

A total of 12 permittees graze within the project area. They live in the communities of Paradise Valley, Orvada and McDermitt, Nevada which surround the project area. Ranch communities generally inhabit small historic Nevada towns, where living a western lifestyle started many generations ago. The permittees use public land to assist and maintain their livestock operations.

Humboldt County is the leading agricultural county in the state of Nevada (County of Humboldt, web site) and ranked sixth in the state for the value of livestock and poultry sold (2002, Census of Agriculture, US Department of Agriculture). According to the 2002 Census of Agriculture, the total value of agricultural products sold was \$54,949,000 of which cattle accounted for \$16,346,000 or approximately 30%. This same census identified that there were 54,327 cattle and calves in Humboldt County; this seems to include dairy cattle.

To try to equate these statistics to the current economic situation in Humboldt County relative to the contribution from the 12 permittees and their 5,663 cow/calf pairs permitted in the project area is based on very general assumptions at best, and should only be taken as a means of displaying this in relationship to the significance of this project and it's alternatives to the entire economy of Humboldt County.

A general extrapolation of these numbers could be made to conclude that the number of cattle permitted is 20% of the total in Humboldt County. This would loosely equate to the cattle permitted on the project area are approximately 6% of the total agricultural products sold in Humboldt County in 2002.

Another way of addressing the economic value to Humboldt County would be through an estimated value per animal unit month (AUM). The direct value is estimated at \$21 per AUM for an annual value of \$611,226 and the indirect value is \$42 per AUM which equates to \$1,222,452 (Resource Concepts Inc, 1997).

MARTIN BASIN ALLOTMENT

The units or pastures within Martin Basin Allotment, include North Fork, Siard, Long Valley, Cold Springs, Blackridge and Cabin Creek units. Two permittees share this allotment and have term grazing permits for 1290 head of cattle and 17 horses and 645 cattle and 8 horses respectively. The permitted season is from June 6 through September 27 using a deferred rotation system. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

BUTTERMILK ALLOTMENT

There are four units or pastures in the Buttermilk Allotment. They include, Buttermilk, Blackridge, Lye Creek and Spring City units. Two (2) permittees share this allotment and have term grazing permits for 479 head of cattle and 824 head of cattle, respectively. The permitted season is from May 22 through September 30th on a "rest rotation" grazing system. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

GRANITE PEAK ALLOTMENT

Currently, six (6) units or pastures occur in the Granite Peak Allotment. They include, Willow Creek, Upper Willow Creek, Upper Indian, Lower Indian, Tom Basin and Solid Silver-Coleman. There are four permittees who share this allotment with term grazing permits for 200 head of cattle, 522 head of cattle, 75 head of cattle, and 253 head of cattle. The season of use is May 21 through September 30th on a "rest rotation" grazing system. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

BUFFALO ALLOTMENT

Currently, three (3) permittees share the allotment between Horse Canyon, Falls Canyon, Buffalo Canyon, Andorno Canyon, Chimney Canyon and Porcupine Canyon. The permittees term grazing permits for 25 head of cattle, 80 head of cattle, and 150 head of cattle. The season of use is from June 16th through August 31st. The grazing systems vary and they include "rest rotation", deferred rotation and season long. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

Photograph 27-P:

The recovery of riparian vegetation is typical in all canyons of Buffalo Allotment. Falls Canyon. 2002.



Fire occurrence has been limited in Buffalo Allotment except for an approximate 600 acre fire in Chimney Creek unit in 2000. The majority of the canyons in Buffalo Allotment were severely affected by floods in 1983 and 1984. These canyons have recovered much of the riparian vegetation as evidenced by the photograph.

REBEL CREEK ALLOTMENT

Rebel Creek Allotment is currently vacant and has not been used by a term grazing permit holder since 1987. Wildland fires have occurred in the Rebel Creek Canyon, Wood Canyon and McConnell Creek Canyon units. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

INDIAN CREEK ALLOTMENT

Currently, a livestock grazing association has a term grazing permit for 301 cattle from June 16th through September 30th. This allotment contains two pastures and is grazed using a “rest rotation” grazing system.

Unauthorized grazing is a problem on the Indian Creek Allotment. Because of the unauthorized livestock, utilization on some riparian areas exceeds allowable levels. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

BRADSHAW ALLOTMENT

Bradshaw Allotment is currently vacant and has not been used by a term grazing permit holder since 1994. This allotment has been used periodically to alleviate potential reductions related to fires. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

WEST SIDE FLAT CREEK

West Side Flat Creek is currently used by one permittee with a term grazing permit for 461 head of cattle and a grazing season of June 1st through August 25th. There are two units in the allotment that are managed with a “rest rotation” grazing system. The majority of this allotment was burned during the Upper Willow fire in September 2001 and a reseeding project was completed in the winter of 2002. Table 25-T in Appendix A shows allowable utilization standards, which is part of the term grazing permit.

HERITAGE RESOURCES

INTRODUCTION

Evidence of approximately 12,000 years of human history can be found across the Santa Rosa Ranger District. Many of these sites are important for their scientific, historic, cultural, and aesthetic values. Historically, ground-disturbing activities across the forest have negatively impacted archaeological sites. Through the years the number of livestock grazed on National Forest system lands has decreased dramatically. Cattle numbers have decreased roughly 37% from a 1911 count of 16,000 to just over 10,000 in 2004 (Resource Concepts, Inc. letter 8-16-04). Horse grazing has decreased from 1,500 animals in 1911 to 25 in 2004, and sheep numbers have been reduced to zero from 150,000 in 1911. This has reduced the number of livestock that congregate in areas, thus impacts to the land and sites have decreased. Rest rotation cycles have also allowed vegetation to grow back thereby reducing any erosional impacts.

In 1995 the Humboldt-Toiyabe National Forest entered into an agreement with the Nevada State Historic Preservation Office on methods of dealing with cultural resources as they pertain to grazing and rangeland management on the forest. A Memorandum of Understanding (MOU), tiered off the National Programmatic Agreement, was developed that defined several strategies to deal with the effects of rangeland management practices on historic properties. The MOU was developed pursuant to Section 800.13 and Section 110 of the National Historic Preservation Act (NHPA) and implementation of this MOU fulfills the Forest's Section 106 responsibilities.

The strategies defined in the MOU represent a two-tiered approach to addressing possible effects to heritage resources: 1) an immediate project specific strategy, and 2) a long-term ecosystem planning strategy. The immediate strategy includes a) assessing the existing information and determining what additional information is needed based on the type of undertaking and area of potential effect (APE), b) the development and implementation of treatment plans to mitigate known adverse impacts to heritage resources from livestock grazing, c) a heritage resource review of all range improvements as required under section 106 of the Historic preservation Act, and 4) the submittal of annual accomplishment reports to the Nevada State Historic Preservation Office (SHPO) that show what work was completed.

Strategy 2 is based on an ecosystem approach to addressing the effects of grazing to historic properties. In this approach six tasks were identified: a) the development of an historic overview for each management unit that will include the following topics: paleo to present environment, prehistory, ethnobotany, ethnography, and history, b) entering all known site data and previously surveyed areas into the Geographic Information System (GIS) c) development of an archaeological sensitivity model that will be tested through ground truthing, d) a sampling strategy not limited to the current undertaking, e) the development of treatment plans that address program effects on heritage resources, and f) the submittal of an annual accomplishment report to the SHPO to show what work was completed.

Cultural resources on the Santa Rosa Ranger District, HTNF, are richly varied and widely-dispersed. The information for this analysis was derived from a concentrated search in the archaeological report and site files stored at Elko. The results of this information show that within the 191,000 acres of the analysis area, there are 125 sites consisting of lithic scatters, petroglyphs and pictographs, quarries, rock shelters, hunting blinds, historic military camps, historic roads, town sites, mine sites, and stage routes to mention some. No traditional Native American cultural use properties have been documented for the analysis area, although we know they exist from oral tradition and continued practice today. Additional information was derived from a literature search on the topic of livestock grazing impacts that are common to cultural resource sites.

Grazing has a definite and documented effect to cultural properties on the allotments. These effects may impact recorded sites and sites which have not yet been discovered and recorded. Trampling, artifact breakage, soil compaction, destabilization of stream banks, and increased erosion due to reduced ground cover are some of the effects common to cultural resources from grazing. These effects would be discussed in the Environmental Consequences section of this document.

GEOGRAPHIC SCOPE OF THE AFFECTED ENVIRONMENT

The affected environment for heritage resources as it relates to this analysis process is limited to the boundaries of the 191,000 acres of Indian, Martin Basin, Westside Flat Creek, Bradshaw, Granite Peak, Buttermilk, Rebel and Buffalo Allotments.

PAST ACTIONS

Many kinds of past actions on the Santa Rosa Ranger District of the HTNF have affected heritage resources, often adversely. These actions include over 100 years of resource extraction including mining, grazing and historic timber, to a lesser extent. Additional impacts have occurred from road and trail construction, recreational development and use, fire suppression, and unauthorized artifact collecting.

REGULATORY FRAMEWORK

The term “cultural resources” is a broad term referring to properties and traditional lifeway values resulting from human occupation and use. A cultural property may be the physical remains of archaeological, historic, or architectural sites and/or a place of traditional cultural use. Because these resources are nonrenewable and easily damaged, laws and regulations exist to help protect them. The following laws are the major statutes that guide and define the management of prehistoric and historic heritage sites on the HTNF.

The National Historic Preservation Act of 1966, as amended: establishes a program for the preservation of prehistoric and historic properties throughout the nation; it makes historic preservation national policy. Section 106 of the Act directs that Federal agencies shall take into account the effects of their actions on heritage resources. Section 110 of the Act directs federal agencies to take responsibility for the preservation and management of heritage resources that are owned or controlled by the agency.

The Archeological Resources Protection Act of 1979: establishes various legal penalties for the unauthorized removal of antiquities or artifacts from federal property, and/or the damage or destruction of heritage properties on federal lands.

The American Indian Religious Freedom Act: directs that American Indians shall have reasonable access to federal lands for the purpose of conducting traditional religious ceremonies and collecting traditional ceremonial and medicinal plants and materials. It also requires federal agencies to consult with American Indian tribes regarding proposed undertakings in areas that may be of cultural or spiritual interest to them.

The Native American Graves Protection and Repatriation Act of 1990: defines the rights of lineal descendants and Indian tribes to Indian skeletal remains and items or artifacts of cultural patrimony that may be held by Federal agencies or institutions.

The National Environmental Policy Act and The National Forest Management Act: both require the Forest Service to preserve important prehistoric, historic, cultural, and natural aspects of our national heritage.

The Humboldt National Forest Land Management Plan (*Forest Plan*): has as an overall goal the location and protection of heritage resources to maintain their scientific and historical values, (pp. IV18 – IV23). It also details standards (pp. IV19, IV20) that apply to the implementation of undertakings proposed for the HTNF that may affect heritage properties.

Additionally, the rights reserved under treaties may possess an inherent measure of resource protection. Federal Agencies carry out their responsibilities under these laws and guidance by, conducting documentary research, consulting with Indian Tribes, the State Historic Preservation Office, and others, and by surveying or inventorying to identify cultural properties. Both NHPA and ARPA contain provisions for the confidentiality of cultural resource information. The site-specific locations and other sensitive site data are not disclosed to the public. Documents containing this information are filed separately in the project planning record and are not available under the Freedom of Information Act.

EXISTING CONDITION AND BRIEF OVERVIEW

Cultural resources are the fragile and non-renewable remains of human activity. They consist of historic sites, architectural sites, archaeological sites, and traditional “lifeway” values and places of traditional cultural use, all of which are important in past and present human events. Traditional “lifeway” values and places of traditional cultural use are a specific group’s traditional system of religious belief, cultural practices, or social interaction, and these “lifeway” values may or may not be associated with specific locations.

Cultural resources are managed through the Section 106 process. Before approving ground disturbing projects, the Forest Service takes inventory of any cultural properties, determines their eligibility on National Register of Historic Places and considers the effects of the proposed undertaking through the consultation process in Section 106 of the National Historic Preservation Act (NHPA) of 1966. This process is executed in agreement with 36 CFR. Once documented, effects to the sites are either avoided or the site is mitigated prior to project initiation. Avoidance of an effect is preferred over mitigation.

Surveys or inventories have been conducted in the study area since the late 1970s. Of the 191,000 acres of the analysis area, it is likely that only one percent, or less, has had cultural resource inventories, or surveys. Native American properties and paleontological resources have not been systematically inventoried. Utilizing cultural resource inventory reports (though in many instances there are reports, or they are incomplete) and other documentation, the results show 125 cultural resource sites that are within the analysis area or are directly adjacent to the analysis boundary and would be within the APE or Area of Potential Effect. Of the 125 sites, 107 are prehistoric in nature, 13 are historic in nature, and four have both prehistoric and historic elements. The cultural resource sites represent a variety of types, from lithic scatters, quarries, rock shelters, pictograph panels, hunting blinds to historic military camps, historic roads, town sites, mine sites, stage coach routes. No traditional Native American cultural use properties have been documented for the analysis area. No Bureau of Land Management sites adjacent to the boundary of the analysis area were compiled, though Forest Service records do show there are numerous sites on Bureau of Land Management properties that are adjacent and similar to those found on the Santa Rosa Ranger District. Additionally, archaeologists conducted research in the area, searching for cultural resource sites for independent research and other surveys not tied to any Forest Service-driven projects. New sites were identified during the 2002 and 2003 field season, and this information has been included for identifying potential effects. The results of cultural resource inventories for the Martin Basin analysis area are in the project record.

PREHISTORIC HERITAGE RESOURCES

107 prehistoric sites were noted within, on, or adjacent to the Martin Basin Environmental Impact analysis area.

Western Great Basin (with focus on the Lahontan Basin area)

Geologic information states that Pluvial Lake Lahontan had reached its limits around 12000 to 10000 years ago. At that time, humans began entering the Great Basin. In this region, occupation varied according to environmental setting, and views differ on the points in time for progression but, Smith and associates use Antevs' climatic model presenting the Anathermal sequence starting 10000 B.C. to 5000 B.C., the Altithermal beginning at 5000 B.C. to around 1500 B.C., and the Medithermal beginning about 1500 B.C. to the present. (Smith 1983:17-18). The Santa Rosa Range in the northeastern portion of the Great Basin has a granitic stock overlain by metamorphic rocks and volcanics. This area has a significant amount of minerals, including cinnabar (the mineral from which mercury is extracted), which was extracted in the western slopes of the Santa Rosa Mountains.

The Archaic tradition and that practice of living went on in prehistory for 10000 years, according to Jennings. This phase is represented by a common lack of domesticated animals, permanent villages or horticulture. The exploitive use varies throughout the west from area to area depending on food and other resources present, tool quantities and types, and the distance and amount of seasonal home ranges, yet all were quite adaptive in nature. (Sturtevant 1986:113)

According to Elston, the Lahontan Basin prehistoric environment includes the sinks of all the major streams and is the lowest expanse of northern Nevada in the Great Basin. Sagebrush and shadescale are the dominant vegetation in the area. Where major streams flow into lakes and sinks large marshlands abound. In the Sierra Nevada, but not in other higher elevations, there are pinion-juniper stands. Many higher elevations are treeless and bleak. (Sturtevant 1986:135)

Considering this setting, Jennings states there is a lack of good evidence for Pre-Archaic cultural use in the Great Basin prior to 8000 B.C. Occasionally, fluted points attributed to Clovis, are found on the surface, but none have been found in association with a kill site, and none have been subsurface. Only in Idaho has there been a confirmed big game/kill site for this period. (Sturtevant 1986:115). An adaptive living strategy seems to have been the deciding factor in Pre-Archaic and Archaic Great Basin life. Mobility, reliance upon mountain, desert and lacustrine plant life, small game hunting and seed milling all play a role in adaptive strategy for the Lahontan Basin area. Pre-Archaic artifact assemblages include large bifacial knives, concave and stemmed base projectile points with edge grinding, graters, crescent objects, choppers, scrapers, punches and tools that appear to have been multi-functional. Milling tools are present in northern areas. (Sturtevant 1986:137)

Evidence for a solid Early Archaic timeframe for the western Great Basin is difficult to find, although it is suggested to have been between 5000 and 4000 B.C. The archaeological record shows evidence for a timeframe of 2500 B.C., and ending sometime between 2000 and 1500 B.C. Elston (Sturtevant 1986:138) points out that caves and rockshelters are not only used for shelter, but also as storage for goods and

equipment. Tools of this time period became more specialized and smaller. For instance, atlatl darts are indicative of the Early Archaic. Though there is no direct evidence for it, Elston states that big game hunting was the primary source of subsistence. Archaeological sites have been predominantly found on the valley floor near streams, though there are sites in the upland areas. It's been suggested that a larger percentage of the population was utilizing the lowlands rather than the uplands, and that these groups may have been made up of extended family groups. (Sturtevant 1986:138) Vegetation consisted of brushes including saltbrush, shadescale and greasewood. In the case of the Lahontan Basin area, the archaeological evidence for transition between the Pre- and Early Archaic periods is even more inadequate. A few specific sites contain substances used for radiocarbon dating between 5300 and 3200 B.C. According to Elston, these sites located at Winnemucca Lake, confirm these dates: they were Shinners Site I in Falcon Hill, material from a grass lined cache pit dated 4780 B.C.; Guano Cave, organic material dated 4550 B.C.; Cowbone Cave material from a cedar-bark robe dated 3720 B.C. and Leonard Rockshelter, an infant burial was dated 3787 B.C. Elston continues this line of thinking by stating at the Silent Snake Springs site, just outside the Lahontan Basin, that occupation began around 4100 B.C., and that it was utilized primarily as a camp and the residents were hunting mountain sheep. (Sturtevant 1986:139)

The archaeological record shows that occupation for the Lahontan Basin started to increase after about 3000 B.C. (Sturtevant 1986:139) Extensive occupational use began about 1500 B.C. according to Elston and it appears this use corresponds with high water levels at Humboldt Lake. Most caves or rockshelters were not used as camps or shelters, but were primarily used for burials and storage for equipment and supplies. These sites included items made of bird skins or fur, baskets, nets, cordage, mats, finished lithic tools like knives and projectile points, and atlatls and darts, but almost no debitage or food by products. Examples of such cache sites are Lovelock cave and Hanging Rock Cave. (Sturtevant 1986:141)

Conversely, open sites near permanent water were apparently the choice for inhabited camps, such as Cocanour on the Humboldt Sink, where circular house depressions were found along with numerous tools including Pinto points, cores, bi-faces, scrapers, manos, and metates. (Sturtevant 1986:141)

Unfortunately, subsistence information is quite limited for the Lahontan Basin during the Early Archaic period. It consists of data gathered through coprolite analysis from Hidden Cave, which shows a nutritional regime consisting of fish, fowl, shoots, seeds and nuts. (Sturtevant 1986:141)

Early Archaic trade and communication were well developed for the Lahontan Basin based on the number of different obsidian sources in western Nevada and California, 22, as well as the presence of marine shell beads. (Sturtevant 1986:141)

The Middle Archaic, 2000 B.C. to 500 A.D., in general is not characterized by any specific changes in technology, although diversity is increased, but there are distinct changes in settlement and subsistence examples, as well as in stylistic complexity. There is scant information concerning how the environment was changed by the differing climate, but it has been assumed that higher exploitation of the areas that prior to this time didn't exist, such as meadowlands, marshes and shallow lakes. (Sturtevant 1986:142)

Seasonal sites, including winter, appear to have been used regularly. Pit houses have been found at some winter sites, and contained features such as hearths, burials and storage pits. This implies continued exploitation within the same area. (Sturtevant 1986:142)

Manufacture of large bi-faces from naturally occurring source material retrieved from quarries is the primary focus of tool making for this time period. This process creates lots of waste material, thus making these sites more visible. The diagnostic projectile points for this timeframe are of the Elko and Martis series'. The Middle Archaic sees a continuation of obsidian and marine shell trading, and Elston states this becomes more important within this time period. (Sturtevant 1986:142)

The Lahontan Basin during the Middle Archaic archaeological evidence shows there is a definite movement toward intensive site occupation, especially between 1500 B.C. and 500 A.D. Another line of thought suggests the sites are more visible because of the increase of lithic debitage due to the manufacture of large bifaces, as seen in the Early Archaic. Fewer lowland and more highland sites were observed in the Black Rock Desert area, suggesting a more confined usage of the environment than previous data shows. (Sturtevant 1986:142) Continued utilization of marsh areas and delta resources, as well as more concentrated living activities, including residential camps, took place during this period, particularly at the mouths of the Humboldt and Truckee rivers. Cache and burial caves being utilized during the Early Archaic continue to see usage in the Middle Archaic as well. (Sturtevant 1986:143)

Specific to the Lahontan Basin is the first use of the unique Lovelock Wickerware basketry. Particular styles of rock art and Elko series projectile points were introduced at this time. According to Elston, examples of interesting artifacts representing this time period come from Lovelock cave and Pyramid lake (ibid).

Also, representative of this time period are interim base camps along the Humboldt River. At these camps the activities range from plant (seed) processing sites to big game processing sites using crude tools (Sturtevant 1986:143). Basalt quarries and Martis complexes seem to show up more in the Southern portion of the state, than in the northwestern portion of the analysis area (ibid). Though it should be noted from field reconnaissance there have been observed a number of quarries in the Santa Rosa Range.

In the Lahontan Basin, the Late Archaic began around 500 A.D. and lasted into the first contact period. This time period is identified by Eastgate, Rose Spring, and Desert series projectile points as well as, brownware pottery (Sturtevant 1986:145). Apparently ethnic and linguistic boundaries are difficult to pinpoint with material culture using the Great Basin boundaries, though it is relatively linguistically that the Paiute and Shoshone descended from the Numic speaking peoples in southern California (Sturtevant 1986:145-146).

Temporary occupation continued around the Humboldt River with the diet changing to include more of the prehistoric game, and at Winnemucca lake caches and burials continued to be placed (Sturtevant 1986:146-147).

Apparently there are some lithic and projectile point style changes, such as Cottonwood and more Desert Side-notched projectile points, though Lovelock Wickerware begins to be on the decline (ibid). It is suggested that the only real evidence for Numic expansion to the Lahontan Basin is in the material culture – a twill twined water bottle used by the Northern Paiute (Sturtevant 1986:147).

Ethnology – Northern Paiute

According to Fowler and Liljeblad, the Northern Paiute were tied by a common language and a geographic boundary. Linguistically made up of the Uto-Aztecan language with several subdivisions based on regional differences, especially in those areas where Paiute and Shoshone may have mixed (as in the Snake River area), and therefore have elements of both languages within their families. (Sturtevant 1986:435, 436).

Group names, or kin names, were one such designation used to separate tribes of one area from another within encampments, as they were semi-nomadic and made their living by hunting, fishing and gathering seasonally (Sturtevant 1986:436). Other titles that were used were food-based names; especially the farther north one goes in the Great Basin (ibid). Examples of food names may be something like “pine nut eaters”, and other naming devices were food and geographic areas put together (ibid).

The Paiute of the Santa Rosa Range have a more generalized area of environment, with no emphasis on lakes or marshes; therefore, their subsistence was taken up with hunting and gathering whatever little resources were available (ibid). Usually this would be both large and small game, seed, berry and root gathering, with some fishing (ibid).

For the Northern Paiute of Nevada, the structures varied depending on the environment, but the mat-covered dome-shaped house seems to be the most common winter structure (Sturtevant 1986:443). Plant use was extensive, and is still important today. Some uses were for tools, baskets, clothing, and medicinal purposes (ibid).

Ethnobotany and Cultural Traditions

Prehistoric peoples were certainly dependent on plants for food, but evidence for the kind of plants collected and their importance in the subsistence system of Paleo-Indians is sparse. One can presume that plants were important for medicinal uses, though not well documented in Nevada until the last two centuries. There is a small amount of literature for the flora, and Native American uses in particular, for the Santa Rosa Mountains. Of those, flora studies give us the most information.

Begun in 1935 as an effort to gain samples and greater information about the plants of Nevada, and more specifically, traditional medicinal plant knowledge held by the Native Americans of Nevada, the USDA Plant Industry Station gathered and refined their findings over the next 22 years. The concern about medicinal plants used by Indian tribes at that time was that younger generations were losing the desire to learn about this information (still a concern for some); therefore, it was determined necessary to gather the medicinal plant information from the elderly tribal members before it was lost. The # 45 Series pertaining to flora of Nevada (Train 1957:2) suggests there were approximately 200 native plants used pharmacologically by Native Americans at that time. Whether those medicinal plant practices are still ongoing is left to future study.

Some of the 275 people interviewed for the Plant Study project (Train 1957:2, 5) have left their names in our historic records and on our regional maps. Bronco Charlie of Ruby Valley and Ike Shaw of Beatty are just two of the people who lent their knowledge of Native medicinal plants to the study (ibid).

The authors considered it a rare opportunity to be able to go directly to people's homes in remote areas and on reservations in order to present plants for identification and to document the use information (Train 1957:3). Much description of how to approach the elderly Native Americans is given in the study by Train, et al, as the authors were just as interested in making acquaintances as in gathering information. The researchers took the time to learn simple sentences and names of plants in the Paiute and Shoshone languages in order to make those interviewed more comfortable about giving over what was sometimes considered secret or guarded information, even from neighbors, as families may have had their own remedies. Small amounts of herbal plants might even be sold to neighbors for what seemed like a large amount of money. Pressed plants were shown for identification purposes, as well as some freshly gathered plants (Train 1957:3-5). (An interesting side note, the authors seemed to find that the Shoshone knew more medicinal plants, and utilized more plants than other groups within the state.)

In 1975, Mont Lewis, an employee of the Humboldt National Forest, conducted additional plant information surveys and collected some 347 taxon on the Santa Rosa Mountain Range. Lewis's information was added as an addendum to the study by Train et al (Lewis 1976:IV). According to Lewis, sagebrush makes up the largest plant community in the Santa Rosa Mountain Range. Therefore, plants would be limited to the type of environment that is best suited to sagebrush communities, with some possible exceptions. Under these circumstances, it stands to reason that the Paiute peoples of this area may not have had as great a variety of medicinal plants to choose from as those farther north, west or east of the Santa Rosa Mountain Range.

At the time of the original study by Train, et al, they stated the distribution of the Native Americans in Nevada could almost be summed up as the western half being populated by Paiute peoples and the eastern half by Shoshone peoples. It was noted that there were sometimes different names for the same plant within one tribe in different locales, mostly in pronunciation and phonetic spelling. At the time, there was no written language. Names of plants may seem arbitrary at first, but like common names, which are usually descriptive, (white root or red flower), this description was enough to be recognized by tribes of different areas (Train 1957:6-8).

Steven Pelligrini, a teacher in Yerington, researched and wrote a brief treatise entitled, "Thirty Plants Important to Great Basin Indians." Written in 1993, it gives more up-to-date information about some of the plants used pharmacologically by the Paiute and Shoshone of Nevada. The thirty odd plants listed have the scientific name, common English name, family, and the names for the plants in phonetic Paiute and phonetic Shoshone. The plants are by common English name: yarrow, wild onion, Indian hemp, big sagebrush, big milkweed, four-winged saltbrush, pincushion flower, squaw tea, California buckwheat, peanut butter plant, seaside heliotrope, winter fat, biscuit root, stickleaf, blazing star, coyote tobacco, Indian ricegrass, daggerpod, singleleaf pinyon pine, English plantain, indigo or smokebush, bitterbrush, golden currant, wild or woods rose, curly dock, coyote willow, purple sage, greasewood, globemallow, prince's plume and cattail (Pelligrini 1993:5). Pharmacological results of laboratory tests reveal the plants utilized by the Indian peoples cover a wide range of physical problems common to all humans. Some of the illnesses alleviated, improved or aided by native medicinal plants were: coughs, colds, bronchitis, sore throat, eye problems, insect bites and stings, birth, puberty, infections, cuts, burns, lice, various stomach and bowel problems, swellings, contraceptives, skin disorders, and toothaches. An attempt to treat more serious ailments was also undertaken with the assistance of medicinal plants. Some of those were: pneumonia, tuberculosis, asthma, malaria, snow blindness, various venereal diseases, and hemorrhaging. To combat these more serious situations a number of these plants were even noted to have antiseptic or bactericidal properties (Train 1957:102-110). As one can see, the early peoples of Nevada were quite resourceful.

HISTORIC HERITAGE RESOURCES

Thirteen historic cultural resource sites were noted within, or adjacent to, the analysis area. Also noted, were four cultural resource sites that contain both historic and prehistoric elements.

History – Santa Rosa Range

The documented prehistory of the Santa Rosa Mountains in Northern Nevada is meager. Prior to Anglo settlers coming into the region, the Northern Paiute and the Western Shoshone peoples inhabited the area. Contact between these Native Americans and Anglo-Americans increased following the discovery of gold and

silver in the Comstock and the Owyhee Basin. Conflict rose between these groups and lasted into the mid 1860's when military campaigns increased. The Klamath Lake Treaty of 1864 and the Huntington Treaty of 1868 created reservations at the Pyramid Lake and the Walker River in Nevada and Oregon. Small bands of Northern Paiute continued to roam their former territory, but most settled into the reservation. After the Bannock War of 1878, the last of the Northern Paiute moved onto the earlier created reservations, and onto the newly created reservations at Fort McDermitt and Duck Valley (Hardesty 1992).

According to Hardesty's findings, there is no record of Spanish expeditions into Humboldt County while the region was under the control of either Spain or Mexico. The Santa Rosa Mountains are named for Saint Rose of Lima, the most popular Saint of the Spanish Colonies of the Americas, therefore it seems to suggest small groups or individuals from Mexico entered the area before 1840. The first recorded Anglo, a citizen of Canada, to cross through the Santa Rosa area was Pierre Skene Ogden, (Peter Skene Ogden), of the Hudson Bay Company. While trapping beaver, Ogden made his first expedition in 1828-1829 and his second in 1829-1830. He explored the Santa Rosa Mountain area extensively. The first Americans to cross through the region were Joseph Walker and members of the Bonneville trapping expedition on their way to California in 1833.

Continuous traffic along the Humboldt River Valley to California began in 1843 with the Chiles-Walker Party. This route later became known as the California Trail. In 1853, a trading post was set up at the point where there was the best fording to cross the Humboldt River along the California Trail. There was a ferry operating at this point, but by 1863 a toll bridge had been established. At first, the area next to the bridge was called Gianca Bridge, but by 1868 when the Central Pacific Railroad came through, the name was changed to Winnemucca in honor of the Northern Paiute leader who lived north of the town. Winnemucca grew rapidly to become the transportation and commercial center of Humboldt County due to the arrival of the railroad. In 1873, it was the county seat of Humboldt County. (Smith 1983:74-75, 88, and 94.)

Of interest in the Quinn River area, according to the writings of Colonel George Ruhen, is Fort McDermitt, which was first recognized as a military camp known as Quinn River Camp No. 33 and was established in 1865 by Captain J.C. Doughty. (Welliver 1964:37). In 1879, the name of the camp was changed to Fort McDermit in honor of Lieutenant Colonel Charles McDermit, who died during an ambush. An Indian Reservation of the same name, and under the control of Fort McDermit, was established during this time. The Fort sought to protect those traveling between Virginia City, Nevada and Boise City, Idaho. It seems when the post office was established in 1891 that Fort McDermit gained an extra "t", making it Fort McDermitt. That spelling persists, for the most part, today. (Carlson 1974:160-161)

Many more unrecorded historic sites may exist in the area, associated with the agricultural history and use of the area, or with the mineral exploration associated with the historic mining district. Many of these sites may be culturally and historically significant.

Establishment of the Humboldt National Forest

According to Forest Archaeologist, Fred Frampton, the formation of the Humboldt National Forest came about due to a national conservation movement and need for legislation for the creation of Forest Preserves. Locally this movement can be tied closely to the grazing industry.

After the Gold Rush of 1849, large numbers of cattle and sheep were driven across Nevada to California. Following the development of the mining industry in Nevada in 1859, cattle moved to Nevada to supply the miners with meat. By the mid-1860's Ruby Valley was utilized as a livestock wintering area for the mines at the Comstock, Reese River, White Pine, etc. As the livestock industry developed in the West, and with the completion of the railroad in the late 1860's, livestock began to be trailed and shipped for markets in the East. By 1874 most grazing areas in Nevada had been taken up by ranchers, and the range began a rapid deterioration. By 1890 most of the water holes along the driveways were fenced and guarded to prevent trespass by trailing sheep.

Around 1900 northern Nevada saw an invasion of migratory sheep herds that originated in southern Idaho. These herds often were owned and run by Basque shepherders. Beside a wave of racism, the local ranchers protested these herders' untaxed, free use of government land as well as their overgrazing practices. A number of so-called "tramp" sheep outfits filed false mining claims on the range in order to control grazing areas and water sources.

Others set fire to the wooded high country to clear the trees and promote revegetation into grasses. With at least half a million sheep, 30,000 cows, and thousands of horses grazing in northeastern Nevada, livestock, particularly sheep, came off the range at the end of the season in very poor condition.

Into this situation came the Forest Service. Nevada ranchers, particularly the small outfits, believed that having the Forest Service in Nevada would remove the "tramp" outfits, as they could not have allotments, having no land base. To that end the ranchers prepared petitions to the Ogden Regional Office (at that time called the District Office) requesting the Forest to consider creating Forest Reserves in northeastern Nevada. The ranchers' petitions often were filled with comments about the overuse of the range by the "tramp" sheep.

There was opposition to the Forest Service on a local level, but with sheep coming off the range weighing only 30 pounds at the end of the season, with tempers flaring, and with at least one shooting, the fear of range wars was enough to gather the necessary support.

Analysis of the areas in northeastern Nevada for feasibility of each Reserve was done in response to the petitions. The criteria the Forest Service used to determine whether an area was suitable was to assess its timber and water resources. If both timber and water were abundant, the analysts prepared favorable reports. If timber and water were not abundant, the report recommended a rejection of the parcel. Such was the case with the Diamond Range north of Eureka. That area was submitted and denied twice because of the lack of both qualities. The report suggested the rancher's work with grazing departments rather than the Forest Service.

In January of 1910, after a little debating by Forester Graves over whether or not the motives of those petitioning were more concerned about tramp sheep outfits or watershed protection, it was quickly decided. On July 10, 1910, Herbert Wooley, a land examiner from Ogden, Utah issued a paper called, "Favorable Report on the proposed Santa Rosa National Forest, Nevada."

Consolidation of the Humboldt National Forest

Throughout its history the Forest Service has consolidated Forests and moved Ranger Districts from one Forest to another. The Humboldt is no exception, and its history may be even more complex than most.

Originally set aside on March 29, 1904, the Ruby Mountains Forest Reserve was the first Forest in Nevada to be established, this occurring in the spring of 1906. The Independence Forest Reserve was established in the fall of the same year. In 1907 the term "Forest Reserves" was changed to "National Forests."

In July of 1908 the Humboldt National Forest was formed through the consolidation of the Ruby and Independence Forests. In 1909 land around Owyhee, Bruneau, Mary's River, and Pole Creek were added to the Humboldt. That same year the Nevada National Forest was created followed in 1911 by the Santa Rosa National Forest.

Santa Rosa Ranger District

Little is known of the prehistoric occupations on the Santa Rosa Ranger District because there has been little documentation for this area. There are large, petroglyph sites as well as large, obsidian sources that were utilized by the aboriginal inhabitants for making stone tools. cursory observations suggest that prehistoric sites may be immense. Indian occupation of the area when Anglo settlers first entered was Paiute.

The first Anglo settlements surrounding the District were in Paradise Valley in the mid-1860's. Settlers discovered that food crops could be grown in these relatively low, well-watered elevations. With protection from the Paiute by military forts, the town of Paradise flourished. Mining in nearby areas, such as Spring City and Bullion, helped maintain the population.

Two additional mining districts developed after the turn of the century. National, on the northwest end of the Santa Rosa Range, began operations around 1907. The discoverer of the ore body, J. L. Workman, named this mine after his automobile, a National. National was Nevada's top gold producer for a few years. Little remains of this mining district except for some collapsed buildings, a mill site, and an abundance of mining adits. The Buckskin Mines developed in the 1920's and continued into the 1930's when the mill was destroyed by fire. Mill foundations and some buildings remain, as well as hazardous waste tailings. A house and assay office for the Buckskin Mine currently are considered to be important historic sites.

Paradise was along the stage road from the mines on the Comstock. From Paradise, the road traversed along the East Fork of the Quinn River, across the Owyhee Desert, to Boise City. Paradise also acquired a sizeable, Chinese population after these laborers had completed construction of the Transcontinental Railroad and moved into the farming and mining industries.

Two military forts were established in the vicinity of what is now the Forest to protect the settlers and the stage lines. The Quinn River Camp of 1865, mentioned earlier, which became Fort McDermitt in 1866, was located near the north end of the Ranger District. Fort McDermitt continued until 1889 when it was transferred to the Department of the Interior to become Fort McDermitt Indian Reservation. Fort Winfield Scott, in Paradise Valley, near the south end of the District, was established in 1866 and abandoned early in 1871. Fort Winfield Scott remains a private ranch with a number of original buildings still standing.

The current Santa Rosa Ranger District was originally established on April 1, 1911, by Proclamation 1120 as the Santa Rosa National Forest. The people on the Santa Rosas must have gone through something of an identity crisis, as the administration of the District changed frequently. In July of 1917 the Santa Rosa National Forest was combined with the Humboldt. In the spring of 1938, the District was transferred to the Toiyabe. Then in 1951 the Santa Rosa was transferred back to the Humboldt, where it remains today.

When the District was first established as the Santa Rosa National Forest, there were three (3) Ranger Districts set up. District 1 was at the north end of the Santa Rosa Range and included the area north from Three-Mile, Buckskin Mountain and the North Fork of the Little Humboldt, to the Oregon state line. Ranger Frank Border lived year-round in a tent with his family on Eight-Mile Creek near the UC Ranch. District 2 consisted of the west slope of the Santa Rosa Mountains south from Three-Mile. The Ranger Station was located at Rebel Creek. District 3 consisted of Martin Basin and the Paradise Valley side of the mountain. Operations on this District were directed from the Supervisor's Office at Paradise and the Lamance station. Ranger Paul Travis lived and worked from his homestead on Lamance Creek and became District Ranger when all three were consolidated. He remained in that capacity until his retirement in 1942 or 1943.

When the Forest Service took over management of the Santa Rosa Mountains in 1911, the primary activity in the area was livestock grazing. As a result, there are many historic ranch complexes surrounding the Ranger District, and a large amount of private lands about the District, particularly on the south end.

The history of the Santa Rosa Ranger District includes, as an important aspect, the valuable work accomplished by the Civilian Conservation Corps. Having a base camp in Paradise Valley as well as a spike camp at Martin Creek, the CCC, from 1933 through 1941, constructed a number of important facilities, reservoirs, roads, and trails. The Paradise Ranger Station, built in the late 1930's, remains today much as it was constructed. The CCC also constructed some of the buildings at Martin Creek Guard Station. The Humboldt National Forest currently is in the planning stages of nominating this compound to the National Register of Historic Places. In addition, the road to Hinkey Summit was widened and improved by the CCC, and a number of horse trails on the Santa Rosa Range were built. Five CCC men were killed while fighting a range fire on the west side of the Santa Rosas. A monument to these men was erected near Orovada.

RECREATION

On December 5, 1989, the Santa Rosa Peak-Paradise Peak Wilderness was created, and 31,000 acres of the District are now part of an increasing amount of Wilderness in the National Forest Systems. While only a little over 11% of the District, it is an important part of the Santa Rosa Mountain Range.

DEVELOPED RECREATION

Lye Creek Campground is the only developed campground in the project area. This campground has 13 campsites and is used mostly on weekends and during hunting season. The campground is fenced to exclude livestock. There is also a tract of three recreation residences located along Road Creek in the project area. These cabins are authorized under recreation residence permits.

DISPERSED RECREATION

Dispersed recreation activities are increasing annually. There is an estimated 6,000 visitor days per year of dispersed use. Most of this use occurs within the project area. Principal dispersed recreation activities are: sightseeing, fishing, hunting, camping, picnicking, hiking, OHV (off highway vehicle) use, mineral collecting, and snowmobiling.

The project area is popular for those participating in dispersed recreation activities. There are three Concentrated Use Areas (CUA) identified within the project area which are:

- The west side wilderness access points,
- The Indian Creek-Canyon Creek corridor, and
- The East Fork Quinn River.

A CUA is defined as an area containing at least three undeveloped sites where management time or dollars is expended because recreation use leaves evident impacts such as litter, vandalism, or soil compaction, or it is an assigned outfitter guide camp. There are ten outfitter/guides that are permitted to operate in the project area. Visitors to these sites are often seeking more solitude and a more natural experience. Currently, there is no opportunity for road accessed dispersed camping in locations that are not grazed at least part of the high use season.

The Indian Creek-Canyon Creek road corridor lies in an area of natural beauty and is managed to preserve its scenic qualities. There are approximately 70 miles of fishable streams on the District.

Big game hunting is a popular activity on the District. California bighorn sheep, mule deer, pronghorn antelope and mountain lion are the huntable big game species. In addition to big game hunting chukar partridge, sage grouse, California quail, and morning dove are also hunted extensively. Hunting begins in late August and extends through January.

Dispersed recreation areas receive most use on weekends and holidays, with riparian areas near water being the most popular. There are several popular sites along the Hinkey Summit - Canyon Creek Road (Forest Route 084) that passes through several of the allotments in the project area. Additional road accessed dispersed camping occurs on the low standard roads on the southern part of the project area in the Buffalo and Rebel Creek Allotments.

Most use occurs from early June through early October, which coincides with the grazing season. The highest use period is from mid June through Labor Day and then during mule deer rifle hunting season starting in early October. Hunting use is heavy along the road corridors with light to moderate use in some backcountry areas.

The backdrop for the dispersed recreation experience is the roadless and wilderness areas of the District. On February 1, 1983, John B. Crowell, Jr., Assistant Secretary of Agriculture, announced that roadless areas previously studied for wilderness potential would be subject to re-evaluation. The final rulemaking that roadless areas on National Forest System lands would be re-evaluated became effective October 7, 1983. Five roadless areas were re-evaluated in the *Forest Plan* (1986) as amended. Four of those roadless areas are included in this project area. None of these areas were recommended for wilderness designation.

WILDERNESS

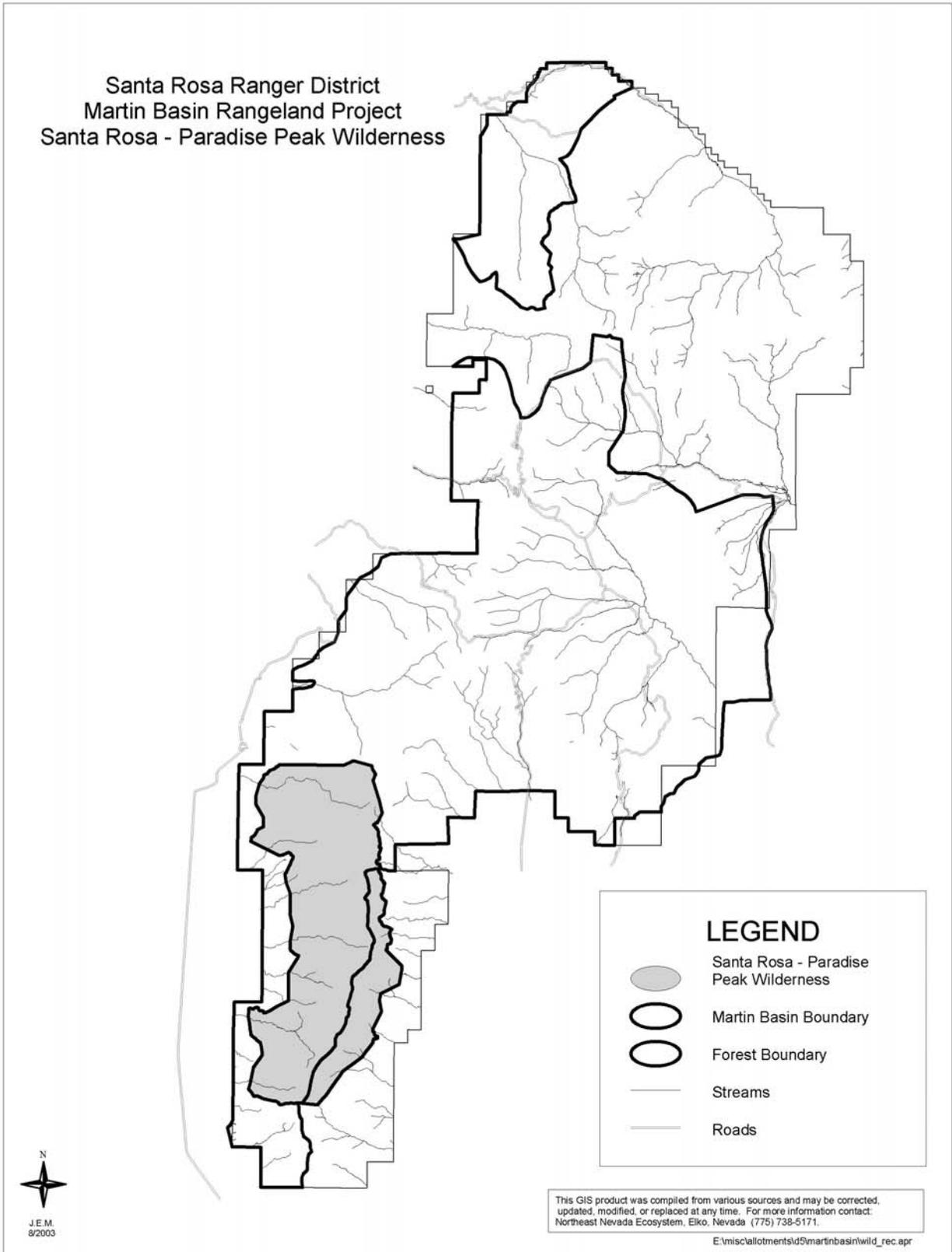
On December 5, 1989, President George H. W. Bush signed the Nevada Wilderness Bill designating 14 new wilderness areas, one of which was the Santa Rosa -Paradise Peak Wilderness (Map 14-M). This wilderness encompasses approximately 31,000 acres, and includes a portion of the project area on the Buffalo and Rebel Creek Allotments. Direction in the legislation is as follows:

Where previously established, livestock grazing is permitted to continue in wilderness. Any adjustments in the numbers of livestock permitted to graze in wilderness would be made as a result of revisions in normal grazing and land management planning and policy setting process, not because of wilderness designation.

Prominent peaks in the wilderness are Santa Rosa Peak at 9,701 feet, Paradise Peak at 9,443 feet and Singas Peak at 9,415 feet. The wilderness is composed of wide, sweeping basins above pockets of aspen. It is characteristic of much of the basin and range country of Northern Nevada. Other features include rocky mountain peaks, alluvial fans, and deeply incised drainages.

There are several large watersheds that originate from the wilderness within the project area which include Buffalo Creek, Horse Creek, Falls Creek, Andorno Creek, McConnell Creek, and Rebel Creek. These streams support recreational fishery habitat, as well as provide irrigation and domestic use in the Quinn River Valley to the west.

Map 14-M: Santa Rosa – Paradise Peak Wilderness



TRAILS

The Santa Rosa-Paradise Peak Wilderness supports the main recreation trail system for the District. Main access points to the trails found in the project area are at Andorno Creek, Buffalo Creek, Falls Canyon, Horse Canyon, McConnell Creek, Rebel Creek, and Big Cottonwood Creek. The Andorno Canyon trail is 3 miles long and connects at the summit with the Buffalo Canyon trail, which is a 4.5 mile climb through phyllite outcrops into the headwaters basin. The trail in Falls Canyon passes a small waterfall about ½ mile into the 1.5 mile trek. The trail in Horse Canyon which is 3 miles long and McConnell Creek trail which is two miles long, afford dramatic views of the valley below. The Rebel Creek trail is 4 miles long passing through large aspen groves and Santa Rosa Peak tying into the Cottonwood trail which continues for three miles into the Paradise Valley side of the mountain range. High elevation, the harsh, arid climate and granitic soils make portions of the trails susceptible to erosion. Many trail segments run through shale rock outcrops that are susceptible to sloughing.

VISUAL QUALITY OBJECTIVES

All lands within the project area have been inventoried and mapped using the National Forest-Visual Management System. The Santa Rosa-Paradise Peak Wilderness had been mapped as Preservation Visual Quality Objective (VQO). This VQO allows ecological changes only. Other areas are designated Retention, Partial Retention and Modification VQO's. These VQO's would prescribe management activities ranging from: "not visually evident" to "management activities which may visually dominate the original characteristic landscape." See Map 15-M

The Visual Management system is derived by combining the scenic value of natural landscape features and viewer sensitivity, or peoples' concern for scenic quality. This landscape inventory and resulting management objectives are used in formulating Recreation Opportunity Spectrum (ROS) classifications. See Map 16-M

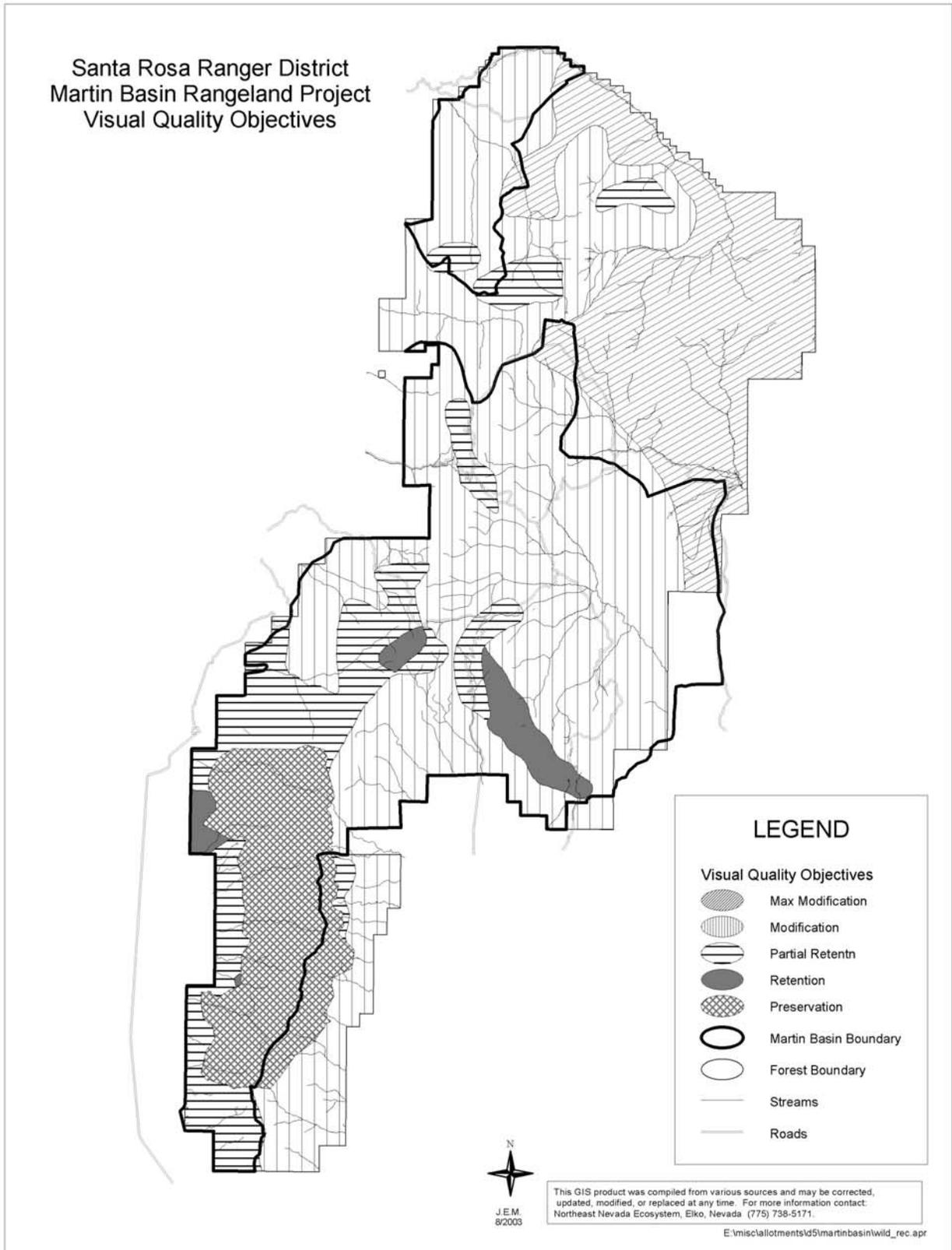
The Humboldt National Forest Land & Resource Management Plan assigns ROS class goals to each management area on the Forest. The ROS system provides a way to help managers and recreation users understand what recreation experiences to expect on any specific area of the Forest. The system is applied in combination with other management direction from the *Forest Plan* to provide Forest managers with direction for managing recreation activities and settings on the Forest. As currently mapped district-wide, 85,144 acres are considered "semi-primitive motorized" and 158,654 "semi-primitive non-motorized," for a total of 243,798 semi-primitive area. Semi-Primitive ROS areas are characterized by predominantly natural appearing landscape character with minimal rustic improvements provided for resource protection as opposed to visitor convenience. District-wide, 55,962 acres are considered "Roaded Natural" areas. Roaded Natural areas are characterized by a predominantly natural appearing and developed natural appearing landscape character with nodes and/or corridors of development such as campgrounds, trailheads, and recreation or administrative buildings. Current management and conditions of the project area are not preventing the achievement of this desired mix of ROS experiences except in Concentrated Use Areas (CUA's).

The project area is popular for those participating in dispersed recreation activities. There are three Concentrated Use Areas (CUA) identified within the project area which are:

- The west side wilderness access points,
- The Indian Creek-Canyon Creek corridor, and
- The East Fork Quinn River.

A CUA is defined as an area containing at least three undeveloped sites where management time or dollars is expended because recreation use leaves evident impacts such as litter, vandalism, or soil compaction, or it is an assigned outfitter guide camp. There are ten outfitter/guides that are permitted to operate in the project area. Visitors to these sites are often seeking more solitude and a more natural experience. Currently, there is no opportunity for road accessed dispersed camping in locations that are not grazed at least part of the high use season.

Map 15-M: Visual Quality Objectives



Map 16-M: Recreational Opportunities Spectrum

