W. Bryan Watson
1982

HOMESTEADING IN THE POWDER RIVER REGION OF WYOMING: AN HISTORIC OVERVIEW AND THEORETICAL FRAMEWORK FOR THE EVALAUTION OF HISTORIC HOMESTEAD SITES

VOLUME I

INTRODUCTION

In June 1979, the Secretary of the Interior adopted a new program for the management of coal resources on federal lands. As part of his decision, competitive coal lease sales in the Powder River Region were scheduled for 1982 and 1984. (43 CFR 3400) The Regional Coal Team of the Casper District Office, Bureau of Land Management (DOI) has considered various alternatives for coal related actions which would affect between 83,500 and 210,000 acres in estimated surface disturbances (BLM; Powder River EIS - Coal) with impacts centering around the urbanized community of Gillette in Campbell County (which has already experienced considerable energy related impacts in the last decade). The unavoidable adverse impacts of the proposed coal related activities, specifically the removal of coal beds, will destroy the overlying strata and by 1990, an estimated number of cultural sites, ranging between 3,733 and 4,570, (which includes a substantial number of homestead sites) will be subjected to direct or indirect adverse impact - resulting either in compromising the integrity of or in the total destruction of cultural sites.* *Note: (The site density figures are based on the existing "incomplete" documented data base collected from various sources and will vary depending upon the RCTs (selected) action alternative).

The BLM Cultural Resource Management Plan is designed to inventory, evaluate, and manage cultural resources on lands administered by the Bureau and in areas of Bureau responsibility. (See Appendix A(1-3))

The objectives of the plan are to protect and preserve representative samples of the full array of cultural resources and "ensure that they

are given full consideration in all land-use planning and management decisions, so that scientific and other socio-cultural values are not diminished, but rather maintained and enhanced...through avoidance of inadvertent damage to these resources, both Federal and non-federal." (BLM Manual 8100.02)

The Advisory Council on Historic Preservation, established under Title II of the National Historic Preservation Act (1966) (PL 89-665) is responsible for the protection of properties of historic, architectural, archaelogical and cultural significance at the national, state and local levels by reviewing and commenting on Federal actions affecting National Register and eligible properties. (36 CFR 800.1 a,b; p. 264) Section 106 of the law mandates that Federal agencies with direct or indirect jurisdiction over a Federal, federally assisted or federally licensed undertaking afford the Council a reasonable opportunity for comment on such properties...prior to the agency's approval of such undertakings. (36 CFR 800.1(1))

The Bureau has the responsibility to coordinate its Cultural Resources Program with the State Historic Preservation Officer, who does not perform inventories or manage cultural resources on BLM administered lands. (BLM Manual 8100.08 (1a.(2.))

Section 1(3) of Executive Order 11593* *("Protection and Enhancement of t Cultural Environment") further requires that "Federal agencies ...institute procedures to assure that their plans and programs contribute to the preservation and enhancement of non-federally owned historic...properties. (36 CFR 800.1(2))

Section 2(a) of the Executive Order requires Federal agencies to locate, inventory and nominate properties under their jurisdiction or control to the National Register of Historic Places. This includes site specific undertakings "affecting" areas (under their jurisdiction) according to the established "criteria" for determination of eligibility. (36 CFR 60.4) (36 CFR 800.1(3))

According to the Federal "Criteria of Effect and Adverse Effect" (36 CFR 800.3:266): "Effect... is evaluated in the context of the historical, archaeological or cultural significance possessed by the property..." and "Adverse Effect" occurs whenever any condition of the undertaking causes or may cause any change...in the quality of the... characteristics that qualify the property to meet the criteria of the NRHP."

Adverse Effects... "may occur under conditions which include but are not limited to: (1) Destruction or alteration of all or part of a property, (2) Isolation from or alteration of the property's surrounding environment, (3) Introduction of ... elements with the property or alter its setting, (4) Neglect... resulting it its deterioration or destruction, (5) Transfer or sale... without adequate conditions or restrictions regarding preservation..." (36 CFR 800.3:266)

Antiquities are defined as artifacts, objects, structures, ruins, sites and monuments of socio-cultural or scientific values which meet the criterion of being more than fifty years old. Archaeological resources include all prehistoric and historic physical evidence of past human activity, other than historical documents, which can be used to reconstruct lifeways and cultural history of past peoples. These include sites,

artifacts, environmental data and all other relevant information and the contexts in which they occur. Architectural values are structures and buildings that contribute to the history of architecture, the architectural history of an area or region, or that is representative of the architectural heritage of the Nation, State or locality. (BLM Manual 8100.05:1)

Cultural resources, including historic homestead sites in the Powder River Basin "are recognized as fragile, non-renewable resources with scientific and socio-cultural values representing an important and integral part of our Nation's heritage." Being responsible for the largest remaining cultural resource base on Federal lands, the Bureau develops and maintains the capability needed to manage these resources. (BLM Manual 8100.6-B)

It is in compliance with this responsibility that research for the evaluation of historic homesteads in the Powder River Basin was undertaken.

PHYSIOGRAPHY AND ENVIRONMENT

of the

POWDER RIVER BASIN

Geographically, the Great Plains of North America extend from well into Canada to the Rio Grande on the Mexican border and from the Rockies to the Eastern woodlands. On the western border of the plains, mountain ranges extend deep into the plains and form intermountain basins, obscuring the Line of Demarcation between the Rocky Mountains and the Plains proper.

The Powder River Basin, located within the Northwestern Plains physiographic province, extends from the western end of the Wind River Basin and the South Big Horn Mountains in the west to the headwaters of the Belle Fourche River and the Black Hills in the east, and from the Platte River Valley in the south to the Yellowstone River Valley in Montana to the north.

In Wyoming, the Powder River Basin encompasses much of the present geopolitical boundaries of Sheridan, Johnson, Campbell, and Converse Counties (see Appendix B:1-3). There is no stereotype description of the Northwestern Plains environment, either past or present, because of the great diversity of landforms, including mountains, uplifts, stream valleys, rolling hills, erosional remnants and other less important features resulting from geological processes (Frison 1981:2).

Topographically, much of the area (east of the Big Horn Mountains) is characterized by rolling hills and flat valleys. In the Powder River Breaks Area (see Appendix B:4), slopes are steep, ranging from 15% to more than 25%. Hillsides appear terraced and hilltops are at generally uniform elevations

(BLM; Buffalo Resource Area Management Plan 1983:27).

The South Big Horn Mountains are characterized by gentle slopes to steep slopes of more than 25% as well as prominant cliffs and deep precipitous canyons such as Middle Fork and North Fork Canyons.

The Powder River Basin in Wyoming (Sheridan, Johnson, and Campbell Counties) is drained in the northern and central portions by the Powder River (which drains more than 65% of the area) on the west by the Little Big Horn and Tongue Rivers (14% of the area) and on the east by the Belle Fourche (11%) and Little Powder (3%). All of these rivers are tributaries of the Missouri River System and have many perennial tributaries, most of which head within the Big Horn Mountains to the west (BLM; BRAMP 1983:27).

The interior of the Powder River Basin is characterized by a variety of landforms as well as by intermittent and flowing streams with low gradients and meandering flow patterns draining the area. The main streams which drain easterly into the Powder River include: the Middle Fork of the Powder, which runs out of the Big Horns, runs almost due east until it makes a 90° bend in the vicinity of Sussex and heads northward to Montana; the South Fork of the Powder River, and Salt Creek, along with the intermittent Dry Fork, all drain the north slope of the great saddle of land that separates the Yellowstone Basin from that of the North Platte and Cheyenne Rivers (Darton 1906).

The character of the Northwestern Plains changes markedly to the east of the Big Horn Mountains along the drainages of the Little Big Horn, Tongue, Powder, and Little Missouri Rivers in southern Montana and northern Wyoming. Here there is more moisture and grass is higher and thicker. The area is marked by buttes,

escarpments, and shallow but rough canyons covered with sagebrush, ponderosa pine, and juniper. Mesas are a common feature and the entire area in general supports excellent stands of grass (Frison 1981:6).

The Black Hills area of Wyoming and South Dakota provides another somewhat special environment. Rising out of the plains, the area attracts more rainfall than surrounding areas. The flora is unique and heavy stands of oak and ponderosa pine predominate. Scattered throughout are open parks with excellent grass, although the higher elevations are deeply dissected and covered with heavy brush. A number of small streams make the Black Hills a true oasis-like environment.

Between the Black Hills and the Laramie Range is an area of open plains with occasional minor uplifts such as the Rochelle Hills, the Pumpkin Buttes, and the Pine Ridge escarpment extending eastward from the northern part of the Laramie Range. The Hartville Uplift begins just east of the North Platte River in eastern Wyoming and extends northward to the vicinity of Lusk, Wyoming (Frison 1981:7).

Vegetation consists mainly of a relatively thick cover of sagebrush and grass with cottonwoods, willows, and other trees and shrubs lining stream bottoms. Certain other shrubs form viable stands on some north slopes. Greasewood is common to numerous saline areas.

Uplifts such as the Rochelle Hills south of Gillette and the scoria hills are characterized by scattering growths of ponderosa pine and lesser numbers of juniper. The terraces and bottoms along streams support lush stands of grass often belly high and even higher to a horse. Sufficient moisture is present to

support some dry land agriculture with in the Basin. Both sheep and cattle graze the area along with large numbers of deer and pronghorn. One viable elk herd containing several hundred is maintained along the Powder River north and west of Gillette (Frison 1977:xiii).

Many lesser features add variety to the topography of the Northwestern Plains. There are geological faults, deeply eroded sandstone formations, and sand dune areas. Moisture falling on large sand dune areas often comes to the surface in interdunal ponds, which proovide water and green feed to animals who seek out these areas (Frison 1981:7).

One must remember, however, that the surface of the land has changed in various ways through time as a result of climatic changes. Short-term changes as well as long-term changes have significantly altered the landscape. There are deep, perpendicular-sided arroyos now where gently sloping, sodded swales were present a half-century ago. The dust bowl years of the 1930s changed the looks of the Plains as well as their livestock carrying capacity for several years (Frison 1981:3).

CLIMATE

Successive mountain ranges for more than 1,200 miles to the west screen out the moisture from the prevailing westerlies that come in off the Pacific through much of the year. This means that most of the region's precipitation is derived from moisture from the Gulf of Mexico. Only the largest of frontal air movements can, in winter, bring very much water vapor inland from the Gulf. When they do, the elevation of the Big Horns catches a heavy snowfall on its eastern slope. But winter storms are intermittent and lighter at the foothill

and plains elevations.

Winter storms can start to arrive as early as September, but in most years there is persistent snow cover only from mid-December to late February. In the chinook wind belt immediately in front of the mountains, snow cover in any mild winter often melts off between storms.

Most of the area's precipitation falls as rain in the summer thundershowers that are able to release the moisture from warm air masses drawn far inland from the Gulf of Mexico by the monsoon condition that develops over the U.S east of the Rockies in summer. April, May and June constitute the rainy season, though occasional storms can bring heavy rains until the beginning of the snow season in a wet year. In a dry year, the rains often end by the first of July for two to three months.

At the low elevations, temperatures as low as 40 degrees (Farenheit) below zero are not uncommon in the wake of major winter storms, when cold, dry artic air masses push south in front of the Big Horns. In the heat of late summer, temperatures of over a hundred degrees above zero are not at all unusual. And at any given time of year, the daily highs and low of temperatures are likely to be 25 to 50 degrees apart!

Thus, it is a climate that can be severe at times, but one in which there is a variety of weather and one in which low relative humidity ameliorates to some degree the effects of heat and cold.

Total precipitation varies from around twenty inches in the mountains to around 16-17 inches on the foothills to a low of less than ten inches in the eastern

Powder River Basin. The growing season at the lower elevations is around 115 days (see Appendix B:5).

These climatic patterns determine the distribution of vegetation. The highest part of the central core of the Big Horns is locked under ice and snow cover for up to ten months of the year, and is covered with alpine or artic vegetation. The great plateau areas of the Big Horns are covered with a parklike intermix of pine forest and grassy meadows.

The foothills and the western edge of the plains are covered with a turf of short grasses that makes one of the finest grazing areas in the world. Off to the east along the Powder, bunch grasses and sagebrush and other dryland species prevail.

The valley of the Powder River, Crazy Woman Creek, Piney Creek and their tributaries have an intermittent growth of cottonwood and willow along their courses (Murray 1981:9, 10).

SOILS

The major class of soils which occur mainly in the western region of the United States is the pedocals (noted as possessing an excess of calcium carbonate). Pedocals occur mainly in climates where annual precipitation is less than 25 inches and temperatures are moderate to high. These regions are generally characterized by prairie, grassland, scrub or desert vegetation (Laporte 1975). Within the class of pedocals is the subdivision or order-zoned soils are the most widespread and important, usually formed under conditions of good soil drainage through the prolonged action of climate and vegetation. Northeastern

Wyoming is characterized primarily by two zonal soil associations (Soil Conservation Service 1967). The soils in the vicinity of Gillette are mainy brown soils (aridic borall) and extending northward to the Wyoming-Montana border is characterized by chestnut soils (typic borall). The browns soils are generally found in more arid regions and contain less humus than the chestnut soils (thus, brown soils are a lighter color than the chestnut soils) and support a sparse growth of grasses. Present day farming on brown soils must utilize irrigation. Farming or growing on brown soils in the past by early inhabitants without irrigation would have been futile. Chestnut soils are widespread in the more semi-arid regions and are fertile only under conditions of adeqaute rainfall or irrigation (BLM; ETSI, 1981:2-12) (see Appendix B:5).

VEGETATION

The Powder River Basin is characterized by the mixed prairie type vegetation, though not uniform across its vast expanse, many of the more abundant grasses (including six mid and seven short varieties) occur throughout.

The more abundant mid-grasses include needle-and-thread (Stipa comata), sand dropseed (Sporobolus cryptandrus), western wheatgrass (Agropyron smithii), Buffalo grass (Buchloe dactyloides), side-oats grama (Bouteloua curtipendula) and green needlegrass (Stipa viridula). The abundant short grasses include June grass (Koeleria cristata), blue grama (Bouteloua gracilis), thread-leaf sedge (Carex filifolia), needle-leaf sedge (Carex eleocharis), red three-awn (Aristida longiseta), purple three-awn (Aristida purpurea) and galleta (Hilaria jamesii) (Weaver and Alberton 1956).

Two major mixed prairie types occur in Wyoming. In northeastern Wyoming, the

needle-and-thread-wheatgrass-buffalo grass is predominant. Blue grama-buffalo grassed Mixed Prairie is predominant in southeastern Wyoming. Additional grasses, western wheatgrass and six-weeks fescue (Festuca octoflora), are found in varying degrees associated with both types of Mixed Prairie. Forbs and shrubs associated with the blue grama - buffalo grass Mixed Prairie include Pursh's plantain, red false mallow, pepper grass, prickly pear, big sage, fringed sage, silver sage, broom snakeweed and winterfat (Weaver and Albertson 1956).

Due to overgrazing, a disclimax of blue grama, prickly pear and big sage occurs in eastern Wyoming (Weaver and Albertson 1956). It is assumed that pre-settlement vegetation probably consisted of a greater abundance of mid-grasses (buffalo grass) and a lesser abundance of prickly pear and sages.

Blue grama and buffalo grass would have been and are preferred forage of herbivores. It is theorized that with natural grazing of the extinct megafauna and extant species, such as elk, antelope and bison, the blue grama - buffalo grass prairie flourished (Weaver and Albertson 1956) (Fr. BLM: ETSI 1981:2-21).

Most of the Powder River Basin area is in a 10-14 inch precipitation zone. The dominant vegetation types within their zone are grassland (30%), sagebrush (61%) and conifer woodland (1%) with the remaining 8% classifies as "other" (BLM, Buffalo Resource Area Management Plan 1983:28).

WILDLIFE

Big game are found in abundance throughout the Powder River Region. The total mule deer population is estimated at 67,000, and are the most abundant big game

animal in the South Big Horn Mountain area (estimated at 6,600 in the past hunt season). White-tailed deer, which are restricted to the major drainages that support the wood riparian habitat along the Powder River, number about 13,000. Antelope are found throughout the Powder River Region. The largest migratory herd in the state is in southern Johnson County and Campbell County with an estimated population of 42,000 prior to the 1982 hunting season (BLM, Buffalo Resource Area Management Plan 1983:29). Antelope are restricted to rolling topography and are seldom found in the rough, broken "breaks" habitat adjacent to the Powder River. The estimated yearlong antelope population in the Powder River Breaks is 3,100.

Small game include cottontail rabbits, red squirrels, sage grouse, sharp-tailed grouse, blue grouse, Merriam's turkey, chuckar partridge, Hungarian partridge, ring-necked pheasants and mourning doves. Sage grouse and sharp-tailed grouse are found in the Powder River Breaks but due to extensive grasshopper control programs in the 1950s, sagebrush eradication programs and extensive energy developments, their population has declined significantly in the past three decades (BLM, BRAMP 1983:31).

Raptorial birds indigenous to the area include golden eagles, red-tailed hawks, ferruginous hawks, prairie falcons, great horned owls, burrowing owls, osprey, merlin and kestrals.

Black-tailed prairie dog towns (which are also potential black-footed ferret habitats) are found throughout the region.

Warm water fish (large mouth bass, rock bass and black bullhead) are restricted to reservoirs and the Powder River. Coldwater fish (rainbow, brown, brook and

cutthroat trout) are found in streams in the South Big Horns and in various stock ponds (BLM, Buffalo Resource Area Management Plan 1983:).

During the period of aboriginal (prehistoric) occupation and the early European contact (historic) period, the grassland areas were buffalo country. The foothills and stream valleys hosted vast herds of elk who seasonally pushed up to the alpine pastures to escapoe the heat of summer. Rough breaks along Powder River and the country to the east had a few mountain sheep. And then as now, the grasslands teemed with pronghorn antelope and the foothills held both mule deer and white-tail deer in considerable numbers.

Preying upon the great herds of game were the mighty grizzly bear, black bear, wolves, coyotes, bobcats and mountain lions. Lesser predators found plenty of prairie dogs, rabbits of three varieties and abundant sage grouse, sharp-tail grouse, blue grouse, along with modest numbers of waterfowl in season (Murray 1981:10).

SUMMARY

Day-to-day life on the Plains was generally harsher than life in adjacent geographic areas. Summer sun and winter storms were--and are today--brutal, reaching intensities for which there is little protection in the natural environment. Although there are differences in mean annual temperatures from nortth to south, a blizzard on the open areas of the Southern Plains can cause every bit as much discomfort as one on the Canadian border. However, both the human and animal populations were able to adapt to these harsh climatic conditions.

The critical element is moisture, and precipitation differs over short distances in the Plains, grass production is not uniform over large areas. Also, an area good one year may not be good the next. Hailstorms can denude large areas of grass, causing the grazing animals to shift locations from year to year or even during a single season.

Dry years and short grass have many negative effects on grazing animals. The number of offspring can be directly correlated to animal conditions, which is dependent on food supply.

The present-day livestock operator has more descriptive terms for grass than the polar Eskimo has terms for snow, and each type of grass results directly from weather conditions. Moisture and temperature determine grass conditions; perhaps the former is most critical. Wet, cold springs usually produce better grass than hot, dry springs. Heavy spring snow or rain followed by warm days produces the large quantities of nutritious grasses that rapidly bring the animals out of the long, downhill physiological trends of winter. No artificial feeding program yet devised can replace green grass as a means of reviving metabolic processes of grazing and browsing animals.

Although spring storms help the grass, they can be devastating for the animals, especially with combinations of deep snow, wind, and low temperatures. Spring is bison birthing time, a particularly critical period even though bison are surprisingly tough. A calf born in a snow bank has a good chance of surviving if temperatures do not drop too low for prolonged periods. Once on its feet, and suckling, its chances are good even though temperatures may drop to 0° F. and below, a possibility even in April. Deer and antelope young are born in May and June. Howevern May and June blizzards do occur and can also be unpleasant.

Ideal grass conditions result from a warm, moist spring followed by enough summer moisture to bring the grass to slow, even maturity. Hot, dry periods, even after an ideal spring, force early maturity and poor seed development. Dry, brittle grass breaks off easily from movements of animal herds and is consequently lost (Frison 1981:8, 9).

In sharp contrast to the view from the open plains, the wind is almost incessant and usually blows from the west. Violent changes in weather are to be expected. Long, cold winters and short summers lead to a short growing season, and where water is scarce grass is short. Early warm spring days give a false promise of continuing good weather but spring blizzards can be more deadly than those of winter. Indian summers seldom linger very long and are usually cut short by snow and cold weather.

It is not an area that even under present technology can support large human populations. Domestic livestock operations rely on irrigation and crops adapted to high altitudes and short growing seasons for sufficient feed during the long, hard winters. There is little to recommend the Northwestern Plains as a place to live, but its uniqueness did foster some distinctive cultural patterns in prehistoric and historic periods (Frison 1981:8).

ABSTRACT

HISTORICAL CONTEXT FOR HOMESTEADS IN NORTHWESTERN WYOMING

(Rosenberg 1983)

The depressions, foundations and dugouts often encountered during cultural resource surveys in northeastern Wyoming are the remnants of early twentieth century homesteads. Most of eastern Wyoming, defined as east of the Bighorn Mountains and north of the North Platte River, represent a rather homogeneous geographical and climatological zone. It is a classic example of what John Wesley Powell recognized as the "arid region" as early as 1878. The arid region of the western United States received less than 20 inches of rainfall annually and required irrigation for agriculture (Powell 1879:1-3).

This region is best suited to livestock grazing. The natural grasses are scanty but nutritious and cure on the stem, providing summer and winter forage. However, according to Powell, a successful ranching unit required at least 2,560 acres (Powell 1879:22). In fact, northeastern Wyoming was first utilized by cattle ranchers starting after the Sioux Treaty of 1876 which opened up the region for white settlement (Larson 1965:105-106).

However, federal land policy had been developed east of the Mississippi River where annual rainfall was high. A farming unit of 160 acres was sufficient in such a climate, but wholly inadequate in the arid region (Gates 1935:19). Farming in the east was devoted to cash crops and small pastoral units.

By 1880, ranchers in northeastern Wyoming could utilize the existing land laws, either legally or illegally, to obtain a maximum of 1,120 acres (Pre-emption-160 acres; Homestead Act of 1862- 160 acres; Timber Culture Act of 1873- 160 acres;

Desert Land Act of 1877- 640 acres). This still left most ranchers far short, because up to 40 acres was required to support each cow (Larson 1965:173, 175). Therefore, the public domain was used free of charge to round out the ranching operation. Ranch headquarters were located on land parcels containing water sources, thereby controlling a much larger surrounding area.

This system worked reasonably well as long as competition and population pressure was limited. However, by the turn of the century, those submarginal lands which had not been filed upon acted as a magnet to a great influx of dry land farmers who proceeded to change the land utilization patterns of northeastern Wyoming.

Dry land farming techniques were tried in the Wyoming Terrirory as early as the 1870s at a small Swedish settlement called Salem, 40 miles northeast of Cheyenne. However, the height of the movement occurred after 1900 in the northeastern portion of Wyoming. The Campbell System of farming had been developed by Hardy W. Campbell in South Dakota in the mid-1800s. By storing and conserving "natural rainfall" within the soil, crops could be grown without the aid of irrigation:

> If you compress, or pack, or squeeze the subsoil, and keep the top soil cultivated--loose--fine--then the lowest structure of soil will hold and retain the moisture, acting to all intents and purposes, like a reservoir (Dry Farming Congress 1909:14, 17).

The State of Wyoming encouraged western dry farming through the Board of Immigration created in 1911. Papers extolled the virtues of dry farming; the

railroads conducted a well-organized advertising campaign on a nationwide basis to settle the regions through which they passed. Dr. V. T. Cooke, an "expert" in the technique from Oregon was brought to Wyoming in 1905 and appointed "Director of Dry Farming Experiments" with funds appropriated by the state (Larson 1965:361).

State Bulletin No. 80 considered 15+ inches of annual rainfall a safe level for dry farming, and that 12-1/2" to 15" annually "will grow profitable crops by dry farming in a majority of seasons" (Larson 1965:361).

Wyoming's chief proponent of dry land farming was Frank W. Mondell who later became mayor of Newcastle and a congresional representative. Mondell had practiced dry farming techniques on his farm five miles northwest of Newcastle from 1889 to 1893. Mondell authored the 1909 Homestead Act which allowed a homesteader to file on up to 320 acres and encouraged farmers to immigrate to Wyoming (Larson 1965:362).

The government also lured homesteaders by the Stock Raising Homestead Act of 1916, which allowed an individual to file on up to 640 acres of land that the Secretary of Interior had classified as "stock-raising lands." Such lands were suitable only to grazing and the raising of forage crops, did not have any timber, and could not be irrigated (Public Domain in Wyoming 1938:118). A 640 acre unit was not large enough to successfully raise stock, but settlers on such land had little choice but to enter the already "demoralized" livestock business. The settler could try a combination of stock raising and dry land farming of forage crops, but the depression and dust bowl of the late twenties and thirties spelled the end for thousands who were subsisting on submarginal lands.

The existing documentation concerning historical homesteads in northeastern Wyoming indicates that the Enlarged Homestead Act of 1909 and the Stock Raising Homestead Act of 1916 accounted for most of the filings (Markoff 1981 and Schulte 1981).

The sites found today represent the failures of would-be ranchers and farmers on these submarginal lands. No sooner were they settled during the World War I era than droughts and the effects of the Great Depression threatened their continual survival. By the mid-1930s, the homesteads were being abandoned, leased, or sold back to the government (Thybony, Rosenberg et al. 1982).

In a larger sense, the homesteads represent the failures of dry land farming and government land policy so ill-adapted to the semi-arid areas of the West. Cash crops could not be successfully grown over an extended period of time because of cyclical drought, and stock raising was not possible on only 640 acres in this environment. Herein lies the historical significance of these homesteads. They represent one of the most important land utilization lessons this country and its citizens had to learn about the West. Through the long term suffering and failures of thousands of hardy but luckless settlers, it was finally recognized that a limited number of large ranching units with carefully regulated herds constituted the ideal utilization of lands of this character (Thybony, Rosenberg et al. 1982).

HISTORICAL OVERVIEW OF HOMESTEAD SETTLEMENT IN THE POWDER RIVER REGION

INTRODUCTION

The focus of this overview is upon homestead settlements in relation to Federal Land Law development (1878 to 1933) and will treat the period prior to 1878 in a cursory manner. The historical themes and activities associated with this period have been afforded adequate treatment in previously published area-specific cultural resource and historical overviews: Larson 1979, Lecompte and Anderson 1982; Markoff 1980, 1981; Murray 1978, 1981; and others. Portions of this overview are a synthesis of these sources.

ACTIVITIES PRIOR TO 1878: EXPLORERS, TRAPPERS AND TRADERS

Strategically located at the upper end of several major river systems, the area encompassing the present state of Wyoming had been variously claimed by the Spanish, French and British during the eighteenth century. The Powder River Region is located within the boundaries of lands secured from Napoleon by the terms of the Louisiana Purchase (1803). During the first half of the nineteenth century the United States maintained disputed jurisdiction over the balance of the area (present Wyoming) which was divided between Texas, Mexico and the Oregon Territory (jointly claimed by the United States and Great Britain, see Appendix C:1).

Throughout most of the nineteenth century, the region was generally regarded by Euro-Americans as an obstacle or barrier to be crossed. At this time, the region was the hunting ground for some 10,000 Siouan speaking peoples. The Ogalala and Teton Sioux came to the Black Hills area about 1775 forcing the Cheyenne south into the Powder River Basin. The Sioux continued to dispute the Powder River Country with the Crow until 1878 (Lecompte and Anderson 1982:14).

The first Euro-American intruders in the region were explorers and adventurers engaged in the capitalistic endeavor of exploiting the fur resources of the Northwest. The documentary evidence as provided by the few journals and published accounts available are dubious for the most part and sketchy at best.

The earliest white explorers reputed to have entered or at least skirted the fringes of the Powder River Basin are: the 1742-43 exploratory expedition of the Verendrye brothers cited as "wintering" among the Crows near the northern bend of the Belle Fourche; in 1803, one Jean Valle supposedly wintered in the Black Hills; and among the nominees for the "earliest man" award is Charles LaRaye who hunted and trapped at the foot of the Big Horns in 1802 (Lecompte and Anderson 1982:18). Francis Antoine Laroque (of the Northwest Fur Company) may have been the first white man of record to actually penetrate the Powder River Region (in 1805) following the Powder River to a point below the mouth of Clear Fork before turning northwest into the Big Horns (Murray 1981:5). A vague and somewhat dubious account indicates that a party led by Ezekial Williams and Jean Baptiste Champlain may have trapped the headwaters of the Belle Fourche in 1810 (Markoff

1980:55).

In the summer of 1811, Wilson Price Hunt (of John Hacob Astors North American Fur Company) was dispatched to lead an expedition of west-bound Astorians in conjunction with a sea-borne expedition to establish a trading post (Astoria) and commercial route to the Oregon Territory. The Hunt expedition passed through the northern part of present Campbell and Johnson Counties crossing the Powder River south of the mouth of Clear Fork (Creek) in a southwesterly direction to the vicinity of present Buffalo, and after preliminary exploration made their way up the Big Horns at a point between Clear Fork and Crazy Woman Creek (Murray 1981:15). Returning "Astorians" led by Robert Stuart in 1812 pioneered the route that would subsequently by used by thousands of westbound immigrants.

The Stuart group constructed winter quarters on Deer Creek (near present Glenrock), establishing the first fur trade era structure in the area (Marchoff 1980:1).

The Powder River Region is situated in the immediate vicinity of two important geographical points of the trapper's west--the Powder River, which was the center of Crow trade to the west and the Black Hills, which were the center of Sioux trade to the east (Lecompte and Anderson 1982:20). The trappers fostered the period of good relations with the Indians and was a factor in the relative safety with which immigrants travelled through Indian lands in the 1840s (Lecompte and Anderson 1982:25).

William Ashley brought the first organized expedition to Wyoming for the 1826-1826 season (Markoff 1981:14).

The decades of the 1820s and 1830s were dominated by extensive fur trade related operations in the region, especially during the 1830s when fur resources in the Northwest Territory had been periodically depleted by freelance trappers or mountain men financed by the trading companies.

John Colter is perhaps the earliest American to trap east of the Big Horns during the winter of 1806 through 1807 (Larson 1979:8).

The Powder River was a favorite winter camp of the intrepid mountain men of great notoriety, (to numerous to mention), who worked the streams and tributaries throughout the Basin. Maps of Jedediah Smith travels indicate he pamned through the area during his journeys in 1823 and again in 1825 and 1826. Antonio Montero established a trading post on the Powder River for Captain Bonneville in 1828. The structures known as the "Portugese Houses" served as a base for many trappers (Jim Bridger among them) until their abandonment in 1836 or 1837 (Reher 1983:10, Larson 1978, Markoff 1981:14).

A general financial panic occurred in 1837 which has a direct impact on the American fur trade; banks suspended specie payments and fur traders were no longer extended credit. The business was further compounded by the virtual monopoly by the Hudson Bay Company of beaver lands in the Oregon Territory. Beaver trade failed as pelts plummeted in value and became scarce due to depletion in a quarter century of

intensive trapping. Fur trappers were engaged in the business after the 1840 Rendezvous (Lacompte and Anderson 1982:33).

Although the thiry years of exploration and trade in the Powder River Region yielded but a few doubtful references to the land, the geographical discoveries of the trappers contributed to the fostering of further government exploratory/scientific expeditions, immigrations, railroads, and finally, settlement. (Lecompte and Anderson 1982:25).

The significance of the fur trade was primarily that in the twenty-five years that trappers traversed the region in their quest for the "furry banknotes", much of the heretofore unexplored remote regions became known--~~pending intelligen~~t providing intelligence dispelling the misconceived notion of the Great Plains as being the "Great American Desert" [(as) "a barrier to great ... (for) expansion of our population westward, being wholly unfit for cultivation and uninhabitable."] (Lecompte and Anderson 1982:20).

Noteworthy among the post-fur trade period explorers of the region is the Jesuit missionary, Father Pierre Jean DeSmet, whose party crossed through the Powder River Basin on his journey from northeastern Montana in the 1850s; traveling along the lake which presently bears his name, crossing the Powder River and passing near "Gourde Buttes" (Pumpkin Buttes) on the way to Fort Fort Laramie via Red Buttes. DeSmet was credited with having used the first wheeled vehicles "that ever occupied this unoccupied waste" (Larson 1979:12).

Documentation and maps drawn by DeSmet at the Fort Laramie Council of 1851 (with the aid of ex-mountain man Jim Bridger) upon the request of Commissioner D. D. Mitchell were worthy contributions to the cartographic knowledge of the area (Larson 1979:11).

Jim Bridger, ex-mountain man who assisted DeSmet with the cartographic description of the Powder River Country, remained active in the region. In 1855 he guided Sir George Gore's hunting expedition northward down the Powder River to the Yellowstone. The party hunted extensively throughout the Powder River Basin, wantonly slaughtering "40 grizzly bears, 2,500 buffalo as well as numerous antelope and small game" (Markoff 1981:16) which indicates that there was (at least until that time) large herds of bison in the Powder River Region and his exploits did little in favor of United States and Indian relations.

EMIGRANTS AND MILITARY EXPEDITIONS

In the wake of early explorers and fur traders followed the first of many successive waves of emmigrants following the pioneered trail along the North Platte River to the Pacific Coast. During the period of 1841 to 1868, between 350,000 and 400,000 Utah and California-bound emmigrants/settlers (and gold miners after 1848) traveled this expressway along the Platte River.

The territory north of the Platte was the domain of the various mounted hunter Amerindians; the Crow, Arapaho, Cheyenne and Sioux, comprising at that time 95% of (future) Wyoming's "permanent population" (Markoff 1980:8). The emigrant trail was "the knife that cut asunder Indian autonomy of the Western lands" (Lecompte and Anderson 1982).

During the 1840s the United States Government became increasingly concerned with the western reaches and the flow of traffic through them. Exploratory/reconnaissance expeditions such as Fremont's were conducted to gather intelligence and as a show of military might (Larson 1979:13). The Sioux were becoming increasingly annoyed at the waves of multitudes and wagon trains infringing upon their domain which eventually brought an end to the good neighbor policy, culminating in a series of incidents of cultural conflict. The Government retaliated by establishing military posts along the Platte River route, further agitating the situation. Construction commenced on Fort Laramie in 1849 which was to become the main post in the later conflict for the western plains (Larson 1979:114).

The United States Government had militarily achieved territorial conquest of the west by 1848, which increased the area of the United States by one third. Topographical engineers were sent out with a view to discovering possible routes for a transcontinental railroad, economic opportunities and for means of frontier defense against Indians with an underlying overall objective to induce settlement. Ambitious but inconclusive surveys for the railroad to the Pacific were conducted in 1853 and 1854. Among the 13 volumes of survey reports and documents was a map left by Lieutenant Governor K. Warren depicting the Powder River Basin as "unexplored". A subsequent expedition was conducted by Warren to survey along the Yellowstone for possible sites for military posts and roads in 1856 and 1857, but the fruitless expedition was compelled to withdraw from the Black Hills by a force of Sioux (Lecompte and Anderson 1982:46) (see Appendix C).[12]

As part of the Yellowstone Expedition of 1859 and 1860, the United States Government ordered a topographical reconnaissance into northeast Wyoming, commanded by Captain W. F. Raynolds and Lieutenant H. W. Maynadier, for the purpose of ascertaining the "numbers, habits, and disposition" of the Indians, gathering intelligence about the climate and resources of the region, as well as to seek out four possible routes for wagon roads throughout the region. Raynold's command passed through the northern Black Hills and north of the big bend of the Belle Fourche to the junction of the Powder and Little Powder rivers. His evaluation of the country was that it was "unfit for agricultural purposes" (Lecompte and Anderson 1982:46). In the fall of 1859, J. H. Snowden, a topographer under Raynold's command, conducted a brief expedition from the winter quarters on Deer Creek to

the Hole in the Wall country and Pumpkin Buttes, then proceeded east along the headwaters of the Belle Fourche to the north fork of the Cheyenne River. Snowden reported disfavorably of the region as a possible wagon route due to the scarcity of water and adverse terrain (Lecompte and Anderson 1982:47). Despite the overall negative reports, Raynold's explorations did serve to elucidate the geographic nature of the region.

The cataclysmic upheaval of the War of the Rebellion (1861-1865) wrought great and dynamic changes on the nation as a whole and the west, notwithstanding, experienced consequential ramifications. Exploratory expeditions were suspended and the demand for fighting forces in the east resulted in the reduction of available troops to defend the frontier outposts. The war did not, however, slow down the steady flow of overland emmigrants.

In conjunction with the increasing annual migrations along the Oregon Trail, a transcontinental mail route was in operation from 1856 to 1858 and the main overland stage line used this route from 1858 to 1862. The short-lived Pony Express followed this route during 1860 through 1861, until the construction of the transcontinental telegraph line (in service from 1861 to 1867) rendered the service obselete.

Each of these systems utilized some of the old trading posts as stations as well as establishing new ones. A toll bridge was constructed across the Platte (near present Casper). Weakened garrisons of the military posts along the Oregon Trail invited opportunistic raids against these posts. As the insurgent attacks

escalated it became necessary to strategically withdraw the Overland Stage route (in 1862) and the telegraph line (in 1864) along the Oregon Trail to a more southerly location (Markoff 1980:22). After 1862, few emigrants used the old (Oregon) route until settlement in the region commenced after 1877. The Oregon Trail did, however, serve as a major transportation route for military operations, when the army assumed responsibility for a series of operations in the Powder River country.

WARFARE IN THE POWDER RIVER COUNTRY

The strategic withrawal from the North Platte was curtailed when, in 1863, gold (the precious mineral upon which wartime economics depended) was discovered in Montana. The point of departure for prospectors (eager to support their nation's and person cause) for the gold fields was Deer Creek (on the North Platte). The direct route to the gold fields transected the heart of the Powder River Basin and the domain of the Indians. In that year, John Bozeman and John Jacobs set out to "pioneer" a wagon route which would more directly allow wagons from the Oregon Trail to enter Montana without traversing the mountains. This intrusion through Indian domain naturally invited truculant retaliations on the part of the region's perturbed residents.

Bozeman attempted to pilot a train over the trail in 1863 but was forced back at the Clear Fork of the Powder. Only four trains went through what would be dubbed the "Bloody Bozeman" in 1864.

Meanwhile, by January of 1865, the government considered the construction of a transcontinental railroad a matter of prime national importance (Murray 1974).

The punitive military expedition under General Patrick E. Connor into the Powder and Tongue River country in the fall of 1865 further served as a diversionary move to detain the Indians away from the projected rail line. Concurrent with this activity, a civilian contractor, James Sawyer, was commissioned to construct a wagon road from Sioux

City, Iowa to Virginia City, Montana. This controversial emigrant road-building expedition may have been in actuality a cover for a military escort of a civilian train through Indian country, for the results of this expedition were negligible (Lecompte and Anderson 1982:48).

An attempt was made to maintain somewhat peaceful relations with the natives through pacification and negotiation while expanding diversionary efforts along the Bozeman. In August of 1865 the stockaded post later named Fort Reno was constructed on the Powder River (20 miles east of Kaycee). In 1866, two more forts were established along the Bozeman Trail under direction of General Henry B. Carrington: Fort Phil Kearney at Piney Fork (north of Buffalo) and Fort C. F. Smith on the Big Horn (Lecompte and Anderson 1982:59).

By 1867 ongoing construction of the Union Pacific Railroad deemed stepped up military activities to a conclusive end essential to it's completion. War on the Bozeman Trail was intensified. Notable engagements were fought at Crazy Woman Creek and Fort Phil Kearney, including the Fetterman Massacre (December 1866) and the Wagon Box Fight (in 1867) as well as other minor skirmishes throughout the region.

That same year another fort was strategically erected on the interior lines of the Oregon and Bozeman Trails at LaPrele Creek. Fort Fetterman served to protect the overland trails and the railroad construction and was garrisoned until 1882. At the time the fort was established, the Oregon Trail carried 90% of the westbound traffic

(Markoff 1980:26), but by 1868 the railroad was completed as far as Fort Steele and commerce shifted to the south.

Military operations along the Bozeman Trail were phased out. A treaty was negotiated in 1868, which, in addition to placing the Sioux and Northern Arapahoe on reservations, granted the use of hunting lands in the Powder River Basin so long as buffalo remained thereon "in sufficient number to justify the chase" (Murray 1981:48). The army withdrew from the region dismantling the posts along the route and Fort Fetterman, though still garrisoned, was rendered an isolated outpost at the dead end of two roads (Markoff 1980:26) (see Appendix C:3).

The Treaty of 1868 was an "uneasy one" and by 1874 the Black Hills Gold Rush led to further violations of Indian territorial sovereignty by swarms of prospectors. After the government's failure in an attempt to purchase the Black Hills, attacks were conducted against the white intruders. The treaty was in effect, negated when negotiations broke down in 1875. The U. S. Government dictated an ultimatum--ordering the Indians from unceeded lands to reservations by January 31, 1876, or suffer the consequences of overt military action! (Markoff 1980:30) Of course the proud warriors declined and held steadfastly to their hunting grounds.

In the winter of 1876, United States troops under General George Crook advanced from Fort Fetterman northward against the Indian camps as promised. Colonel J. J. Reynolds attacked Crazy Horse's camp at the mouth of the Little Powder River, destroying (rather than capturing,

as ordered) the subsistance supplies before being obliged to retreat with the appearance of a formidable force of warriors.

In June of 1876, a more concerted two-pronged operation was conducted, but military blunders fouled the plan--culminating with annihilation of a force under the command of General Terry on June 26, by the combined forces of Crazy Horse and Sitting Bull in the most famous of all Indian battles. The Sioux victory was a phyrric one as Custer's defeat served as a catalyst for a renewed and more vigorous compaign.

Forward supply bases were established in logistical support of troop movements. Cantonment Reno was erected in the winter of 1876 (3 miles south of abandoned Fort Reno), later named Fort McKinney. Due to the shortage of water, forage and timber, a new supply base was established in 1878, 60 miles northwest on Clear Creek (west of present Buffalo) named Fort McKinney No. 2 (Markoff and Ciavonne 1981:26).

In a relentless campaign, the region was effectively cleared of "hostiles" by the spring of 1878. The war weary remnants of the native population capitulated and were reluctantly relocated to the detested reservations. General Phil Sheridan reported that during the campaign of 1876 and 1877, the United States troops marched over 4,000 miles, captured 1,600 horses and mules, and killed, captured or drove into Canada over 7,000 Indians (Lacompte and Anderson 1982:63).

Thus passed the proud heritage of the Plains Indians, the "wasteful and hostile occupants of millions of acres of valuable agricultural,

pasture and mineral land", wrote General Sheridan. Their lands passed too--into the hands of "a people who knew how best to employ the vast resources of the Great West." So also passed the buffalo which the United States had driven into near-extinction by encouraging the slaughter of the depleted herds, in order to hasten the end of the Red Man. And now the manifest destiny of the United States was a reality; nothing stood in the way of the cattleman, the settlers, the industrialists (Lecompte and Anderson 1982:63) (see Appendix C:4).

THE ROLE OF MILITARY POSTS IN THE EARLY SETTLEMENT OF THE POWDER RIVER BASIN

Military posts such as Forts Fetterman and McKinney were instrumental in the subsequent development of the Powder River Region. A supply road was established between Fort Fetterman and Rock Creek and in 1877 telegraph lines were installed from the post to Fort McKinney. Established in 1878, the Rock Creek and Fort Custer Stage Company utilized the RockCreek/Fort Fetterman road on the first leg of the 358 mile journey to Fort Custer (Markoff 1980:34). Four stations were construction at watering points in the region: one operated by Mike Henry at Brown's Spring and three others at Sage Creek, Sand Creek and Antelope Creek.

The routine activities of maintaining the garrison at these posts fostered considerable associated civilian commercial enterprise. There were ordinarily a number of civilian employees at each post. In the earliest period there were more than a hundred such men working at each post including the common laborer, the ubiquitous teamster, blacksmiths, carpenters, plumbers and other skilled laborers.

Fort Fetterman on the North Platte at the mouth of LaPrele Creek dated from only the Fall of 1867, but by 1878 it had become a sizeable post that also maintained a substantial quartermaster depot function in support of the Indian campaigns to the north. Sawmills at Fort Fetterman supplied most of the lumber and finished mill work for the buildings at Cantonment Reno, and possibly for the second Fort McKinney as well. Brick yards at Fort Fetterman made much of the brick used in the 1867 expansion of Fort Reno, and supplied the brick for Cantonment Reno and

part of the early brick used at Fort McKinney Number 2.

Fort McKinney Number 2 at Buffalo was a new post, just under construction in the summer and fall of 1878. In the 1880 census the post was the largest settlement by far in northern Wyoming.

In addition to the major, permanent posts, the army maintained a few small garrisons early in the settlement era. In 1877 the garrison of Fort McKinney (Number 1) on Powder River maintained a small outpost at Antelope Springs on the road to Fort Fetterman.

Also in this period, the Fort Laramie garrison maintained a small force at a "Camp on Sage Creek" (BLM 1978:167).

In 1878 there were four companies of infantry and three companies of calvary at Fort McKinney Number 2, for a total of 300 men. From 350 to 424 men constituted the winter time garrison when there were less detached parties in the field.

Such a garrison would in an ordinary year purchase at least half its meat supply, in excess of 58,000 pounds of dressed beef. In addition, the Commissary of Subsistence would buy beef for sale to commissioned officers, married N.C.O.s and civilian employees. In some years, beef purchases probably totaled well over a hundred thousand pounds, at prices amounting to around 10 cents per pound based on the dressed-weight of carcases.

The Commissary of Subsistence would make modest purchases of butter, green vegetables and the like in season for resale.

Troops did some gardening at the posts, but not enough in most cases to meet the full requirement for potatoes and for onions, both regarded highly in those days as preventatives for the scurvy that had wracked earlier garrisons in the region. The market for potatoes was sufficient around most posts to give encouragement and some cash income to small homesteader type farmers, for home grown potatoes cold easily compete against any that had to be hauled 200 miles or more in a freight wagon!

The impact of the calvary portion of the garrison was considerably greater than that of the infantry, for the horses were issued 12 pounds of grain and 10 pounds of hay per day. For the 150 horses that would have been a normal minimum for this garrison at the outset, this would add up to 657,000 pounds of grain and 547,500 pounds of hay. A figure like this created a sufficient market to be the primary cause of the practice of commercial hay and grain production in the area. In the 1880s the garrison at Fort McKinney often included six companies or more of calvary, which would at least double those figures.

Since everything had to be freighted in that could not be purchased locally, freight contractors in early Wyoming depended on the Army for their most consistent business volume (BLM 1978:169).

The opportunities for work and the market for commodities around the main army posts ushered in the era of early settlement and development of the region (BLM 1978:116). As soon as the hostile Indians were driven from the region in 1877, the commercial buffalo hide hunter moved in virtually exterminating the last of the dwindling herds. At least two hide-haying camps were located on the Powder River around 1878--one below the mouth of Salt Creek and another located some four miles below the site of Old Fort Reno. There were others engaged in the

hunting of wild game at this time for sale to the Army (BLM 1978:125).

The military as well as civilian contractors maintained herds of "beef on the hoof" in support of the garrisons, fostering the development of small ranches and nucleated settlements in the vicinity of the posts.

EARLY SETTLEMENT AND THE CATTLE INDUSTRY (1878 to 1887)

INTRODUCTION

As Historian Walter P. Webb clearly explicates in his monumental work, "The Great Plains presented an obstacle to pioneering Americans" which altered traditional (established) methods of settlement and threw them for a time into confusion. For the greater part of half a century the frontier line of Euro-American settlement remained stationary along the vicinity of the 98th meridian. During the period of roughly 1840 to 1885 the agricultural frontiers first jumped across the plains, established itself on the Pacific slope then began to work backwards into the plains. The last stage of settlement in the Western frontier consisted, therefore, of a movement from both the east and the west into the "Great Plains" (Webb 1931:205).

New inventions and discoveries of the Industrial Revolution eventually enabled the pioneer-farmer to confront the regions inherent environmental nature--the problems of water, fencing and adaptive agriculture which hitherto had been insoluble. During the interval prior to the Industrial Revolution, there arose in the Plains country a distinct culture of short duration, "The Cattle Kingdom" (Webb 1931:206). Cattlemen were the pioneers of the occupation of the grasslands of the west. The western Cattle Kingdom originated and developed in Texas, and though briefly arrested by the war (1861-1865) had by 1876 spread over the entire plains region. In the space of a decade (1876 to 1886), the "empire of grass" held almost undisputed possession of the region (Webb 1931:225).

EARLY SETTLEMENT IN THE POWDER RIVER BASIN

The Wyoming Territory was officially created by the Organic Act of July 25, 1868 out of the former geo-political boundaries of the Nebraska (1854-1863) and Dakota (1863-1868) Territories. In the following decade the region north of the North Platte River, formerly designated as Indian domain, was militarily occupied by the U.S. Government. When that region encompassing the Powder River Basin was organized within the Wyoming Terriroty, the first political units were created in 1875, known today as Crook and Johnson counties. Johnson County, known from its inception until 1879 as Pease County, was formed from th northern part of Carbon County and the eastern part of Sweetwater County; while Crook County was formed from the northern-most part of both Albany and Laramie counties. In 1888, Sheridan County was created from the northern portion of Johnson County.

Converse County was created in 1886 from portions of Albany and Laramie counties. Weston County was carved in 1890 from the southern half of Crook County. Campbell County was lastly drawn up from the western portions of Crook and Weston counties in 1911 (see Appendix D:1-3).

Defacto political organizations of the Powder River country came slowly. In 1875, Pease County included not only all of present-day Sheridan and Johnson counties but also the eastern parts of present Big Horn and Washakie counties. At that time, most of the region was

still off-limits to white settlers and Pease County was still under jurisdiction of Carbon County until 1881 (Larson 1979:22).

The southwestern portion of the Powder River Basin (present Johnson County) drew most of the early settlers in the 1870s and 1880s. The first "bona fide" civilian "settlers" filtered into the area beginning in 1873. By 1880, census records indicate some 639 persons (530 males and 109 females) residing in what is now Johnson and Sheridan counties. Of that number the majority (520) resided in what is present Johnson County. The largest concentration of population was at Fort McKinney, where there were 279 of whom were 130 army personnel and the nearby village of Buffalo boasted 40 residents. The remaining settlers were concentrated or scattered along the various tributaries of the Powder River (Larson 1979:22, 23).

Only one-seventh of the Wyoming Territory had been surveyed by June 30, 1880 (and virtually none north of the Platte River). The only land office in the Territory was in Cheyenne (1870-1877) before other offices were opened at Evanston in 1877, Buffalo in 1888 and Lander and Douglas in 1890 (Larson 1979:173).

The Pre-emption Act of 1841 and its later amendments entitled citizens, or those who expressed their desire to become citizens, to "squat" on surveyed or unsurveyed public land, until it was put up for sale, at which time when they had first chance to buy up (commute) to 160 acres at $1.25 per acre, or $2.50 per acre within a railroad land grant until 1871 (Cartensen 1962:320).

The resulting patent was issued under the Land Purchase Act of 1820 rather than the Pre-emption Act (Larson 1979:173).

On June 2, 1862, Congress authorized pre-emption on all unsurveyed lands to which Indian title had been extinguished, but since this measure was adopted a few days after the Homestead Law (of May 20th) was enacted and the latter law applied only to lands subject to pre-emption at the time of its adoption, homesteading was not to be permitted on unsurveyed lands. Subsequent legislation in 1880 legalized homesteading on unsurveyed lands under the provision of the law of May 20, 1862 (Gates 1968:394).

Under the Homestead Act of 1862, any person who was the head of a family or had arrived at the age of twenty-one, was a citizen of the United States or had filed his first papers, and who have never borne arms against the United States Government or given aid or comfort to its enemies, was entitled to enter up to 160 acres of unappropriated public lands. He had to make affidavit that his entry was made for the purpose of actual settlement and cultivation, and not directly or indirectly for the use or benefit of anyone else. He had to maintain residence for five years. Commutatation was possible after six months (later changed to fourteen months)--that is, he could buy $1.25 per acre ($2.50 if within a railroad grant) and thus avoid further residence and cultivation requirements. An amendment in 1872 gave honorably discharged Civil War Union veterans the priviledge of deducting their months of service from the five years of residence. Fees had to be paid for homesteads, but they were trifling, varying from $18 to $34. More onerous for some settlers was the necessity of

bringing two witnesses at the time of final proof.

Under the Timber Culture Act of 1873 a person could obtain 160 acres free, paying the same fee as under the Homestead Act. By the terms of the Timber Culture Act, one had to plant and keep growing forty acres of trees for eight years. In 1878 the required acreage of trees was cut from forty to ten acres (Larson 1978:173, 174).

Another act under which land could be acquired was the Desert Land Act of 1877. Under this act one could buy up to 640 acres of desert land (land that could not be cultivated without irrigation). For twenty-five cents an acre, the land could be occupied for three years, after which an additional one dollar per acre had to be paid to gain title. Meanwhile, water must be delivered to the desert-land filing and part of it (1/8 or 12%) irrigated before patent could be obtained.

Land script issued under various laws was rarely used in Wyoming (Larson 1978:175).

From the onset of settlement in the Powder River Basin, "squatting" was the common practice and prior to 1890 The Desert Land Act and the Pre-emption Act were used for most of the land acquisition with the purchase after pre-emption being recorded under the Land Purchase Act of 1820 (Larson 1979:30).

The first patent on Johnson County was issued in 1884. During the next six years 204 patents were issued; 109 of them were for 46,399 acres under the Desert Land Act and 72 patents for 13,627 acres were

pre-empted and purchased under the Land Purchase Act of 1820, while only 18 patents were issued under the Homestead Act of 1862 (Tanner 1967:114). Most of the patents were on or near the five streams--the North, Middle, and South Fork of the Powder River, Crazy Woman and Clear Creek. Much of the land filed upon did not remain in the hands of the original entryman. Fifty of the patents issued were to non-residents and 40% were sold by "warranty" or "quit claim deeds" before patent (Tanner 1967:115).

CATTLEMAN'S FRONTIER

The first cattle were trailed through the Powder River Basin in 1866 by Nelson Story. The herd of 1,000 head passed along the Bozeman Trail from Texas to Montana against the advice of military authorities and in spite of hostile activities in the region (Markoff 1981:17).

Significant development of the region did not commence until the bitterly contested hunting grounds were ceded to the United States and until the subsequent development of railroad transportation.

By the treaty of September 26, 1876 (Stat. L., XIX, 254) the Sioux, Northern Cheyenne and Arapahoe hunting grounds north of the Platte River were ceded to the United States opening the east central territory of Wyoming to cattlemen.

Publicity generated by the gold rush and military campaigns of the 1870s had aroused nationwide interest in stock raising possibilities in Wyoming. Large scale cattle raising was being conducted in the southeastern portion of the terriroty in the early 1870s. Located near the newly completed Union Pacific Railroad, some fifty area ranchers raised approximately 100,000 head of cattle. The majority of the owners were small operators with a few hundred head of cattle, the larger firms of 10,000 or more head numbered only three at this time (Markoff 1981:18). The first cattle roundup north and south of the Platte took place in 1878 near Fort Fetterman. Formerly the "No Man's Land of the West", Wyoming experienced a tremendous influx of cattlemen as "Quarintine Laws" forced cattle trails to more westerly routes beyond immediate settlement lines. By the late 1870s the number of cattle in Wyoming had increased to more than 500,000 head. Trailing cattle from Texas remained a lucrative activity until 1886 when

unforeseen circumstances forced a change in the industry (Markoff 1980:38).

In the fall of 1878 cattlemen of the North Platte began prospecting for new ranges to the north to accomodate about 100,000 head to be imported for this purpose. The Englishman Moreton Frewen and his brother established a new ranch near the head of Powder River for 2,500 head of cattle and induced fellow-Britons to invest in the enterprise, which was organized as a stock company (Lecompte and Anderson 1982:68).

Governor J. W. Hoyt estimated in a report to the Secretary of the Interior in 1878 that "there was not less than ... 300,000 head of cattle in Wyoming", but that he had ridden across the northern part of the territory "without seeing a single domestic animal in spite of favorable climatic conditions." By 1881 (three years later) the area was now occupied by "scarcely less than 75,000 head of cattle" (Tanner 1967:16).

In the 1880s most of the cattle brought the Powder River area belonged to large open range outfits which utilized the unsurveyed public lands for grazing. Many of these outfits were eastern or British companies attracted by promotional literature especially during the boom years of 1882 to 1883. This increased activity encouraged plans for the construction of the Wyoming-Black Hills-Montana Railroad which was proposed to run through the Powder River country would have provided a shipping point for cattlemen. The Panic of 1883 prevented realization of the plan during the decade (Markoff 1981:19).

Despite this setback the range cattle industry quickly infiltrated the Powder River country, especially in Johnson County (created in 1879). Between the years 1881 and 1886 the total assessed value of the county increased

three-fold--the number of cattle doubled and the number of sheep increased ten-fold, indicating prosperous economic activity in the region prior to the devastating winter of 1886 to 1887 (Tanner 1967:18). The town of Buffalo which developed in the shadow of Fort McKinney Number 2 was already a rapidly growing town of nearly 500 inhabitants by 1883 (Tanner 1967:12). The county that had attracted only 637 settlers during three years between 1877 and 1880 boasted a population of 2,357 (including the area of Sheridan County until 1888) by the end of the Territorial Period in 1890 (Tanner 1967:19).

The heyday of the "cattle boom" is associated with the new crop of "cattle barons" who were increasingly speculators rather than cattlemen and "absentee ownership' was part of the pattern. The Powder River Cattle Company (of which the Frewen "barony" was a part) had at book count 39,000 head of cattle in 1882 (Murray 1981:71). By the peak year of the boom in 1884 Johnson County was supporting 175,000 head of cattle, 8,000 sheep and 6,253 horses (Murray 1981:74). By 1886 the Frewens (76 Brand) alone were listed at book count with 80,000 head of cattle, as more and more cattle poured into the Powder River Basin (Murray 1981:74).

Cattlemen controlled pasture on the public domain through obtaining homestead or pre-emption claims on a source of water and using the land continguous to it which was valueless to anyone else for the lack of water. To obtain more land he could buy up pre-emption or homestead claims, often filed by his hands or members of his family, or simply names of non-existent "dummy" claimants. The public domain could not be leased, nor sold except to "actual settlers" in 160-acre plots after five year of occupancy, as provided by the Homestead Act of 1862. Actual settlers who planted forty (later ten) acres to trees could get 160 more acres through the Timber Culture Act of 1873, 640 more acres through

the Desert Land Act of 1877 by irrigating a section (later 80 acres) of land within a three-year period, or by paying $1.25 an acre after fourteen months of occupancy. Or he could get 160 acres for $1.25 an acre under the 1841 Pre-emption Act. In all, the cattlemen could obtain no more than 1,120 acres of public domain which was entirely inadequate, for his cattle needed between 20 acres of Wyoming's best rangeland to 130 acres of its worst to support a single head (see Appendix E of Lands Governing the Public Domain).

In 1878 Major James W. Powell reported that surveys of western lands should be based on location of water, with lands classified by use--mineral, timber, coal irrigable, and pasture lands, and that cattlemen should be given 2,560 acres of land free, but Congress failed to act upon this recommendation. Cattlemen continued to seize control of huge tracts of public domain simply by controlling the sources of water.

So the only way a cattleman could get enough land to control sources of water was by fraudulent entry or by buying proven-up homestead claims, which were almost nonexistent in the region at the time (Lecompte and Anderson 1982:69, 70).

The large-scale open range cattle industry is characteristically land intensive. Numerous ranchers, were subsidized or bought outright by larger companies who acquired considerable portion of the public domain. For example, among the numerous "large outfits", the Swan Land and Cattle Company, financed by Scottish investors, grew from 107,035 head of cattle in 1883 to 188,675 head in 1890, grazing a total of 577,120 acres of land at its greatest extent, acquired through purchase of smaller ranches (Lecompte and Anderson 1982:68).

Successful ranching depended on acquiring enough land to allow cattle to graze freely in winter without supplemental shelter, water or food. During this period, ranchers gambled that it was cheaper to lose three to four head of cattle rather than provide food, shelter and herders. During the winter of 1886-1887, however, ranchers lost their bet. That winter was a tragic one for the range cattle industry. The range was overcrowded and overgrazed. Drought had reduced forage on the range. Heavy winds blew deep snow into drifts. Intense cold froze the snow so that cattle were unable to paw through the snow to find scanty grass to sustain life. They huddled together in ravines and died by the thousands. Wyoming ranchers lost 150,000 cattle that winter. Losses averaged 85% (Markoff 1981).

Many of the large companies sustained major losses and withdrew. In general, the smaller outfits were close to their operations and suffered smaller losses. The departure of the large companies paved the way for many smaller ranchers to enter the region.

Losses incurred brought changes in the range cattle industry. Many of the large companies ceased operations. No longer were thousands of cattle left to winter on the open prairie. Smaller herds were kept in fenced pastures. Ranchers grew alfalfa and hay for winter feed (Dale 1960; Osgood 1954; Markoff 1981:19).

Following the severe winter of 1886-1887, Wyoming cattle raising recovered slowly, while the sheep industry became a major factor in the economy. Raising sheep required less capital. A cow ordinarily cost five times as much to raise as a sheep. Although cattlemen derisively referred to sheep as "hooved locusts" or "range maggots", sheep soon outnumbered cattle in the state. Cattle raising continued to predominate and sheep raising occupied a less prominent role in

ranching. However, cattlemen often switched to wool growing when it appeared more profitable (Larson 1977; Syplot 1974; Waller 1929-31; Markoff 1981:20).

EARLY SETTLEMENT AND RANGE CONFLICT

ON THE

PUBLIC DOMAIN (1878-1892)

Cattlemen banded together to protect their business but their was also considerable support of the agriculturalists.

As early as 1881, Governor Hoyt recommended that something be done to prevent cattlemen from "grabbing up all of the land along the waterways to protect agricultural developments and give both cattle and agriculture a chance to benefit from the lands ...". He further reported "that fine crops were being grown in the area without irrigation" (Tanner 1967:16).

The plight of the farmer against the fencing in of water sources was again defended by Governor Hoyt who reported in 1883 that, "when land ... is fenced in ... adjacent uplands (posessed by homesteaders) is rendered useless for all purposes ... and no man will take up land ... that is not watered" (Tanner 1967:17). In further support of this contention, F. E. Warren stated in 1885 that "only those people who (could) afford to build irrigation ditches could benefit from land in Wyoming" (Tanner 1967:17).

In 1887, Governor Moonlight expressed his concern for the agricultural settlers--"The everyday farmers who put their hands to the plan and not look back", and urged that their interests be protected (Tanner 1967:16).

The appeals went unheard as cattlemen with greater political support from the Cattle Growers Association, took certain measures to protect their so called "range rights" against the influx of homesteaders. The use of barbed wire, invented in 1874 and widely distributed by 1880, tripled during the next decade. Cattleman illegally fenced in the public domain, enclosing the land around water sources to protect "their ranges" from the homesteaders.

Some land officers told homesteaders to cut illegal fences to get to the land they wanted to file on, but the cattlemen would remind them with threats and force, that homesteaders could be sued and indicted for driving cattle from what was legally known as their "accustomed range." (Lecompte and Anderson 1982:71)

The weakened state of the cattle business caused invasions of nesters (small cattle operators), grangers (farmers on the fringes of settlement), and cattle rustlers in the late 1880s and 1890s. Populism, a national movement which had started in the midwest among farmers who reacted against a gloomy economy and elitest abuses, appeared in Wyoming in the 1890s as a movement against the greed and self-interest of the big cattle companies. Many small ranchers and grangers picked up stray cattle or stole them outright from the range herds, or shot them when they strayed onto the grangers' unfenced farms. To curb this rustling, the Wyoming Cattle Growers Association, now somewhat reduced in power but still the strong-hold of the big cattlemen, decreed that grangers must prove that cattle in their posession had not been rustled. This high-handed reversal of "innocent until proven guilty" inflamed the heretofore docile press,

long intimidated by the cattlemen, which came out against the Wyoming Cattle Association (Lecompte and Anderson 1982:78).

Mounting resentment and tension fulminated in overt hostilities in the spring of 1892. The vigilantee raids known as the Johnson County War was quelled by Federal intervention with troops from Fort McKinney (Lecompte and Anderson 1982:78). The political power of the Wyoming Cattle Association was cosequently broken by the new pro-populist movement, but the cattle industry continued to propser, though on a small scale, throughout the Powder River Basin.

THE IMPACT OF THE RAILROAD ON SETTLEMENT (1886-1894)

The most important event to occur in the Powder River country during this period was the coming of the railroad.

Railroad construction had commenced south of the North Platte River in the 1880s. Fort Fetterman, which had been abandoned in 1882, was re-occupied by locals hoping to intice the Fremont, Elkhorn and Missouri Valley (slated to reach the area by 1886) to select "Fetterman City" as a terminus (Markoff 1980:40). In 1886 the railroad was established several miles to the south. Anticipating the sale of lots at the location of the proposed terminus, the population of "Fetterman City" and the tent town of "Antelope" shifted in a mass exodus to the future site of Douglas. Later that year the railroad was extended west to the vicinity of Deer Creek, establishing the terminus town of Glenrock (Markoff 1980:42).

In 1888, the Chicago and Northwestern (formerly the F. E. M. V. Railroad) was extended farther west to the site of old Fort Caspar. The new terminus town of Casper was the western rail head until 1906 when the line was completed to Lander (Markoff 1980:42).

Though located some 150 miles or more south of the Powder River Region's numerous ranches, Casper served as the area's nearest shipping point (Markoff 1980:59).

When anthricite coal was discovered near Newcastle (Weston County) the

Chicago, Burlington and Quincy railroad (aka. Burlington Missouri) decided to construct a line from Nebraska to Montana via Sheridan to connect with the Union Pacific. In 1890, the CB&Q sent Edward Gillette to resurvey an earlier route (Markoff 1980:59). The surveyed route crossed the Wyoming state line in southeastern Weston County, proceeded to a siding at (present) Upton and on to establish Moorcroft and to Rozet, seventeen miles east of present Gillette. The company widely advertised plans for a shipping yard for cattle, promised by August 15, 1891. The proposed route turned south at present Wyodak, followed Donkey Creek to the divide, then went down Hay Creek and Wildhorse and on the Sheridan (Lecompte and Anderson 1982:104). Edward Gillette was instructed to locate a site where the rails could reach by the advertised date. Private ranches along the route were purchased by the Lincoln Land (Townsite) Company who persuaded people to form communities and settle along the route. Rather than using Donkey Creek as the division point site, Gillette was selected on August 10, 1891. The tent residents of ill-fated "Donkey Town" packed up and relocated to the new boom town 8 miles to the northwest. Stockyards had already been constructed with materials hauled in daily from Moorcroft. Two days later the first shipment of cattle (320 head) departed from Gillette eastward for Chicago. On August 15, 1891, the first west-bound mixed train arrived bringing mail, freight and passengers to Gillette. For the next several years Gillette served as the major stock shipping point for the Powder River Region with a peak population of 1,200 residents in 1892 (Lecompte and Anderson 1982:105, Markoff 1980:59).

In January 1892, Gillette was incorporated but in the next year railroad construction moved on westward to Sheridan, taking the construction crew and "transient following population" with it. The town's "boom" population plunged and later, a fire destroyed the business district, reducing its status to a railroad/market town for the settlements in the area - a socio-economic activity encouraged by the presence of the new railroad line (Alpert 1977.:8).

Before the arrival of the railroad west of the Powder River, stage and freight outfits began to move passenger and freight from the outlying areas to the proposed termini of Buffalo, Sheridan, and Big Horn. The distance from Iron Town (present Upton) to Buffalo is 160 miles or 15 hours by stage, with five stations between the two points.

After the founding of Gillette, the stage route ran down via Wildhorse Creek and up Clear Creek to Powder River (Sussex), with stations at Hay Springs, Croton, Suggs, Ucross and Buffalo (Lecompte and Anderson 1982:106).

Though the town of Buffalo, incorporated in 1881, was a likely candidiate for a railroad terminus, with a population of 1,087 in 1880 (including the Fort McKinney garrison), but due to the "Cattlemans War" of 1892, "construction ... (of the line to Buffalo) ... was postponed and not resumed" (quotation from Edward Gillette, Hayden 1924:25).

The railroad, despite blueprints and a right-of-way to Buffalo, turned

north to Sheridan (Larson 1979:33). From that point onward, Sheridan grew at the expense of Buffalo. A short-lived branch line was constructed from Clearmont in Sheridan County to Buffalo in 1913 but was torn up in 1947 (Brown 1980). After completing its path across northeastern Wyoming in 1894, the Burlington launched no new projects during the decade (Larson 1978:298) (see Appendix F:1-2).

The population of Gillette seeped away after 1894 with only two stores, two saloons and a restaurant. By 1900 the population had declined to 151. The town's chief importance to the area was a shipping out point for cattle and a shipping in point for emigrants (Lecompte and Anderson 1982:106).

EARLY SETTLEMENT AND AGRICULTURAL DEVELOPMENT

When the railroad come through northeast Wyoming, it was expected to bring a rush of homesteaders to this virtually vacant land, and one old-timer remembers as many as two passenger cars a day discharging emigrants at Gillette. In fact, emigration was not a flood but a trickle. Probably half of the people who got off the train at Gillette and saw the endless, treeless, waterless prairie, got right back on and proceeded to Sheridan (Lecompte and Anderson 1982:103).

The year of 1892 is more than a symbolic point marking the last vengeful gasp of a few "cattle barons" culminating with the Johnson County Invasion or "war" - for 1892 was the year in which improved farmlands surpasses cattle in assessed value in Johnson County (Murray 1981:99).

Since 1878, the military demand at Fort McKinney, coupled with the tendency of the kind of settlers in the area toward self sufficiency, led to agricultural development along the major drainages in the Powder River Basin. Homesteads could be assembled from any pattern of contiguous forty-acre tracts to gain maximum stream frontage and agricultural potential (Murray 1981:78, Tanner 1967, Boughn 1964).

Early settlers or small ranchers filed homestead or pre-emption entries on the better watered location on the Middle and North Fork and Red Fork of the Powder River, the various forks of Crazy Woman and a few other points. They could also use the Desert Land Act to acquire additional land by bringing it under irrigation. The rush to

secure water rights and stream frontage has had little publicity, but it became important enough to reach the courts in 1889.

Almost all of these settlers and many more like them were of the old agricultural frontier pattern. They wanted to pick up a homestead, perhaps a desert-claim land, and maybe buy a little adjacent land when the cash was available, raise as much of their own food as they could, and run a few head of stock on the adjacent public land until such time as it was settled up. A pattern that had previously gone on in the upper midwest frontier.

From these beginnings, little more than gardens and horse pastures, from the acreages involved, there was an explosive expansion of irrigation facilities on the main creeks of the region within just a few years. By the end of the year 1884, there were 10,186 acres of land irrigated by Clear Fork alone (Murray 1981:65, 72, 75).

Early irrigators raised a lot of hay. But they had raised a considerable quantity of grain, and much of their own food, with enough vegetables and dairy products to sell at the Fort and in the town. In 1887, they harvested 38,000 bushels of wheat from 1,729 acres. At this point, the new flour mill could only handle 75 barrels of flour a day, and it was reported that most of the wheat was used to fatten hogs.

The settlers planted 345 acres of barley, which yielded heavily on the newly broken irrigated ground for a crop of 25,000 bushels. Local barley was used by Buffalo's two breweries.

Oats were the main crop, and 7,816 acres gave a total production of 234,475 bushels. That is over 7,000,000 pounds of this grain. The Post Quartermaster at Fort McKinney was buying around 1m200,000 to 1,500,000 pounds per year. But besides being a main cash-crop, oats were the primary fuel for transportation and agriculture. Freighters bought a lot to feed their horses, mules and oxen. All of the farming and ranching operations depended on horses and mules, oats and hay made up the main food for these animals. In 1886, there were 9,045 horses on the tax rolls besides the many animals used by freighters based outside the county, and the army stock that was not taxed. Some oats were probably freighted to Fort Custer on the Big Horn, near present Hardin, Montana, since Johnson County was a good deal closer than developed small-grain production centers in Montana. Clearly, the diversified farming/ranching economy was already in a healthy state of development by the time the large-scale open range cattle industry had reached an impasse (Murray 1981:73).

The early small operators dominated the real irrigation development of the county. By the end of the summer of 1886, 36,434 acres of land were covered by water rights under development (not including the abortive Colorado Development, nor a lot of water rights on Crazy Woman Creek that were the subject of developing litigation).

This much irrigated land could not only supply the needs of Fort McKinney, but could furnish hay ground for winter that would give a secure base to small-herd grazing operations on the adjacent public range. Here, the settlers' cattle came into increasing competition with the expanding herds of the big, corporate cattle companies.

Between 1883 and 1887, one store alone in the little village of Sheridan sold nearly a million pounds of barbed wire. While figures are not available for Buffalo, we suspect the amount may have been even greater in view of the rapid development of irrigation along the creeks of Johnson County. Even a million pounds of wire will make 2,000 miles of three -wire cattle fence!

From Clear Fork north to Tongue River, the small ranchers serving the Fort McKinney market dug irrigation ditches and bought barbed wire. The two separate ranching ways of life were becoming more and more polarized both socially and economically, as well as geographically!

The small operator's investments in barbed wire and irrigation ditches paid well in the wake of the range war. In the fall of 1892, on Clear Fork alone, it was reported that 6,000 tons of hay were raised. By 1893, in Johnson County, some 278 farms and ranches were irrigating hay and croplands (Murray 1981:96).

RANGE CATTLE AND SHEEP INDUSTRY

(1893-1921)

In the years following the range conflict of 1889-1892 (arising out of attempts of the large cattler operations to manipulate the territorial and state governments in their own interests) there was a substantial decline in the total number of cattle in the Powder River Region. Although more numerous than the following winter (1886-1886) cattle declined steadily in number due to a depressed market condition into the mid-nineties (Murray 1981:95). A brief "war" boom in 1898 when cattle prices peaked was followed by a further market depression. By the turn of the century it was evident that the nature of cattle ranching was changing drastically.

In 1900, the largest single owner, the "Keeline Outfit" based in present Campbell County (then part of Crook County) had in Johnson County 4,212 head of cattle. Besides them, there were 27 other owners with more than $10,000 worth of cattle (615 head). Clearly, there were more and more small cattlemen. While most of the land in the country between the irrigated valleys was still open range, it was being used by many small outfits instead of a few large ones.

In response to high cattle prices in 1900, numbers of cattle pushed upward to past 30,000 the next year and on past 41,000 in 1902. From that point until 1915, numbers of cattle seldom exceeded 40,000, and dropped to under 26,000 in 1912 in the wake of another very hard winter. World War I reawakened interest in the cattle business in Johnson County, and saw 52,855 head in 1916, 55,035 in 1917, and

47,520 in 1918. A severe drought reached into northern Wyoming in 1919. It had less effect in much of Johnson County than in the area to the northeast, but some cattle were sold off, bringing their number down to 33,949 in 1920.

Through a six-month period in the summer and fall of 1921, prices that had remained not much below their wartime highs plunged to a quarter of that level (Murray 1981:96).

As cattle declined in number and cattlemen declined in power, the number and influence of hseep and sheepmen became evident. In 1886, there were 250,000 sheep in Wyoming and by 1891 the number had doubled. Within the following decade (1902) there were 3,250,000 sheep in Wyoming (Lecompte and Anderson 1982:79).

Despite the fact that leading ranchers were investing in sheep, violent conflict ensued between sheepmen and cattlemen from 1897 to 1901, resulting in numerous killings and the destruction of 10,000 sheep (Lecompte and Anderson 1982:79).

Believing that sheep destroyed pasture at the expense of cattle, cattlemen employed the two weapons of fence and force against the sheepherder. Beginning in 1899 all grazing was allowed by permit only. A deadline was established on the 13th Standard Parallel, a demilitarized zone of a sort, where sheep were to remain south of the line and cattle to the north of it. Between 1908 and 1910, sheep raising was the dominant industry in the state (Lecompte and Anderson 1982:80).

Because of rising prices and the demand for wool in the World War I period along with the relaxing of federal controls to aid the war effort, sheepmen greatly increased their stock. The sheepherder and the ubiquitous sheepwagon was a common sight in the Powder River Region. Electric shears came into use about 1920 providing economic impetus for wool production. Professional crews maintained sheds where as many as 45,000 sheep would be shorn in a season (Lecompte and Anderson 1982:82). The ethnic group most frequently associated with the sheep industry are the Basques. Prominent in the Buffalo area in the 1910s some 35 families of Basque emigrants were engaged in the industry. Highly skilled in ranching and business, their ethnic minority achieved a fine balance of acculturation in the region.

The winter of 1911-1912 was particularly detrimental to the sheep and cattle industries. The subsequent introduction of woven-wire fencing for sheep pastures led to the decline of the sheepherder. Drought in 1920 and the crash of agricultural prices in late 1921 brought bleak prospects for sheepmen and cattlemen alike (Lecompte and Anderson 1982:83).

HOMESTEADING (1891-1915)

INTRODUCTION

Land Office records indicate four peaks of homesteading activity during the period 1891 to 1915: A peak in the 1880s was curtailed with the collapse of the large open range outfits (circa 1892); a second slight peak in the early 1890s following the Carey Act of 1894 which made grants to the states (Wyoming achieved statehood in 1890) was cut short by the 1893 depression, a third peak in the early 1900s, stimulated by the Reclamation (Newland's) Act of 1902, which provided federal assistance to immigration projects, and gradually declining once again during the decade due to poor agricultural techniques; a fourth and last peak in the early 1910s following the Enlarged Homestead Act of 1909 which increased the limitations of land claims from 160 to 320 acres which again due to poor agricultural methods and poor land resulted in another slump just prior to the First World War (Alpert 1977:8, 9).

The General Revision Act of 1891 repealed the Pre-emption and Timber Culture Acts and reduced the Desert Land Act acreage. Therefore, throughout the early settlement period (1878-1915) ranchers increased their "Legal" holdings by using cowboys as "dummy entrymen", who acted as fronts for their employers, to file for individual holdings. The ranchers sought control of water and grass areas, which generally took the form of thin belts along streams. Bottomlands were registered as desert lands, residence requirements were ignored (they could hardly be verified), and fencing conflicts abounded. This was a

pattern on the high plains which was not unique to the study area. For farmers, the land limitation only increased the risk and doubtfulness of dry land farming. The region was composed of marginal land, needing a minimum of 15 inches precipitation, and easily killed by droughts. The lack of water kept farming and ranching in the area a marginal enterprise (Alpert 1977:10).

Of the early homesteaders who debarked from Gillette and tried to make a go of it in the area of present Campbell County, an average of 50% relinquished their claims (Lecompte and Anderson 1982:104). The few who succeeded were apparently men who came to Wyoming during this period to work as ranch hands on established operations. Often these workers filed on their own homesteads after establishing themselves in the area and saving money for improvements. Later, these homesteaders brought their families from the midwest to live with them. Larson concluded that there was little homesteading activity during the 1890s (Larson 1977, 1978). From 1890 to 1897, there were 4,441 homestead filings of which 1,547 went to patent. In the same period, there were 1,385 desert land filings, of which 667 received patents (Markoff 1981:24).

The first homesteaders in the area may have set out to "dry farm" but apparently few succeeded at it aside from small vegetable gardens, if there was any "farming" at all it was in hay and grain to feed stock animals. Very little farming during this period and in this region in particular, could be conducted without irrigation. Irrigation, if conducted, was all privately supported for none of the projects were on a large enough scale to qualify for government funding under the

Carey Act of 1894 or the Newlands Act of 1902 (Lecompte and Anderson 1982:110, 111).

Settlement in the Powder River Basin represents the complex interaction between various legal, environmental, economic and cultural factors which dictated the mode of settlement; the land was the unrelenting and uncompromising common denominator, dictating the form that mode assumed. The nature of the land established limitations within which the settlers had to either circumvent or come to terms (Scott 1978:8, 9).

The fickle environmental nature of the region presented an obstacle where the margin between success and failure in dry land agriculture was very narrow (Hargraves 1957:8).

The economy thereby established has assumed two predominant forms. The older and more basic structure centers upon livestock production, with cropping merely subsidiary. For many years the availability of native grasses which cured wuthout cultivating in the hot, dry atmosphere of late summer fostered the development of stock-raising without auxiliary farming. Eventually, however, growing recognition of the possible severity of winter storms and summer droughts led to efforts to store supplementary feed. Cutting of native grasses remains a major phase of this activity; but as ranges depleted by over-grazing and encroaching settlement failed to meet the requirements, attention turned to cultivation of more productive crops. At this stage the comparative advantages of putting land into cash-grains as opposed to feeds, of focusing operations upon

agriculture distinct from stock-raising, depended upon combined factors of climate and demand (Hargraves 1957:16).

The dual factors of mild climatic conditions and a favorable market for grain productions fostered agricultural development in the arid regions of the west. Farm prices mounted from 1897 to 1920. Accordingly, land prices in established farming areas rose rapidly and home-seekers who could not make a heavy capital outlay were compelled to look farther west and encouraged to expand the agricultural frontier from the valleys and fringes of the Plains to the "semi-arid" upland regions (Hargraves 1957:17). During much of the early period of most intensive settlement (1891-1909), law permitted the aquisition of only 480 acres (160-Homestead Entry + 320 Desert Land Entry) per person (Gates 1977:115). The limited acreage permitted under the land laws necessitated a careful choice for the location of the claim--a careless or poor choice on marginal lands without means of irrigation usually put in early end to the homesteaders venture. Although good land was necessary for crop production, water was of paramount importance. Despite good soil, diverting water to lands through irrigation proved costly and extremely difficult.

The settlement laws, with the Homestead and Desert Land Acts as their foundations, proved to be short-sighted in their conception. They worked reasonably if not extrordinarily well as the earlier pioneers secured lands along the creeks and relying on the public domain for range, thereby becomming successful ranchers. The late-coming homesteader found the favored locations along creek bottoms taken up

and were compelled to locate on less desirable lands. The land system was foredoomed to failure in the arid west.

In 1879, Major John Wesley Powell warned that "the American Land Law could not conform to the realities of the drier parts of the nation", and historians have concluded that Powell was correct. The attempt to apply the homestead principle to the arid west was "its first real breakdown". Powell had declared that "unentered lands ... could be controlled ... by those holding the water ...". Federal Land Policy which had been developed east of the Mississippi River where annual rainfall was suited to cash crops raised on small pastoral units and a farming unit of 160 acres was sufficient in such a climate (Gates 1935:19).

This system, according to Powell, was wholly inadequate in the arid region where a successful ranching unit required at least 2,560 acres (Powell 1879:22). Since the amount of land permitted under the laws did not fully meet the requirements of the settlers, it has been assumed that, "success ... (depended upon) ... constructive illegality ...". Unable to obtain what they needed legally, the westerners countered with fraudulent use of the land laws (DeVoto 1934:362). Westerners blantantly "defied and evaded the law" (especially the Desert Land Act), to compensate for its deficiencies. The west was settled despite the law and not because of it!

In order to survive in the arid region, the settler seemed to have little choice but to use or "abuse" the laws. Historians such as Walter P. Webb viewed such fraud as a positive example of the

innovation of the frontiersman as he moved into a totally different environment (Webb 1931:428).

The nature and widespread degree of fraud is a major point of debate among historians. Many entrymen used available laws within legal limitation to build up sufficient ranches, and the land law system often proved adequate to the task of providing the small settler enough land without undue recourse to fraudulent practices. The amount of land legally available to the entrymen fluctuating between 1,120 acres and over 480 acres, did not constitute enough to create a completely self-contained ranch unit--falling short by many thousands of acres (Scott 1978:11). Success depended upon re-definition of the purpose for acquiring land--concentrating upon acquiring that land most essential to operation, usually fields and perhaps some pasturage around the ranch/homestead or land around a strategic spring (Scott 1978:11).

As George C. Scott points out in his study of Bates Hole, the relative abundance of good land available for entry before 1900 led to a remarkably low rate of failure among homesteaders. After 1900, however, the lack of prime land forced newcomers to settle upon "marginal sites", resulting in an increase in the rate of cancellations (Scott 1978:17, 18).

Western promoters began to discuss liberalizing the homestead laws to make the land system conform more closely to conditions in the less humid sections of the country. The agitation led to the passage of the Kinkaid Act in 1904. An experimental homestead law, the Kinkaid

Act applied only to western Nebraska, and permitted a homesteader to receive 640 acres of land after he fulfilled the customary five year residency requirement, and spent $1.25 per acre on improvements. Five years later, before the results of this experimental law could be adequately assessed, Congress passed the Enlarged or Dry-farm Homestead Act which permitted a settler to claim up to 320 acres of non-irrigatable land for the purpose of dry farming. In addition to the requirements of proof, it had to be demonstrated that at least one-eighth of the claim was continuously cultivated to agricultural crops other than the native grasses, beginning with the second year of entry (Fulton 1977:58. 59). The Enlarged Homestead Act had a startling impact upon the west. In 1910, the year after the passage of the act, homestead entries in the nation climbed to an all time high. A tidal wave of prospective farmers swept out onto the plains, a wave bouyed and strengthened by a series of wet years (Scott 1978:68 69; Hargraves 1957; Gates 1968).

Even the enthusiasm of the dry-farmers, however, could not penetrate the more arid reaches of the mountain west. Between 1909 and 1916 in Wyoming (where the Enlarged Homestead Act remained less popular than in other states), over 82% of all homestead entries were filed in the relatively more humid eastern portion of the state. In the arid or "semi-arid" regions, the new law attracted few adventurers--its provisions simply did not conform to the conditions found there. Westerners sought a remedy to this imbalance through the Stock Raising Homestead Act of 1916. Under this law, a homesteader could obtain a full section of land chiefly valuable for grazing purposes. The land could not be susceptable to cultivation, but yet had to be designated

by the United States Geological Survey as land of sufficient quality to support a family upon 640 acres. For his part, the homesteader had to fulfill the standard residency requirement, which had been reduced to three years, and he had to spend at least $1.25 per acre improving the land for grazing purposes (Scott 1978:69).

LAND LEGISLATION AND HOMESTEADING

(1909-1916)

"... Nothing but disaster can come to the man who locates a homestead beyond the limits of irrigation ...", stated the Congressman Glen F. Shafroth in 1902 (Congressional Record, June 13, 1902, p. 6772), six years prior to the climax of protracted legislation debates arising from pressure on the part of the dry farm movement. Wyoming's chief proponent of dry land farming was Frank W. Mondell. Mondell had practiced dry farming techniques on his farm five miles northeast of Newcastle from 1889 to 1993. As a U.S. Representative and leading spokesman on behalf of the proposed dry farming bill, he stressed the increasing proportion of homestead entries which were being abandoned prior to final proof. Before Congress in 1908, he stated:

> "We have been inviting the homestead on the 160-acre tract. He has been coming to some extent, but in four cases out of five, after enduring the hardships and trials for from one to three years, he has gone back to his folks or his wife's folks in Missouri and Iowa and Illinois ... By giving him enough of these dry lands so that he feels that it is worth his while to stay there and plant a home, we expect to have very nearly every original entryman a final entryman and a home established, instead of only one original entry out of six or seven on our dry lands being perfected into a final entry."

He further maintained that "at the present rate ... under the five year ... (residence) .. provision ... (it would take) ... 345 years to enter the lands in Wyoming ..." (Congressional Record , 60th Congress, 1st session (May 11, 1908) pp. 6093, 6094).

Opposition to the enlarged homestead measure charged that stock interests sought such legislation to enlarge their grazing holdings.

Although the original homestead laws were not a success in the more arid regions, it did serve as an effective bait which lured the farmers on beyond the tall grass country, where agriculture could be carried on successfully, into the short grass country where the occupation was extremely hazardous (Webb 1937:317).

Barbed wire made the 160 acre homestead both possible and profitable on the Prairie Plains; it made the homestead possible on the arid plains but not necessarily profitable. The farmers had filed their homestead claims but they did not and could not always hold them. Glidden's invention of the barbed wire in 1875 enabled the homesteader to cheaply stake out his claim, but the agricultural frontier was still in check until further adaptations were made.

With the single exception of irrigation, the forces operating on the arid plains have tended toward enlarging the land or "farm" unit, defined as "the amount of land necessary to support, under some approved form of utilization, an American family of average size" (Webb 1937:387).

The scarcity of moisture is the paramount problem which must be circumvented before agriculture can be successfully conducted in the arid region. Securing a source of water tended to be the foremost problem faced by the prospective dry farmer. The source of all water is rainfall and dry land farming or "scientific soil culture" as it was so called by its warmest advocate Hardy Webster Campbell of Lincoln, Nebraska, was the creed by which men sought to carry on the agriculture in spite of insufficient rainfall. The evangelism of

Campbell's new methodology (1895) maintained that by conserving "natural rainfall" within the soil, agriculture could be conducted without irrigation in the semi-arid regions. The " Campbell System" was simply that: "If you compress, or pack, or squeeze the subsoil, and keep the top soil cultivated--loose--fine--then the lowest structure of soil will hold and retain the moisture, acting to all intents and purposes, like a reservoir (Dry Farming Congress 1909:14, 17).

The principles of a packed subsoil with a loose surface mulch were the essential elements of the "Campbell System;, however, the system devoted little attention to the choice of plant varieties especially suited to semi-arid regions or to the evolution of a program of crop rotation (Hargraves 1977:153).

He applauded the use of the disc-harrow, which permitted rapid surface cultivation with an economy of power, but the impliment he favored was a cultivator rather than a plow. For light soils he advised the use of the traditional tooth-harrow (Hargraves 1977:154).

Campbell was the leading propagandist promoting dry farming, announcing in 1909, "I believe of a truth that this region is just now coming into its own is destined to be the last and the best grain garden of the world" (Dry Farming Congress 1909:144). This was the message which enticed dry farmers by the hundreds of thousands to make their bets against the arid land and the government.

This was reflected by the fact that already these outfits were fast being converted into projects by agricultural settlers. Other proponents of the dry land farming measure were divided and some supported the recommendation that the legislation be limited to the original law stripped of its commutation clause. Some supporters still considered 160 acres sufficient for such operations but a majority expressed belief that 320 acres was the most suitable unit.

The Enlarged Homestead Act of 1909 afforded a formula for further relaxation of general land policy. A revised homestead law in 1912 reduced the residence requirement from five to three years and authorized five months a year continuous leave of absence from claims, such time not to be deducted from the total period of residence when entries were completed without commutation. The same measure set cultivation standards which halved those initially demanded in the Enlarged Homestead Act; and administrative ruling in 1913 also recognized summer tillage to conserve moisture for crop production the succeeding year as cultivation within the meaning of the legislation, "where that manner of cultivation is necessary or generally followed in the locality." The custom of periodically authorizing second entries for those who had abandoned or forfeited prior claims through no fault of their own was established on a permanent basis by extension of the provision to future entries under the 1914 legislation. Even the earlier re -iction barring such relief in cases where renumeration had been received on previous claims was first relaxed to permit accpetance of reimbursement for filing fees and ultimately dropped in favor of a simple requirement that there must have been no speculation in disposition of those rights (Hargreaves 1957:355).

Legislation of 1915 permitted completion of existing desert land filings under the terms relative to dry lands where it could be shown to the satisfaction of the Secretary of the Interior that the entryman had in good faith spent three dollars an acre in the attempt to effect reclamation but still lacked reasonable prospect of getting the necessary water. The inital provision that supplementary entries under the dry-farming measure be contiguous to the original holding was changed in 1916 to permit them wherever the appropriate lands could be found. The latter amendment also exempted entrymen from residence on the additional acreage when they were still living on original homesteads located within twenty miles. The following year a law provided that one who had filed on less than 160 acres under the original homestead act might complete the claim by entering such an area, "as will, when one-half of such area is added to the area of the lands to which he has already obtained title, not exceed one quarter section ..."[39 Stat. L. 925 (Feb. 20, 1917]

The result of the protracted legislative debate was a piecemeal alternation of the public land policy after experience revealed the need. The Enlarged Homestead Act was finally passed when the proportion of uncompleted entries was thought to be rising sharply.

The Stock Raising Homestead Act of 1916 was passed when settlement under this legislation was proving less attractive. The peak years of settlement followed the liberalization of the homestead program under the Enlarged Homestead Act of 1909 and the Three Year Homestead Act of 1912 (Hargraves 1957:377).

Several midwestern representatives who were the core of the opposition to Mondell's Measure asserted that, "If a homesteader could not make a living on 160 acres, something was the matter with either the land or or the settler. If the trouble is with the land, a greater quantity of that kind of land will not help the situation. If the trouble is with the homesteader, the amount of land he enters ~~cuts~~ counts very little," stated Representative Paul Howland of Ohio (Hargraves 1957:148).

William A Reeder of Kansas asserted that the bill (1908) was written "to secure large ranches ... It will not have the effect of getting people to live on the land," he continued, "for the simple reason that they can not live on this class of land." Questioned on this statement, he enlarged the point: "I say that he (the settler) can not make a living on 640 acres of it, not 1,280 acres. There is the trouble. If he could make a living on 320 acres it would be all right, but there is where people are deceived. They can not make a living on 640 acres, in most cases ..."

The culmination of the program in the United States was marked in passage of the Stock Raising Homestead Act of 1916. As finally enacted the measure provide for a homestead of 640 acres on lands designated by the Secretary of the Interior as nonirrigable, chiefly valuable for stock-grazing or for raising forage crops, and of such character that the larger tract was reasonably necessary for support of a family. In place of cultivation requirements characteristic of earlier homestead legislation, the entryman was now called upon to construct improvements amounting to $1.25 per acre, half within three years after entry and the remainder upon filing final proof.

Homesteaders who had earlier entered lands of the designated character might either expand their holdings to a total of 640 acres wherever such tracts could be found within a radius of twenty miles from the original claim, or relinquish the latter to the Government and enter stock-raising homesteads. The standard residence period was retained without the privilege of commutation (Hargraves 1957:356, 357), [see Appendix E].

Representative Mondell would have preferred a measure providing for homesteads of 640 to 1,280 acres dependent upon delineation of respective areas by the Secretary of the Interior but he was confronted by protests from those who had believed that the measure would induce settlers into lands where they would most certainly fail.

The Stock Raising Homestead Act made an attractive proposition for a ranch hand, offering a form of employment security as well as a source of desperately needed cash if supported by his rancher. Consequently, the homesteader often inaugurated discussion about taking up land for a rancher (Scott 1978:77).

HOMESTEADING IN THE POWDER RIVER BASIN:

THE FAILURE OF THE DRY FARMING EXPERIMENT

> "You know, you can't make a living on a homestead. You had to have a means of livelihood while you were proving up on your homestead. You can't just go out there and eat sagebrush."
>
> Patricia Vodehnal Baker

The State of Wyoming encouraged western dry farming through the Board of Immigration created in 1911. Newspapers and State Bulletins extolled the virtues of dry farming; the railroads conducted a well organized campaign on a nationwide basis to settle the region through which they passed. Dr. V. T. Cooke, an "expert" in the techniques from Oregon to Wyoming in 1905 and appointed "Director of Dry Farming Experiments" with funds appropriated by the state (Larson 1965:361).

Potential dry farmers were induced to settle by glowing reports such as:

> State Bulletin No. 80, which considered 15+ inches of annual rainfall a safe level for dry farming, and that 12-1/2 to 15 inches annually "will grow profitable crops by dry farming in a majority of seasons" (Larson 1965:361).

Many homesteaders attracted by the lure of land ownership through dry farming were lured by promotional literature describing the ease of establishing such an operation. In 1926, one farmer estimated that

most homesteaders came to Wyoming without any money. These emigrants soon found out that substantial sums were required to develop a raw piece of land and purchase the necessary equipment. Homesteaders had to spend considerable time away from the claim seeking employment in order to earn the minimal capital necessary for the subsistance of themselves and their families (Markoff 1981:29).

The railroad, eager to encourage settlement in northeastern Wyoming, offered reduced rates on "immigrant cars," which were designed to carry a homesteaders belongings to new homes. Two persons were allowed to travel with the car to care for the livestock while the other family members rode in a passenger car. These settlers unlike the earlier pioneers, were able to ship their livestock, plows, and household goods by train (Gates 1968; Spencer 1975; Markoff 1981).

Most new residents arriving by train were stunned by the vastness of the unoccupied land. Initially, their primary concern was erecting a home before bad weather came. Securing a source of water tended to be the hardest problem for these farmers. Some compared their first winter in Wyoming to a course in survival school (Spencer 1975:23).

> They came with hope in their hearts ... a dream in their eyes ... and a prayer on their lips. For many it was the last chance to begin again ..." (Valentine 1959).

Accomplishing the "American Dream" of success meant owning one's own farm. Throughout America, agricultural prices rose during the years between 1900 and 1910. The period from 1910 to 1914 was later referred to as the "Golden Era" of farming. It was a time when demand

exceeded supply and agricultural prices returned a high profit to the farmer. Settlers rushed to Wyoming to take up farm land under the Enlarged Homestead Act.

After the turn of the century, land hunger could only be satisified by more marginal lands or those still without irrigation. Dry farming seemed to offer a solution for those desiring their own land. Unfortunately, drought during 1910-1911 reduced farming acreages in the state. A subsequent decline in the number of homestead entries in 1911 and 1912 were briefly restored in succeeding years (see Appendix G:1).

U.S. Census records indicate that there were 6,095 farms and ranches in 1900 and 10,987 in 1910. Over the next 24 years, 88,687 homestead entries were filed, but less than half received patent. However, the number of farms and ranches increased only to 15,743 in 1920; to 16,011 in 1930; and declined to 15,018 in 1940. Over 88,000 homestead entries produced no more than 6,000 farms. This indicated that it took 14 original homesteads or seven final homesteads to make a farm or ranch in Wyoming (Gates 1968). New settlers fenced the land, effectively ending big open range roundups by 1920, but cattlemen still predominated in the Powder River Region (Larson 1978; Gates 1968:504-505; Spencer 1975; Markoff 1981:27).

Many new homesteaders found that they could obtain a ranch by entering consecutive claims. The first 160 acres were held only until patented. The land was then traded for wagons and horses. With these, settlers could live farther away from town and still be able to

haul needed supplies. A second entry was then made on another piece of land. Profits from the first were utilized to prove up and advance the second homestead. In this manner, many settlers were able to acquire the livestock and supplies needed for their ranches (Markoff 1981:26).

The government further induced homesteaders to settle on "marginal or submarginal" lands by the Stock Raising Homestead Act of 1916, which allowed an individual to file on up to 640 acres of land that the Secretary of the Interior had classified as "stock-raising lands." Such lands were suitable only to grazing and the raising of forage crops, did not have any timber and could not be irrigated. Previous homesteaders were allowed to make additional entries of land near their original claim to bring their total acreage to 640.

A 640-acre unit was not large enough to successfully raise stock, but settlers on such land had little choice but to enter the already "demoralized" livestock business.

The prosperous war years of 1917 and 1918 encouraged many to enlarge their holdings. Livestock and agricultural production suffered setbacks in 1919 due to drought. Although there was a spectacular increase in land acquisition under the Homestead Laws, the number of farm and ranch units increased only by 263 during the ten-year period of 1919 to 1929, and the rural population rose by 5,829 from the 1919 population of 67,076 during the same period (Larson 1978:416).

Larson concluded that those already established in 1919 were the recipients of most of the newly homesteaded lands during the decade.

The average size of the farm unit increased from 749.9 acres in 1919 to 1,469 acres in 1929. Cropland harvested increased by only 854,127 acres from the 1919 level of 1,153,624 during the ten-year period. The acreage harvested in 1929 represented only 3% of the total area of Wyoming, illustrating the persistant dominance of livestock and grazing in the state agriculture. Most of the crops grown were used as livestock feed to support the state's 824,000 cattle and 3,426,000 sheep in 1930 (Larson 1978:416).

The intrepid homesteaders tried a combination of stock raising and dry land farming of forage crops, but the depression and dust bowl of the late twenties and thirties spelled the end for thousands who were subsisting on submarginal lands.

Economically, the resumption of European Agriculture development and the reopening of world trade channels weakened the market situation. Grain prices declined in the spring of 1920 and continued to remain low except during a brief period (1924-1927). Livestock production prices fell similarly. Under drought conditions, hay and forage crops failed as well as grains. Herds expanded beyond feeding capacity were rushed to market, thus cattle and sheep prices fell abruptly (Hargraves 1957:19). Depsite indications of economic disaster, exaggerated promotion was conducted by state and federal agencies proclaiming prosperity for the region. Many homesteaders were duped by such propaganda but the Wyoming State Lands Board of Immigration

(revived in 1919) and the State Farm Loan Board (founded in 1921) could not prevent the failure of the dry farms, which were more directly sensitive to water needs and were affected sooner than the ranches (Alpert 1977:11). As a result, most homestead activity was conducted by large-scale residents who increased their holdings (Larson 1978; Alpert 1977).

Thousands of disheartened homesteaders cashed in their chips during the 1920s and 1930s, either abandoning their claims before patent or selling out after patent to the few successful neighbors. As early as 1922, some observers in Wyoming proclaimed that "the retreat of the dry farmer and 640-acre homesteads has begun ..." (Wyoming State Tribune, Jan. 1, 1922).

Wyoming homesteaders who were not in a position to enlarge their holdings during the farm depression period found it difficult if not impossible to make a living because little of the marginal or submarginal lands could be farmed successfully without irrigation and even less could be ranched succesfully in 640-acre units.

Of 77,700 homestead entries between 1915 and 1935 only 45,300 received patents (Larson 1978: see Appendix G:2). For the 32,400 who failed, "dreams turned to nightmares", they abandoned their entries and had "gone to parts unknown" (Scott 1978:88).

In a study by Halcrow (1938) addressing "the problem of unsuccessful Montana dry farmers in the Northern Great Plains", a number of socio-economic factors were delineated which determined the failure of the dry farming movement.

Paramount among the problems was that a large percentage of the dry farmer/homesteads were not able to provide an income sufficient to maintain a reasonable standard of living. Characteristics particularly associated with unsuccessful farmsteads is the small size of the farm unit (usually less than 360 acres) and the marginal to submarginal quality of the land. The majority of those who failed were unable to adapt their farm organization to the natural environmental conditions which exist in the region.

Crops as well as livestock were raised on a small scale through poor farming practices (low cash yield) as well as substandard (low quality, inadequate dwellings and farm) buildings, unreliable water supplies and poor or substandard farm machinery (and consequent high operating cost) are often characteristic of failures of the farmsteads (Halcrow 1938:7, 8, 9).

The premier problem evident were in maladjustments in agricultural methods arising from a deficiency in capital. Most unsuccessful farmers were heavily in debt and had little equity in farm property. In the majority of cases farmers relied upon federal subsidization to meet the minimal requirements of survival. By 1936, nearly three-fourths of the average total income was in the form of federal subsidies. Thus, a state of "unsuccessful socialism was perpetuated

by the Government" (Halcrow 1938:8).

A sociological analysis (pertaining to Montana dry farmers) indicated that most unsuccessful farmsteads generally tended to be of an older age group (45-50 years of age), in poor health and were associated with a low birth rate (Halcrow 1938:55-57). Another interesting factor worth noting is that married people with children comprised 65% of the total number of households.

Halcrow further noted that the majority of settlers were homesteaders with little capital who arrived between 1908 and 1918 when optimism was near its peak but costs were higher (Halcrow 1938:97). Federally advanced financial support indicated that the homesteaders were far from being self-supporting.

Most important was the conclusion that "the reason for unsuccessfulness ...(was)... due in a great degree to the farm itself and to its physical limitations. But reasons for failure also includ(ed) the way in which physical values were utilized. Therefore, failure (was) due to both physical resources and farm management practices and each compliment the other in the interests of low production" (Haleron 1938:54).

In Montana between 1901 and 1918 an estimated 70-80,000 people homesteaded, but by 1922 60,000 had been starved out or given up, an 80% rate of failure (Fulton 1977:59). Between 1921 and 1930 there were 30,000 farm foreclosures in Montana.

There are as of yet no similar statistics indicating factors contributing to rates of success vs. failure in the Powder River Region in general nor the sub-regions of more marginal lands (Campbell and Converse counties) in particular. Further research needs to be conducted to determine whether the rate of failure in the Powder River Basin is closer to the Montana average or the Wyoming average.

ECONOMIC RAMIFICATIONS OF THE DEPRESSION ON SETTLEMENT IN THE POWDER RIVER BASIN

Thr dry farming boom (1906-1921) and subsequent depression (1922-1935) affected differently the various counties in the Powder River Basin.

In Johnson County, dry farming reached its peak relatively late (1929) adding only 17,343 acres in privately owned land. Consequently, the county did not suffer to as great of a degree as in the case of the wheat farming boom belt across Crook, Campbell, Weston, Niobrara and Converse counties. In Johnson County, the concentration of combination dry farming/stock raising operations was in the large neighborhood lying largely in the basin of Nine Mile Creek southeast of Trabing and north of Sussex. Some dry land acreage was added around the fringes of existing irrigated areas (Murray 1981:141).

Almost 600,000 acres of land passed out of the public domain into private ownership during the years 1918-1925 in Johnson County. The irrigated and dry farms in the county totaled only 59,000 acres in 1925 (Murray 1981:141).

Boom conditions in the Salt Creek Oil Field played a significant role in cushioning the adverse affects of economic decline during the first half of the 1920s. The Sahara Ditch and other local irrigation projects in the Kaycee area benefitted most directly from the oil boom. Grain and hay production served the horses and mule teams that were widely used in oil field work during the decade. Favorable moisture conditions further benefitted dry farmers in the Nine Mile

area, yeilding 20 to 25 bushels of wheat per acre along with acceptable yields in either crops in 1923 (Murray 1981:142).

The competitive edge of the farmers was dulled by the arrival of the railroad into the Salt Creek Oil Fields from the south in 1923.

During the late 1920s, the oil boom leveled off and depression set it. In 1925 there were 475 farms in Johnson County of which 384 were owner-operated (Murray 1981:143). The world-wide economic crash in the fall of 1929 caught Johnson County farmers with peak numbers of livestock. Although credit was imperiled, causing a cast number of foreclosures, the effects were far less extreme than in areas where the tendancy toward over dependence on agriculture wrought almost total economic disaster.

The drought of 1934-1935 is credited as the cause of the demise of dry farm operations in the Nine Mile area. The land for the most part was absorbed by other farm/ranch units, in contrast to the situation in the counties to the east (Murray 1981:143).

Converse and Campbell counties suffered the most severe consequences of the economic disaster in the late 1920s amd 1930s. The early economy of Converse County (created in 1888 with Douglas as the county seat), was dominated by cattle raising until 1909 and sheep raising which predominated from 1909 to 1919. The oil boom which began at Big Muddy Dome in 1915 and continued into the early 1930s and then languished.

In the first six months following the passage of the Stock Raising Homestead Act, 712,000 acres were taken up in Converse County in contrast to less than 5% filed upon under the provisions of the original Homestead Act. Much of the land taken up after 1916 was nonirrigatable and classified as dry land farms. The economic and natural distasters forced the abandonment of most of these entries during the period.

Campbell County was created in 1911 from portions of western Crook and Weston counties. The influx of homesteaders clamoured for the new county with Gillette as the county seat, stressing that the distance to the county seats of Newcastle and Sundance was logistically excessive (Markoff 1981:27).

The first official census of Campbell County in 1915 recorded a population of 2,316 including 641 ranchers/farmers. Prior to the reduction of its area with the creation of Campbell County, the population of Crook County in 1910 was 6,492 (an increase of 106.9% since 1910) (Markoff 1981:55). In 1920 the reduced county had a population of 5,524. Weston County had a population of 4.960 in 1919 (a 54.9% increase from 1909) and following the counties reduction still reported a population of 4,631 in 1920 (Markoff 1981:55).

Although Campbell County stockraisers owned 29,750 cattle and 106,487 in 1915, there was an increased emphasis on dry farm agriculture through promotional literature during the 1920s. Despite the coming eve of economic disaster, the amount of cultivated land in the county reportedly doubled between 1925 and 1926. Further, 1926 was listed as

the county's heaviest railroad shipping years. A promotional brochure which expounded upon bumper crops during the unusually wet year of 1927 lured even more homesteaders who arrived only to find themselves beset with problems of grasshoppers, drought and depression.

The depression deepened throughout the west, and the Powder River Region notwithstanding during successive dry years between 1930 and 1939 (Markoff 1981:31).

The 1930s saw a decrease in Campbell County's population. This was primarily a rural phenomenon, for Gillette's population increased in the late 'thirties. Yet, at the outset of the decade, there was a sudden rise in homestead activity, primarily among ranchers, which may have been due to the foreclosure of many small holdings and the increased failure of banks. Thereafter, however, grazing land holdings dropped steadily until the late 'thirties. The ratio of patented to unpatented holdings had reached the pre-World War I levels by the end of the 'twenties. By the late 'thirties, unpatented holdings disappeared (Alpert 1977:12) (see Appendix H).

Passsage of the Taylor Grazing Act of 1934 and Executive Order 6910 technically ended homesteading except on reclamation projects. Grazing districts were established to lease land to livestock owners. The federal government immediately reclassified the land and instituted conservation measures (Markoff 1981:31).

By 1934, the market price for cattle was set by the government. Livestock was sold to California for relief purposes or to Indian reservations. Due to low cattle prices, many ranchers faced bankruptcy.

Thus, by the middle of the decade, most cattle and sheep ranches were small affairs (a few thousand acres), confined to summer grazing on leased federal lands (Alpert 1977:02).

As for the homesteader, the "honyocker, scissorbill, nester ... swarming into a hostile land; (he was) duped when he started; robbed when he arrived, hopeful, courageous, ambitious; he sought independence ... and security ... perhaps some sought wealth ... whose interest was speculative" (Fulton 1977: from Howard 1943:178). Only the few were successful, for many the inevitable result was failure.

POST DEPRESSION RECOVERY

The Resettlement Administration (RA) was established in 1935 as part of Franklin Roosevelt's New Deal. The agency's purpose was to retire millions of acres of submarginal land and to resettle the occupants where they could make a better living. The agency had been created by presidential order but became a duly constituted entity within the U.S. Department of Agriculture in 1937. The Bankhead-Jones Farm Tenancy Act passed late in the year changed the name of the RA to the Farm Security Administration (FSA). Despite many obstacles, the program eventually retired 9,000,000 acres of submarginal lands (Markoff 1981:31).

Many of the small dry land farm which had been created during the boom after the war were in desperate financial straights by the 1930s. In 1936, those farms in the worst condition were purchased by the RA. This agency bought 300,000 acres of land in Wyoming. Conservation practices were instituted in 1937 to restore this land (Larson 1978; Alpert 1977). The present Thunder Basin Nationa Grasslands, which includes a large portion of southeastern Campbell and northern Converse counties, was created in 1937 as part of this action.

By the end of the 1930s, the area had apparently returned to its pre-1910 (pre-Enlarged Homestead Act) levels of economic growth.

The economy of the area and Wyoming in general did not fully recover until the resurgence brought about by massive federal spending during World War II. Despite advances in mechanization to counter the

prevailing labor shortage, there was little wartime agricultural prosperity. Renewed emphasis in oil and coal vital to the war effort was the major economic stimulus.

Coal production became the basis of the region's economic recovery. The Wyodak Coal Mine near Gillette, opened in 1923, was the only commercial mine in the county until the war fostered large-scale coal extraction. Coal production waned by the early 1960s but was revived with the energy crisis during the 1970s. The Wyodak Mine became the largest surface coal mine in the world. In 1977, Campbell County led the state in output of coal (Larson 1978).

Gillette and the new town of Wright in southern Campbell County have prospered as a result of the development of the area's energy resources. Stockraising, including cattle, sheep and bison, has remained an important part of the area's economy. Even with these developments, the area remain sparsely populated (Markoff 1981).

SUMMATION

Throughout its history, the Powder River Region and Campbell County in particular, were on the margins of the significant events in northeast Wyoming. Marginal too, and submarginal, was the quality of its land for agricultural production and small-scale ranching.

Campbell County was one of the areas last in Wyoming to be settled, because of its location and the nature of its terrain.

The pattern of settlement in Campbell County differed considerably from those areas examined by Scott (1978) in Natrona County to the southwest and by Tanner (1967) in Johnson County to the west. Natrona County was substantially settled in the 1880s by ranchers who acquired the choice lands and later consolidated their holdings, and few new holdings were established after 1900, when the number of cancellations increased markedly.

In his examination of filings in Bates Hole, Wyoming, Scott (1978) demonstrated that desert entries were considerably more costly than other homestead entries. Desert Land Entries required an average expenditure of $8.14 per acre to prove up as compared to $6.72 per acre for another homestead patent. This meant a cost of $5,209.60 for a Desert Land Entry on 640 acres as opposed to $1,075.20 for a quarter-section (160 acres) on a homestead.

In order to meet irrigation requirements, small operators plowed a lateral from the river to their land following the natural contours of

the topography. They then dug ditches off the lateral to distribute the water. The main problem was the lack of reliability of intermittent drainages in providig water. The unavailability of water partly explains why only 4,148 of the 15,898 Desert Land Act filings in Wyoming resulted in patents (Larson 1978).

Tanner's (1967) study of Johnson County found that 93% of lands filed on under the Desert Land Act and the Act of 1820 (which lowered the price for public land to $1.25 per acre) were patented. Johnson County was truly settled under the Desert Land Act. Only 4.3% of all land patented in Johnson County was homesteaded.

By comparison, Campbell County was long considered a less desirable location for settlement and therefore expressed no stimulous toward private ownership until the late 1880s. The harsh environment of the study area precluded success under the Desert Land Act. The earliest attempts at homesteading also failed--but to what degree and within what periods has not been determined.

The Desert Land Entries filed in Township 42 North, Range 70 West, in the 1880s suffered a 100% failure rate. As was typical of the era, the entries were located along the nearest source of water, a tributary of Little Thunder Creek, for irrigation purposes. Although the use of the immediate source of water was less expensive than constructing canals, the cost was still a major factor in proving up such an entry (Markoff 1981:34).

Southern Campbell County during the 1890s saw no homesteading entries.

he lack of adequate transportation rendered the land remote and precluded growth for a time. The cattle industry then required the railroad shipping centers, which were just developing in the area to the north.

From 1900 to 1920, 80 homestead entries were made in T42N, R70W. Of these, only eight were patented (Markoff 1981:42).

In T46 and 47N, R71W, between 1916 and 1923, 149 entries were made. Of these, 120, or 80.5% were successful. Only 32 failed: eight were cancelled and 24 were relinquished. This was an unusually high success rate. Can this be attributed to increased wartime production and inflated prices that accompanied the hostilities in Europe (Markoff 1980:83)? Neighboring counties within the Powder River Basin between the years of 1900 and 1920, saw a consolidation of earlier established homesteads. The same period in Campbell County represented the first marginally successful attempts to homestead.

Most of the homesteads in the area during the 1920 patented land under both the Stockraising and Enlarged Homestead acts. Many of the claimants were small dry land farmers attracted by the promotional activities of the Wyoming Board of Immigration. The last of the prime land was taken up at this time.

Homesteaders constructed homes, cellars, barns, and corrals, in their efforts to "prove up" or gain a final patent to the property. Many had gardens for home consumption. Those who farmed concentrated on growing hay and small grain crops.

Despite the stability of many of the homesteads established in the 1920s, their fate was similar to that described by Scott for the residents of Bates Hole: "The early settlers succeeded, but they faced a constant battle contriving a living from the parched landscape. The land made their continued success as ranchers risky at best" (Scott 1978:116).

The number of homestead entries declined in the 1930s, while the number of relinquishments and cancellations rose. A few new companies entered the study area at this time, buying out the earlier landowners or leasing from them.

By 1935, many of the small farmers of southern Campbell County, as well as many areas throughout the west, were barely able to subsist on their agriculturally marginal holdings. Ten homesteaders in the Antelope Coal Field study area sold their land to the United States in 1937 (Markoff 1981:41).

George Darlington (a Forest Service employee at Thunder Basin National Grasslands, who grew up in the area during the 1930s) recounted that the homesteaders sold their land for $2.00 per acre to the Resettlement Administration. Neighbors who remained in the area bid on the abandoned structures. For $10.00 each, the structures were dismantled and/or hauled away to nearby ranches. Mr Darlington stressed that <u>any</u> worthwhile structure was moved so that it could be utilized which accounts for why so few large remnants or structures remain in an area that witnessed extensive homesteading. The disheartened homesteaders departing for better land had no more use

for the structures Markoff 1981:41; personal communication with George Darlington April 1981).

The sites or remnants thereof are representative of the failures of would-be ranchers and farmers on these submarginal lands. No sooner were they settled during the World War I era than droughts and the effects of the Great Depression threatened their continual survival. By the mid-1930s, the homesteads were being abandoned, leased, or sold back to the government (Rosenberg 1982).

In a larger sense, the homesteads represent the failures of dry land farming and government land policy so ill-adapted to the semi-arid areas of the West. Cash crops could not be successfully grown over an extended period of time because of cyclical drought, and stock raising was not possible on only 640 acres in this environment. Herein lies the historical significance of these homesteads. They represent one of the most important land utilization lessons this country and its citizens had to learn about the West. Through the long term suffering and failures of thousands of hardy but luckless settlers, it was finally recognized that a limited number of large ranching units with carefully regulated herds constituted the ideal utilization of lands of this character (Thybony, Rosenberg et al. 1982).

This is the history and "history is only what historians say it is, any relationship between history and what actually happened .. (may be) purely coincidental" (Fulton 1977:5).

Homestead filings and patents granted do not provide the whole story for any given county. There was a simultaneous wave of homesteading to secure grass and water and round out existing ranch holdings, and only a case-by-case evaluation of a given locality will determine the land uses actually made on given tracts (BLM 1978:212).

The Archeological research potential of homestead sites is presently being compromised by rapid deterioration through neglect and face the threat of destruction through adverse developmental impacts.

Answers to many unanswered site-specific questions are manifest in the material remains of this sad legacy of these "unsung" western heros.

HISTORICAL ARCHEOLOGY IN RELATION TO HOMESTEAD SITES IN THE POWDER RIVER BASIN

Archeology may simply be defined as the systematic (scientific) study of antiquities (material culture) as a means of reconstructing man's past cultural behavior within the specific historical and ecological frameworks in which it occurred.

The methodology includes (involves) the finding of evidence of this past cultural activity and then establishing the relationship of these findings to the temporal and spatial locale in which they occurred. Also of importance is the fact that these findings are not of themselves cultural behavior but are the result of behaviorial patterns, thus behaviorial patterns themselves must be inferred according to reorganized theories in anthropology. For an archeologist's contributions to be fruitful he must possess an intimate knowledge and real "feeling" for history as well as training in historiography and methods of historical research (Joukowski 1980).

Archeology has been referred to as "the handmaiden of history" by the prominent archeologist Ivor Noel Hume. This best illustrates the intimate relationship between the two fields.

Although many historians contend that documentary materials provide all we need to understand the past, this has been proven to be a false presumption. Much of what is generated through archeological research, analysis and interpretation is not so fully evident in

documentary sources, especially specifics of day to day lifeways, conditions, subsistance activities, dietary patterns, clothing, relative wealth, etc., in particular such factors as pertaining to the everyday "unsung" homesteader and his family.

By the same token, (historical) archeology cannot be conducted independently of historical research. Historical research is necessary for an archeological research design, (What are we looking for? What do we expect to find?) and premier of the questions asked, what does all of this mean?-can only be formulated through a thorough documentary research preliminary to site testing or excavation.

Most importantly, archeology should serve to support (or contradict should the case be so) historical records. Only through empirical research can the historical record be validated and the gaps in our knowledge of the past be filled.

Necessarily, the "gap" between the two sister disciplines, history and archeology, must be effectively bridged to promote the generation of new knowledge. Most historical archeologists are quite aware and appreciative of historical research to their endeavors but unfortunately, there is a solid nucleus of reactionary old school historians who are content with mulling over manuscripts who do not accept archeology as a valid sister discipline to the field of history.

Like oil and vinegar, which are presumed not to mix, does make fine Italian salad dressing, and by the same token, history and

anthropology (archeology) can be blended into a more scientific study of man.

The paramount questions raised at this point are concerned with the specific underlying social, political and economic motives and factors relating to the settlement activities in the Powder River Basin. Site-specific data pertaining to the patterns of settlement activities, the commercial economic (exploitive) factors have yet to be correlated from available documentary sources and archeological evidence. Unfortunately, the two bodies of information are still very much apart and few parallels have been drawn.

In this respect, historical research tailored to an archeological perspective is not only relavant but essential to devising a predictive model from which an effective archeological research design can be developed prior to the excavation of a site. Through such an approach, it would be desirable to correlate the available documentary and archeological data in relationship to the essential social and economic factors of settlement pertaining to particular sites of the period.

Homestead site archeology would serve to gen ate specific data relating to the nature of social status and economic conditions and the relationships to means of subsistance, exploitation of trade and industries as well as such cultural factors as social interactions and particular environmental factors which ar salient to the success or failure of the settlements as an enduring community in the Powder River Basin.

History is not merely a narrative of events. Recorded history is analagous to "a photograph of an iceberg: it deals only with what is visible on the surface ... how much of the lives of how many men and women is utterly unknown to us?" (Hill 1961:264, 266; Schuyler 1978).

It has been said that the historian works primarily with "words", the archeologist works principally with "things", and the anthropologist deals with "culture." While the situation is in reality considerably more complicated, this statement does define the three main areas in which these specialists do most of their research: "words", meaning historical documents, "things", meaning archeologically obtained data and artifacts, and "culture", meaning the physical and observable characteristics of human existence. The three are manifestly interrelated and inseparable to a great degree, yet the laws, concepts, and research methodology pertaining to each are by no means directly substitutable for the other (Schuyler 1978:216).

Traditionally, historians have aimed at the writing of a narrative record of past events, nothing more. Conservatively, this has meant no explanations or interpretations of the observed facts. Or, it has meant explanation in terms of "common sense", which, as Historian Marc Bloch has said, "usually turns out to be nothing more than a compound of irrational postulates and hastily generalized experiences." (Schuyler 1978).

Historical Archeology is defined as, "the comprehensive study of the lifeways that accompanied and resulted from the transit of Europeans to the New World (an Americanist perspective, of course),

through the examination of oral and written documents and materials remains, whether these remains are buried or not. Integral to this study is an appreciation of the holistic, structural, relative, and dynamic perspectives of anthropology." (Stewart, Abernathy and Watkins 1980:9).

Excavated materials used interpretively by historians, archeologists and ethnologists must always be reorganized for what they are--historical data. They contribute an important body and a unique kind of historical record, but in themselves, they do not constitute history (Schuyler 1978:6) (emphasis added).

There are inherent limitations in use as a tool for studying American history that should be recognized by both historians and archeologists.

Dealing as they do with a field on the whole well documented and intensively and extensively researched, archeological findings will seldom make any real alternation in the historical account (Schuyler 1978:7).

Archeological data contributes insight, even though it often is intangible and hard to acknowledge specifically. This is being recognized by historians, as can be seen from an increasing use of sites, in conjunction with documentary research.

Research, whether historical or archeological, us based largely upon knowing where to look for what and how to interpret the findings.

Archeology is no more a science than medicine. No amount of statistical manipulation or reams of historical documentation can alter the archeological record. In the end we must either interpret this record in the light of our manipulations and/or documentation or we must use our manipulations and/or documentation to support our interpretation of the record.

Dr. Carl Russell Fish was among the first historians to urge other historians to embrace three-dimensional objects as "documents" among historical records. In an essay read before the Wisconsin Archeological Society in 1910 titled "Relation of Archeology and History" he stated that,

> "The first duty of the archeologist is to discover such material and to verify it; the next is to secure its preservation ... then comes the task of studying it; classifying it and arranging it, and making it ready for use. At this point the function of the archeologist ceases and the duty of the historian begins; i.e., to interpret it, and to bring it into harmony with the recognized body of information regarding the past. It is not necessary that different individuals in every case do these different things ... nearly every historian should be something of an archeologist and every archeologist should be something of an historian ... When the archeologist ceases from the preparation of his material, and begins the reconstruction of the past, he commences to act as an historian ..." (Russell 1967; Schuyler 1978:11) (emphasis added).

Although Dr. Fish is essentially correct in regards to the duality in the roles of the two fields of research (as underscored), I must beg to differ in light of subsequent advances in "Historical Archeology" as to his premise on the function of the historian.

A historian whose training is in traditional historical research, knows his documentary sources, is a qualified historiographer and is aware of the broad historical background of which "the site" is a part, but unless he has had specific training in archeological theory and technique, is generally not qualified to interpret the archeological data in the reconstruction of a way of life.

By the same token, archeologists whose training is in "prehistoric" archeology have often dismissed historic habitation remains as "contact junk" or "historic trash" and making no specific interpretive comments in their reports regarding the significance of the historic material component (Schuyler 1978:11).

The results of investigations at historic sites will not be of major value to historians until historians themselves formulate specific research problems thus becoming historical archeologists (Harrington 1955; Schuyler 1978:7).

By far the majority of archeological projects undertaken at historic sites have as their primary, and often sole, purpose the securing of data for use in interpreting the sites to visitors. In a few cases the goal has been a full-scale reconstruction of the entire scene. the best known, as well as the most ambitious, project of this kind is Colonial Williamsburg (Harrington 1955).

These excavations have provided considerable information on the physical histories of the sites themselves, as well as data which should contribute directly to broader historical studies.

Other projects in this general class are some in which attempts have been made to supply information for specific and limited historical reasons.

> "One of the primary aims of archeology (in these cases was) to reconstruct conjecturally not only the buildings and industries and arts of bygone time but also the way of life of the builders of those buildings and the practicers of those arts." (Harrington 1955; Schuyler 1978:3, 4).

Despite praisworthy achievements o the Historic Preservation Movement, thousands of other buildings and sites have been and are still being neglected, mutilated or lost. Because they do not belong to a "national figure", or were not the "first or greatest of their kind", the preservation and historical organizations have been loath to take these "ducklings" into their ample bosoms (Hume 1978).

Historic Sites Archeology can correct documentary error, fill in lacunae in the record, certainly, but can it make a major contribution to our understanding of the past? The answer is patently becoming more and more a strong affirmative. How much does a culture record about its basic economic, political, social and ecological structure when frequently the individuals that compose the society in question are only superficially aware of or at least take for granted such patterns and processes? What are these patterns and processes in American culture of which archeology is the by-product? What are these sites all about and why do they rely as heavily as they seem to on archeological techniques? All of the three-dimensional reconstructions that archeology is responsible for are sets (or

microenvironments). They are the literally reconstructed lifeway of an extinct epoch.

Other questions involving rates, kinds, and amounts of culture change, levels of sociocultural integration, and many more--all in terms of their relation to material culture--may best be examined in historic sites if they are to be examined archeologically at all. This is because we have artifactual data and data from documentary sources, often both historic and ethnographic (Schuyler 1978:26).

Archeology adds new dimension to history--a comparative and hence more formally "scientific" approach; lastly, increasing the temporal depth of the field and most importantly--the means to study the history of technology within the matrix of culture (Schuyler 1978:195). One of the standard lessons of archeology is the relative "muteness of data". Material culture is the common denominator of all archeology--above, or below the ground or even still alive as with ethnoarcheology; it is the data which is studied within the context of when and how it is used and how it affects the culture doing that using. Since an artifact is a product of a total cultural system, (i.e., material culture), it is likely to present evidence about the preishable parts of the system that created it (Binford 1962).

The job of archeology is to deal with the past and to extrapolate from the artifacts to the subsystems that created them. Artifacts are regarded as indices to the systems of primary subsistance and exchange, of social relations and the conditions that brought them into existence (Schuyler 1978:194). "Artifacts employed as

nondocumentary sources by historians not only fill in missing details, but may even furnish extremely critical information-(but) ... Their value to the historian is in proportion to how much is known of their cultural context in a given historical situation." (Russell, Schuyler 1978:15).

Therefore, even the simple, closely-dated trash pit, the "piece de resistance" of the archeologist, must be sought for diagnostic objects associated with the residences of those of various social classes or cultural systems as part of a coordinated interdisciplinary study to shed illumination on the lives and sometimes even the thoughts of ordinary people. This is really the crux of the matter: namely, the ability of archeological evidence to add a third dimension to historical research which will bring into clearer focus the familiar, everyday life of the past, no matter what period or socio-cultural affiliation.

SIGNIFICANCE IN RELATION TO HISTORIC HOMESTEAD SITES

INTRODUCTION

Some cultural resource "specialists" contend that "Archeology at homestead sites ... and a multitude of other historic sites is a ridiculous waste of money that ought to be channeled into visible public use facilities at major sites" (Cultural Resource Inventory-Casper District 1978:278). This writer maintains that this view is not only narrow but reactionary to the substantive and theoretical contributions in the field of archeology in the past quarter century. Such a "conclusion" is invalid because the history has not been written and the archeological record has yet to be adequately evaluated in terms of "significance". Historic studies dealing with the region are primarily concerned with a few nucleated localities such as Gillette, Wyodak, Buffalo and Sheridan but contain little information about the small rural communities, e.g., "settlement patterns outside of usual generalizations about dry land farming and depression". Available documentary sources tend to indicate little historic significance with respect to homestead sites in the Powder River Basin.

If the period of the regions development "lacked historic significance", then the historic development of Wyoming as a whole must lack significance and therefore the entire theme of western settlement must lack historic significance (which is obviously an absurdity). Evaluations of significance seem to be a relative

prejudgement based on temporal and social status considerations. For example, in a summary appraisal of historic values of seven homestead sites (one with a standing structure and evidence of outbuildings) dating of the period 1916-1924, historian Robert A. Murray concluded that "none of the sites on the tract was the locale of events important to the cause of local, state or national history ... none are associated with important personages .. (nor are) .. representative or more distinctive ... (than other) ... homesteads ... In short, there is nothing historic about these sites, they are merely old. Destruction of any or all of these sites ... would not constitute an impact on the historical resources of the region" (Murray 1978:15).

Apparently structural remains, "foundations and debris" according to this subjective evaluation have no historic significance.

In general, the term "significance" implies criteria or standards by which phenomena may be evaluated as well as a status which results from such evaluation (Mocatto and Kelly 1976:193). Assessment of significance is required by law and directly determines the disposition of threatened cultural resources. If archeological remains are determined to be eligible for inclusion in the National Register of Historic Places, they are granted protection by federal law yet the criteria of significance by which archeological remains are determined eligible for the Register allow a wide latitude of interpretation.

Vestiges of our cultural heritage manifested in archeological remains

are being systematically conserved or obliterated, depending upon their adjudged significance. Yet only a few of those who determine the fate of cultural resources seem to have seriously considered the complex nature of significance (Mocatto and Kelly 1976:193).

The National Register "Criteria for Evaluation" sets forth "the quality of significance in American history, architecture, archeology, engineering and culture ... present in ... sites, buildings, structures and objects that possess integrity of location, setting, ... feeling, association, and:

A. that are associated with events that have made a significant contribution to the broad petterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a masterr, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history. (NPS 1982:1)

A property (or site) must meet one or more of the four specific criteria, A, B, C, or D, to qualify. The context of the "property must possess significance in:

> American history, archeticture, archeology, engineering, or culture. The propoerty must be representative of significant themes or patterns in the history, architecture, archeology, engineering, or culture of the relevant geographical area and must possess characteristics that make it a good representative of those themes or patters." (NPS 1982:2)

Furthermore, the site must possess integrity, i.e., be sufficiently intact to illustrate or convey its significance.

> "Integrity depends upon the survival of actual historic ... materials that today exist as they were ... in a ... site, building, structure, or object during a period in the past, or as they were deposited in a site. For properties important for their information potential, integrity depends on the presence of those parts of the property which contain the important data and which survive in a condition capable of yielding important information. For historic sites where there were no physical cultural remains, integrity depends on the authenticity of the site and the retention of the natural setting that existed at the time of the significant event." (NPS 1983:37).

Having established the importance of the information that may be recovered, it is necessary to be explicit in demonstrating the connection between the important information and a specific property. One approach is to determine if specific important research questions may be answered by the data contained in the property. Research questions may be related to property-specific issues, to broader questions about a large geogrphical area, or to theoretical issues independent of any particular geographic location. These question may be derived from the academic community or from preservation programs at the local, regional, state, or national level. Research questions are usually developed as part of a "research design," which specifies not only the questions to be asked, but also the types of data needed to supply the answers, and often the techniques needed to recover the data (NPS 1982:316) (emphasis added).

To support the assertion that a property has the data necessary to provide the important information, the propoerty should be investigated with techniques sufficient to establish the presence of relevant data categories. What constitutes appropriate investigation techniques would depend upon specific circumstances including the property's location, condition, and the research questions being addressed, and could range from surface survey (or photographic survey for buildings), to the application of remote science techniques, or intensive subsurface testing. Justification of the research potential of a property may be based on analogy to another better known property if sufficient similarities exist to establish the appropriateness of the analogy (NPS 1982:320) (emphasis added).

The principal test to establish whether a property retains integrity is to ask whether or not the property still retains the identity or character for which it is important. For a property important for its information potential, it is necessary to determine whether the property retains enough of its original materials and their spatial relationships to be capable of yielding valuable data. (NPS 1982:392). (emphasis added)

The first step in assessing integrity is to identify the theme and the reason why the property is important. Once this information is identified it is possible to establish the period of time (specific date or span of time) for which the property is significant, thereby establishing whether the property is important for its original identity or for the identity it subsequently acquired (NPS 1982:41) (emphasis added).

After identifying the theme, the reason the property is important, and the relevant period of time, it is possible to establish what essential physical features must be present. For a property to possess integrity as a representative of its theme. These will vary depending on why the property is significant. As a result, integrity of location, design, or setting, and so on, may be particularly vital to the evaluation of some properties and less prominent in the evaluation of other properties. (emphasis added)

a. A property important for association with an event, historical pattern, or person(s) ideally might retain some features pertaining to all seven: location, design, setting, materials, workmanship, feeling, and association. However, integrity of design and workmanship might not be as relevant to the significance (emphasis added).

b. Evaluating a property important for its illustration of a particular architectural or engineering type, period, or method of construction means identifying the essential physical features that make the property an important example of that particular type, period, and so on. While location, setting, feeling, and association are important to the property's capacity to convey its past, integrity of design, workmanship, and materials are more important (emphasis added).

c. For properties eligible for important information potential, setting or feeling may not have direct bearing on the property's ability to yield important information. Evaluation of integrity should focus primarily on the existence and condition of those particular features of the property that have the potential to yield important information, usually materials in their prehistoric or historic physical context (emphasis added).

An analysis of integrity may include investigation of whether a property is physically intact even though its historic ... features may be concealed at present. Although such an investigation is especially important when applying Criterion D, it can also be relevant to the other criteria as well. Visibility is usually not necessary for an archeological property to qualify for the National Register. However, buildings, structures, and objects must have a substantial degree of integrity, visible enough for the property to convcey its

> significance under Criterion A, B, or C only. In a few limited situations, buildings, structures, and objects may qualify even though their historic features are visually obscured (NPS 1982:43, 44) (emphasis added).
>
> A property can be eligible if it is a building or structure removed from its original location but which is significant primarily for architectural value or which is the surviving structure most importantly associated with a historic person or event. (NPS 1982:49).

To clarify the inherent ambiquity of significance criteria would require guidelines that significance, for instance in criterion "D" merely requires that a resource will have "yielded or may be likely to yield, information in ... history" be related directly to research problems. From a scientific point of view that would be the first logical constructive step (Røab, Klinger, Shiffer and Goodyear 1980:543). Accordingly, the concept of significance is not a static, universally applicable set of values. It has also been argued that the research orientation of the archeological profession, the condition of the resource data base and the amount of research funding available, has an important effect on the process of evaluating significance. Archeologists spend as much time in evaluating the integrity and content of a site as they feel they can afford. If the site does not demonstrate research potential within the time allotted by the research design and the funding source, it is often evaluated as insignificant (Lynott 1980:119-120).

Since decisions about the significance of archeological resources are increasingly being made from a resource management perspective, categories of significance (which are not mutually exclusive) must be permitted a certain degree of flexibility in evaluation and each must

be evaluated within the structure of a particular frame of reference. Hence, the evaluation of significance criteria represents a dynamic process which changes constantly along with the evolution of archeological research goals and public concerns (Lynott 1980:117).

The foremost problems concerning the issue of assessing significance to homestead sites are:

1. Some specialists view all homesteads as significant.

2. Significance (e.g., NRHP criteria) is so broadly defined that application becomes purely subjective.

3. Recognition that cultural specialists are limited by temporal and monetary constraints.

4. Significance is viewed differently by developers, federal land managers and academic researchers.

A consistent approach has to be developed which allows each of the interests involved to understand why and how an evaluation of significance was made and based upon the evaluation, why certain mitigation recommendations were made. Determining significance requires both a structure for evaluation and considerable flexibility in practice.

HISTORICAL, ARCHEOLOGICAL, GEOGRAPHIC AND THEMATIC SIGNIFICANCE

An archeological entity is historically significant if it can be associated with a specific event or aspect of history (Scovill, Gordon and Anderson 1972:20; Maratto and Kelly 1976:174). Since historians have not determined the full "history" of every location with material evidence of recent cultures, archeological study may contribute much knowledge toward the identification, description and interpretation of historic values.

Scientific significance may be defined as the potential for using cultural resources to establish reliable generalizations concerning past societies and cultures, generating explanations for the differences between them. In this respect, every archeological entity is significant. In terms of cultural resource management the determination of scientific value depends upon such factors as (1) the relative abundance of the resources affected. For instance, "abandoned structures" in the Powder River Basin (many of which are more than fifty years old) are depicted on USGS maps with a frequency averaging 2 to 4 per township, essentially the lowest density of any site type located (Rehr WPRS:131); (2) the degree to which specific kinds of data are confined to the region (not determined to-date), (3) the range of research questions to which the resources may contribute (as will be discussed in the next chapter); and (4) recognized deficiencies in current knowledge of specific cultural history in the region.

It would be irrational to assume that any given site might not yield some important data, although evaluated as ineligible for the NRHP (for example, even negative data can be important data as a hypothetical case) i.e., evident physical remains on a patented tract may indicate fraudulent abuse of the homestead laws.

Further, the evaluation of scientific value should consider the potential contributions of archeology to other scientific fields when evaluating cultural resources. Through empirical research efforts, the preservation of archeological data adds to the sum of knowledge, enriching the public awareness and improving our capacity for understanding and solving problems, toward the "advancement and dissemination of knowledge among men" (Smithsonian Institute).

Geographic significance is applied to sites which are related to identifiable cultural patterns within a cultural area or environmental zone, i.e., sites affiliated with early 20th Century dry farming in the Powder River Basin or Northern Great Plains Region.

The National Register of Historic Places further requires that cultural and historic resources be defined in the context of local, regional, state or national significance. These levels are <u>not defined</u> except that state and national are self-explanatory. Archeologists consequently use their own judgement in defining "local and regional" zoning concepts (i.e., Campbell County or Eastern Powder River Basin).

In summation, archeological significance may be based upon

professional criteria or external standards (i.e., federal codes and regulations) and may entail potential or realized, scientific or nonscientific values. Because the importance of archeological data depends partly upon inherent qualities and partly upon the context of evaluation there are no universal, absolute measures of value.

To further complicate this issue, the concept of significance changes as research goals of archeology evolve and as public interests and priorities vacillate.

In contracted cultural resource evaluations, significance was sometimes judged from the perspective of the principal investigator according to subjective terms or conditions, such as integrity, temporal affiliation, uniqueness or presumed scientific values. Conversely, sites which did not measure up to such standards were often deemed insignificant.

Though an exceedingly difficult task, successful evaluation (as obligated by imposed federal legislation) depends on a sound approach to the assessment of the significance of archeological significance. Failure to assess the significance of archeological resources in relation to substantiative problem-oriented research questions (for the best possible research) endangers not only the scientific development of archeology, but also public and professional credibility.

Historic homesteads constitute a potential wealth of historical, cultural, geographical and archeological information and they should

be treated accordingly. These sites are thematically representative of the "Euro-American exploitive relationship with the region and the over-riding fragile nature of (the) land" (Schulte 1981:3, 44; Rosenberg 1981:110, 111).

Impacts resulting from coal mining activity are presumed to be total, the vestiges of architectural remains and potential archeological data will therefore be obliterated. The determination of site significance will affect the type and extent of mitigation activities recommended.

With respect to affected homestead sites or their potential contribution to scientific values and knowledge, this author intends to demonstrate why they should be subjected to additional archeological examinations according to defined research goals as a basis for establishing significance and delineating impact mitigation. The virtual paucity of comparative data adequate for interpretive purposes assigns a certain degree of significance to these sites. In light of this, it would be difficult to justify their elimination unless the degree and nature of this significance is determined through achival, oral, and archeological data compilation.

To develop research goals directed toward homestead site potential in terms of historical-archeological research, salient research questions need to be considered in the evaluation of significance relative to archeological application.

One of the most important developments arising from the advancements of archeology in the third quarter of the 20th century is the

appreciation of making explicit the research goals of a project. The definition of research goals with accompanying plans to fulfill those goals, helps to draw attention to the observational character of archeology in particular and the conduct of science in general (Stewart-Abernathy 1981:7).

HISTORICAL PERSPECTIVES AND RESEARCH PROBLEMS RELATING TO HOMESTEAD SITE ARCHEOLOGY

The demands for assessing significance for cultural resource management purposes require that integrative research problems be identified and a framework be developed by which homestead sites may be evaluated.

Cultural resource surveys and inventories conducted in the past few years have provided a data base large enough to provide information on the range and variability of homestead site remains, however, the dilemma remains--1) How are these sites to be assessed in terms of informational value if there are no agreed upon research problems and strategies? The result has been an "ad hoc" evaluation of each site in terms of it's particular "historical uniqueness". Such a subjective approach is not useful to social scientists attempting to 2) understand; the salient factors and casual relationships in human behavior. Nor is it useful to those who make management decisions about the relative importance of homestead sites.

Federal legislation and the definitions of scientific research problems require that greater attention be paid to historical archeology in cultural resource management.

The data generated by historical archeology will be used by people outside of archeology whose research interests relate to archeology by appreciation of objects, temporal period, or specialized application of techniques. thus, museologists, antiquarians, historians,

~~historians~~, architectural historians, and others will need to know what the conditions were under which the data were recovered, why certain data were considered significanct and other data were not, why a particular site was examined and not some other apparently more suitable, and why a particular data source was emphasized and another was not, in addition to the other reasons which will guide discussion and thinking by others. Thus, disscusants should be aware of the foundations on which the research design is based.

A broad scale reseach design is by its nature too large to be employed only by its author. If the research design proves acceptable, it will influence the conduct of research by those operationalizing its directly, by those adapting the design in resolving difficulties with its use in specific projects, by those expanding the design to incorporate related questions, and by other scholars who while not using the design, will be nonetheless affected by it (Stewart and Abernathy 1980:9).

Homestead sites archeology if conducted in relation to a broad based research design will provide an interdisciplinary data base from which scholars in sociology, physical and historical geography, history of technology, history of decorative arts, agricultural history, and archeology (both as a field discipline and as a claimant to the science of material culture) can comparatively examine relations between a community and its needs for goods in the various peak periods of settlement. for example; 1868 to 1878, 1879 to 1893, 1894 to 1909, 1910 to 1915 and 1916 to 1930.

The general activity periods (as generally defined in the Powder River Basin) are presumed to have several interrelated characteristics that should effectively relate the classifications of behavior and chronology to the working definition of anthropological historical archeology. Activity periods provide a holistic context for any site, permitting research questions to be generated relative to general theories about human behavior. These general concerns include discussions about the frontier, immigration (culture contact and acculturation), markets and trade patterns, diffusion, social organization, the role of kinship, distribution of power and status, changing manifestations of symbology, the integration of religious systems with various social institutions, the relation between more complex agricultural and social forms, evolving subsistence patterns, the adaptation of cultures to varying physical and social environments, and the transformation of the preindustrial world to the industrial one.

This holistic context also will support examination of methodological concerns, such as the processes that transform human behavior into an archeological record. Finally, this holistic context will serve to suggest questions regarding human behavior patterns that specifically generate artifacts or archeological patterning, including ceremonialism, military affairs, subsistence, status differentiation, exchange, housebuilding, and general domestic activity.

The delineation of general activity periods provides a basic compilation of temporal sequence in which to place sites or components of activity on sites. This chronology is not telelogical, but is

intended to emphasize the importance of appreciating the dynamics of human behavior in the last hundred and fifty years as well as to relate human behavior in the region to events in other regions, the state, the nation or the world (Stewart and Abernathy 1980:11).

The study of these activities within periodization parameters establishes a series of synchronic units to provide a relative and comparative context within each time frame for individual sites and components. These synchronic units have a validity to the extent that they contain behavior classified according to rough commonalities of experience. The behavior can therefore be compared with possibly analogous circumstances anywhere in the world and in time in order to understand the variability in cultural behavior and variability in the preservation of the archeological record of that behavior.

In each period there is an emphasis on the relation of several problem areas brought about by the integration of recognizable historical events (defined by the periodization parameters) with various subspecialities of historiography, anthropology, and other disciplines.

For example, the organization of geographical and political boundaries of the periods can be expected to correspond with the distance of a certain site from a line of communication, with the rate of settlement in an area accelerating as General Land Office survey are completed, and the overland and transport network is established.

Aside from definitional and conceptual problems about the frontier,

one point that must be emphasized--this activity occurs in its entirety in the context of the Industrial Revolution. This is an occurrence involving new social, production, and exchange relationships on an immense and pervasive scale. The most remote farmstead thus must be seen in the light of this new worldwide system keyed to the production of commodities for exchange on the world market and the potential consumption of manufactured goods anywhere in the world. The most obvious reflection in the archeological record of this integration into a world information system are the factory produced goods found in all quarters of the state.

Improved transportation networks and revision in federal land legislation resulted in an infilling of settlement, bringing rural farming population and density to its maximum levels. The later period is also marked by the immigration of Continental European groups, the settling of marginal lands and important changes in technology (irrigation) and production (introduction of dry farming, expansion of labor intensive nonagricultural activity). This is also the period when many communities were founded and became extinct as population increases changed distribution with accompanying changes in the location of nucleated service settlements, especially stage stations and post offices.

Increasing settlement wrought dynamic changes such as the altering of the existing network of land routes to tie to the rail corridors, extensive land entries and exhortatory immigration propaganda, a dramatic increase in the consumption of manufactured goods from outside the state and an accelerated rate of information transfer

resulting from ease of physical communication and the construction of a telegraph and later telephone communication systems. The Rural Electric Association established tele-communication in the Gillette area in the late 1940s (personal communication with Dutch Geis and Thelma Chaney, 25 August 1983).

The railroad period is reflected by scores of nucleated settlements whose end or beginning data correspond to the coming of the railroad (1892), and by some of the greatest landscape modifications made by people, on an intensive and extensive scale matched only but the construction (after 1950) of highway systems (Lecompte and Anderson 1982:117).

The automobile ultimately had a major impact on most of American culture. In the business world new developments associated with manufacture and sale of the automobile were the development of service facilities, including service stations, tourist courts and motels, strip commerical patterning, and networks of replacement parts and repair facilities. In addition, the automobile was the direct cause of the construction of a vast system of highways specifically for its use, and for the improvement of a secondary road system designed to permit travel in all weather conditions.

In 1911-1912, some convict labor was used in road improvement in Converse County. In the 1913-1914 biennium, Johnson County used some convict labor on its roads. The program continued to expand into the late 'teens.

From 1910 into the 1920s, a nationwide series of "good roads" movements led to increasing political activity by virtually all communities in favor of a more systematic approach to highway development. In 1916 Congress authorized federal funding participation in such work. in response to this action, the Wyoming Legislature in 1917 created a Wyoming State Highway Department.

The late 1920 saw considerable surveying and grading of roads, followed by gravel surfacing. By the late 1930s, the state is reported to have had 23,000 miles of improved roads (BLM 1978:186).

From an inventor's prototype in dozens of small shops in the east and midwest, the automobile progressed in the late 1890s to a small-scale production item, and began to spread across the country, bought by the more adventurous.

The first account we find for commerical use of an automobile in the area was the introduction of one in replacement for the stagecoach on a mail route that ran from Belle Fourche, South Dakota through Sundance, Moorcroft, Gillette, Sheridan and on to Basin, Wyoming in 1901. Casper reportedly had its first automobile in 1908, seemingly a bit late compared to other towns in the area (BLM 1978:183).

Within the next ten years, practically all the old stagecoaches, wagons and other conveyances on the area's mail routes were replaced except in the very worst of weather by automobiles and the primitive trucks of the period.

Automobiles moved into large-scale mass-production with the advent of the Model-T Ford and several competitors around 1908, and their numbers everywhere increased progressively with each coming year.

Few single development affected the day-to-day life of people in the region to the extent that the automobile and the motor truck did. Even in fairly primitive form, over rough trails, they could go as far as the old horse-drawn conveyances could go in a day.

By 1925, the automobile and the light truck were becoming major new factors in the economy and the society of much of Wyoming. Even in a generally depressed period, many could afford a "Model-T" Ford at a base-price of $300 in a period when average per capita income in the state exceeded $600. It became a basic working tool for the rancher and the farmer.

In 1929, Ford abandoned its production for the far more sophisticated and reliable Model A, followed by a host of competitors led by Chevrolet and Dodge took the road. Most of these were also essentially simple, slow and sturdy four-cylinder and six-cylinder machines quite tolerant of road conditions and more reliable in the field than the "T". Such cars and their light-truck offshoots became the internal transportation mainstay of back country areas. For many ranchers they changed the semi-annual or occasional trip to town to a weekly affair, weather permitting. They increased the attractiveness of employment at back country mines and oil fields through lessening the isolation of such places. Thus, the automobile did more to change the way of life of more inhabitants of the area than any other single

factor (BLM 1978:183, 184).

Although it was not generally allowed, some homesteaders brought these automobiles in along with their animals and household goods on the immigrant cars (Personal communication with Dutch Geis of Gillette, 25 August 1983).

The archeological record of the automobile period, a record still being created, consists of three general parts; the evidence of the automobile itself, its support systems, and its impact on the landscape. The automobile is a complex and evolving assemblage that provides one of the most important items of material culture for understanding 20th century Western society. One can examine the complete assemblage, any of its tangible elements, and the other evidence of its presence. They range from rusting "cannibalized" car bodies in the yard of a farmstead to the vast quantities of detritus consisting of parts, tools, and accoutrements entering the archeological record since about the advent of the Model T Ford in 1908 (Stewart and Abernathy 1980:21).

The presence or absence of the automobile or evidence thereof in association with homestead sites provides valuable information about the evolution of transportation in rural communities. Just as the automobile was important to facilitating the development if the transportation frontier, the internal combustion engine led to new inventions and innovations resulted in the mechanization of farming as the "Farm-All" Tractor replaced the horse-drawn walking plow, harrows, cultivators, and "Rumley Steam Tractors" (Spencer 1975:5). One

homesteader managed to cultivate ten acres in the first year using a two horse "Walking plow" whereas another with a "Rumley" could plow twelve to fifteen acres in a day (Spencer 1975:6, personal communication with Ioris Engdahl of Gillette, 22 August 1983).

To what extent and range did mechanization take place in the region? Archeological evidence (i.e., "abandoned farm implements and equipment") as found through surveys and investigation should be well documented in terms of description (types) as well as temporal and spatial association with local farmsteads. How many homesteaders could afford to purchase the latest available mechanized farm equipment? Once again, the historical record provides no such information.

Just as the internal combustion engine revolutionized the transportation and agricultural frontier, telephone communications eventually revolutionized the rural communications frontier. Primary (oral) accounts indicate that many homesteaders in the 1920s had battery-operated telephones (ordered via the Montgomery Ward Catalogue) and "attached them to barbed wire fences for a private line connecting a few of the closer neighbors" (Spencer 1975:29). Copper wire was used to complete connections in places where the barbed wire fence was spliced. Eventually some of the neighbors "got together and strung their own line twenty-five miles to connect wtih Gillette and the outside world" (personal communication with Dutch Geis of Gillette, 25 August 1983).

To what extent can technologies be correlated with the historical

record and data as evident in the archeological record? Many of the distinct lifeways of the unsung populations (homesteaders) are not often represented in documentary accounts, and one of the standard lessons of archeology is the relative muteness of data. There is, however, a third and important source of information: Oral history accounts must be sought as nearly every family preserves oral traditions--a body of general information, which has never yet been put into permanent form. The winnowing of this material to secure the occasional kernals of historic truth that it yields, is as yet a neglected function in the research of historical homestead sites.

ORAL HISTORY CONTEXT

Oral history serves as a bridge between documentary accounts and ethnography-despite inherent limitations due to the fallibility of human memory, oral history does present an opportunity to illuminate and understand the cultural matrix of the informant and to cross-examine the sources to a degree that is usually impossible with written sources. Much valuable information which would eliminate some "scientific speculation" can be gleaned from the few remaining "old timers." I must advise, however, that one uses discretion in the case of inviting the old homesteader (or the son or daughter) to revisit the site to question them about various aspects of their domestic and agricultural activities. The assumption that seeing their former home and being allowed to survey it at their own pace would contribute positively to their recollection efforts, maybe only partially successful. Instead of having their memories jarred into action by the site of the farm and house remains, the informants may be overwhelmed by the amount of perceptual input they have to process. In other cases, returning to the site will bring back memories, but those of emotional significance to them, the room where a loved one had died, the location of a once beautiful garden, and so forth, rather than recollections of immediate value to the archeologist.

Instead of returning informants to the site immediately upon establishing contact with them, a session in their homes using photographs or sketches of the house and adjacent grounds might give them an opportunity to organize their recollections without the distractions created by the farm's present condition.

Cultural anthropological techniques depend on living informants and so naturally relate to oral history. Indeed, much of our knowledge of traditional American Indian and African cultures is based on such "memory ethnography." Questions concerning the differences between documentary and oral sources and their analysis are crucial and cause oral history to overlap as much with ethnography as with historiography (Schuyler, 1978).

Additionally, oral histories can provide insight into broader and more intangible aspects of homestead settlement specifically ethnicity as it relates to homestead settlement patterns. Oral sources i.e., local informants are often the only source of basic and important information answering such questions as, where did the folks in your community come from?

The tendency of homesteaders from the same region of origin to settle in the same areas (adjoining sections within townships) would allow archeologists to better associate ethnicity within the communities to which clusters of sites belong.

SETTLEMENT PATTERNS IN RELATION TO HOMESTEAD SITES

Since historical archeology in this region has not yet come of age, little or no research has been conducted in the study of settlement patterns.

In order to investigate the behavior possibly represented by homestead sites, a context is required. Activity periods provide a context based on temporal discontinuity and synchronic continuity. Settlement pattern studies provide a context for studying the interrelationship of sites across the landscape i.e., between townships or sub-regions within the Powder River Basin.

Archeologists have only recently commenced to empirically test the utility of settlement pattern analysis as an expanding framework for research in historical archeology.

Defined in various ways but primarily concerned with the distribution of human activity across a land surface, the concept of patterns of settlement was developed by human geographers as a means of organizing their field data. It is for this use that the concept was taken over by archeologists working with collections of prehistoric sites. Willey, one of the first to do so systematically, pointed out that settlement pattern was a strategic starting point for the functional interpretation of archeological cultures, because these patterns "reflect the natural environment, available technology, and various institutions of social interaction and control which the culture maintained" (Willey 1953:1).

In the last two decades the investigation of settlement systems has also formed the cornerstone of studies dealing with processual interpretation through examination of cultural ecology. Settlement pattern has also been useful in developing research questions within the context of the dramatic expansion of archeology carried out as part of cultural resource management programs. Settlement patterns have thus proven invaluable to prehistorians on several occasions and on several continents (Stewart-Abernathy 1980:25, 26).

Within the scope of historical archeology, an investigative framework based on settlement pattern, satisfies two important criteria with which to organize questions about the behavior of extinct social groups. These criteria provide analytical thoroughness on an appropriate scale, and integrate information in documents with physical evidence.

The concept of settlement pattern is flexible enough to be used at almost any spatial scale, from the individual building, room, or activity area to the region defined topographically, to areas covering hundreds or thousands of square miles. Settlement pattern studies can also support a scale of a behavioral analysis ranging from the micro-events occurring in a single productive unit to the macroevents such as the development of agriculture and the rise of state level political and social institutions (Stewart-Abernathy 1980:26).

In relation to homesteading activities, settlement pattern can demonstrate its utility by integrating the two data sources of

documentary and physical evidence. Settlement pattern has its focus in the spatial distribution of physical evidence, but a cultural landscape contains great complexity in detail.

The archeological record of human activity on the landscape provides certainty of place, a spatial context, and the material results of behavior at that place. The documentary record indicates motives and a summary of activity. Each will complement the other. GLO records, for example, can confirm a location, an occupation range, and an occupant or series or occupants. Site investigation can determine the sites spatial context and integrity. Other sites whose documentary description are less complete can then be keyed to the known one.

Additional documentary and oral information on social patterns can add contemporary life and the important social context to the artifacts and sites.

The integration of the two data sources, through settlement pattern analysis, not only measures and confirms the reliability of each data source, but also generates understanding of social and spatial relationships between people and land on a far more sophisticated level than if either data source were used alone. If site specific questions are demanding, the answers may be obtained from direct participant-observer (i.e., oral) information (Stewart-Abernathy 1980:27).

As postulated by Leslie Stewart-Abernathy (1980):

> "One means of insuring that the analysis of the landscape can reach a sophisticated level for understanding of the past is to conceive of settlement pattern as an artifact. As such, as with all material culture, it is the result of choices made among many alternatives according to a set of cultural rules (and limitations). These choices, therefore, to a greater degree, reflect the belief and activity of a particular set of people at a particular time. Understanding the full message an artifact is carrying, therefore, con- tributes to understanding the people and the society that made the artifact, particularly if artifactual information is seen in the wider context of material cultural systems" (Stewart-Abernathy 1980:27) (parenthesis added).

Historical archeology provides an excellent point from which to carry out studies of the total artifact of an extinct but historic settlement pattern. Because of its grounding in physical evidence, whether that evidence is above or below the ground surface, historical archeology is well positioned to examine the recoverable physical evidence of patterns of landscape organization including roadways, farmsteads, standing structures, sites, field boundaries, refuse areas, and assemblages of cultural material. At the same time, other aspects of settlement pattern can be assembled primarily from the documents and oral sources. For example, extinct ecological relationships may not be as visible as cellars, wells, buildings, foundations, and material culture, yet by assembling area specific data on agricultural techniques and practices and on specialized resource exploitation, it is possible to attempt reconstruction of much of the reason behind decisions affecting both the specific landscape and the structure of the society itself (Stewart-Abernathy 1980:28).

Specifically, why did certain homestead communities fail while others managed to endure?

RESEARCH PROBLEMS

Research problems involving settlement pattern can be organized on three geographical and social levels, the site, the community, and the region (Stewart-Abernathy 1980:29).

The site should be examined in detail, but eventually its relationship to the community and region must be defined. All three levels must be understood before the total settlement pattern can be known.

At present, there is an appall ng lack of data about all three levels of settlement pattern in relation to homesteading in the Powder River Basin. An enormous amount of research is required, for example, on a number of site problems of diachronic and synchronic interest. These include dwelling and service building construction, understanding of floor plans, presence of cellars, the visibility of various foundation types, farmstead layout, the presence of climatic or microtopographical incluence, disposition of domestic refuse, descriptions and identification of activity areas within the stead not directly associated with structures, chemical visibility of domestic behavior including food acquisition and preservation efforts, access to water by dug or drilled wells or by springs, disposition of human waste, and the sequence of expansion of the farm beyond the stead itself.

An important contribution of settlement pattern studies is the effective use of an assumption: if the human landscape is taken as an artifact, and questioned for what it can reveal about the people who made it, this analysis can provide a beginning point for wider interpretations about sites. Using this assumption, looking at sites as nodes in a network of settlement pattern helps to rescue archeologists from the severely confining single site approach that has dominated historical archeology. This domination continues no matter how cleverly that single site is interpreted in terms of representation of some broad scale theoretical point (Stewart-Abernathy 1980:32).

ECOLOGICAL AND CULTURAL RESEARCH PROBLEMS

Within the broad scope of a "frontier" settlement pattern, the single site must be examined in a fine focus relationship within an environmental and ecological system. The inherent nature of the Powder River Basin posed a set of environmental problems for the homesteader as well as the rancher that somehow had to be coped with before human habitation could be made feasible. The scarcity of vital resources such as water and building material were the paramount factors which dictated the manner of successful human adaptation to this hostile environment. With the influx of homesteaders there occurred a competition for limited resources such as land, water, and other resources, as evident in overt hostile resentment of the "nesters" and dry farmers by the established ranchers who previously had unrestricted us of the reosurces on the public domain (Hardesty 1980:71).

Donald L. Hardesty in his study of "The Frontier as an Ecological Process" discusses the "concept of the frontier as an ecosystem" and challenges Frederick Jackson Turner's thesis (1897), that the common frontier experience "homogenized" human behavior. According to the principal of "competitive exclusion:

> "organisms using the same scarce resources cannot permanently co-esixt but must either find alternative habitats or ecological lifestyles" (Harden 1960, Hardesty 1980). (He further notes that) "under conditions of competition, organisms will change in such a way as to remove or reduce the intensity of the competition; and, identified two kinds of changes."

One, intensified territoriality, resulting in exclusion of competing human societies. The other is to change the patterns of resource use so that the same resources are no longer being used. An ecological analogy--"niche differentiation" is used as an explanation of how diversity in human behavior arises (Hardesty 1980).

In application to homesteading during the period after 1909, the intensifying of competition is likely to solidify traditional ethnic identities and define new-ethnic groups. The genesis and persistance of ethnic boundaries, the incorporation of ethnic populations and the organization of inter-ethnic relations are generally related to factors affecting competition for environmental resources.

This presents a new range of significant research problems in relation to homestead communities and households. If ethnic boundaries are thus solidifed and cultural patterns become more heterogeneous, does the means of making a living become more diversified? Did homesteaders out of eco-cultural necessity adapt to a combination stockraising/agricultural, rather than purely an agricultural or pastoral one?

What was the impact of competition upon the lifestyles of homestead households? Is there disconcernable evidence in documentary or archeological data for increasing cultural diversity as competition intensifies? How reliable is population growth and decline as a measure of the intensity of competition? Homestead communities and households provide a suitable model for testing the degree heterogenity and diversification. How does this reflect the type and

size of entries by groups within township areas? As the daugther of one homestad recalled, "We would often file on 320 aces rather than a full section so we would be closer to our neighbors as well as to get enough people in the community to get a post office and a school established . . . . We had to help each other out if we were going to make it." (Personal communication with Ioris Engdahl of Gillette, August 23, 1983.)

There are, to this writer's knowledge, no studies of land disposition patterns in Wyoming save for some dealing with a few township and ranges in Albany and Johnson Counties to 1890 (Boughn 1964, Tanner 1967, Scott 1978). To what degree is there evidence (documentary and archeological) for the proposition that "the 640 acre act benefitted the big ranchers rather than (and at the expense of) homesteaders." (Personal communication with Dutch Geis of Gillette, August 25, 1983.) What evidence would indicate the cases where ranchers "got those soldier boys (in 1917) to file on a claim; of course pay their filing fee, use their service time toward residence and proving up while the entryman "ever saw the land . . . (then) . . . these ranchers would pay $2.00 or even $3.00 per acre for the land." (Personal communication with Dutch Geis of Gillette, August 25, 1983.)

How, and to what degree, does the transfer of the public and private domain (especially in the 1920s) reflect the enlargement of ranch units in comparison with the demise of the dry-farmer?

The minimum requirements for proving up on a claim included erecting a suitable dwelling and making improvements. Cowboys or soldier-boys entering claims for a rancher would rarely make extensive improvements if any at all, "proving up in actuality was a farce." (Personal communication with Dutch Geis of Gillette, August 25, 1983.) Is this evidence of legal or extra-legal land aquisition and competition?

Some cattlemen were likened to "vultures waiting for the homesteader to starve out" or (fail) after patent so he could offer a "fair price" for the land. (Personal communication of Dutch Geis, August 25, 1983.)

Many patented homesteads were sold in the 1930s and 40s either to the government or to other private citizens. How long did homesteads remain in the hands of the original patentee and what was the ultimate disposition of the land and associated structures?

In the Thunder Basin Grasslands region for example, most homesteads were relocated or removed, therefore, any remaining example of an articulated farmstead would be significant due to such "cannibalistic" practices.

Ranchers who acquired lands containing abandoned homesteads also practiced cannibalism, i.e., reutilizing the scarce building of materials on their own ranches. Hence, intact farmsteads became increasingly scarce throughout the region. Reutilization was also evident in such cases as old structures being dismanteled and the materials used in the contruction of modern dwellings.

An example of this is evident in the Skiles homestead on the Fort McKinney Military Reservation (Cantonment Reno). A two story stucco dwelling which was occupied into the 1950s, was constructed of hewn-beam timbers from an old homestead once located on the other (east) side of the Powder River (on site investigation and personal communication with Tom Heistand and Pat Garrett, Sussex area ranchers, June 8, 1983.)

This reflects not only reutilization of scarce resources, but also settlement relocation patterns in relation to shifting range needs and the location of market outlets in the region.

Settlement in the Powder River crossing area is not sufficiently documented (historically or archeologically) to verify this later settlement shift across the river. Again, I must point out the urgent need for additional research in relation to homestead settlement patterns throughout the region and within sub regions of the Powder River Basin.

HOMESTEAD SITE ARCHITECTURAL DISTINCTIONS

Remnants of buildings on homesteads have not been adequately illuminated historically or archaeologically and available data has not been recorded in detail sufficient to generate information as to dwelling types, farmstead layouts (including support and auxillary structures) within a temporal and spatial context.

Although most of us are familiar with the log cabin, something might yet be learned as to the sites selected for them, and minor differences in construction (i.e. notching). Less familiar is the cropping out of the porch in front, the spreading of the ell behind, and the two lean-to wings, the sheathing with clap-boards, and the clothing of the whole with plaster or stucco, all representing stages in the prosperity of the occupants.

A careful study of architecture will nearly always reveal the approximate date of foundation, the periods of prosperity and depression, the origin of the inhabitants, and many other facts of importance. Ones indicating poor land or unthrifty occupants, and being generally remote structures may denote either advance or retardation of progress. Other studies of economic value may be made from the use of different kinds of building materials.

On the whole, log cabins were necessarily much alike; but when the log came to be superseded by more flexible material, the settler's first idea was to reproduce the home or the ideal of his childhood, and the house tends to reveal the ethnic or geographic origins of its builder. (Schuyler 1978)

Historical archaeology must be architectural in orientation and reconstructive in both purpose and scope. With very few exceptions, historical archeologists deal with areas that have been (or are) the sites of historical structures, as opposed kill-sites, transient camps, caves, and other similar non-structured prehistoric sites. More frequently than not, historical sites are (or were) multi-structured, as even the humblest log cabin had one or more outbuildings for domestic or livestock purposes (a 'cabin' is defined as a single-room structure and a 'house' is defined as a multi-room structure both being used for dwellings). The purpose of historical archaeology must be to achieve, insofar as possible, the complete understanding of the history of any given site and the scope of such research must include the recovery of all evidence of historical cultural expression at that site including all architectural evidence. This situation requires that the historical archaeologist be familiar with such architectural features as prepared foundations, footings, fences, wells, floor joists, wall beaming, fireplaces, porches, lintels, stoops, basements, cellars, barns, chamfering, drip lines, and steps--to mention only a few. In addition, he must also be well acquainted with the many ways in which building materials, such as wood, stone, brick, and mortar can be used. And not only must he be familiar with these aspects of architecture but he must also be able to recognize traces of these features from archaeologically obtained evidence.

At the conclusion of the investigation and documentary research, the historical archaeologist should be able to present a thoroughly documented history of the site, a lucid description of the archaeological work accomplished, and a synthesis of the results. Ideally, when both the research and report are finished the site can be theoretically (or actually) reconstructed to the desired historical appearance, and reconstruction

is defined as the building from new of most or all parts of a vanished historical structure or complex of structures (not to be confused with less inclusive terms such as rebuild, remodeled, develop etc.). The final report should be of such a nature that a competent architect can take the findings and, with little purely architectural interpolation, proceed with actual re-construction of the site. (Schuyler 1978)

Homestead dwellings located in the Powder River Basin include five (5) distinct structural types: log cabins, sod houses, dugouts, rock houses and frame houses. Auxillary structures on a single site may exhibit the adaptation of a combination of these structural types dependent upon their function in relation to available resources in the local area and to the cost of other materials available at that time.

In historical archaeology, it is just as important to discover how the construction took place as it is to discover that it took place.

To 'identify' a site means to determine its temporal and cultural affinities, and to 'authenticate' a site means to trace the site's historical lineage to establish the authenticity of its historical association with specific individuals or groups. It is a function of historical archaeology to find (and present) evidence, develop hypotheses, and establish facts regarding both of these two aspects of site verification.

Site identification is a universal procedure common to all archaeological sites, historic or prehistoric, but site authentication is a verification function usually unique to historic sites. Historical structures, in almost all cases, were built according to patterns dictated by the

thrusts, loadings, and stresses required to support the heavy building materials used in those structures and include the use of prepared foundations, commonly used units of measurement for building dimensions, structures of widely differing functions built in identical or very similar manners, and architectural features generally unique to historical building traditions and styles (such as porches, steps, wells, privies, cellars, and fireplace foundations, etc.). Since historical archaeology is reconstructive in purpose and scope, the researcher must determine both that such features exist at a site and their method of construction.

American frontier society has traditionally utilized trees as an integral part of its folkways as exhibited in the log cabin. Where there was a variety of available timber the pioneer and early homesteaders in the east learned to make selective use of different kinds of wood.

The residential log cabin and associated log housing, products of cultural tradition and natural conditions, were created by common people to suit their own needs. Like other forms of folk architecture, log housing was a simple, direct expression of a fundamental human need transmitted orally from one generation to another, or from one man to his neighbor, without written direction or professional counsel. (Weslanger 1969:317)

Although the basic concept of notched log construction diffused westward from Europe to America, and continued in a southerly and westerly flow over the Appalachians and through the Rockies as the frontier advanced, there was another cultural wave which came from the opposite direction. The log dwelling entered Alaska from the east carried by Russians to what they called Russian America at the same time the concept was spreading across the continent to the Pacific. (Weslanger 1969:322)

The different methods of corner notching characteristic of the American log cabin, while representing Old World importations, were used contemporaneously in the post-pioneer American settlements depending upon the skill, whims, available tools and materials, and the previous experience of the builder. (Weslanger 1969:334)

Specialists in log structures have devised descriptive terms they used for the six most common methods: saddle notching, V notching, diamond notching, full dovetailing, half dovetailing, and square notching. (See Appendix I-3).

Weslanger and other architectural historians of the log cabin and houses have been unable to discern any temporal sequences in the several methods of corner notchings, because in the New World, cabins of round logs, those of hewn logs, cabins expertly built, and those crudely thrown up, some with simple, and others with more complicated notchings, were all being erected within a relatively narrow time span.

Log cabins appear to be the predominant dwelling type in the Western Powder River Region as one source indicates:

> "The houses were all of logs, chinked w/ chips cut from the corner and daubed w/ clay or red dirt mixed to a paste. Near the mountains, gypsum was sometimes burned and used as an excellent plaster.
>
> The roofs were boards or (sometimes) poles laid on three ridge logs built up to form a slant. The roof could not be too steep or the dirt would not stay in place. The poles or boards were covered w/ tarpaper or...gunnysacks...used as an extra precaution against dirt sifting through and against the muddy water during the heavy spring rains or snows.
>
> The center ridgepole always projected 3 or 4 feet beyond the roof on the north side of the house and was used to hang beef, venison or other meat. The meat was always covered w/ canvas as a protection against magpies... Wood the only fuel used and stoves were of the box variety.
>
> Houses...although not particularly handsome from the viewpoint of the architect, they were really quite comfortable..." (Buffalo Bulletin No. 11 Aug 16, 1979)

Weslanger concludes his study of "the log cabin in America, stating that:

> "Geographers have come to recognize that there is an important difference between the natural landscape and the cultural landscape, in that the latter, which is the basis of cultural geography, reflects the alterations introduced by man such as dwelling houses, farm buildings, villages, towns, roads, mines, quarries, etc. The structure and forms of housing is one of the outstanding features of the cultural landscape, and is generally the first cultural phenomenon introduced into a region although it is inevitably subject to change. Future research may be expected to reveal additional data about the log cabin, particularly the associations of different methods of corner notchings with different cultural groups and why certain preferences resulted in the domination of one method over another in certain areas. This I will leave to others better qualified to investigate, but time is grown short. A day is rapidly coming when the American log cabin, except for memorial structures, will be extinct". (Weslanger 1969:341)

The more permanent class of structures, made of more durable materials (such as foundations of stone slabs) were dependent upon the availability of choice materials in turn dependent upon the location, health, taste or economic convenience of the homesteader. Logs often were "floated" or hauled to the site location if such materials were not available in the immediate vicinity (Wicks nd. 8,9) Homesteaders often used "do it yourself books" which were available; as exhibited by the Cullen J. Watt cabin (ca. 1883) (presently owned by and located on the property of Daryl Spiering of Buffalo) which was built according to specifications in the book by Wicks. (Johnson County Library)

Archaeologists would be well advised to consult such works in evaluating and documenting homestead cabin construction. (See Bibliography)

Log cabins were still being constructed by homesteaders in the twentieth century and were sometimes quite elaborate. (Spencer 1975)

SOD HOUSES AND DUGOUTS

> Although colonial settlers often resorted to dugouts and caves for shelter in the initial period of European settlement in Northern America, the use of dwellings composed of earth sods awaited the expansion of settlement onto largely treeless, prairie plains of the continent. The use of sod largely died out as soon as the railways net was dense enough to sufficiently lower railway freight rates to permit widespread delivery of low cost lumber to these ares. Its use as a building material of the plains, thus, is largely restricted to the latter half of the nineteenth and the opening decade of the twentieth centuries.
>
> Two distinct sod building traditions can be identified in the American prairies. The earlier one is associated with Russian-Germnan settlers who brought sod building techniques to the plains of North America directly from Russia. This tradition is not well documented. Sod building also was employed by migrants from the eastern states and newly arrived settlers from western Europe. These latter groups tended to continue to follow earlier buidling techniques and forms in their use of the widely available sods" (Noble 1981:61).

The literature on sod buildings is not extensive. Sod houses were not viewed as objects worthy of study when they were being built on the North American prairies during the latter half of the nineteenth and early twentieth centuries. Some settlers did describe them in letters to family left behind in eastern North America.

Dr. Dena S. Markoff in the 1982 report of the Hamilton Homestead site presents a general description of dugouts and their history. The report is herein presented in its entirety:

> When the pioners moved west onto the Great Plains in search of new lands, the initial task was to locate and make a claim to a chosen site. The homesteader then had to secure a proper shelter. On the prairie where timber was a scarce commodity, the homesteader turned to the materials at hand: the soils and grass. Frequently, the first makeshift structure was constructed largely from sod, grass, and man's hard work. These homes were peculiar to the prairie region. A dugout, which was easier to

construct than a sod house, was regarded by the homesteader as temporary shelter until finances and time permitted building a more "civilized" permanent home. The average life of a sod house or dugout was six or seven years, but many homesteaders inhabited their underground dwellings much longer. One account related that a family in Kansas lived in a dugout for 15 years.

The typical dugout site was the side of a hill or ravine running along a watercourse. The bank chosen was typically steep and as high as five to six feet. There the homesteader cut a hole usually measuring 10 by 14 feet, rarely larger than 12 by 18 feet, However, the average sod house or dugout in Oklahoma was 16 by 20 feet.

Sod bricks were made by plowing a low-lying area where the sod was moist. The furrows were about 4 to 8 inches deep and from 12 to 18 inches wide. The sod was cut into bricks about three feet long. The sod bricks were placed side by side to form the front of the dugout with every other layer placed crosswise to provide better binding. Often, dirt was used as a filler or sticks were driven down into the walls to provide some reinforcement. The longer wall was parallel to the face of the ravine. The rear wall was the natural wall of the cave. The excavation was ordinarily completed in a few days.

Logs, poles, brush, and grass were utilized to finish the roof and front of the dugout. The running gear of the family's wagon was sometimes used to haul the supplies to the homesite. Several logs or posts for a door frame were securely driven into the soil. If enough wood was found, the homesteader fashioned a window frame for the front wall, next to the door. The front wall was made of square-cut sod, or less frequently, logs or stone. The door and window were fitted into the front wall. Side walls were partially formed from the solid bank of the ravine, and were sometimes supplemented by cut sod squares or logs.

The longest pole available served as a ridgepole and was placed across the dugout parallel to the ravine. If the sod walls did not support the ridgepole, two or three supporting posts with forks at the top were placed under the ridgepoles to support its weight. Rafters perpendicular to the main support pole were placed about one foot apart similar to placement of the rafters on a house. Brush and layers of prairie grass covered these rafters. A thick layer of dirt was then spread over all of this. Occasionally, the builder cut sod squares similar to those which made up the front and side walls and placed them on top of the brush and grass. During times of heavy rainfall, a sod roof was not water proof, so the pioneer dug a trench across the floor of the dugout to drain it.

The front door may have been constructed of wood secured to the door jamb with leather hinges. If wood was not available, a blanket, piece of muslin, or the cotton which covered the wagon-hoops of the wagon box was used. Oiled paper, cheesecloth,

> muslin, or animal skins served as window panes. It was common for the homesteader to stretch muslin across the top of the ceiling to prevent dirt and insects from falling into the shelter.
>
> The floor of the dugout generally was hard-packed earth, which after a short period of time, could be swept clean. Wooden floors were rarely installed, due to the scarcity of wood and frequent dripping rain which could warp wooden floors making them more of a nuisance than a luxury. Many homemakers placed rugs or skins over the floors.
>
> Interior walls were finished in many ways. Typically, they were smoothed down and plastered with a mixture of clay and ashes. Whitewash applied to this plaster made the room cheerful and bright. If rock or shale were available, as in certain areas of Kansas, many homesteaders lined the interior walls with rock. Many pioners papered the walls with pages from catalogs, newspapers, or letters.
>
> Usually, the dugout consisted of one large room in which the homesteader and his family lived, ate, slept, and cooked. On one side of the room, the owner usually constructed a fireplace and chimney built of bricklike blocks of turf. Usually one joint of stovepipe projected through the roof into the open air. If the homesteader did not bring furniture west with him, he built his own. Many accouts refer to the construction of beds against one wall, usually across from the stove or fireplace. One Nebraska woman stated, "Bedsteads can be made of forked poles driven into the ground with sticks laid across them." Chairs, benches, and shelving were constructed from timber, kegs, or unpacked boxes. One author describing his parents digout stated that, "since they owned no furniture, they dug a three-foot wide shelf around the whole room which they used for chairs, dining tables, beds, and miscellaneous shelves."

Although Dr. Markoff presents a lucid description of dugouts as dwellings--and they may have been so in many cases--this type of structure is most widely represented by auxillary structures such as cellars and chicken coops (personal observation and personal communication with Dutch Geis and Thelma Chaney of Gillette, 24 August 1983). On-site inspection of the Hamilton Homestead by this author has caused my questioning of the determined (or not determined) function of the dugouts on this site. The largest dugout (Str. 1) located adjacent to structure 2 (a concrete foundation) may have been

a temporary dwelling but most likely served as a cellar due to its proximal location to structure 2 (the "stove pipe" as noted may have been a vent pipe). A smaller dugout near a structure identified as a barn and separated from the barn by a fence (function not determined in this report) may very well have been a chicken coop (personal observation, 24 August 1983). I must stress at this point the importance of an archeologist to record dimensions and construction methods as well as to make an educated interpretation as to the activity function of the structures comprising a site.

Though a common misconception, sod houses are not fire proof. A Goshen County homesteader recalls his "soddy burning down in a prairie fire" (personal communication with Edward Ellisworth of Casper July, 1983).

Outbuildings, essential to a viable farmstead, must be documented in relation to construction methods as compared to other structures, i.e., (lack of notching-using toe-nailing and scarph joints) as well as the probable place of origin of the materials (for example, pine log structures in an area where only cottonwood is found).

Genuine "soddies" appear to be extremely rare in the Powder River Basin, owning to the scarcity of sod between the sagebrush. Accounts indicate that some sod houses were constructed in some areas (near Nine Mile Area, Johnson County) but due to their fragile nature an intact example would be most significant.

ROCK HOUSES

Rock houses are evident in the Powder River Basin and range from single story shed roofed structures to two-story dwellings (where the second story is wooden, using the first story as an elevated foundation).

This author knows of only three examples of such native rock structures, two in Campbell County and one in Johnson County. A two-story native black-rock house located 25 miles southwest of Gillette, was built by John Powers prior to 1916 (personal communication with Dutch Geis, 25 August 1983). The single story rock structure in Campbell County has associated rock walls or fences, indeed rare for an area where barbed wire is so predominant and inexpensive. Therefore, intact rock houses are also a rarity in the region.

FRAME HOUSES

Although frame dwellings are the most common contemporary architectural type in the region (with the exception perhaps of mobile homes in some areas) frame construction in the Campbell County area dates as far back as 1897 when a lumber yard and building supply house was opened in Gillette which fostered the construction of single story frame houses in the town (Lecompte and Anderson 1982:109). After 1901 people began building two story houses in Gillette and bigger ranches. After 1905 cement blocks were available in Gillette. In 1912, a brick yard was also established (Lecompte and Anderson 1982:109).

Thus, given the capital, a homesteader could have conceivably constructed cement block or brick structures or used them in foundations for frame houses. If it is true that the "typical homesteader" coming into the area had little or no cash and "hoped to live frugally off the cash from his dry farm crops (possibly assisted by off-season employment elsewhere) "to secure an essentially free piece of land for his three-year venture" (Murray 1981) he probably sought to construct the most economical dwelling within his means. Therefore, although almost contemporary, frame houses in association with homesteads after 1912 would provide an indication of relative wealth as contrasted with the "tarpaper covered shacks" that many homesteaders were compelled to reside in until a more suitable structure could be financed and constructed (personal communications with Ioris Engdahl of Gillette, 22 August 1983). Frame houses as with all structures should be recorded in explicit detail according to recognized architectural nominclature.

SUPPORT STRUCTURES AND OUTBUILDINGS

Outbuildings such as barns, sheds, cellars, corrals, stock tanks, cairns, privys and wells (hand excavated or pump drilled or wind propelled) are essential components to a reliable farmstead. they represent the types and extent of activities conducted by the family unit on the site. There is presently no documentation of farmstead plans during various activity periods.

These sites components (i.e., dwelling and associated outbuildings) are site attributions indicative of the homesteader's "committments to values of permanency" (Buckles 1981:21).

Such attributions of committment are exhibited by:

1. Habitations built with care and expense--usually of durable and lasting materials.
2. Segregated refuse deposition areas as opposed to dispursed dumping of refuse adjacent to habitational dwellings.
3. Privies versus the lack of such basic facilities.
4. Provisions for domestic water supply, (ditches, wells, springs, ice houses, etc.) versus a poor logistical location distant from this critical resource, requiring its transportation to the site.
5. Property markers such as fences, defining the limits of the property as well as to segregate domestic and nondomestic activity areas (i.e., protecting gardens from cattle, sheep, or chickens).
6. Artifacts relating to farm and household functions in general and those of long term relationship to the sites environment (i.e., ceramics, glass, utensils, food jars, buttons, hardware, types of fence wire, tools, farm implements, etc.).

A site which exhibits all of these attributes, (especially #4 as water was the real gold of the west), reflects the home/farmsteader's values and degree of committment to permanency (Buckles 1981:21).

MATERIAL CULTURE

Man is nothing more than a biological species in an ecosystem but who possesses the advantage of technology with which to adapt to the environment. The household is an interface between biological and cultural processes--changing in organization and composition to more effectively adapt and cope with environmental problems.

The household in this respect is the equivalent of th individual in other species (Hardesty 1981). The prime factor which sets man (and the household) apart from other species is the use of the artifactual technology as manifested in the material culture deposited during his occupational activities within his "niche."

Interpretation of material culture provides clues to patterns of behavior and activities of the occupants at the site. Every archeologically recovered artifact has two inherent dates--its date of manufacture and its date of deposition as well as a definable location in relation to the matrix of the site. (See also Fawcett 1979:46-48; Rosenberg and Kvietok n.d.; Gillio, Levine and Scott 1980; Miller 1980; Jones 19081; Lofstrom 1976; South 1977, 1978; Wilson 1981; and Hunt n.d.)

Peterson and Hauff in the introduction of a paper on "Historic tifact Analysis" maintains that:

> "Archeological investigation into any site is not complete without the analysis of artifactual remains in order to address site date and function. With many historic sites, a unique opportunity is available to both archeologists and historians. An archeologist rarely has an opportunity, on prehistoric sites,

to compare the artifactual analysis results with written primary record. This comparison may affirm results of the analysis or may reveal errors in the interpretation which might not be caught otherwise. The historian, on the other hand, has the opportunity to compare written primary and secondary information to primary physical records and to gain a better and different understanding of a site. Temporal and functional analysis of historic artifacts should be carried out in order to gain the greatest understanding of an historic site.

In determining the dates of occupation for a site the artifacts may be separated into three categories, each of which must be interpreted differenctly. 1) Durable goods such as tools, kitchen utensils, and funiture, which are used many times over a long period of time, are not necessarily contemporary to an occupation, 2) Building materials such as nails, window glass and fencing, which are generally new when introduced into a site and are part of permanent fixtures, can be used to determine construction dates of buildings, fencelines, and other features, 3) Expedient goods such as beer bottles, food cans and tobacco tins which have a short term of usefulness, provide dates most contemporay to the occupation of a site because they are subject to more frequent changes in appearance and technology.

Analysis of use-specific artifacts such as tack and farm implements may reflect certain activities that occurred on a site. These activities, given enough artifactual evidence, may reflect the primary function of a site." (emphasis added)

Individual artifact groups can be broken down into their constituent classes to allow for comparison and isolation of variables on the class level (as postulated by Stanley South in his study of the "Carolina" and "Frontier" Artifact Patterns) (South 1978). Is there a frontier pattern assemblage regarding homesteads?

Other classes of artifacts such as toys can provide clues to past human behavior--do they represent children, thereby women?

South further postulates patterns of refuse disposal, for example:

"Those odorus remains of refuse, such as bone, would be discarded farther from the structure whereas those less odorus items such as a broken plate, dish, or sweepings from the floor would

> be thrown nearby, beside the back door or off the end of the porch, front or back, to become scattered throughout the yard by pigs, dogs, chickens, and children. Under these conditions, a higher ratio of bone to artifacts thrown from the house would be found at a distance peripheral to the structure, whereas that refuse thrown adjacent to the house would have a low bone-to-artifact ratio ...
>
> (whereas) ... at domestic sites where middens adjacent to dwellings would be expected to have a low bone content compared with those peripheral middens farther from the house in a gully, or abandoned well, privy, or cellar hole." (South 1978, on-site experience with Stanley South, Parris Island Project, South Carolina, Fall 1979.)

On homestead sites of various activity periods, is there an obvious result of behavior designed to remove trash from the immediate vicinity of the occupied area?

Most importantly, artifact analysis can yield information as to subsistence patterns and specific indicators of relative wealth and health (i.e., the presence of medicinal bottles).

In defining foodways, the use of faunal analysis becomes invaluable in delineating the broad outlines of the cultural screen that underlies the whole interrelated system of foodways. It is within these outlines that the selective use of wildlife becomes explainable.

How dependent were the homesteaders upon wild game (although legally controlled) for subsistence or income (as in bounties for coyotes)? Is there evidence for the use of canned goods more prominent on one site as compared to another?

RESEARCH CONSTRAINTS - RE: HOMESTEADS

There are however certain constraints which must be taken into account in relation to artifact analysis in specific and social constraints on the conduct of the science in general.

First, when the homestead was abandoned the occupants usually departed with the materials which were still of use to them so archaeologists are most likely to find previously discarded implements (i.e., the old worn out cook stove which was replaced by a newer one). Second, perishable items such as books, cloth, clothing, table cloths are not likely to be found. Third, post-occupational intrusions manifested in "tin cans" and "modern trash" left by sheephearders which have caused investigators to dismiss the sites significance on the grounds of compromization of its integrity. Perhaps through artifact analysis, and arriving at a post occupational date or range and thus gain additional insight into mobile camp behavior.

Larson and Tibesar (1981) attempted to make a distinction between sheepherder camps and historic trash scatters by the kind of materials present. Wood chip scatters, condensed milk cans, sardine cans, tobacco tins and lantern parts were attributed to sheepherders, although they stated that "recognitive criteria" needed to be developed (Larson and Tibesar 1981:55). A discussion followed of the homesteads relating to their archeological significance and to possible future research question: (Rosenberg 1981:110-111).

> Given such a series of sites which would appear to have high integrity and high resolution in addition to general as well as specific historic documentation, the possibility for contributions to a broad range of research applications is high ...all of these sites were inhabited for quite a limited period of time and the relationships of material remains has not become exceedingly complex through extensive maintenance or renovation. Although there are no standing structures (most apparently have been removed), the basic integrity of patterns of domestic refuse within these homesteads are apparently little affected by such postoccupational modification. Also deeds searches completed provide an excellent means of comparison between archaeological record and documented use of these localities (Larson and Tibesar 1981:74).

Another constraint is the people to whom the historical archeological record exists only as an accumulation of objects to be exploited for commercial or emotional gain. Bottle collectors, treasure hunters, and others are usually not aware that their efforts can do great damage to the complex relationships of soil and artifacts that provide the critical context that archeologists carefully record and interpret.

The major social constraint pertains to problems with specialists in historic preservation and related fields arise through failure to recognize or fully appreciate diagnostic artifacts of activity periods when they are encountered. Historical archeology is a new field with a national organization less than 20 years old. The special skills in artifact identification have not yet percolated through the ranks of local historical organizations, architectural historians, state preservation groups, or professional archeologists. Consequently, although important constituencies exist, these people often do not appreciate the archeological correlate to their studies of local

history, historic structures, or sites with historic components (Stewart-Abernathy 1980:41).

There are also certain legal restrictions with far reaching ramifications in homestead sites archaeology concerning the disposition of graves or cemetaries (Markoff 1980).

Yet osteological study of these graves would provide invaluable demographic data such as the rate and causes of mortality (esp. infant mortality) in relation to homesteaders in the region.

SUMMATION

In relation to the proposed archaeological research, the importance of homesteads is two-fold:

1) As a control group for use in the development of criteria for recognizing true habitation sites.
2) As a means for understanding twentieth century agricultural/ pastoralist adaptations to the area.

The importance of these historic sites, and hence their significance, is based primarily on the type of additional archaeological data which can be obtained through further investigation of these sites.

Unlike many recorded prehistoric sites, many of the historic homesteads recorded demonstrate an unusally high degree of integrity and resolution. They contain the remains of identifiable structures and thus definable activity areas. They are also likely to be the product of one nuclear family unit, thus reducing the complexity of social interaction which undoubtedly was operational during the deposition of cultural remains. Further investigation of available records may also provide actual counts of inhabitants present during occupational periods. The material goods left on these sites can also be accurately dated and the length of occupation can be closely bracketed. Such absolute controls on the data base simply do not exist in most prehistoric contexts.

Several specific research questions which can further investigations of homestead sites include the following:

1) Are there inter-site differences in assemblage content or site structure between homesteads which appear to be directly associated with an agricultural means of subsistence and those which seem to be situated in areas apparently more suitable for grazing.

2) Are there internal structural properties (i.e., relationships between disposal areas and habitation features or can we demonstrate diversity of the distribution of domestic versus nondomestic debris) which may be indicative of a decline in the intensity of maintenance type activities prior to abandonment of a habitation site.

3) Can we in relatively high resolution sites such as these, begin to distinquish between artifact groupings that are the result of standard, "activity area" types of behavior, and artifact groupings that are the result of overlapping utilitarian use of the same space for differing activities.

4) Are there differences between homesteads associated with agricultural subsistence and those associated with pastoralism? Are their general trends which can be demonstrated for all types of habitation sites regardless of their temporal affiliation?

5) Can we begin to develop means of recognizing the symptoms of economic decline from the remains of marginal settlements?

In terms of understanding the lifeways of the inhabitants, the possibilities are immense. Presently, very little is known about the first settlers of the Powder River Basin. Who were they? What was their ethnic identity? Why were they apparently unable to successfully persue a means of subsistence in the immediate area, or for that matter, what was their principal means of subsistence?

Further investigation of these sites is likely to answer the types of questions presented here. Answers to some of these can be obtained through interviews with local residents while additional mapping and subsurface testing of these historical sites is necessary in order to begin to answer others.

In terms of understanding agriculutral/pastoralist adaption to the area, further investigation of these historic homesteads through rigorous mapping and controlled subsurface testing can provide us with information unavailable in documentary records. (Schulte 1981, Rosenberg 1981, Rehr 1983)

GUIDELINES FOR EVALUATION OF HISTORIC HOMESTEAD SITES

The evaluation of homestead sites must be conducted within the scope of a comprehensive research design to determine which levels of archival and field inventory information are needed for assessment prior to commencement of proposed energy development projects. It is incumbent upon the contracted investigator, and it is his/her ethical and professional responsibility to juxtapose intensive research in written records pertinent to homesteading in specified geographic areas with intensive field inventory of all sites potentially associated with homesteading in those same geographic areas.

Written records used as a source of information should include but not be limited to public land records, newspapers, oral sources diaries, maps, census information, tax records, and secondary sources.

Field inventory will include the preparation of inventory forms, photography, recordation of buildings and construction techniques, mapping precise notation of above ground artifacts, and subsurface testing based upon surface evidence of a potential for additional materials, and to formulate, based on both field and archival research, an assessment of the ability of surviving homestead remnants in the specifed areas to possess the potential to yield significant information on homesteading and the patterns of farming, economic conditions, ethnic background of settlers, etc. associated with it. (Montana SHPO-RFP 1982:1)

Archaeological documentation should provide a comparative analysis of kind, quality and usefulness of information relating to the homesteading experience available through written records, including primary and secondary sources, and through the analysis of the physical remnants of historic homesteading activities.

The research design should address, but not be limited to, the following considerations:

1. Historic background relation to homestead settlement within the particular study area.

2. Environmental factors which influenced the selection of the homestead site, and construction materials.

3. Ethnic or regional origins of the homestead settlers within the community/township area.

4. Traditions and/or popular design influences reflected in homestead construction, use of materials, and building layout.

5. Relationship between the means of transportation at a given period and what could be constructed or achieved at the homestead site.

6. Evidence of environmental limitations affecting the duration or economic viability of the homesteading enterprise.

7. Evidence of relationship between the homestead and the local or regional economy.

8. Analysis of artifactual remains as indicators of period and duration of site occupation and the origins, aspirations, subsistance base and wealth of the settlers.

9. Analysis of the environmental, economic, or social factors which contribute to the relative degree of present homestead site integrity (or lack thereof). (Montana SHPO-RFP 1982:2)

As opposed to prehistoric archeology where the cultural behavior reflected in an archeological site involves primarily local manifestations of relatively limited spatial contexts, in historical archeology the perspective must remain broad, at least part of the time. A specific site will likely contain artifacts generated halfway around the world, with written records of chronicle and description to indicate who made the items and when, who brought them to the site, and when they were discarded. The events at a particular location may reflect in part seemingly idiosyncratic behavior begun a thousand miles away under quite different environmental conditions and with motives that may have had little to do with the events or people actually involved at the location.

The potential contributions historical archeology can make to understanding the ways of life the homesteaders makes it imperative that historical archeology is included in any planning document for historic preservation. The focus of historical archeology is not just on sites but on understanding material culture as the reflection of people's social organization, ideology, and daily life. This is reflected in architectural remains, and in the ground as the artifacts, features, and assemblages that are nowhere else, and then out of the ground to archives, people's memories, and the surviving built environment itself. One must be reminded that it is the mundane that can be important but hidden, while the spectacular and extraordinary are often transitory and irrelevent. (Stewart-Abermathy 1980:3)

CONCLUSION

Historical (literate) records tend to represent persons and events associated with fame, notoriety, success (or impressive failures), property ownership and related attributes. The powerless, poor, inarticulate, homeless, propectiless and those with similar attributes receive little representation in literate records. Historical stereotyping by "irresponsible popularizers" (Buckles 1981:3) fail to reveal the true importance of the "unsung" homesteaders as a molding force in the evolution of the American social order. Such fallacies can be alleviated through scientific studies of material culture and oral histories in seeking to illuminate the processes and patterns of American culture. The recognition of patterns and processes are not usually the products of research when sources are purely literate.

The majority of the cultural resource survey projects in the study area involved identification and classification of the located sites but conducted little investigation into the homestead site phenomena in an anthropological framework. The majority of historic homesteads discovered and investigated were of relatively unsung populations and activities. The sites were often of limited occupational spans and directly related to specific goals or resource utilizations and not to permanent land or resource ownerships. The short occupational duration of these sites is directly related to the scarcity of capital to fully develop the property or resource.

Site selections were presumably made in relation to the socio-economic nature of the labor to be performed at or near the site, which may be exhibited by site specific attributes i.e., commitments to values of permanency, environmental considerations, architectural distinctions and associated material culture.

Evidence of ethnicity is believed to be exhibited by patterns of architecture and work activities rather than by portable material culture. At the present time, attributes such as architectural distinction associated with particular ethnic groups are not yet clearly defined. Distinctions can be recognized archeologically through selected attributes of sites and settlement patterns which represent differing social structural principles.

Thus, in order to adequately assess historic homestead resources, the investigator cannot fulfill his obligation to do so by reliances on written records alone.

Immediately apparent is the fact that our cultural heritage cannot be preserved, protected, and evaluated through articulated sources of information only. Modifications in methods, theories and explanations used in evaluating historic homestead sites will be the consequences of this study.

BIBLIOGRAPHY

Alberts, Francis Jacob
1972 Sod House Memories. Vols. I, II, III. Hastings, Nebraska; Sod House Society.

Alpert, Alan M.
1977 "Description of Historical Evens Relating to Potential Coal Lease Areas in Campbell County, Wyoming."

American Association of University Women-Sheridan Branch
1959 Historical Sheridan and Sheridan County. Sheridan, Wyoming; Chamber of Commerce.

Beard, D. C.
1914 Shelters, Shacks and Shanties. New York; Charles Scribner's and Sons.

Buckles, William G.
1981 "Armies in the Hiterland". Presented at the American Society for Ethno-history. Colorado Springs, Colorado.

Brown, Robert H.
1980 Wyoming: A Geography. Boulder, Colorado. Westview Press.

Burger, Nellie W.
n.d. "Remembering the Hard and Happy Days of Homesteading". Buffalo Bulletin No. 11. August 16, 1979.

Bureau of Land Management
1978 Manual 8100: Cultural Resource Management.

1978 "Class I Cultural Resource (Historic) Inventory of the Casper District, Wyoming" Sheridan, Wyoming; Western Interpretive Services, Inc., Februray.

1981 Cultural Resources Technical Report for the ETSI Coal Slurry Pipeline Project. San Francisco; Woodward-Clyde Consultants, July.

1982 Manual 8143: Procedures for Avoidance and/or Mitigation of Effects of Cultural Resources.

Bureau of Land Management
"Digest of Homestead Laws

Busch, Jane
1981 "An Introduction to the Tin Can". Historical Archeology Vol. 15, No. 1, pp. 95-104.

Carstensen, Vernon ed.
1962 The Public Lands. Studies in the History of the Public Domain. Madison: University of Wisconsin Press.

D'Appolonia Consulting Enginers, inc.
"Historical Homesteads". Mobile Oil Company; Federal Coal Lease W-23929.

Dale, Edward E.
1930 The Range Cattle Industry Ranching on the Great Plains from 1865 to 1925. Norman: University of Oklahoma Press (1960 reprint).

Darton, N. H.
1906 Geology of the Big Horn Mountains. U.S.G.S. Professional Paper No. 51, Washington D.C.

De Voto, Bernard
1934 "The West: A Plundered Province." Harpers Magazine 169.

Fawcett, Bill
"Dating Late 19th and Eartly 20th Century Historic Sites."

Frison, George C.
1977 "The Paleo-Indian in the Powder River Basin." Paper presented at the 35th Plains Conference, Lincoln, Nebraska, November.

1981 Prehistoric Hunters on the High Plains. Academic Press, New York. Department of Anthropology, University of Wyoming, Laramie.

Fulton, Dan
1977 "Failure on the Plains." Agricultural History. Vol. 51, No. 1. January, pp. 51-62.

Gallacher, Daniel F.
1982 "Historical Site Evaluation Along the Slurry Line in Wyoming." Missoula, Montana; Historical Research Associates.

Gates, Paul W.
1968 History of Public Land Law Development. Washington, D.C.: GPO November.

1977 "Homesteading on the High Plains." Agricultural History. Vol. 51 No. 1, January, pp. 109-133.

Gillio, David; Francis Levine and Douglas Scott
1980 "Some Common Atifacts Found at Historical Sites." Cultural Resources Report No. 31. Albuquerque, New Mexico; USDA Forest Service, February.

Glassow, Michael A.
1977 "Issues in Evaluating the Significance of Archeological Resources" American Antiquity Vol. 42, No. 3.

Goodyear, Albert C., L. Mark Raab and Timothy C. Klinger
1978 "The Status of Archeological Research Design in Cultural Resource Management." American Antiquity. Vol. 43, No. 2. pp. 159-173.

Halcrow, Harold
1938 "The Problem of the Unsuccessful Dry Farms in the Northern Plains." Thesis. Department of Agriculture and Economics, Bozeman, Montana; Montana State College, June.

Hanson, Margaret Brock
1981 Powder River County: The Papers of J. Elmer Brock. Cheyenne; Frontier Printing, Inc.

Hendrickson, Gordon Olaf
1977 Wyoming's European Heritage. Cheyenne; Wyoming State Archives and Historical Division.

Hardesty, Donald L.
1980-81 "Historic Sites Archeology on the Western Frontier." North American Archeologist Vol. 2, No. 1.

Hargreaves, Mary Wilma M.
1957 Dry Farming in the Northern Great Plains 1900-1925. Cambridge; Harvard University Press.

1977 "Dry Farming Movement in Retrospect." Agricultural History, Vol. 51, No. 1, January. pp. 144-165.

Hunt, Charles B.
1959 "Dating of Mining Camps with Tin Cans and Bottles. Geo. Times Vol. 3, No. 8.

Joukowsky, Martha
1980 A Complete Manual of Field Archeology: Tools and Techniques of Field Work for Archeologists. Prentice Hall, Inc., Englewood Cliffs, New Jersey.

Lecompte, Janet S., and Anderson, Jane L.
1982 "History of Northern Campbell County and the Rawhide Mine Permit Area." Pioneer Archeological Consultants, February.

Lamar, Howard R.
1977 The Readers Encyclopedia of the American West. New York: Harper and Rowe.

Laporte, L. F.
1975 Encounter With the Earth Resources. Cornfield Press, San Francisco.

Larson, T. A.
1979 "Historical Overview of the Western Powder River Basin." Western Powder River Survey Consultants Reports. Vol. 3.

History of Wyoming. 2nd edition, revised. Lincoln; University of Nebraska Press, 1978.

Lofstrom, Edward U.
1976 "A Seriation of Historic Ceramics in the Midwest, 1780-1870." Minnesota Historical Society. Paper presented at the Joint plains-Midwest Anthropological Conference, October.

Luebke, Frederick C., ed.
1980 Ethnicity on the Great Plains. Lincoln; University of Nebraska Press.

Lynott, Mark J.
1980 "Cultural Resources Management: The Dynamics of Significance ..." American Antiquity, Vol. 45, No. 1.

Markoff, Dena S.
1980 "Cultural Resources Inventory: An Historic Overview of the Antelope Coal Field Converse County, Wyoming." Western Cultural Resource Management, Inc., Boulder, Colorado.

Markoff, Dena S.
1981 "Cultural Resources Inventory: An Historic Overview of the Antelope Coal Field Campbell and Converse Counties, Wyoming." Western Cultural Resource Management, Inc., Boulder, Colorado.

1982 "Site Documentation of the Hamilton Homestead (Site 48CA1075) in Southern Campbell County, Wyoming." Denver, Colorado; Antelope Coal COmpany, July.

Markoff, Dena S., and Linda Keller-Ciavonne
1981 "Historical Narrative of the Eastern Powder River Basin." Arvada, Colorado; WEstern Heritage Conservation, Inc.

Miller, George L.
1980 "Classification and Economic Scaling of 19th Century Ceramics." Historical Archeology Vol. 14, pp. 1-40.

Moratt, Michael J. and Roger E. Kelley
1976 "Significance in Archeology." The Kiva Vol. 42, No. 2

Murray, Robert
1982 History Synthesis for the ETSI Pipeline Project. Sheridan, Wyoming; Western Interpretive Services.

1978 "An Evaluation of Historic Resources of Mobile Oil Lands Near Gillette, Campbell County, Wyoming." Sheridan, Wyoming: Western Interpretive Services, Inc.

1981 Johnson County: 175 Years of History at the Foot of the Big Horn Mountains. Buffalo, Wyoming; Chamber of Commerce, July.

Peterson, Kurt and Jeffrey L. Hauff
"Historical Artifact Analysis." Unpublished MS on file at the Deptartment of Environmental Quality, Land Quality Division, Cheyenne, Wyoming.

Powder River Heritage Committee, Kaycee, Wyoming
1982 Our Powder River Heritage. Cheyenne; Frontier Printing, Inc.

Powe[illegible], John Wesley
1879 "Report on the Lands of the Arid Region of the United States ..." Government Printing Office, Washington, D.C., 2nd Edition.

Raab, Mark
1973 "A Research Design for the Field Investigation of Archeological Resources ..." Arizona State Museum, University of Arizona, Tuscon.

Raab, Mark L. and Timothy Klinger
1977 "A Critical Appraisal of Significance in Contract Archeology." American Antiquity Vol. 42, No. 4.

Raab, Klinger, Shiffer and Goodyear
1980 "The Effects of Client Oriented Archeology ... A Balance of Interests and Proposed Solutions." American Anthropologist No. 82.

Redman, Charles L.
1973 "Efficient Exploitation of the Archeological Record: Penetrating Problems." Reasearch in Current Archeology. Wiley-Interscience.

Reher, Charles
1979 "Historic Settlement of the Western Powder River Basin." Western Powder River Basin Survey: Report of Survey Results Vol. I.

1983 "Prehistoric and Historic Inventory Along the Slurry Line from Van Tassell, Wyoming to the Colorado Border." ETSI Pipeline Project. Salt Lake City, Utah, P-III Associates, April.

Rosenberg, Robert G.
1982 "Historical Context for Homesteads in Northeastern Wyoming." Unpublshed MS, March.

1980 "Historic Overview of the Thunder Basin National Grassland." Cultural Resource Overview: Medicine Bow National Forest Vol. 2. Laramie, Wyoming; U.S. Department of Agriculture, Forest Service, March.

Rosenberg, Robert G. and D. Peter Kvietok
"A Guide to Historic Artifacts. Laramie, Wyoming: Archeological Services.

Schulte, Steven C.
1981 "A Regional Historical Overview of the Rochelle Coal Company Mine in Southeastern Camobell County, Wyoming." Laramie, Wyoming; Larson-Tibesar Associates, September.

Schulte, Steven C.
1982 ETSI Pipeline Project: Cultural Resources Reports Number 3 - Wyoming Intertie Class I: History. Salt Lake city; P-III Associates, May.

Schuyler, Robert L. ed.
1978 Historical Archeology: A Guide to Substantive and Theoretical Contributions. Baywood Publishing COmpany, Inc., Farmingdale, New York.

Scott. George C.
1978 "These God Forsaken Dobie Hills: Land Law and Settlement of Bates Hole, Wyoming, 1880-1940." Thesis. Laramie; University of Wyoming, Department of History, May.

Shiffer, Michael B.
1975 "Cultural Frontier Processes of the Archeological Record: A General Foundation." Society of Historical Archeology, Charleston, South Carolina.

South, Stanley A.
1977 Method and Theory in Historical Archeology. Academic Press, New York.

1978 "Pattern Recognition in Historical Archeology." American Antiquity Vol. 43, No. 2.

Spencer, Charles Floyd
1975 Wyoming Homestead Heritage. Exposition Press, Hicksville, New York.

Stewart-Abernathy and Davis eds.
1980 A State Plan for the Conservation of Archeological Resources in Arkansas: Vol. II, "Historical Archeology," by Leslie C. Stewart-Abernathy and Beverly J. Watkins. HCRS: Arkansas Archeology Survey Purchase Order No. C3577CY8, October.

Stone, Lyle E.
n.d. "An Archeological Survey of Mobile Oil Lands Near Gillette, Campbell County, Wyoming.

Tanner, Francis Henry
1967 "The Disposal of the Public Domain in Johnson County, Wyoming, 1869-1980." Thesis-Department of History, Laramie; University of Wyoming, August.

Thompson, Edith M.
1962 "Salute to the Century of Homesteading." Casper Star Tribune-Herald and Star, March.

U.S. Government
The Western Range: Letter from the Secretary of Agriculture transmitting in response to SR No. 289. Washington; Government Printing Office, April 1936.

1909 Suggestions to Homesteaders and Persons Desiring to Make Homestead Entries. Washington: Department of the Interior, General Land Office, April.

1962 Homesteads. U.S. Department of the Interior; Bureau of Land Management.

1962 Public Lands Bibliography. U.S. Department of the Interior. Washington; Government Printing Office.

1981 Powder River Regional Coal Environmental Impact Statement. Department of the Interior, Bureau of Land Management, December.

1982 Code of Federal Regulations: Parks, Forests and Public Property.
A. 36 CFR 60 National Register of Historic Places.
B. 36 CFR 800 Protection of Historic and Cultural Properties.
Washington; National Archives and Records Services, July.

1982 "How to Apply the National Register Criteria for Evalaution." National Park Service, Washington, D.C.

1982 Code of Federal Regulations: Public Lands, Interior; Bureau of Land Management. 43 CFR 2510 Homesteads. Washington; National Archives and Records Services, October.

1983 Buffalo Resource Area Management Plan-Draft Environmental Impact Statement. Department of the Interior, Bureau of Land Management, Casper District Office, April.

University of Wyoming Agricultural College and Experiment Station
Publications: Annual Reports, Bulletins; Circulars.
Vol. 1925-1930: Reports 36-40
Bulletins 141-172.
Circulars 20-22, St. Forms Pub.
Vol. 1930-1933: Reports 41-43
930-33: Bulletins 173-198
Circulars 23-25

Vass, A. F.
1926 "Range and Ranch Studies in Wyoming: Beef Cattle Management." Laramie; University of Wyoming Agricultural Extension Station, Bulletin No. 147, June.

Weaver, J. E. and F. W. Albertson
1956 Grasslands of the Great Plains. Johnsen Publishing Co., Lincoln, Nebraska.

Webb, Walter Prescott
1931 The Great Plains. Lincoln; University of Nebraska.

Welsch, Roger L.
1968 Sod Walls: The Story of the Nebraska Sod House. Broken Bow, Nebraska; Purcells, Inc.

Weslanger, C. A.
1960 The Log Cabin in America: From Pioneer Days to Present. New Jersey; Rutgeis University Press.

Western Interpretive Services
1971 Historic Sites in the Vicinity of Casper, Wyoming. Sheridan; Wyoming Recreation Committee April.

Wicks, William S.
n.d. Log Cabins and Cottages: How to Build and Furnish Them. 8th edition. New York; Forest and Stream Publishing Company.

Wilkins, Edness K.
1958 "The Powder River Basin of Wyoming, Land of the Lost Frontier." Wyoming Geological Association Guidebook.

Willey, George R. and Phillip Phillips
1958 Method and Theory in Historical Archeology. University of Chicago Press, Chicago.

Wilson, Rex L.
1981 Bottles on the Western Frontier. Tucson; University of Arizona Press.