RECLAMATION
Managing Water in the West

Ridges Basin Cultural Resource Management Plan

Animas-La Plata Project, La Plata County, Colorado
Upper Colorado Region

(Sensitive — for official use only)

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Ridges Basin Cultural Resource Management Plan
Animas-La Plata Project, La Plata County, Colorado

Prepared by

Western Colorado Area Office / Durango, CO

ACKNOWLEDGEMENTS

The Bureau of Reclamation's Western Colorado Area Office (Reclamation) would like to thank those who contributed to the Animas – La Plata (A-LP) Project and the development of the Ridges Basin Cultural Resource Management Plan. The A-LP Cultural Resource Oversight Committee, staffed by members of the Ute Mountain Ute Tribe and the Southern Ute Indian Tribe, were instrumental in working with Reclamation and SWCA Environmental Consultants to conduct archaeological investigations prior to the construction of Ridges Basin Dam and Lake Nighthorse. The information they compiled on archaeological resources and Traditional Cultural Properties within the Basin is invaluable and has heavily guided the compilation of this Cultural Resource Management Plan.

As the Lead Federal Agency overseeing Ridges Basin, Reclamation is responsible for developing and executing the Cultural Resource Management Plan. However, Reclamation recognizes that the Cultural Resource Management Plan is a collaborative document, and is grateful for the input and cooperation of the consulting Tribes and Agencies over the course of this document. Major contributors have included: Ute Mountain Ute Tribe, Southern Ute Indian Tribe, Colorado State Historic Preservation Office, Colorado Parks and Wildlife, Hopi Tribe, Santa Ana Pueblo, Pueblo of San Felipe, Pueblo of Acoma, Pueblo of Jemez, Pueblo of Santa Clara, Pueblo of Zuni, Jicarilla Apache Tribe, Navajo Nation, Uintah-Ouray Tribe, Pueblo of Cochiti, Pueblo of Isleta, Pueblo of Laguna, Pueblo of Nambe, Pueblo of Picuris, Pueblo of Pojoaque, Pueblo of San Ildefonso, Pueblo of San Juan, Pueblo of Sandia, Pueblo of Taos, Pueblo of Tesuque, Pueblo of Zia, and Santo Domingo Pueblo. Together we ensure the long-term preservation and protection of cultural resources within A-LP – Ridges Basin.

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1.0 INTRODUCTION

The Animas-La Plata (A-LP) project in La Plata County, Colorado, is a project of the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), Upper Colorado Region, Western Colorado Area Office. The project diverts water from the Animas River to a reservoir south of Durango, Colorado, for municipal and industrial development (Reclamation 2000). The reservoir inundates 1,500 acres in Ridges Basin. Historic properties directly impacted by the reservoir through reservoir-associated infrastructure construction, pipeline realignments, and inundation have already been treated, and impacts to them mitigated (Chuipka 2009; Gilpin and Yoder 2007; Potter 2008a; Potter and Yoder 2008a, 2008b; Yoder and Potter 2007). This document provides a plan for managing cultural resources on Reclamation lands in and around Ridges Basin (AL-P Ridges Basin Area) that have the potential to be impacted by future use and development of the area.

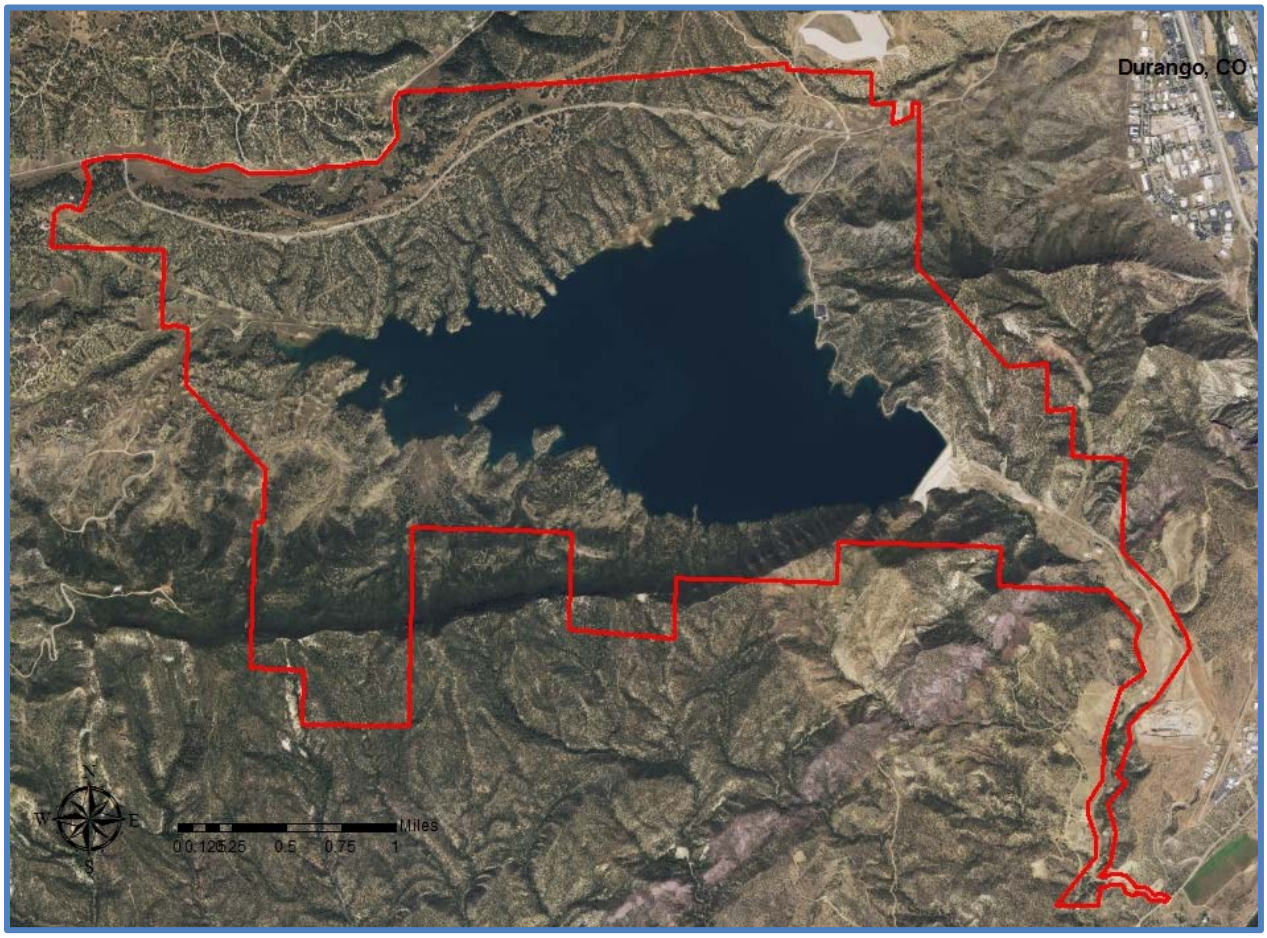

Figure 1- The Animas-La Plata Ridges Basin Area Map

The AL-P Ridges Basin Area encompasses approximately 5,630 acres and comprises numerous sections in the federal Township and Range public land survey system (Table 1). Archaeological surveys have currently documented 188 archaeological sites in the A-LP Ridges Basin Area

(Appendix A). SWCA, Environmental Consultants, Inc. (SWCA) treated 67 of these sites in Ridges Basin as part of the A-LP project.

Table 1. Legal Descriptions (Section, Township, Range) for A-LP Ridges Basin Area

Section	Township (T), Range (R)
6, 7, 8	T34 North, R9 West
1, 2, 3, 4, 10, 11, 12, 1U, 2U, 3U, 4U, 5U, 8U, 9U, 10U	T34 North, R10 West
31, 32	T34 ½ North, R9 West
34, 35, 36	T35 North, R10 West

Sites range in date from Archaic (6500 B.C. to A.D. 1) through the twentieth century and evince the history of the Four Corners Region from about 1000 B.C. to present. The A-LP Ridges Basin Area contains Basketmaker II sites (A.D. 1 to 500) dating just after the Archaic sites. Archaic and Basketmaker sites are significant because they provide information on the transition from a hunting and gathering lifeway to an agricultural lifeway, another of the most important transitions in human history.

Sites dating to the Pueblo I period (A.D. 700 to 900) are especially numerous and include some of the earliest villages in the Four Corners region. Pueblo I sites are of importance in that they provide information on the transition to settled village life, one of the most significant social revolutions in human history.

In addition, the A-LP Ridges Basin Area contains nine protohistoric (A.D. 1300 to 1860) to historic (post 1860) Native American sites that are important in understanding the origins of Ute and Navajo cultures and the Ute-Navajo frontier. Finally, the A-LP Ridges Basin Area contains historic (post 1870s) Euro-American sites that illustrate the homesteading process in southwestern Colorado.

The primary impacts to sites are anticipated to be from recreation, wave action, operations, maintenance, and construction activities that include road, fence, trail, boat ramp, and campground construction. This document provides a plan for monitoring and mitigating these impacts to sites within the A-LP Ridges Basin Area that are eligible and potentially eligible for listing on the National Register of Historic Places (NRHP). Implementation of this plan will provide for the preservation, protection, or mitigation of damage to cultural sites.

1.1 Purpose and Authority

The purpose of the Ridges Basin Cultural Resource Management Plan is to ensure that Reclamation manages cultural resources on its land according to legislative mandates and in a spirit of stewardship; to clarify Reclamation's roles and responsibilities related to cultural resources; and to provide direction for consistent implementation of Reclamation's management responsibilities for cultural resources in the Ridges Basin management area. In particular, the provisions of the Native American Graves Protection and Repatriations Act (NAGPRA) and

Sections 106 and 110 of the National Historic Preservation Act (NHPA) will be used to determine management and treatment of historic properties (defined by the NHPA as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register). As lead agency, the authority to implement and administer this plan will reside with the Bureau of Reclamation.

Beginning in 1906, numerous Federal laws have been enacted to preserve and protect cultural resources on Federal lands. Of these, the NHPA is the most comprehensive. It declared as policy that the Federal government would administer cultural resources under its ownership, control, or administration, in a spirit of stewardship for the inspiration and benefit of present and future generations. This Policy and its associated Reclamation Manual (RM) Directive and Standard (D&S), *Cultural Resources Management,* LND 02-01, affirm Reclamation's commitment to comply with the laws, regulations, executive orders, policies, and directives that constitute the Federal Cultural Resources Management (CRM) Program.

The laws, regulations, and guidance shaping Reclamation's cultural resources responsibilities include: Antiquities Act of 1906 (16 U.S.C. 431); Historic Sites Act of 1935 (16 U.S.C. 461); Reservoir Salvage Act of 1960 (16 U.S.C. 469); National Historic Preservation Act of 1966 (54 U.S.C. 300101 et seq.); National Trails System Act of 1968 (16 U.S.C. 1241-1251); National Environmental Policy Act of 1969 (42 U.S.C. 4321); Archeological and Historic Preservation Act of 1974 (16 U.S.C. 469); American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996); Archaeological Resources Protection Act of 1979 (16 U.S.C. 470); Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001); National Register of Historic Places (36 CFR Part 60); Determinations of Eligibility for Inclusions in the National Register of Historic Places (36 CFR Part 63); Curation of Federally Owned and Administered Archeological Collections (36 CFR Part 79); The Protection of Historic Properties (36 CFR Part 800); Protection of Archaeological Resources (43 CFR Part 7); Native American Graves Protection and Repatriation Act (43 CFR Part 10); Protection and Enhancement of Cultural Environments (Executive Order 11593); Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Executive Order 12898); Protection of American Indian Sacred Sites (Executive Order 13007); Managing Museum Property (411 DM); Protection of Properties on the National Register of Historic Places (426 DM 1); Preservation of Historic Property (519 DM 1); Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (48 FR 44716); and Reclamation Cultural Resources Management Policy (2011) LND-P01.

The A-LP project is a participating project under the Colorado River Storage Project Act and the Colorado River Compact of 1922 (Public Law [PL] 84-485) and the Upper Colorado River Basin Compact of 1948. These two compacts allocate water for development in the Colorado River Basin. The A-LP project has been the subject of public interest and environmental review since it was authorized by the Colorado River Basin Project Act of 1968 (PL 90-537) and later incorporated into the Colorado Ute Indian Water Rights Settlement Act of 1988 (PL 100-585) (as amended) (Settlement Act). The Final Supplemental Environmental Impact Statement (FSEIS) (Reclamation 2000), describing environmental impacts to be mitigated and possible mitigation alternatives, was prepared under the provisions of PL 93-638, the Indian Self-Determination and Education Assistance Act. Thus, the Settlement Act provided authority for the FSEIS and for the creation of the A-LP Ridges Basin Area.

2.0 BUREAU OF RECLAMATION CULTURAL RESOURCE MANAGEMENT PROGRAM POLICY

In managing cultural resources that are on land owned by the United States and controlled or administered by Reclamation on behalf of the United States, Reclamation shall:

A. identify, document, and evaluate cultural resources for listing in the NRHP;

B. seek and obtain involvement from Federal, state, tribal, and local agencies, as well as the interested public, and consider their input in carrying out Reclamation's CRM Program;

C. to the fullest extent possible, manage and maintain historic properties, both reserved and transferred works, in a manner that preserves the character defining features that qualify them for listing in the NRHP;

D. integrate cultural resources concerns early in project planning processes in order to identify opportunities to protect historic properties from adverse effects and avoid unnecessary delays, conflicts, and costs for Reclamation undertakings;

E. consider the effects of its undertakings on historic properties and define Areas of Potential Effects (APE) to consider direct and indirect effects specific to each undertaking;

F. where adverse effects cannot be avoided, commit to fully completing mitigation measures prescribed in agreements executed with one or more of the following: State or Tribal Historic Preservation Offices, the Advisory Council on Historic Preservation, Native American tribes, and other interested parties;

G. actively nominate eligible properties to the National Register;

H. support an education and outreach program to inform the public of Reclamation's responsibilities for stewardship of cultural resources, and related activities and accomplishments;

I. maintain accurate information on the types, location, status, and condition of cultural resources on its land, which shall be used in collaboration with other Reclamation programs such as asset management;

J. preserve and protect museum property under its control as prescribed in RM Policy, *Museum Property Management*, LND P05; D&S, *Museum Property Management*, LND 02-02; and D&S, *Museum Records*, LND 02-05;

K. identify NAGPRA cultural items under its control to ensure their appropriate protection, and repatriation or disposition in a timely manner according to statute and regulation;

L. to the extent possible establish and implement alternatives for the continued use of historic properties that are no longer needed for current or projected Reclamation purposes in compliance with Section 111 of NHPA;

M. to the extent possible follow the Secretary of the Interior's Standards for the Treatment of Historic Properties for historic buildings and structures when complying with sustainability, accessibility, life safety and other applicable mandates;

N. as per Reclamation Manual Directive & Standards, *Administration of the Archaeological Resources Protection Act (ARPA) on Bureau of Reclamation Land,* LND 02-04, support management actions to prevent the theft of, damage to, or destruction of archaeological resources; and

O. as per LND 02-04, allow for archaeological investigation and work on Reclamation land, only after issuing a Bureau of Reclamation permit for such activity.

2.1 In-Place Preservation and Long Term Management

In situ (in place) preservation is the preferred course of action for all identified historic properties within an APE. To the fullest extent possible, those characteristics which make the property eligible for inclusion in the NRHP will be preserved in situ and protected from the effects of any project implementation.

If an historic property can be saved from destruction or alteration, Reclamation will take the necessary steps to preserve the property in perpetuity. Flagging and temporary fencing will be used to mark sites for avoidance by any project-related construction, machinery and vehicular traffic that is within 50 feet of the historic property. Sites designated for preservation will be assigned an archaeological monitor during potentially harmful project activities. Previously unknown historic properties discovered during the course of any project activities will be afforded the same protective measures as currently known historic properties and these will be added to Appendix A.

3.0 ANIMAS – LA PLATA PROJECT BACKGROUND

3.1 Environmental Setting

The A-LP Ridges Basin Area is in La Plata County just west of the Animas River, adjacent to the northern boundary of the Southern Ute Indian Tribe (SUIT) Reservation. Ridges Basin lies at the border between the Southern Rocky Mountain and Colorado Plateau physiographic provinces. This boundary is broadly defined as the zone in which sedimentary formations rise onto the uplift of the San Juan Mountains. Uplift and deformation have occurred episodically throughout the geologic history of the Durango area and are responsible for creating many of the major topographic features evident today. During the last two million years the San Juan Mountains may have experienced 15 or more glacial advances, which have also greatly contributed to the formation of the modem landscape (Blair et al. 1966). The Hogback Monocline, a series of east-west-trending and southward-dipping ridges, dominates the topography in and around Ridges Basin and Blue Mesa. The Animas River crosses these hogbacks from north to south. Landforms along the Animas River are predominantly terraces of late Pleistocene age that formed during the last deglaciation between 18,000 and 15,000 years ago (Blair et al. 1966).

Ridges Basin is a broad triangular basin bounded on the south by Basin Mountain, on the east by Carbon Mountain, and on the northwest by Wildcat Ridge. Basin Creek enters Ridges Basin from the west (at the western corner of the triangle) at an elevation of 6,800 feet and trends east-southeast, and exits Ridges Basin in the southeast comer of the triangle at an elevation of 6,720 feet. The south side of Ridges Basin is defined by Basin Mountain and its piedmont, the east side by Carbon Mountain and its piedmont, and the north side by a low ridge separating Ridges Basin from Wildcat Canyon. This low ridge, informally referred to here as Wildcat Ridge, rises to an elevation between 7,200 feet and about 7,400 feet at its northernmost point. The highest point of Carbon Mountain is at an elevation of 7,844 feet, and Basin Mountain's highest point is at an elevation of 8,245 feet.

The Hogback Monocline is a regionally extensive geologic structural feature that is best defined in the project area by the tilted sandstone bedrock at the top of Carbon and Basin Mountains. The regional dip of the sedimentary stratigraphy of the Hogback Monocline is toward the east-southeast, and the axis of the monocline trends north-south. The landscape of Ridges Basin and its associated landforms is determined to a great extent by the geologic structure of the Hogback Monocline, combined with the variation in the erosive nature of the underlying geologic units (Anderson 2008a). The Hogback Monocline exposes Cretaceous sedimentary rocks that dip approximately 40 degrees to the southeast. At its peak Carbon Mountain has the erosional resistant Pictured Cliffs Sandstone, which forms the dramatic cream-colored cliffs. Underlying the Pictured Cliffs Sandstone is the more easily eroded Lewis Shale, which is the dark gray and black material that dominates much of the sediments in the eastern portion of Ridges Basin. Lower on the slopes of Carbon Mountain are younger colluvial and alluvial fan deposits of the Lewis Shale-derived clays. Underlying these two units, which dominate the geology in the eastern and southern sides of the basin, is the Mesa Verde Group (Cliff House Sandstone/Menefee Formation/Point Lookout Sandstone), which outcrops on the western side of the basin (Anderson 2008a).

Soils in and around Ridges Basin are primarily residual deposits formed on underlying shale and sandstone bedrock. Colluvial slope-wash has redeposited these soils, and alluvial deposits are present along drainages. Within Ridges Basin, sediments derived from the Mesa Verde Group are generally sandier than the clayey deposits derived from the predominantly Lewis Shale on the east and south sides of the basin. These two different types of sediments, and resulting soils, have important implications for soil types and prehistoric agriculture (Anderson 2008b). In simplified terms, soils derived from Lewis Shale have high clay content and are not optimal for growing crops, whereas soils eroded from sandstone tend to drain better and accommodate crops much better.

Four different biotic communities surround and intermingle in Ridges Basin (Winter et all 1986). Great Basin Conifer Woodlands, comprised primarily of pinyon-juniper, and Great Basin Montane scrub, composed of deciduous scrub species are supported on the shallow slopes in the basin. The basin's highest elevations are Petran Montane Conifer Forest, dominated by ponderosa pine and Douglas fir. Additionally, the valley floor used to be Great basin Desert Scrub, dominated by rabbitbrush and sagebrush. Now, this is visible in select areas surrounding the reservoir that has filled in the old valley bottom.

The basin supports a rich wildlife population. Many species of perching birds, swallows, woodpeckers, hummingbirds, turkey, dove, and raptors including osprey and bald eagle can be found here. With the introduction of the reservoir there is also now a large population of waterfowl including heron and Canadian geese. Deer, elk, black bear, coyotes, rabbits, badgers, weasels, squirrels, marmots, porcupines, and prairie dogs can all be seen in Ridges Basin.

Reith (1986b) documents several human-induced factors that have drastically changed the local setting in Ridges Basin, including fire, overgrazing, and construction and clearing. The historical presence of fire is evidenced by dense concentrations of Gambel's oak on the north-facing slope of Basin Mountain. Gambel's oak responds to severe burn by sprouting from stumps and producing dense stands of uniform height.

Overgrazing is the most widespread of recent human impact to the area and has resulted in the invasion of trees and shrubs into meadows and has relegated most native grass species into relict patches among the oaks and pinon-juniper. In addition, clearing for road, trail, pipeline, and canal construction have allowed for a variety of annual and perennial weeds–principally in the sunflower and mustard family–to populate areas disturbed by overgrazing and construction. Cheat grass has revegetated most disturbed areas. Finally, ponderosa pines have been selectively cut throughout the basin.

The climate of Ridges Basin is semi-arid, with about 25 percent of its precipitation falling as snow. Temperature ranges from a mean daily low of 10°F in January to a mean daily high of 87°F in July, with a long term annual temperature of about 40°F. The length of the growing season of the Durango area has been variously reported as 116 days (Fuller 1988a, citing Peterson 1984) and 99 days (Reith 1986a). Based on data collected over a four-year period, Bellorado (2007) reports widely varying average frost-free periods–116 to 134 days–for different areas within Ridges Basin, depending on aspect and proximity to the cold-air drainage.

On average Durango receives between 18 and 19 inches of precipitation annually. Reith (1986a) reports a precipitation average of 18.98 inches for the Durango Airpark weather station on Blue Mesa. Fuller (1988a) reports the northwest Durango station yielding an average of 18.61 inches. According to Peterson (1988), based on a 66-year record, Durango receives 18.04 inches of precipitation annually. In 2007, Anderson and Bellorado (2009) recorded 20.14 inches of precipitation in Ridges Basin. No season is consistently without rainfall, but May and June often constitute a period of mild drought. In contrast, August is the wettest month, with prolonged episodes of rainfall derived from Southwest monsoons dropping an average of 2.38 inches. November is a second period of mild drought, which ends with snowstorms that occur throughout December, January, and February.

3.2 Archaeological Research

This section presents an overview of the cultural history of Ridges Basin and the archaeological research conducted in the basin throughout time. Archaeological evidence, oral history, written records, and linguistic studies are the sources used to compile this cultural history.

The following overview includes a discussion of the A-LP Research Design and Data Domains for each cultural period in order to better understand the types of research questions that have been investigated. In addition to providing this background information, the Ridges Basin site types and distribution patterns are also presented. This information allows Reclamation and our consulting parties to identify sensitive cultural areas and develop better management recommendations when evaluating future undertakings.

3.2.1 Cultural History Overview

Ridges Basin is within the Northern San Juan cultural region, on the periphery of the Colorado Plateau physiographic province. Several cultural traditions are represented in the region, from Paleoindian occupation to the Euro-American settlement of the area. This is merely a summary of the complex culture history of the area; for a more in-depth discussion of the culture history of the Ridges Basin area, the reader is referred to SWCA's publication series for the Animas-La Plata project (Lipe et al. 1999; Potter and Yoder 2008a, 2008b; Yoder and Potter 2007, Winter et al. 1986).

Paleoindian Period

The Paleoindian period, 10,000 to 6,000 B.C., provides evidence for the earliest occupation of southwest Colorado. This period includes the Clovis, Folsom, and Plano stages and is characterized by the hunting of big game, such as mammoth and bison, by hunters using long, lanceolate projectile points. Limited evidence for the use of wild plant resources and the hunting of smaller game has been gleaned from Paleoindian sites, perhaps reflecting a diverse subsistence strategy.

Settlement and subsistence activities during the Paleoindian period are poorly understood for the area and can only be inferred from the limited evidence collected in surrounding areas. There is little evidence to suggest that Paleoindian populations lived in the area on a permanent basis.

Existing data do suggest, however, that mobile groups hunting big game and gathering other wild resources entered the area intermittently. This region may not have contained sufficient floral and faunal resources to support Paleoindian hunters and gatherers on a permanent basis (Eddy et al. 1984:21).

Archaic Period

Between 7,000 and 5,500 B.C., *Bison antiquus*, mammoth, and other Ice Age fauna became extinct. The extinction of the Ice Age fauna caused a shift from a reliance on big game hunting to the hunting of smaller game. An increase in the collection and processing of plant foods is also suggested by the greater number of pounding and grinding stones found at sites that date to the Archaic period (Cassells 1997).

The Archaic occupation of the Four Corners region has been well documented in recent years. Recent archaeological investigations have identified a significant Archaic presence along the Colorado–Utah border in Montezuma County, Colorado. The Bodo Canyon and Ridges Basin areas also appear to have been areas of significant Archaic use.

The Oshara variant of the Archaic tradition influenced areas in northern Arizona, southeastern Utah, southwestern Colorado, and west-central New Mexico. The Oshara variant includes five phases: Jay, Bajada, San Jose, Armijo, and En Medio. These five phases are thought to reflect cultural adaptations to fluctuating climatic conditions and to have resulted in the eventual emergence of the Puebloan tradition (Irwin-Williams 1973, 1979).

Archaic settlements in the region ranged from base camps to satellite sites. Early Archaic (6,000–3,200 B.C., which includes the Jay and Bajada phases) sites contain bifacially flaked knives, side scrapers, and large, slightly shouldered projectile points with stemmed bases (Irwin-Williams 1973, 1979). The tool assemblage for the Middle Archaic (3,200–1,800 B.C.) is similar to that of the Early Archaic, with the addition of ground stone milling tools. The addition of milling tools suggests the increased importance of plant foods in the Middle Archaic diet. Irregularly spaced postholes suggest that wickiup-type shelters were used in this region during the Middle Archaic.

Evidence from the Late Archaic (1,800 B.C. – A.D. 400) suggests that corn was cultivated on the narrow floodplains of canyon floors near canyon heads. This corn, however, was only a supplement to the hunting and gathering systems already in place. The En Medio phase (800 B.C. – A.D. 400) encompasses a transition from a primarily hunting-gathering subsistence strategy to one that was almost fully sedentary and based on corn horticulture.

Puebloan Tradition

The Puebloan occupation of the region began before the end of the Archaic period and lasted until approximately A.D. 1300. The beginnings of the first Puebloan occupation, the Basketmaker II period (ca. 400 B.C. – A.D. 500), actually overlapped the end of the Archaic period. Irwin-Williams (1973) considered the En Medio Archaic phase and the Basketmaker II phase of the Puebloan to be equivalent in terms of material culture. Re-evaluations of En Medio and Basketmaker II sites and their reliance on maize agriculture in the northern Southwest have led some to believe that the Basketmaker II phase started earlier than generally thought and overlaps the En Medio phase (Kearns 1992).

During the Basketmaker II period, the population of the region increased and habitation sites were apparently occupied on a year-round basis. The habitation structures during this period were typically shallow pit houses with associated extramural work areas, hearths, roasting pits, and storage cists. This period has been traditionally characterized as a transitional phase from an economy based on hunting and gathering to one based on horticultural practices (Lipe and Matson 1971).

The Basketmaker III period lasted from approximately A.D. 500 to 700. The most common settlement pattern of this period consisted of dispersed, extended-family hamlets, which generally included one or two pit houses with associated surface features or storage rooms. In some areas of the Northern San Juan region, villages may have existed, but the contemporaneity of the individual structures at these sites has been called into question (Fuller 1988c).

Semi-subterranean pit houses were utilized for habitation, storage, and ritual activities. The main chambers and antechambers of the early Basketmaker III phase were circular or ovoid in plan view. They evolved to a D-shape and then, in the latter part of the period, to sub-rectangular shapes. Entry into these structures was usually through the south wall of the antechamber or through a hatch over the fire hearth in the center of the roof of the main chamber.

Artifacts found at Basketmaker III sites indicate an increasing use of ceramics, antler tools, shell ornamentation, and ground stone. Smaller projectile points indicate the common use of the bow and arrow by the end of the period. Trough metates appear at this time and begin to replace basin metates. Ceramic vessels could be placed directly in a fire, making it easier to cook beans, which were cultivated and added to the diet.

The Pueblo I period (A.D. 700 – 900) is characterized by population movements to upland areas. Due to climatic variations, the uplands may have been the only areas that received enough rainfall to support dry farming. The introduction of red ware ceramics and the domestication of turkeys also took place during this period.

Pueblo I period settlements included large villages with associated community complexes, single- and multiple-habitation hamlets, field houses, and limited-activity areas. These large communities were characterized by multiple pit houses, contiguous room blocks, and large ceremonial structures (great kivas). Villages contained several large room blocks with associated pit structures, all clustered east to west or in parallel rows from north to south. Great pit structures, presumably ceremonial in nature, have been found in the larger communities. Surface rooms, for storage and habitation, were constructed by lining shallow pits with upright slabs to stabilize jacal walls constructed of sticks and clay.

The majority of the identified archaeological remains, including NAGPRA items, in Ridges Basin date to the Pueblo I period (Perry and Potter 2006). SWCA estimated that there were 111 Pueblo I pit structures built and occupied in and around Ridges Basin. Different calculations were made to estimate population density in the area from AD 760 to 810. Estimates ranges from 125-200 to 555-888, with the conclusion that it was likely that the population at any given time during the period never exceeded 300 people (Potter 2010).

The Pueblo II period (A.D. 900–1150) is characterized by population movements and shifts in settlement patterns, widespread small hamlets, the use of water-control features and soil conservation, and the introduction of corrugated utility ceramics. During this period, populations spread out across mesas of middle and lower elevations in the Northern San Juan region. Projectile points of the period are small and side-notched. Decorated ceramics were predominantly black-on-white and black-on-red varieties.

Habitation sites during this period were generally constructed on mesa tops and along low ridgelines near what would have been the cultivated fields of the inhabitants. Sites were also built in the bottoms of wide canyons and river valleys where farmers could have practiced the ak-chin method of irrigation, a floodwater farming technique in the alluvial outwash fan of an arroyo (Reid and Whittlesey 1997). Masonry surface structures were introduced during the Pueblo II period, some with hearths indicating that these structures were used as dwellings. Constructed of shaped sandstone, the walls of these structures were generally one stone thick. Village sites consisted of single- or multiple-unit sites with one or two pit houses in front of L-shaped or randomly arranged room blocks.

The Pueblo III period (A.D. 1150–1285) represents the climax of Puebloan occupation in the Northern San Juan region. The basic architectural patterns found during the Pueblo II period continue, with the masonry often becoming finer in quality. Ceramics included corrugated utility wares and black-on-white ceramics with McElmo and Tusayan design elements. The beginning of the Pueblo III period has been characterized as a time of environmental instability, which may have contributed to the abandonment of smaller sites and population aggregation into larger community sites. The local inhabitants of the area may have responded to periods of low rainfall in the 1100s by intensifying agricultural efforts and by relying more on water-control strategies as opposed to dry-farming techniques. The growing seasons shortened dramatically toward the end of the Pueblo III period, possibly resulting in an increased use of water-control features, then a movement to lower elevations to minimize the risk of crop loss. Archaeological evidence suggests that by A.D. 1285, the Puebloans had migrated south out of the northern Four Corners region.

Following the migration from the area, there may have been a hiatus in permanent human habitation of the area for almost two centuries. While archaeological evidence in Ridges Basin did not show human habitation between A.D. 1300 and 1500, it was most likely occupied periodically by Athapaskan and Numic-speaking peoples. By about A.D. 1500, two linguistic groups are recognized in the region: the Numic-speaking Ute and the Athapaskan-speaking peoples, who were ancestors of the modern Navajo and Apache Indians.

Navajo Tradition

Archaeological evidence of the Navajo occupation of the Northern San Juan region is divided by archaeologists into two phases: the Dinétah, from approximately A.D. 1450 to 1700, and the Gobernador, lasting from approximately A.D. 1700 to 1800.

The Dinétah phase subsistence is believed to have been similar to that of the Archaic period, with a reliance on hunting and gathering. The inhabitants may have supplemented their diet with corn (Brown and Hancock 1992). Habitation structures of the period consisted of brush wickiup-style structures, and forked-stick hogans. Extramural features found at habitation sites include

hearths, roasting pits, warming pits, and fire-cracked rock scatters. Gray ware ceramics are also common at sites of the period.

The Gobernador phase is best known for its defensive masonry structures, the "pueblitos," found in the Gobernador–Largo area on the southeastern fringe of the San Juan region. These pueblitos were once thought to have been constructed during the 1690s by Puebloan refugees fleeing from the Spanish following the Pueblo revolt in 1680 (Keur 1944). More recent research, however, suggests that these structures were built by Navajos as a defense against Ute and Comanche raids in the area (Reed and Reed 1992).

Navajo history, as told by traditional scholars, is complex and is transmitted through oral and ceremonial traditions. It embodies knowledge passed down from time immemorial. For the Navajo, history begins with the ascent of the people from Four Underworlds before emerging into this, the Fifth World. From this emergence came the ancestors of the Diné People, Holy People, plants, animals, and other living beings that became part of the Earth. As life began in this world, the people moved about the earth. They progressed from hunters and gatherers to settled village life to the present-day Navajo People. During this long history, many other people joined the tribe. Many of their clans have origins in the Greater Southwest and came from other people/tribes, including the Anasazi. The complex origins of the Navajo people form the basis for the Navajo Nation's participation in the Animas-LaPlata project. Today, the Navajos call themselves Nihokáá diné'é bíla'ashdla'ii (Five-Fingered People of the Land); each finger represents one of the worlds in which they have lived. Their creation story incorporates the land, the people, and all that inhabit the earth.

Ute Tradition

The primary evidence for Numic expansion into Utah and western Colorado is provided by linguistic studies. The linguistic evidence suggests that Numic-speaking Utes entered the region sometime between A.D. 1200 and 1400. Archaeological evidence suggests that a Ute population existed in the area by the early 1600s. The earliest historical documentation of the presence of Utes in the area comes from the 1620s.

Although the Utes ranged throughout a wide area, Ute homelands for the Weeminuche[1] Band were in the San Juan Basin area. Ute homelands for the other Ute bands ranged from eastern Utah to the front range of the Colorado Rocky Mountains, north towards Wyoming and south to Santa Fe. At the time of contact with Spanish explorers, the basic subsistence strategy of the Ute consisted of hunting wild game and gathering wild plant foods. They appear to have employed a forager strategy with a relatively high residential mobility, following a seasonal movement across annual territories as various food resources came into fruition (Martin, et all. 2006). Some Ute groups also cultivated corn, beans, and squash to supplement their diet. The Utes were the earliest western tribes to acquire horses, and they incorporated these animals fully into their culture. The likely source in the sixteenth and seventeenth centuries would have been Spanish

[1] The band eventually composing the Ute Mountain Ute people are referred to in historic texts as both the *Weeminuche* and *Weenuche*. The preferred name is Weenuche, but Weeminuche is used here when citing historic texts that use that term.

colonies in Mexico (Forbes 1959). Juan de Oñate's Spanish colony in New Mexico, established in 1598, brought a permanent population of horses into the Southwest.

The material culture of the early Ute consisted mainly of perishable and easily transported items such as baskets, skin sacks, buckskin clothing, moccasins, and wild foodstuffs. Early Ute groups did not commonly use pottery. Prehistoric Numic and historic Ute camps consisted of temporary wickiups covered with branches, bark, and grasses, as well as other wooden features such as tree platforms, utility racks, and hunting blinds (Martin, et all. 2006). By A.D. 1700, after the acquisition of horses, the Utes adopted the tipi, which they covered with hide or canvas. Later Protohistoric Era components often contain small quantities of Euro-American artifacts obtained in trade such as glass beads, metal tinklers, firearms, food cans, and horse tack, as well as metal arrow points, knives, needles, axes, cooking pots, and other goods (Martin, et all. 2006).

European Tradition

Prior to 1859, when the gold and silver rush began in Colorado, European explorers, missionaries, traders, and trappers had entered the Northern San Juan region only on a sporadic basis. Spanish explorers, including the two Rivera expeditions of 1765, and the Dominguez and Escalante expedition in 1776, were the first Europeans to come into the region. One site in Ridges Basin 5LP4213, named the Old Ute Trail, is a segment of the trail that connected present day Ignacio and the headquarters of the Southern Ute Tribe, and Towaoc and the headquarters of the Ute Mountain Ute Tribe. This trail was first used by different Native American groups traveling through the area, then was used by the Rivera expedition and called the Old Spanish Trail (Potter 2010). The Old Spanish Trail first used by the Rivera expedition in 1765, looking for a route to connect Santa Fe and California, was made a National Historic Trail in 2002.

Extensive European interest in the San Juan region began with gold exploration in southwestern Colorado between 1859 and 1861. Most historic period sites in the Northern San Juan region that date after 1859 were related to mining, transportation, and early agricultural settlement. Ranches and farms sprung up through Colorado's western valleys during the late 1860s to early 1870s.

Between 1880 and 1890, Hispanic settlers came into the area and established many small towns. The end of open range grazing began in 1891, when National Forest reserves were created. Homesteading was well established by 1899, and growth throughout the region was triggered by an increasing dependency on an agricultural economy. Open range grazing of cattle and sheep ended in 1934 with the passage of the Taylor Grazing Act. The modern regional economy is increasingly dependent on tourism and coalbed methane production.

3.2.2 Archaeological Literature Review

The following synopsis of the archaeological work conducted in the Ridges Basin area is taken from the Animas La Plata Project Volume XVI - Final Synthetic Report written by James M. Potter in 2010.

The earliest archaeological work conducted in Ridges Basin was done by Fort Lewis College. From 1965 to 1975, Fort Lewis College conducted several field schools directed by Homer Root and Doc Ives. In 1965, under the direction of Homer Root, the field school

excavated an early Pueblo site containing a large pit structure, 12 jacal surface rooms, and a midden. SWCA has determined this site to be 5LP237.

In 1966 and 1967, Root directed excavations at 5LP245, the Sacred Ridge Site, as part of a field school for Fort Lewis College. 5LP245 covers 12 acres and is the largest prehistoric site in the A-LP Project Area. Root focused his work on the ridge top architecture and the extensive middens on the surrounding slopes, excavating three pit structures, two dance plazas, 28 surface rooms, and 40 human burials over the course of four months in 1966 (Root 1967). He returned to the site for a short time in the summer of 1967, to further explore the middens for additional burials.

Root conducted excavations at four sites in 1967: Pasture Ruins I, II, and III, on an alluvial fan at the east end of Ridges Basin, and North Ruin I, northeast of Ridges Basin in what is now Bodo Industrial Park (Ware 1986). Bonan (1985) suggested that the Pasture Ruins sites include 5LP177, 5LP179, and 5LP243. The site records describe these sites as jacal habitation units, as the field school excavated only surface rooms and their midden units. The field school removed three burials from the midden at Pasture Ruin 1. Root also conducted further excavations at 5LP245 (the Sacred Ridge Site) in 1967, but he made no record of the exact location or the extent of this work.

Dr. John "Doc" Ives also conducted a Fort Lewis College field school in Ridges Basin in 1967, at 5LP238, a habitation site. The site consisted of a jacal room block and a front-oriented pit structure, which apparently contained a number of disarticulated human skeletal remains. No further details of the pit structure or rooms were reported, although a detailed site map from the excavation exists.

In 1968, Ives targeted surface rooms at three sites on the same alluvial fan as Homer Root's "Pasture" sites. According to Ware (1986), these sites were 5LP240, 5LP241, and 5LP242. Subsequent work conducted by SWCA in 2003, as part of the A-LP project, indicates that these sites were habitation units with pit houses. No reports of Ives's excavations were completed.

In 1969, Root returned to Ridges Basin for a final season, focusing on a single site on the northern slope of the Basin. Site 5LP236, the "Hoodoo Ruin", consisted of a jacal room block, a pit house, and scattered trash southeast of the pit house. Root briefly described the room block in his notes as 10 contiguous jacal rooms, each measuring 3.5 x 3 meters, all plastered and well-constructed. No detailed descriptions or drawings of the architecture appear to have been made, although he described them as a semi-circle of rooms. He also mentioned that a quantity of ground stone was recovered from the room block, and that human remains were recovered from the site.

In 1975, the first formal archaeological survey of Ridges Basin was conducted by the University of Colorado. This intensive inventory of the eastern portion of the basin (below the 6,960-foot elevation line) recorded and surface-collected 37 sites (Leidy 1976). This survey was the first in a long history of rampant surface collection of sites in Ridges Basin as part of archaeological surveys.

In 1980 and 1981, ESCA-Tech Corporation and their subcontractor, the University of New Mexico's Office of Contract Archeology (OCA), conducted an intensive Class III pedestrian survey of the entirety of Ridges Basin (Winter et al. 1986). This survey identified 196 sites, including those identified by Leidy in 1975. Of these, 105 contained Pueblo I ceramics, 12 had late Pueblo I - Pueblo III ceramics, 25 produced Basketmaker II or earlier projectile points, and 36 were Euro- American sites (Winter et al. 1986). The work included magnetometer investigations at 30 of the Pueblo I and possible Basketmaker sites (Bennett and Weymouth 1986). Several important results emerged from this survey. The first was the systematic identification and recording of all site types in Ridges Basin. Previous work had tended to focus exclusively on large habitation sites with surface room blocks, pit structures, and refuse deposits, all sites with a high likelihood of yielding whole pots, datable charcoal, and tree-ring samples. The ESCA-Tech survey provided some of the first data on prehistoric sites and activities outside the range of primary habitation. Pueblo I sites documented by the ESCA-Tech/OCS survey were of two main types: (1) habitation sites with surface rooms, at least one pit structure, and midden deposits; and (2) limited-activity sites lacking architecture. A second result of the survey was the identification of a bimodal size distribution for aceramic lithic scatters. As a result, Archaic period sites became a significant aspect of the archaeological record and research potential of Ridges Basin.

In 1981 and 1982, Fort Lewis College conducted yet another field school in Ridges Basin. Phil Duke directed the excavation of 5LP630, near Root's "Pasture Sites." The site contained an unburned early Pueblo I pit structure, a burned surface room block, and a shallow midden. Scattered human remains were recovered from the pit house. In addition, the field school tested 5LP240 (referred to as 5LP242 in Duke's report), a site that had been excavated by Ives, but uncovered no additional features (Duke 1985).

In 1982, under the direction of Duke and Susan Riches, the Fort Lewis field school tested three limited-activity sites, 5LP491, 5LP493, and 5LP593. The only subsurface features discovered were three slab-lined cists at 5LP593 (Duke 1985).

In the 1980s, Complete Archaeological Services Associates (CASA) conducted various work in Ridges Basin. CASA re-identified, re-recorded, and once again surface collected the 196 sites recorded by ESCA-Tech/OCA, in the process updating all of the Colorado state site cards. They also systematically surveyed the Wheeler and Koshak Borrow Areas east of Ridges Basin, recording 46 sites in the Wheeler Borrow Area and three in the Koshak Borrow Area (Fuller 1988b).

CASA conducted excavations at 11 sites in Bodo Canyon, adjacent to the north edge of Ridges Basin, as part of the Uranium Mill Tailings Remedial Action Project, or UMTRA (Fuller 1988a). These Bodo Canyon excavations treated two late Archaic hunting camps, four early Pueblo I habitations, and five early Pueblo I non-habitation sites (three artifact scatters and two possible field house sites). In addition, two of the Bodo Canyon sites (5LP478A and 5LP1104) contained Basketmaker II components, both with shallow, basin-shaped pit structures, hearths, storage pits, and midden deposits. Radiocarbon date ranges for the Basketmaker II components were A.D. 180±70 to 440±60 at 5LP478A, and A.D. 270±80 to 280±80 at 5LP1104. Fuller proposed that these sites represented permanent

habitations. However, Hogan and others have suggested that seasonal occupation during the winter months is more consistent with the quantity and diversity of artifacts recovered from there and with models of Basketmaker II settlement in the San Juan Basin (Hogan 1985; Hogan et al. 1991). Fuller's work constituted the first investigations on Basketmaker II sites in the project area, and brought to light the potential of this area to yield significant data on sites dating to this time period.

In 1990, prior to obtaining the land, Reclamation synthesized the survey and excavation work undertaken up to that time, and had the project area designated an archaeological district eligible for the NRHP. In 1992 and 1993, Northern Arizona University (NAU) and their subcontractor, La Plata Archaeological Consultants, mapped and surface-collected 42 archaeological sites in Ridges Basin. NAU and Reclamation published seven volumes on the results of this limited work (Allison 1995; Gregg and Smiley 1995a, 1995b; Gregg et al. 1995; Smiley 1995; Smiley and Folb 1997; Smiley and Gregg 1995; Smiley and Robins 1997), further documenting the variation represented by the artifact assemblages in Ridges Basin.

In 1999, Woods Canyon Archaeological Consultants excavated 5LP515 as part of the Mid-America Pipeline Project (Horn et al. 2003). Site 5LP515, at the eastern end of the basin, consisted of a pit structure, a room block with two surface structures and three extramural features, and a trash midden. This site dated to the early Pueblo I period.

As part of the A-LP project mitigation, from 2002 to 2005 SWCA excavated 67 sites in Ridges Basin (Table 2). Twenty-eight of these were small Pueblo I habitation sites, one was a Pueblo I village containing 22 pit structures, 19 were Pueblo I limited activity sites, six were undated limited activity sites, one was an Archaic camp, three were Basketmaker II habitation sites, eight were historic period sites, and one was a Protohistoric site. One of the Pueblo I limited activity sites and one Pueblo I habitation site also contained evidence of Protohistoric use. In addition, SWCA conducted ethnographic and historical research on the Old Ute Trail (site 5LP4213) (Gilpin 2007).

Table 2. List of Sites in Ridges Basin Treated by SWCA

Site Number	Time Period and Site Type
5LP169	BM II habitation
5LP171	PI limited activity
5LP174	PI habitation
5LP175	Archaic camp/PI limited activity
5LP176	PI habitation
5LP177	PI habitation
5LP178	PI habitation
5LP179	PI habitation
5LP181	PI limited activity
5LP182	Historic
5LP183	PI limited activity
5LP184	PI habitation

Site Number	Time Period and Site Type
5LP185	PI habitation
5LP186	PI limited activity
5LP187	PI habitation
5LP188	BM II habitation/PI limited activity
5LP192 Harper Ranch	Historic
5LP236 Hoodoo Ruin	PI habitation
5LP237	PI habitation
5LP238	PI habitation
5LP239	PI habitation
5LP240	PI habitation
5LP241	PI habitation
5LP242	PI habitation
5LP243	PI habitation
5LP244	PI habitation
5LP245 Sacred Ridge	PI habitation/village
5LP246	PI habitation
5LP248	PI habitation
5LP452	PI limited activity
5LP477	Historic
5LP482	PI habitation
5LP484	PI limited activity
5LP487	Undated limited activity
5LP494	Historic
5LP495	PI limited activity
5LP496	PI limited activity
5LP498	PI limited activity
5LP502	Historic
5LP503	PI habitation
5LP508	PI limited activity
5LP510	PI habitation
5LP511	PI habitation
5LP517	Historic
5LP525	Undated limited activity
5LP536	PI habitation
5LP537	PI limited activity
5LP545	PI limited activity
5LP549	PI habitation/Protohistoric camp
5LP567	PI limited activity
5LP569	PI limited activity
5LP570	BM II habitation

Site Number	Time Period and Site Type
5LP577	Archaic limited activity
5LP579 Bodo Ranch	Historic
5LP588	PI limited activity/Protohistoric camp
5LP601	PI limited activity
5LP608	PI limited activity
5LP614	PI habitation
5LP630	PI habitation
5LP634	PI habitation
5LP635	PI limited activity
5LP1095	PI limited activity
5LP2264	Undated limited activity
5LP2265	Undated limited activity
5LP4870	Protohistoric
5LP6634	Historic

The results of SWCA's work in Ridges Basin is presented in 15 research volumes (Allison 2010; Chuipka 2009; Gilpin 2007; Gilpin and Yoder 2007; Perry and Potter 2006; Potter 2006, 2008a, 2008b, 2009, 2010; Potter and Yoder 2008a, 2008b; Perry 2010; Railey and Wesson 2009; Yoder and Potter 2007). Additionally, one volume is dedicated to SWCA's work on nearby Blue Mesa (Chuipka and Potter 2007). This research indicates that most of the Pueblo I habitation sites dated from A.D. 750 to 810 and were dispersed hamlets consisting of one or a few pit structures and associated extramural features, including ephemeral surface rooms, burials, and stockades, more generally termed "enclosures." The exception was 5LP245, the Sacred Ridge Site, a large early Pueblo I village-aggregate at the west end of Ridges Basin comprising 22 pit structures and hundreds of features, including over 100 human burials. Sacred Ridge also contained structures interpreted as communal ritual architecture. This site was contemporaneous with the numerous dispersed hamlets that dot the landscape and was a social and ritual center for the households that lived at these hamlets. SWCA's excavations from 2002 to 2005 resulted in the recovery of human skeletal remains from approximately 279 individuals from 23 sites as well as a large amount of processed human remains from the Sacred Ridge Site (Perry et. al 2010).

Table 3 lists the sites within Ridges Basin that were not treated by SWCA as part of the A-LP project.

Table 3. List of Sites in Ridges Basin Not Treated by SWCA

Site Number	Time Period(s) and Site Type
5LP170	BM II/III, P I/II/III open camp
5LP172	P I/II/III open architectural
5LP173	BM II/III, P I/II/III open architectural
5LP180	BM II/III, P I/II/III open camp

Site Number	Time Period(s) and Site Type
5LP189	BM II/III open architectural
5LP193	BM II/III, P I/II/III open architectural
5LP247	BM II/III, P I/II/III open architectural
5LP381	Unspecified open camp
5LP389	Unspecified isolated find
5LP390	Unspecified isolated find
5LP391	Unspecified isolated find
5LP393	Unspecified isolated find
5LP420	Unspecified isolated find
5LP429	P I/II/III open camp
5LP445	P I/II/III, Euro-American (1920–1940) farming/ranching (homestead)
5LP456	Euro-American historic, water control
5LP463	BM II/III open architectural
5LP466	BM II/III, P I/II/III, Archaic open camp
5LP469	Euro-American historic, farming/ranching
5LP472	BM II/III open camp
5LP478	BM II/III, P I/II/III, open architectural
5LP479	Euro-American historic, farming/ranching
5LP480	Euro-American historic, trash dump
5LP481	P I/II/III open architectural, burial
5LP483	BM II/III, P I/II/III open architectural, burial
5LP485	Euro-American historic, farming/ranching
5LP488	Unspecified open camp
5LP489	BM II/III open architectural
5LP490	BM II/III open camp
5LP491	BM II/III, P I/II/III open camp
5LP492	Euro-American historic, trash dump
5LP493	BM II/III, P I/II/III open architectural, historic, trash dump
5LP497	BM II/III open architectural
5LP499	BM II/III, P I/II/III open camp
5LP500	Archaic, BM II/III, Unspecified, open camp, historic, isolated find
5LP501	BM II/III open camp
5LP504	BM II/III open camp
5LP505	BM II/III open architectural
5LP506	BM II/III open architectural
5LP507	Archaic, P I/II/III, Historic, open lithic, isolated find
5LP509	BM II/III open camp
5LP512	BM II/III open architectural
5LP513	BM II/III open architectural

Site Number	Time Period(s) and Site Type
5LP514	Unspecified historic, water control
5LP515	P I/II/III open architectural
5LP516	Euro-American historic, farming/ranching
5LP518	Historic, habitation
5LP519	Historic, railroad
5LP520	Unspecified historic, habitation
5LP521	BM II/III open camp
5LP522	Native American–Unspecified, Historic, open lithic, isolated find
5LP523	BM II/III open architectural
5LP524	Archaic, BM II/III open camp
5LP526	Unspecified historic, trash dump
5LP527	Unspecified open lithic
5LP528	Unspecified historic, habitation
5LP529	Unspecified open lithic, historic habitation
5LP531	Unspecified open camp
5LP532	Archaic, BM II/III, P I/II/III open camp
5LP533	Unspecified open camp
5LP534	Ute, open camp, historic mining
5LP535	BM II/III open camp
5LP538	BM II/III open architectural
5LP539	BM II/III open architectural
5LP540	BM II/III open architectural
5LP544	BM II/III open architectural
5LP552	Archaic, BM II/III open camp
5LP565	Unspecified open camp
5LP566	Euro-American historic, mining
5LP568	BM II/III open camp
5LP576	BM II/III open camp
5LP583	Unspecified open camp
5LP584	Unspecified historic, water control
5LP585	BM II/III open camp
5LP589	BM II/III open architectural
5LP590	Unspecified historic, habitation
5LP591	Unspecified open architectural
5LP592	BM II/III open architectural
5LP593	BM II/III, P I/II/III open architectural
5LP594	Protohistoric, Navajo open camp
5LP595	BM II/III open architectural
5LP596	Archaic, BM II/III open camp
5LP599	BM II/III open architectural

Site Number	Time Period(s) and Site Type
5LP600	Archaic, BM II/III open camp
5LP602	BM II/III, P I/II/III open camp
5LP605	Unspecified historic, water control
5LP606	Unspecified historic, water control
5LP607	BM II/III open architectural
5LP609	BM II/III open architectural
5LP616	BM II/III open architectural
5LP617	Unspecified historic, trash dump
5LP618	Archaic, BM II/III open camp
5LP619	BM II/III open camp
5LP621	BM II/III open architectural
5LP622	Ute open camp
5LP623	Euro-American historic, mining
5LP625	BM II/III open camp
5LP631	BM II/III open architectural
5LP638	BM II/III open architectural
5LP639	BM II/III open architectural
5LP640	Archaic, P I/II/III, Protohistoric open camp
5LP641	BM II/III open architectural
5LP642	Archaic, BM II/III open camp
5LP1093	Unspecified open camp
5LP1094	BM II/III open camp
5LP1099	BM II/III open camp
5LP1100	BM II/III, P I/II/III open camp
5LP1101	BM II/III open camp
5LP1102	Archaic, BM II/III open architectural
5LP1105	Unspecified open camp
5LP1107	BM II/III open camp
5LP1113	BM II/III open camp
5LP1823	BM II/III, P I/II/III open architectural
5LP1824	Unspecified open lithic
5LP1825	BM II/III open camp
5LP1980	Unspecified open lithic
5LP1981	Unspecified open lithic
5LP1982	Native American –Unspecified; open lithic; historic trash dump
5LP1983	Unspecified open camp
5LP1984	BM II/III, P I/II/III, Historic, open camp, historic, trash dump
5LP1985	Unspecified open lithic
5LP1986	Unspecified open lithic
5LP2266	Archaic open camp

Site Number	Time Period(s) and Site Type
5LP3663	Historic farming/ranching
5LP4213.1 Ute Trail Old Spanish Trail	Ute (ca. A.D. 700–1950) and historic trail
5LP5806	BM II/III open camp
5LP6656.01	Historic water control
5LP6656.02	Historic water control

Finally, the most recent work in Ridges Basin was a Fort Lewis College Field School in 2013, conducted at three sites, 5LP172, 5LP173, and 5LP238 (Jenks et. al 2013). The purpose of the evaluative testing was to determine eligibility of these three sites, which had been collected, tested, and/or excavated previously. The sites were each also 100% surface collected. Due to their close proximity to any future boat ramp and/or recreation usage it was determined to be important to know whether any undisturbed subsurface remains still existed, and to minimize each sites surface visibility, to protect against potential future looting.

3.2.3 Archaeological Management Areas

Based upon the previous investigations in Ridges Basin, the AL-P Ridges Basin Area can be broken up into five distinct management areas. The purpose of the management areas is to identify potentially sensitive areas with high site densities and to provide a management tool for the planning of future undertakings. The use of management areas will allow Reclamation to work with project proponents when a new undertaking is proposed and discuss the potential effects on cultural resources in general terms during the early planning stages.

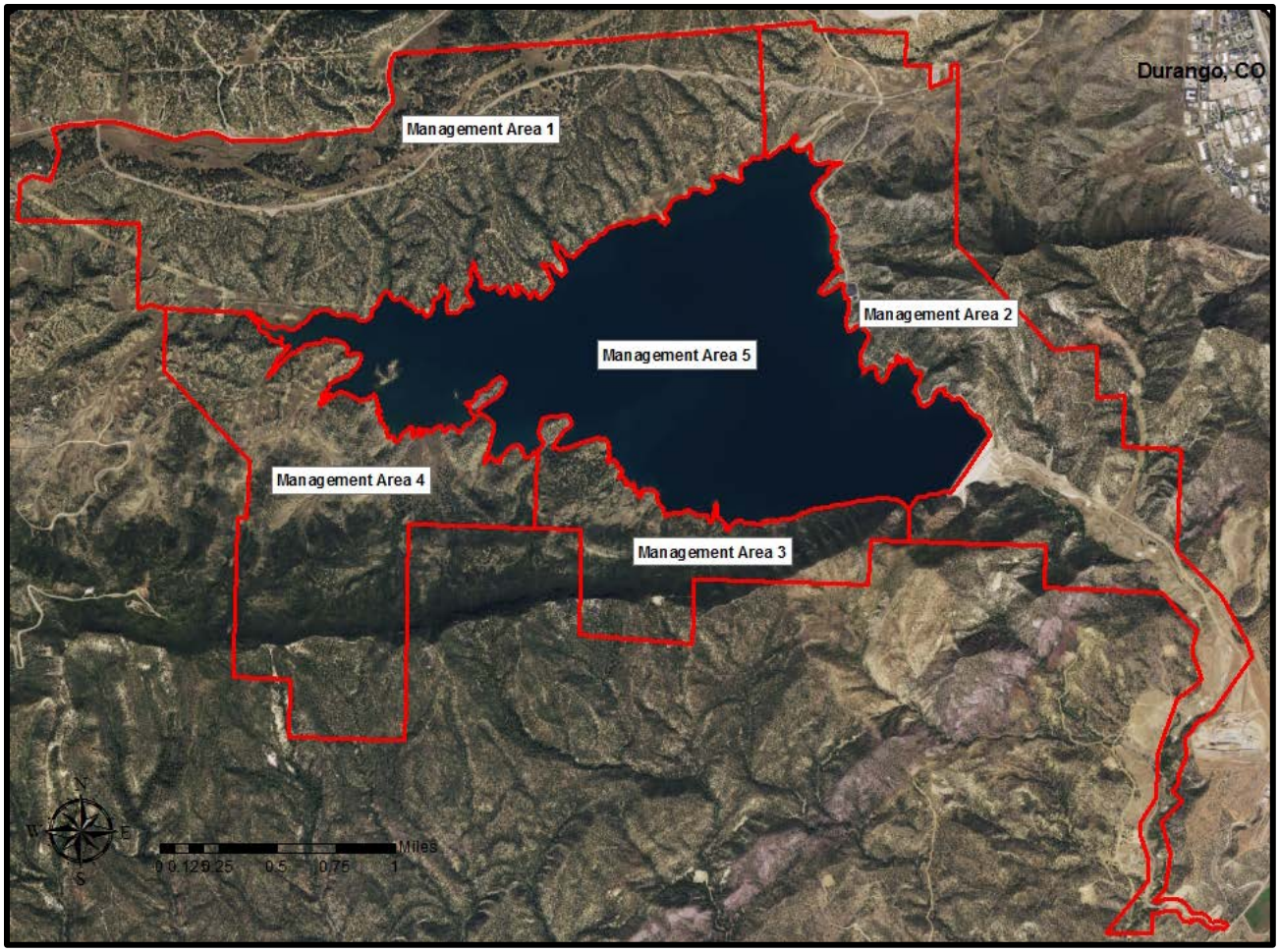

Figure 2- A-LP Ridges Basin Management Areas

Management Area 1

Management Area 1 covers the north and west portions of AL-P Ridges Basin Area. Within Management Area 1 there are approximately 90 known archaeological sites. The site types located in Management Area 1 consist primarily of Basketmaker II-III and Pueblo I camps and habitation sites. The sites are distributed in clusters indicating the presence of Basketmaker and Pueblo I communities. Management Area 1 is located above the high water mark for Lake Nighthorse, and the sites in this area were not mitigated by SWCA as part of the creation of the reservoir. The sites in Management Area 1 have been preserved in situ and this area should be considered highly sensitive for the purposes of future undertakings.

Management Area 2

Management Area 2 covers the eastern portion of the AL-P Ridges Basin Area. Within Management Area 2 there are approximately 30 known archaeological sites. The site types located in Management Area 2 consist primarily of Basketmaker II-III and Pueblo I camps and habitation sites. The majority of the sites are clustered in northernmost section of Management

Area 2, and represent the presence of a Basketmaker II-III community. This cluster of sites was not mitigated by SWCA as part of the creation of the reservoir, and the sites have been preserved in situ. The site density drops off dramatically in the middle and southern portions of Management Area 2. Management Area 2 should be considered moderately sensitive for the purposes of future undertakings.

Management Area 3

Management Area 3 covers the south and east portions of the AL-P Ridges Basin Area. Within Management Area 3 there is only one previously recorded site. The site is a Basketmaker III – Pueblo I camp. The site was not mitigated by SWCA as part of the creation of the reservoir, and has been preserved in situ**.** Future actions in Management Area 3 should preserve this site. Due to the steep slope of Management Area 3 it is unlikely that many future actions will be proposed in this area if any at all. Management Area 3 is not considered sensitive for the purposes of future undertakings.

Management Area 4

Management Area 4 covers the southern portion of the AL-P Ridges Basin Area. Within Management Area 4 there are 12 previously recorded archaeological sites. The site types located in Management Area 4 consist primarily of Basketmaker II-III and Pueblo I camps. The sites are clustered in the western portion of Area Management 4 and have been preserved in situ. Although the site density in Management Area 4 is low, the area is considered moderately sensitive for the purpose of future undertakings. This is due to the fact that Management Area 4 includes the Sacred Ridge area. Sacred Ridge is a Pueblo I community that was mitigated prior to the creation of the reservoir. Highly sensitive NAGPRA items were recovered from Sacred Ridge. While it is believed that everything was recovered during the mitigation of Sacred Ridge, the general area in proximity to Sacred Ridge remains highly sensitive.

Management Area 5

Management Area 5 covers the reservoir itself. Within Management Area 5 there are approximately 50 known archaeological sites. The site types located in Management Area 5 consist primarily of Pueblo I habitations. The sites are clustered into three distinct Pueblo I communities. Sites within Management Area 5 were all treated by SWCA as part of the creation of the reservoir; the majority of the sites are permanently inundated by the reservoir. However, fluctuating reservoir levels could expose some of the sites near the shoreline and work may be planned within the reservoir pool when the water line in down. Although the sites in Management Area 5 have all been treated, this area should be considered moderately sensitive for the purposes of future undertakings.

4.0 CULTURAL RESOURCES REVIEW PROCESS

4.1 National Historic Preservation Act – Section 106

Section 106 of the NHPA requires that Federal Agencies take into account the effects of their undertakings on historic properties. The historic preservation review process mandated by Section 106 is set forth in the regulations of 36 CFR 800 "Protection of Historic Properties." According to 36 CFR § 800.1(a), the goal of Section 106 consultation is to "identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties."

All projects within the AL-P Ridges Basin Area are Federal undertakings subject to the Section 106 consultation process. In accordance with the regulations under 36 CFR 800 and guidance provided by the Advisory Council on Historic Preservation (ACHP), there is a standard four step process for completing Section 106 consultation. The four step process by which an undertaking at Ridges Basin will be analyzed and consulted upon is summarized below.

4.1.1 Step 1 – Initiate the Process (36 CFR § 800.3)

The first step in the Section 106 process is to establish whether the proposed action is an undertaking. 36 CFR § 800.16 defines an undertaking as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval." So long as Reclamation retains land ownership of Ridges Basin, future activity in the basin will be considered an undertaking. Reclamation, as the Lead Federal Agency for Ridges Basin Section 106 consultation, shall be responsible for initiating contact with the ACHP, the Colorado State Historic Preservation Officer (COSHPO), interested tribes, and other interested consulting parties on the proposed undertaking.

Upon evaluation of the undertaking, Reclamation may determine that it has *no potential to cause effects* to historic properties (per 36 CFR § 800.3(a)(1)). In this instance Reclamation will follow the process outlined in the A-LP PA. If a proposed undertaking has the potential to affect historic properties the identified consulting parties will be consulted through a letter that describes the proposed undertaking and provides adequate information regarding the proposed undertaking.

4.1.2 Step 2 – Identify Historic Properties (36 CFR § 800.4)

Once Reclamation determines that a proposed undertaking may affect historic properties located in AL-P Ridges Basin Area, the area of potential effects (APE) shall be defined for the undertaking. The regulations in 36 CFR § 800.16 define the APE as the geographic area within

which an undertaking may directly or indirectly cause alterations in the character or use of historic properties.

In defining the APE, Reclamation will consider the scale and nature of the proposed undertaking, and will take into account various kinds of potential effects to be caused by the undertaking. To accomplish this, Reclamation will review the existing archaeological and historic information on properties known to be within Ridges Basin. Reclamation will consult on the proposed APE with the A-LP consulting parties and other individuals or organizations who may have knowledge of historic properties in the area. This includes gathering information from any Native American Tribe to assist in identifying properties that may be of religious or cultural significance to them (see CRMP Section 4.2).

Once Reclamation has a defined APE for the proposed undertaking, historic properties within it shall be identified in consultation with consulting parties. Identification of historic properties will be accomplished through the use of record searches (Class I survey) and archaeological inventory surveys (Class II and Class III survey) as needed. Identified properties will be evaluated for significance under NRHP criteria (36 CFR Part 60) and whether the property is eligible to be listed on the National Register. In general, Ridges Basin has been extensively inventoried and investigated as part of past undertakings in the area. Reclamation and the COSHPO maintain records of the historic properties in Ridges Basin and their NRHP eligibility. If the information on file is deemed adequate including prior determinations of NRHP eligibility (36 CFR 800.4(c)(1)), new undertakings may not require new Class III inventory. However, the passage of time, changing perceptions of significance, or incomplete prior evaluations may require Reclamation to reevaluate properties previously determined eligible or ineligible. Reclamation shall acknowledge that the consulting parties possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to them. At a minimum, archaeologists will be required to conduct a Class I records search and re-visit historic properties identified in the APE.

If a Class I records search and on-the-ground confirmation determines there are no historic properties in the APE, or there are historic properties but the undertaking will not have any effect on them, Reclamation will make a determination of *no historic properties affected* (36 CFR § 800.4(d)(1)). In this instance Reclamation will follow the process outlined in the A-LP PA.

4.1.3 Step 3 – Assess Effects (36 CFR § 800.5)

If it is determined that the proposed undertaking will affect historic properties, Reclamation will begin the process of assessing those effects in consultation with the consulting parties under the procedures set forth in 36 CFR § 800.5. Reclamation shall consider any views concerning such effects which have been provided by the consulting parties and the public.

An adverse effect is when an undertaking may alter any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. In applying the criteria of adverse effects direct, indirect, reasonably foreseeable

effects and cumulative effects must be considered. Impacts of an undertaking on all characteristics that qualify a historic property for listing on the NRHP need to be considered.

If it is determined that the effects of the proposed undertaking do not meet the criteria of adverse effect, Reclamation will make a determination of *no adverse effect* (36 CFR § 800.5(b)) and all consulting parties will be notified. The consulting parties have 30 days to review Reclamation's determination and respond in writing if they concur or disagree with the finding. Reclamation will proceed with the undertaking after the conclusion of the 30 day consultation period if the consulting parties have concurred, failed to respond, or not objected to the *no adverse effect* determination.

If, within the 30 day review period, any consulting party notifies Reclamation in writing that it disagrees with the *no adverse effect* determination and specifies the reason for the disagreement, Reclamation shall consult with the party to resolve the disagreement. If Reclamation and the consulting parties cannot come to an agreement, Reclamation will request the ACHP to review the determination and will follow the process set forth in 36 CFR § 800.5(c).

If it is determined that the effects of the proposed undertaking meet the criteria of adverse effect, Reclamation will make a determination of *adverse effect* (36 CFR § 800.5(d)(2)) and all consulting parties will be notified. Reclamation shall consult further to resolve the adverse effect pursuant to § 800.6

4.1.4 Step 4 – Resolve Adverse Effects (36 CFR § 800.6)

In the event of a determination of *adverse effect*, Reclamation will notify the consulting parties and the ACHP. Through consultation, Reclamation will work with the parties to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties. Mitigation means minimizing or lessening adverse effects to historic properties in the course of a project plan. Typical mitigation measures can include limiting the magnitude of the undertaking, modifying the undertaking through redesign on the project site, and further documentation of the historic property through the recovery of archaeological information and materials. The process also encourages the parties to develop creative ways and alternative mitigations for adverse effects to historic properties.

Typically, once Reclamation and the consulting parties come to an agreement on resolving the adverse effects of an undertaking, this agreement will be formalized in a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) per 36 CFR § 800.14.

4.1.5 Expediting Consultation

36 CFR § 800.3(g) allows for Reclamation to address multiple steps in §§ 800.3 through 800.6 where the agency official and the SHPO agree it is appropriate as long as the consulting parties and the public have an adequate opportunity to express their views as provided in § 800.2(d).

Typically, this will only be done for a small-scale / non-complex undertaking within the AL-P Ridges Basin Area. However, if Reclamation combines multiple steps (i.e. defining the APE and identifying historic properties within the APE) in a single consultation letter, the consulting parties retain their opportunity to comment on all aspects of the Section 106 process during the consultation period.

4.2 Traditional Cultural Properties

A Traditional Cultural Property (TCP), as defined by the National Park Service (NPS), is a property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community. The cultural practices or beliefs that give a TCP its significance are, in many cases, still observed at the time a TCP is considered for inclusion in the NRHP. Because of this, it is sometimes perceived that the practices or beliefs themselves, not the property, make up the TCP. While the beliefs or practices associated with a TCP are of central importance, the NRHP is not the appropriate vehicle for recognizing cultural values that are purely intangible. The TCP must be a physical property or place--that is, a district, site, building, structure, or object but the attributes that give such property significance, such as its association with historical events, cannot be ignored in evaluating and managing historic properties.

Guidelines regarding TCP identification, evaluation of eligibility, and documentation are provided in National Register Bulletin 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (http://www.nps.gov/history/nr/publications/bulletins/nrb38/). *The Animas – La Plata Project Cultural Affiliation Study* (Perry and Potter 2006) provides an overview of the traditional communities that may have TCPs within the AL-P Ridges Basin Area. During the Section 106 consultation process for undertakings in Ridges Basin, Reclamation will utilize the Cultural Affiliation Study and National Register Bulletin 38 to elicit information from the consulting parties about NRHP eligible TCPs in the project area. This information will be considered by Reclamation when making determinations of potential affect for the proposed undertakings.

5.0 RIDGES BASIN PRESERVATION PLAN

5.1 Responsibilities

While a non-Reclamation entity, currently the City of Durango, will manage the future recreation at Lake Nighthorse, Reclamation will retain full responsibility to implement this plan and ensure all applicable cultural resource laws and regulations, and the stipulations of this plan, will be followed in the management of the AL-P Ridges Basin Area.

5.2 General Preservation Measures and Strategies

Once an undertaking has been proposed, Reclamation will follow the NHPA Section 106 process described in Section 4.0 of the Ridges Basin CRMP. The preferred, first management measure, will always be the avoidance and protection of sites. Any mitigation measures employed will always seek to have the least effect on historic properties and TCPs and Sacred Sites. A standard 50-foot avoidance buffer will be employed on historic properties during ground disturbing undertakings. If sites cannot be avoided by 50 feet, sites would require the additional protections of temporary fencing and archaeological monitoring during construction.

Other mitigation measures as needed, may include visitor education, signage, frequent monitoring, and law enforcement to prevent and/or reduce the occurrence of artifact theft and site damage (whether inadvertent or deliberate). It is expected that stabilization and restoration of damaged sites by various agents, may also be required at times.

Alternative mitigation strategies may be employed to protect historic properties activities such as covering sites with geotextile fabric and clean fill to prevent erosion and or vandalism, and engaging with area educational institutions for the purpose of developing a research plan to analyze the effects of recreational use of the Ridges Basin area on its cultural resources could be done. Site specific mitigation strategies will be proposed as part of a site specific mitigation plan which will always be consulted upon with all consulting parties, prior to implementation.

5.3 Archaeological Sites Included in the Preservation Plan

Archaeological sites included in the preservation plan are the 119 sites that are considered eligible for listing on the NRHP and the 19 sites that require additional data in order to assess their NRHP eligibility. Appendix A lists these sites, as well as the known sites in the Reclamation land status boundary that are currently not considered eligible for the NRHP. In accordance with Federal law non-eligible sites shall not be included in the preservation plan, although non-eligible sites can become eligible upon later identification of new features and/or resources associated with that site, therefore an established monitoring protocol will include the revisiting of previously determined non-eligible cultural properties. Further, all sites revisited will have a condition assessment conducted that documents any observable changes to the resource. Appendix A includes 16 sites located fully below the estimated low water line of 6,800 feet elevation. These sites are, for the purposes of cultural resources planning, considered permanently inundated. Inundated sites are excluded from preservation planning measures. Reclamation also commits to include TCPs and Sacred Sites in this preservation plan when they are identified by those parties who attach significance to those places.

Sites considered inundated or "shoreline location" in Appendix A were each identified based on the range of elevation covered by the site boundary. That is, a single point (such as a center point elevation) was not used to determine if the site was above or below the expected pool limits. Instead, a site's boundary geometry in relation to the high and low water lines was

considered. This is a more accurate and realistic means of determining whether a site will be inundated than using a single point, which by itself may fall outside the elevation criteria. For example, a site center-point elevation may be above the 6,900-foot high water line, but the site boundary may fall above and below that line. Similarly, a site may have a center point below 6,800 feet, but have a boundary that extends above and below the 6,800-foot low water line. Sites that extend above and below the reservoir's range of high and low water are considered to have "shoreline locations" and can be expected to be both periodically exposed and affected by wave-action erosion. Particular attention will be paid to "shoreline located" sites within the Monitoring Plan as the water level in the reservoir rises or falls, by means of periodic monitoring of the reservoir levels that would indicate the potential likelihood of adverse wave action issues to these cultural properties.

5.4 Site Type Specific Effects and Preservation Measures

Each site type identified within the AL-P Ridges Basin Area has uniquely specific adverse impact potential. Specific types and the anticipated agents of impact expected in the project area were analyzed. The results will assist in developing stabilization and restoration needs to mitigate these potential impacts. The range of the known chronological type sites, as well as culturally specific activity type sites, identified in the project area include Archaic open campsites and activity areas; Basketmaker habitation and activity areas; Ancestral Puebloan habitation and activity areas; Proto-historic aboriginal temporary habitation and activity areas; and Historic homesteading and ranching related areas. Each of these site types has various threat levels that is congruent upon the proximity to the surface, and the ground visibility of the site location.

The threats anticipated for Archaic era sites are the visitor theft of artifacts exposed by weathering and/or erosion of documented and previously unidentified moderately buried hunter-gatherer sites types. Since these site types are limited in visibility to the general public, these site types would need to be monitored at a less intensive level, depending on the anticipated visitor use of the area.

The specific threats anticipated for Basketmaker type sites are the recognition of exposed middens and cache pits from ongoing natural weathering and/or erosion. These feature types are the most likely to be recognized as surface manifestations, as surface architecture is limited for these site types (although in the latter Basketmaker periods, these types of features are increasing through time). Basketmaker site types that have identified surface visible features would be scheduled for monitoring at a higher frequency than the earlier and less obvious Archaic site types.

Specific threats are more anticipated for Ancestral Puebloan site types than other site types due to the readily identifiable architectural rubble mounds, middens, limited-use and agricultural activity areas' features (e.g., hearths, slab-lined pits, expedient walls, etc.). These threats include both natural agent induced impacts (erosion, weathering, colluvium, etc.), and visitor induced impacts (limited digging, surface collection of objects, vandalism to feature constituents, increased natural erosion due to surface disturbance from visitor activity, etc.).

These later site types will need to be scheduled at a relatively higher rate of monitoring than the other less visible site types, when the monitoring protocol schedule is created.

For Proto-historic site types, the likelihood of adverse impact is lessened due to the ephemeral nature of this era's sites. The limited use of these site types also limits the potential adverse effects, as there is usually limited material culture evident on the site, regardless of the proximity to the present surface. The exception to this expectation is the Proto-historic use of previous cultural groups' architectural sites. These site types should be included in the monitoring schedule, and their frequency of visitation should be copasetic with the documented nature of these site types.

Historic site types are the least likely to be adversely effected due to the fact that all significant historic architecture was removed prior to the development of the project area. Agricultural limited-use activity areas are likely to exist throughout the project area, due to the extensive documented historic use for those purposes, but are not likely to yield further data than their location has afforded. These site types are anticipated to be the least visited of the range of site types in the project area, once the monitoring protocol is developed.

5.5 Non-Site Type Specific Effects and Preservation Measures

Among the planned or anticipated impacts to the cultural resources are: fire management, fencing, roads and trails (construction and maintenance, and the associated vehicle and foot traffic), recreation and development, artifact theft and site vandalism, erosion and wave action, and accidental or unintentional disturbance.

5.5.1 Fire Management

Fire management includes prescribed fires, suppression of wildland fires, and revegetation of areas burned in catastrophic fires. It is currently not known whether prescribed fire would occur in the project area, and mechanical fuels reduction would be the preferred approach for wildfire fuels management in the AL-P Ridges Basin Area, which employs hand-cutting and carrying of fuels within, and in proximity to identified historic properties. This will minimize the potential adverse effect from both any potential fires and those actions related to the fuel reduction activities. All wildfires in the AL-P Ridges Basin Area will be suppressed.

Both prescribed and wildland fires have direct and indirect effects on cultural resources. Some direct effects are: destruction of or damage to combustible features and elements; spalling of and soot introduction on artifacts, structural elements, and rock art; and impacts to data potential (e.g., the introduction of modem charcoal that skews radiocarbon dating results, and exposure to high temperatures will adversely affect ceramic attributes). Indirect effects include: vegetation removal, which can lead to causing increased visitor impacts and erosion; decrease in site stability (e.g., removal of vegetation cover and the soil's organic constituents which aids in the absorption of rainfall which subsequently leads to erosion); and proliferation of invasive species.

The primary adverse effects of fire suppression are the construction of fire lines through sites or features, firefighter vehicle access through the same, and hot spot suppression efforts in proximity to cultural properties. Indirect effects of fire suppression include discovery or disclosure of site locations, artifact theft, and vandalism (including graffiti).

In the AL-P Ridges Basin Area, there were eight historic sites with flammable features on them, primarily in the form of wood corral and fence posts. Reclamation removed all wooden structures from historic-period sites prior to inundation and most of these sites are now underwater. Additionally, the BOR removed all structures from the Bodo Ranch, Harpur Ranch, and the town of Porter prior to inundation (personal communication, email, Tom Yoder, SWCA, May 7, 2010). Therefore, there are no historic sites remaining in the project area that still contain significant flammable features.

Management measures include excluding sensitive sites from prescribed fire polygons, hand mechanical fuels reduction in or near sensitive sites, avoidance of sites when constructing fire lines, re-recording of sites after fires, and post-fire monitoring of sites for evidence of theft, vandalism, and/or erosion. Reclamation staff will work within the Incident Command System to protect cultural resources during fire suppression activities, as needed.

5.5.2 Fencing

Partial fencing of the AL-P Ridges Basin Area will be completed by the time the cultural resource management plan goes into effect. Future maintenance and replacement will occur as needed. Much of the perimeter of the AL-P Ridges Basin Area is fenced on the north and west. The south and east perimeters may not need fencing due to rugged terrain. This will be monitored and evaluated periodically and additional areas may be fenced if trespass is found to occur.

Interior areas of the basin that are not fenced but are closed to the public will be marked with warning signs stating the areas beyond are closed to the public and include the penalties for trespass. The extent of any new interior fencing is unclear at this stage. All new fencing projects will be assessed for potential immediate or long-term effects to historic properties prior to beginning of field work, and appropriate mitigation measures will be employed to limit effects to cultural resources.

Fences and fence maintenance can have a number of effects on archaeological sites. Pedestrian or vehicular traffic over or near sites by fence maintenance crews results in the formation of trails and roads along fence lines, and exposes the sites to increased erosion, artifact trampling, artifact theft through increased surface visibility, and vandalism. The impacts to sites from the installation, removal, and/or maintenance of fence lines can be direct, such as surface and subsurface disturbance and the associated increased erosion and artifact trampling; or indirect, such as increased vandalism and artifact theft resulting from increased human traffic surface visibility for visitors. To summarize:

- Crossed by boundary fence = direct impacts (both surface and subsurface); indirect impacts possible (vandalism, theft)

- Adjacent to boundary fence = indirect impacts (increased vandalism, theft); some direct impacts (increased surface disturbance) possible

- Crossed by interior fence = direct impacts (both surface and subsurface); indirect impacts possible (vandalism, theft)

- Adjacent to interior fence = indirect impacts (increased vandalism, theft); some direct impacts (increased surface disturbance) possible

Currently, at least six NRHP-eligible sites in the AL-P Ridges Basin Area are crossed by or adjacent to boundary fences. Sites crossed by fences can expect the previously noted direct adverse impacts. Sites crossed by or adjacent to fences may also experience an increased likelihood of vandalism and theft from increased visibility of cultural resources present. Additionally, interior fences may cross sites. Both direct and indirect impacts to the sites can be expected during installation and with maintenance of these fence lines.

In general, the following management measures are recommended. First, fence rights-of-way and access routes should be located to avoid going through historic properties. Second, all fence construction or maintenance occurring within proximity to an historic property will be monitored by a cultural resource specialist to prohibit damage or theft of cultural materials. Third, access areas should be inspected for the presence of any features or artifacts that would be susceptible to damage as a result of a) driving along the fences during inspections, maintenance, and replacement, and b) subsequent erosion, and those areas should be monitored as appropriate. If any damage is found, new routes should be designated and effects evaluated and resolved in accordance with 36 CFR § 800.5 and 6.

5.5.3 Traffic Along Roads and Road Maintenance

There are three main roads currently in the AL-P Ridges Basin Area:

1) County Road 210, which extends from CR141 (Wildcat Canyon) east along Wildcat Ridge and through Bodo Canyon to the frontage road at US 160/550 in Bodo Park. It is the main access road to and through Ridges Basin. This road is paved. The entire road is fenced along both sides and posted for emergency parking only to help Reclamation manage public closure of the reservoir area. This road is not open for public use.

2) County Road 212, which intersects CR 210 at the mouth of Bodo Canyon and heads north to Smelter Mountain. This functions as an access road to the disposal area for the Uranium Mill Tailings Remedial Action (UMTRA) project. CR 212 is a gated dirt road. This road is not blocked from public use but is closed on a periodic basis due to wildlife closures enforced by Colorado Parks and Wildlife.

3) The Boat Ramp road extends along the base of Carbon Mountain from CR 210 to the boat ramp. The dam access road is an extension of the boat ramp road and leads to the dam. Beyond the boat ramp the road to the dam is gated and is not a public road. The boat ramp road is currently locked and gated until the area is opened to the public.

In addition, the westernmost remnant of County Road 211 (which used to run through Ridges Basin) also still exists, extending from Reclamation's western reservoir boundary west to CR141 (Wildcat Canyon) through the Trappers Crossing subdivision. This road is gated just beyond the Trappers Crossing subdivision on county land and again gated at the Reclamation boundary of Ridges Basin and so is not open to general public use. It is maintained as an emergency access to the west side of the reservoir.

Additionally, new road segments may be constructed if needed. Access roads for operations & maintenance activities, roads along fences and for fire suppression may be constructed and maintained as needed with all the previously related concerns, and the required stipulations being implemented.

All motorized traffic will be restricted to existing and future roads; no off-road vehicle (ORV) use will be allowed. Certain roads or two-track trails may be reclaimed in order to protect sites. Some access roads, however, will need to be maintained to provide access to recreation facilities, fences, operations & maintenance activities, for fire suppression, utility easement access and so on. The use of heavy equipment such as road graders, loaders, excavators, and bulldozers may be expected during maintenance of the roads that remain in use. The long-term manager of the property or its contractor will be responsible for maintaining any roads needed for as-yet-to-be-determined uses and maintenance of the property. All new road construction will be analyzed for effects to historic properties and appropriate mitigation measures will be employed to protect the resources.

Use of existing roads and two-track trails has negligible direct effect on archaeological sites. If roads and two-track trails are not maintained, erosion and damage may occur; motorists may make detours around impassable areas or emergency repairs. These actions are ground-disturbing and where roads or two-track trails cross sites, have the potential to disturb subsurface cultural deposits. Road maintenance generally entails ground-disturbing activities such as grading, filling, excavating bar ditches, and so forth, all of which have the potential to disturb subsurface deposits. Additionally, the presence of roads exposes sites to people, and therefore to artifact theft and vandalism.

The first step in mitigating the adverse effects of roads and two-track trails on sites is to evaluate the impacts of roads on specific sites. Whenever feasible, roads should be rerouted around sites. If roads must run through sites, Reclamation should evaluate the specific likelihood that road use, erosion, and maintenance will affect site integrity and conduct data recovery as necessary.

Reclamation may consider seasonal closures of specific roads and two-track trails to prevent damage to sites from ruts. Known historic properties crossed by roads will be evaluated and possibly covered by geotextile and clean fill and gravel for protection. Sites in close

proximity to roads should be monitored regularly for evidence of artifact theft, vehicle caused damage, and vandalism.

5.5.4 Recreation and Development

The AL-P Ridges Basin Area has been proposed to serve as a recreation area. Recreation activities may include boating, fishing, swimming, and camping. In addition, hiking, mountain biking, and/or horseback riding roads and trails could be proposed in the future. Aside from construction activities related to these activities (such as the creation of boat ramps, formally designated swimming areas, trails, or campgrounds), the primary impacts of recreation on archaeological sites are artifact theft or disturbance of cultural materials. Additionally, trails and roads can cause erosion.

A study by RPI Consulting anticipated an average of about 50 boats per day using the lake when opened (RPI Consulting 2010:5). Since boaters will have access to the entire shoreline expanse of Lake Nighthorse, increased human visitation and the resulting impacts can be expected at many sites not currently inundated. The island of Sacred Ridge is likely to be a popular boating destination. Reclamation will monitor the Sacred Ridge area closely and will recommend fencing and closure of this area if warranted and desired by consulting parties. Management options to minimize the effects of recreation to sites will include visitor education, signage, frequent formal monitoring, and law enforcement, to prevent and/or reduce the occurrence of artifact theft and site damage (whether inadvertent or deliberate). Stabilization or restoration, or even data recovery of damaged sites may also be proposed.

Alternative mitigation strategies may be employed to protect archaeological sites such as covering sites with geotextile fabric and clean fill and gravel to prevent erosion and or vandalism, engaging with area educational institutions for the purpose of developing a research plan to analyze the effects of recreational use of the Lake Nighthorse area on its cultural resources, which would assist in developing a site specific plan. Site specific mitigation strategies will be proposed as part of a site specific mitigation plan which will always be consulted upon prior to implementation.

Currently Reclamation, through the NEPA process, has approved a limited recreation plan with the City of Durango as the Recreation Manager. Developments that have been approved were designed to avoid impacts to historic properties and TCPs. If more developments are proposed in the future, they should also be designed to avoid impacts to historic properties and TCPs, and they will be reviewed and undergo site specific analysis under the NHPA Section 106 process including tribal consultation and State Historic Preservation Office concurrence. Site avoidance will always be the preferred strategy but if effects cannot be avoided to historic properties, archaeological testing in advance or monitoring during ground-disturbing activities may be required, and/or alternative mitigation measures. Future foreseeable development includes the construction of campgrounds, boat ramps, formal swimming areas (beaches), toilets, etc., as well as their associated access roads, parking areas, and turn- around areas or any other ground disturbing activities.

5.5.5 Artifact Theft and Vandalism

A number of activities proposed within the AL-P Ridges Basin Area may expose sites to artifact theft and vandalism, including but not limited to fire management, operations and maintenance, replacement of fences, traffic along roads, road maintenance, and recreation.

Minimization of the effects of recreation will include education, signage, monitoring, and law enforcement. If funding permits and the consulting parties agree, certain select sites could be developed for their interpretive and educative values. The responsibility for law enforcement will be designated depending on which agency manages the recreation on the land.

- Interpretive signs should be placed at highly visible sites explaining the history and significance of the site, and to incorporate contemporary tribal community relationships and perspectives, and a statement about the federal laws protecting archaeological and historical sites.
- Signs placed at all entry points into the AL-P Ridges Basin Area will include a statement about the federal laws protecting archaeological and historical sites.
- A brochure will be developed to explain the cultural history of Ridges Basin and to explain the laws and penalties for damaging or vandalizing historic sites or stealing artifacts. This brochure will be handed to all entrants to the AL-P Ridges Basin Area.
- Formal monitoring protocols will be formulated for areas that are likely to experience visitor recreation use impacts, including sites crossed by or adjacent to roads and two-track trails, and sites near the lakeshore.
- Sites where vandalism has occurred will be stabilized or restored.

One of the most visible and sensitive archaeological sites in the AL-P Ridges Basin Area is the Sacred Ridge site. Visitation to the site may occur when water levels are low and it is exposed; visitors may be tempted to collect artifacts lying on the surface of this site. Possible management measures include enclosing the site with fencing to limit access to the site, monitoring, and signage explaining the history and significance of the site with a statement about the federal laws protecting archaeological and historical sites. If the site is not fenced, signs may still be posted, and the site will be monitored for damage regardless of whether or not any other deterred is done. Management measures for impacts to Sacred Ridge and other sites will be developed with the consulting parties.

5.5.6 Erosion and Wave Action

A number of activities proposed within the AL-P Ridges Basin Area are likely to lead to erosion, including fire management, maintenance and replacement of fences, traffic along roads and road maintenance, and recreation. The need for treatment of the adverse effects of erosion should be assessed during site monitoring, and sites where erosion is adversely affecting site integrity should be restored and repaired.

The primary agent of erosion will be wave action and the rising and falling water level of the reservoir. Sites along the shoreline will be particularly susceptible to this activity. SWCA endeavored to fully treat sites in the wave action zone, including the largest archaeological site in the area, 5LP245, the Sacred Ridge site. This site will intermittently be covered by water

and exposed as an island, depending on water levels of the reservoir. SWCA spent much effort removing human remains encountered by excavations at Sacred Ridge, including excavating all known pit structures and mechanically stripping all known middens to bedrock to ensure that no human burials remained on site. Hundreds of features were excavated, including over 100 human burials. All excavated features, including pit structures, were backfilled and should be well protected from wave action and erosion. However, given the large number of burials encountered by SWCA and the large size of the site, it is possible that human remains may be exposed by wave action and erosion in the future. This site should be monitored on a regular basis to ensure that erosion is not adversely affecting the site and exposing any potential features or burials that remain.

All historic properties along the shoreline should be regularly monitored for damage by erosion as the reservoir levels fluctuate. Any exposed features or burials should either be removed through excavation or preserved in place through reburial and stabilization in consultation with consulting parties.

5.5.7 Accidental or Unintentional Disturbance

Because the area will potentially be visited by large numbers of people each year (a projected 170,000 user-days annually by the year 2025 [RPI Consulting 2010:31]) and construction activities related to enhancing recreation are a likely possibility in the future, the likelihood of accidental or unintentional disturbance of sites is considered high. Reclamation personnel, Animas La-Plata Operation Maintenance & Replacement Association (Association) personnel, personnel of the recreation manager, and any contractors working in the AL-P Ridges Basin Area will be informed of the procedures for reporting accidental or unintentional disturbance. If such disturbance does occur, it must be reported to Reclamation as soon as possible. The agency will then have an archaeologist examine the disturbance area and make recommendations for restoration and repair as appropriate in accordance with 36 CFR § 800.13.

5.6 Opportunities for Research

Section 110 of the NHPA declares that the spirit and direction of our Nation is founded on its historic heritage, that preservation of this shared heritage is in the public interest, with the intent that its vital legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans. It further states that it should be the policy of the federal government to administer federally controlled cultural resources in a spirit of stewardship for the inspiration and benefit of present and future generations. The cultural resources located in AL-P Ridges Basin Area have the potential to provide a unique opportunity for public education and research. While the Ridges Basin CRMP does not provide any specific public education or research plans, it does provide a framework through which future proposals can be evaluated.

Given the extensive amount of archaeological material already collected from sites located in Ridges Basin, future researchers will be encouraged to consult existing collections in lieu of

further on-site excavations. If researchers propose directly working on sites in Ridges Basin the preferred alternative will be non-intrusive / non-collection surveys and mappings of those sites. Research proposals that include invasive testing and excavation at sites within Ridges Basin could potentially be considered, but they will face much greater scrutiny under the CRMP. Several tribes have identified that they do not wish to see additional excavations being conducted on sites. In all situations, future public education and research plans will be submitted to the consulting parties for Section 106 consultation prior to an archaeological permit being issued by Reclamation.

6.0 CULTURAL RESOURCE DISCOVERIES

6.1 Inadvertent Archaeological Discoveries

The discovery of previously unrecorded archaeological sites is possible during natural erosion, road maintenance, development, and other activities. 36 CFR § 800.13 covers inadvertent post-review discoveries associated with an undertaking. In the event of an inadvertent discovery during an undertaking, all work within 50 feet of cultural materials will cease and Reclamation archaeologists shall be contacted. Reclamation will then have 48 hours to notify the consulting parties of the discovery and all pertinent data relating to the discovery. Reclamation will document the newly discovered property, make a NRHP eligibility determination, and will submit a proposed mitigation plan, as necessary, to the consulting parties for consultation under 36 CFR § 800.6.

Personnel from Reclamation, Association personnel (see Section 5.5.7), personnel of the recreation manager, and any contractors working in the AL-P Ridges Basin Area will be informed of the procedure for reporting discoveries to Reclamation archaeologists. Reclamation personnel, Association personnel, recreation manager personnel, and contractors will also be required to undergo cultural resource training on the resources located in Ridges Basin, the procedures laid out in the CRMP, and any applicable cultural resource laws when working in Ridges Basin.

6.2 Inadvertent Discovery of Human Remains

The discovery of human remains is possible during natural erosion (including wave-action erosion), road maintenance, and development. As part of the A-LP Programmatic Agreement, a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action (POA) was developed. The NAGPRA POA sets forth the procedures for the identification of NAGPRA items, the information used to determine custody, the planned treatment, care and handling of NAGPRA items, the planned recording of NAGPRA items, the kinds of analysis permitted for NAGPRA items, the notification of Indian Tribes, the traditional treatment of NAGPRA items, the nature of reports to be prepared, the disposition of NAGPRA items, and burial laws and

policies. In the event of the inadvertent discovery of human remains and associated funerary items in Ridges Basin, the established NAGPRA POA will be followed.

Personnel from Reclamation, Association personnel, recreation manager personnel, and any contractors working in the AL-P Ridges Basin Area will be informed of the procedure for reporting inadvertent discoveries of human remains to Reclamation archaeologists prior to the commencement of any undertaking. Reclamation personnel, Association personnel, recreation manager personnel, and contractors will also be required to undergo cultural resource training on the resources located in Ridges Basin, the procedures established in the NAGPRA POA, and any applicable cultural resource laws when working in Ridges Basin.

7.0 RIDGES BASIN MONITORING PLAN

Section 110 of the NHPA and Article 14 of the ARPA task federal agencies to inventory and evaluate archaeological resources under their jurisdiction and monitor their condition. Reclamation is responsible for the preservation and long-term management of the 188 archaeological sites located with Ridges Basin, as well as any sites that are currently undocumented that get recorded in the future. To meet that responsibility, Reclamation is committed to regularly monitoring known sites and providing timely condition assessments to the A-LP consulting parties. Many of the sites in Ridges Basin have not been re-visited since the completion of SWCA's fieldwork in 2005. Under the Ridges Basin Monitoring Plan, Reclamation archaeologists will have a continuous presence on the sites and will be better equipped to identify and mitigate potential adverse effects.

The initial monitoring plan is for Reclamation archaeologists to visit twenty percent (20%) of known cultural resource sites within the AL-P Ridges Basin Area each year. This does not include sites permanently inundated by the reservoir, but does include sites that are seasonally inundated due to fluctuating reservoir levels. Special attention will be given to sites along the reservoir shoreline or subjected to seasonal inundation as they have a higher probability of experiencing wave caused erosion. Currently underwater, but not permanently inundated sites, can't really be put on a set time frame to monitor, and are instead noted in the monitoring database as sites that should be visited during times of low water levels. Due to weather conditions in Ridges Basin, site visits will typically start in the late spring (May) and conclude by the early fall (October).

Archaeologists will prepare a condition assessment for each site visited in a particular year. Condition assessments will involve:

- A physical description of the site setting and site components (feature and artifact assemblage).
- An assessment of any disturbances (man-made or natural) that may be adversely affecting the site.
- Photo-documentation of the site and surrounding area.
- An updated evaluation of eligibility to the NRHP.
- Management recommendations for the preservation of the site.

After each monitor, condition assessment information will be recorded by completing a Colorado Office of Archaeology and Historic Preservation Site Re-Visitation Form, Management Data Form, or other applicable forms, depending upon adequacy of prior documentation and/or visible changes seen onsite. At the end of each year, Reclamation will submit a monitoring report containing the condition assessments and management recommendations to the A-LP consulting parties for their review. The consulting parties have 60 days to review Reclamation's report and respond in writing if they have comments or suggested changes. While the yearly monitoring will be primarily undertaken by Reclamation staff, A-LP consulting parties are encouraged to participate through continued consultation and periodic site visits, and in the future the possibility exists to develop a site stewardship program for the sites.

There is a wealth of information pertaining to sites in Ridges Basin, however the most current data is now over 10 years old. Reclamation archaeologists will utilize the existing site data to begin the monitoring program, and the monitoring schedule as currently planned will allow a complete assessment of the known sites within a 5-year span. The monitoring plan and database are intended to be fluid documents that will change on a yearly basis. Right now even Not Eligible sites are on the plan, and as Reclamation archaeologists visit each site, at least for the first time, eligibilities will be reassessed. For example, if it is verified that a site that had been determined Not Eligible really has been totally disturbed by past actions such as road or pipeline building, this site will no longer be needed to be monitored on a regular schedule and will be removed from the plan. Additionally, after each site is first monitored a recommendation will be made for the frequency of monitoring, for as it was discussed above, certain site types and sites in certain locations will be most susceptible to impacts and will need to be monitored more frequently than other sites.

The first five years of monitoring will provide a new baseline of site conditions, which will then be built upon in subsequent years. The narrative descriptions and photo-points collected as part of the condition assessments will allow Reclamation staff to identify measureable changes overtime. In the event the monitoring documents deteriorating conditions on a site, Reclamation will prepare a mitigation plan and submit it to the A-LP consulting parties. Through consultation, Reclamation will work to implement the least invasive preservation measures to ensure the stability and security of the affected site.

It should be noted that the monitoring plan does not include new Class III survey of Ridges Basin. However, with the increased presence of trained archaeologists working in area, it is possible that new sites could be identified. This would most likely happen when walking to and between sites during the condition assessments. If an unrecorded site is newly identified, Reclamation archaeologists will record it using a Colorado Office of Archaeology and Historic Preservation Site Form and submit it to the A-LP consulting parties for NRHP review. The nature of the newly recorded site and the outcome of consultation may further necessitate additional Class III survey in the surrounding area.

8.0 RIDGES BASIN CULTURAL RESOURCE MANAGEMENT GOALS

Archaeological work in Ridges Basin has identified just under 200 sites representing 4,000 years of human history in southwestern Colorado. The AL-P Ridges Basin Area contains outstanding examples of Pueblo I villages and historic ranching landscapes. Archaic, Basketmaker II, protohistoric Ute and Navajo occupation of the project area are also represented. To that end, Reclamation is committed to the following management goals:

1. To promote the long term preservation of historic properties located within Ridges Basin.
2. To manage Reclamation facilities and infrastructure associated with the Animas – La Plata Project.
3. To provide opportunities for Tribal involvement and public education associated with Ridges Basin cultural resources.

The management goals for the AL-P Ridges Basin Area are accomplished through the CRMP in the following ways:

1. Establishing cultural resource management areas and research domains.
2. Providing a framework to evaluate future undertakings in Ridges Basin.
3. Developing a process to consult with Tribal partners and interested members of the general public early and often.
4. Developing a robust monitoring plan for known sites within Ridges Basin.

9.0 Accommodation of Sacred Sites

The American Indian Religious Freedom Act (AIRFA) was created to protect and preserve the traditional religious rights and cultural practices of American Indians. These rights include, but are not limited to, access of sacred sites, repatriation of sacred objects held in museums, freedom to worship through ceremonial and traditional rites, and use and possession of objects considered sacred. The Act required policies of all governmental agencies to eliminate interference with the free exercise of Native religion, based on the First Amendment, and to accommodate access to and use of religious sites to the extent that the use is practicable and is not inconsistent with an agency's essential functions.

Executive Order 13007 of 1996 ordered Federal agencies to implement procedures to enable this access to Federal lands to the extent practicable, as well as give reasonable notice of proposed actions or land management policies that may restrict such access, or ceremonial use of, or adversely affect the physical integrity of Sacred Sites.

Reclamation intends to follow the spirit of AIRFA and EO 13007 and allow access to Ridges Basin for ceremonial use of Indian Sacred Sites by Indian religious practitioners. As Reclamation lands are project lands and not public lands, the lands around Lake Nighthorse that are not to be managed by the City of Durango are currently proposed to remain closed to the public. Because some project lands may not be open to the public, access by Indian religious practitioners will need to be coordinated through Reclamation to insure unhampered access to such lands.

10.0 GLOSSARY OF TERMS AND DEFINITION

Keys terms and definitions used throughout the CRMP and relevant to cultural resource management are defined below.

Archaeological Site – a definite location of human activity, occupation, or use, greater than 50 years of age, identifiable through field inventory, historical documentation, or oral evidence.

Area of Potential Effects (APE) – The APE is the geographic area or areas where an undertaking may cause changes in the character or use of historic properties.

Artifact – Any object made, modified, or used by humans, usually but not necessarily portable.

Cultural Resources – Cultural resources encompass archaeological, Native American, traditional, and built environment resources, including but not necessarily limited to, buildings, structures, objects, districts, and sites.

District – A district, or historic district, possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. A district derives its importance from being a unified entity, even though it is often composed of a wide variety of resources, and from its significance. It must be important for historical, architectural, archaeological, engineering, or cultural values.

Ground-Disturbing Activity – Any activity that will result in the disruption or removal of in-situ surface soils or sediments.

Historic Properties – Those properties determined eligible for listing on the NRHP. These may include historic and prehistoric archaeological sites, districts, buildings, structures, and objects. Federal agencies treat sites unevaluated for the NRHP as eligible for management purposes.

Isolated Find – a physical location of past human activity consisting of one or very few artifacts in a location that is interpreted as one-time use, and not representing patterned human behavior. This definition uses no exact number of artifacts, as a small concentration of flakes from the same material regardless of the number of artifacts likely represents a single event, as does a ceramic pot bust regardless of the number of sherds remaining.

Mitigation – Measures added to a project or activity to prevent, reduce, or correct its impact.

Monitoring – Monitoring typically refers to reconnaissance-level field investigation of an archaeological site by a professional archaeologist. Monitoring can be conducted to ensure that ground-disturbing activities do not adversely affect cultural resources, or to regularly assess site condition.

Sacred Site – specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.

Traditional Cultural Properties – Resources that are districts, sites, buildings, structures, or objects that embody traditional cultural values and are historically and traditionally associated with those values. TCPs are properties or locations that have associations "with cultural practices or beliefs of a living community and (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community."

Undertaking - a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval.

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