is more than one site per 9 acres. However, even with over 48,000 acres surveyed, only a little more than 5.0 percent of this second-largest subregion has been inventoried. Characterized by playas, large basins, sand deposits, numerous ephemeral and permanent drainages, including the Green River and tributaries, this area obviously was very attractive to prehistoric people. Historically, it was traversed by a number of historical trails, the Lincoln Highway and early railroads. Section 106 surveys, driven by extensive natural gas development, has been concentrated in the east. Because of the number of sites inventoried, there are few chronological data gaps in this subregion. However, distributional data gaps should be addressed.

- Target playas and other likely locales to acquire data about the Paleoindian Period and paleoenvironmental reconstruction.
- Exploit opportunities to inventory and further investigate Archaic Period sites, especially from the Great Divide, Pine Spring, and Deadman Wash phases.
- Focus further investigations of Late Prehistoric period sites on those from the Firehole phase and on sites with ceramic artifacts and house pits.
- The checkerboard land status of this subregion offers an opportunity to distribute future surveys across the subregion to better characterize the entire area.
- Concentrate future investigations on answering questions about prehistoric culture origins and interactions and settlement and subsistence by requiring analyses of data such as obsidian sourcing, regional contexts of common artifact types and seasonal indicators, targeting data recovery in poorly sampled settings, and reinvestigating known sites with relevant data sets.
- Locate archeological sites representing military activity (e.g., rifle pits and fortifications; military campsites; military telegraph lines; gravesites; and bridges or road improvement directly tied to military actions or needs).

5.4.2.5 Overthrust Belt Subregion

The Overthrust Belt Subregion is characterized by steep slopes, ridgetops and long, narrow valleys. Although lower than the Bear River Divide Subregion, similar conditions exist, in that there is scant cultural evidence at the higher elevations. This subregion has more than 6.0 percent survey coverage, but only 749 sites, for a site density of one site per 71 acres. As with the Bear River Divide, some areas can receive less attention, with the focus on areas associated with historic trails.

- For Section 106 surveys, less than Class III survey will be appropriate in the following cases:
 - Where the survey area is on a steep slope (greater than 30 percent); and
 - Where previous surveys, even if done prior to 1982, did not locate any cultural resources.
- Use Class III methods wherever the project area is near a permanent water source, located on a level surface (slope less than 15 percent), situated on a sheltered slope with a south

facing aspect, in the immediate vicinity of known historic trails or railroad routes (within 1/4 mile), or in valley bottom lands where prehistoric and historic activities would be concentrated.

5.4.2.6 Overthrust Foothills Subregion

The Overthrust Foothills Subregion almost bisects the Kemmerer Planning Area from north to south, between the Overthrust Belt to the west and the Green River and Bridger Basins to the east. It contains a wide variety of site types, as well as one of the highest site densities: one site in every 38 acres. Sensitive for historic and prehistoric sites from every period, continued investigations throughout the subregion are sure to be productive.

- Take advantage of opportunities to include survey of private land in Section 106 investigations, particularly in the south part of the subregion.
- Section 110 inventories and data recovery investigations should target Cumberland Flats, Oyster and Hogsback ridges and the Lazeart sandstone outcrops along the western margin of the subregion, where previous studies identified concentrations of sites with data that contribute valuable information about important research domains.

5.4.2.7 Star Valley Subregion

Although almost entirely privately owned, this subregion does contain a few tracts of public land under BLM jurisdiction. The 22 sites inventoried to date are all historic sites. Management priorities here should focus on improving overall coverage and gathering data.

- Take advantage of opportunities to include survey of private land in Section 106 investigations.

5.4.2.8 Uinta Foothills Subregion

This small subregion can be divided into three areas. The western third is mostly private land and has had little inventory. The central region includes checkerboarded BLM, state and private land. In the eastern third, USFS land dominates the southeast with more BLM lands to the northeast. Gas development in the eastern part of the subregion resulted in most of the surveyed areas in this part of the subregion.

- Future Section 110 investigations should be targeted at areas with less inventory, to the west.
- Take advantage of opportunities to include survey of private land in Section 106 investigations in the west.

5.4.2.9 Wyoming Range Subregion

Although this northern subregion is the second largest in the Kemmerer Planning Area, it is almost entirely managed by the USFS. At its southern end, BLM lands are present. Less than 2.0 percent of the total land area has been surveyed for cultural resources, with a total of 137 recorded. Nonetheless, the site density is one site in 108 acres. Most of the sites are prehistoric campsites and lithic scatters, with historic trails also within the area. The USFS will set its own priorities through most of the subregion, but in the southern part the BLM can realize some goals.

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- For Section 106 surveys, less than Class III survey will be appropriate in the following cases:
 - Where the survey area is on a steep slope (greater than 30 percent); and
 - Where previous surveys, even if done prior to 1982, did not locate any cultural resources.
 - Use Class III methods wherever the project area is near a permanent water source, located on a level surface (slope less than 15 percent), in the immediate vicinity of known historic trails or railroad routes (within 1/4 mile), or in valley bottom lands where prehistoric and historic activities would be concentrated.

5.4.3 Current and Proposed Protection for Historic Trails

The Wyoming BLM developed a detailed management plan for historic trails throughout the state (BLM 1986). Issues identified in the trails management plan include:

- The potential for adverse effects on private lands through public use of the Oregon/California Trails.
- Trail segments and sites along the trail are being lost through inadvertent blading or other unauthorized uses of trail ruts by parties working in the area.
- Vandalism of developed historic sites and trail markers is a major concern of managing agencies and private landowners along the trail.
- Administration/management of recreational use of the trails is difficult due to intermingled private lands, lack of access, and fragile trail resources. The BLM is faced with the task of making the trail available to the public for education, use, and enjoyment and, at the same time must ensure that the trail resources are not degraded, thus denying them for future generations to use and enjoy.
- Management of trail segments within all Wyoming BLM jurisdictions will be consistent with the National Trails System Act and current land use plans [BLM 1986].

The historic trails plan describes proposed actions for trail segments on BLM land. Proposals planned through 1991 included:

- Identification of historic sites along trail or road segments through public lands managed by the BLM.
- Placement of interpretive signs.
- Acquisition of key land parcels through land exchange or development of easements for recreational trail development.
- Management of traffic on specific trail segments, such as developing recommendations for the type of traffic allowed; for example, foot, four-wheel drive vehicles, and/or horse travel.
- Identification of segments appropriate for trekking or other recreational uses.
- Development of parking and picnic areas at interpretive sites.

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- Site stabilization.

Although the trails plan is now almost 20 years old, it retains value, and is scheduled for updating in the near future. The entire trail system has been marked with monuments, and has also been evaluated for condition and future management options.

5.4.4 TCPs and Native American Sensitive Sites

Burials, rock art, stone alignments/effigies, and stone circles may have cultural importance to Native American tribes and individuals. The Wyoming BLM has an active consultation program with Native Americans and other groups with special interests on public land (BLM 2004a). Because the Native Americans who lived in Wyoming prior to historic times were nomadic, the BLM may, as appropriate to a particular situation, consult with any of the following entities:

Eastern Shoshone and Northern Arapaho in Wyoming (Wind River Indian Reservation); the Nez Perce (Colville Confederated Tribes) and Shoshone Bannock in Idaho; the Crow, Blackfeet, and Northern Cheyenne in Montana; the Oglala Nation (Pine Ridge), Rosebud Sioux, Cheyenne River Sioux, and Lower Brulé Sioux in South Dakota; the Standing Rock Sioux and Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) of North Dakota; the Northern Ute (Uintah and Ouray Tribes) of Utah; the Southern Cheyenne, Southern Arapaho, Pawnee, and Comanche Tribes located in Oklahoma [and the] Winnebago, Santee Sioux, Omaha, Ponca, Iowa, Sac, and Fox Tribes (BLM 2004a).

Other ethnic or cultural groups with whom the BLM may consult include the Chinese, Japanese, Basque, and members of the Mormon religion, also known as Latter Day Saints (BLM 2004a).

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