

Pueblo of Zuni
2015 Cultural Resource Monitoring of
The Colorado River Ecosystem
Through Grand Canyon



Prepared and Submitted by

Kurt E. Dongoske, RPA
Director/Principal Investigator
Zuni Heritage and Historic Preservation Office
And
Octavius Seowtewa
Co-Principal Investigator
Zuni Cultural Resource Advisory Team

Prepared in Association with the
Zuni Cultural Resource Advisory Team

Prepared for and Submitted to
Marianne Crawford, Contracting Officer for Technical Review
Upper Colorado Regional Office
Bureau of Reclamation
125 South State Street
Salt Lake City, Utah 84138-1147

Submitted in partial fulfillment of Contract R13AP40003
2015 Work performed under NPS Permit Number: GRCA Special Use Permit 3626

August 2015

Executive Summary

Between 08 and 22 May 2015, the Zuni Heritage and Historic Preservation Office, on behalf of the Pueblo of Zuni, conducted a monitoring river trip on the Colorado River through Grand Canyon from Lees Ferry to Diamond Creek. The purpose of the river trip was to provide the Zuni religious leaders and cultural advisors an opportunity to inspect the health of the Colorado River ecosystem through Grand Canyon as part of the long-term monitoring program that is associated with the Glen Canyon Dam Adaptive Management Program (GCDAMP). The Zuni Heritage and Historic Preservation Office, on behalf of the Pueblo of Zuni, is funded (Contract R13AP40003) by the Bureau of Reclamation, Upper Colorado Regional Office through the Zuni Cultural Resource Enterprise, to implement the Zuni monitoring program. The 2015 Zuni monitoring river trip was conducted under the authority of the Grand Canyon National Park special use permit GRCA 3626.

Ten (10) Zuni representatives participated in the 2015 Zuni monitoring river trip representing 2 medicine societies, 4 kiva groups, and the Rain priesthood. The Zuni representatives ranged in age from 39 to 62 with a mean age of 51.4 and a median age of 50.5.

During the 2015 Colorado River monitoring trip, Zuni river trip participants monitored 28 places of traditional cultural importance. Of these 28 places, 20 are considered to be Zuni ancestral archaeological sites that are labeled as traditional cultural properties for their association with the Zuni emergence and the subsequent migrations that are part of Zuni traditional history, 10 represent Zuni collection areas, 3 contain Zuni sacred springs, 13 contain Zuni shrines that require protection and spiritual attendance by Zuni religious leaders, 5 places contain resources of Zuni traditional importance, and one is considered a uniquely sacred place (Little Colorado River confluence). Overall, the Zuni river trip participants feel that the Colorado River ecosystem through Grand Canyon is in stable condition. The Zuni river trip participants feel that the presence of Glen Canyon Dam has negatively impacted the entire Colorado River and its ecosystem. The majority of impacts detected by the Zuni river trip participants are related to visitor impacts at important Zuni cultural sites.

As a result of the Zuni monitoring trip the following fifteen management recommendations are provided to the Bureau of Reclamation and Grand Canyon National Park. The first recommendation is directed toward the Bureau of Reclamation and the broader Glen Canyon Dam Adaptive Management Program. This recommendation is then followed by fourteen management recommendations that are primarily directed to the Grand Canyon National Park Service regarding the management of natural and cultural resources located within the Grand Canyon. Management recommendation number 15 is directed to both the Bureau of Reclamation and the Grand Canyon National Park Service for consideration.

TABLE OF CONTENTS

Executive Summary	i
Table of Contents	ii
List of Figures	iv
List of Tables	iv
Introduction	1
Purpose and Methods	1
Zuni and the Sacred Grand Canyon Landscape	4
Traditions and Practices of the Zuni People (<i>A:Shiwi</i>)	5
Zuni Cultural Affiliation	5
Zuni Traditional Cultural Properties and Resources	6
Archaeological Sites	6
Sacred Shrines and Offering Places	7
Landforms	8
Trails	8
Plants	8
Minerals	11
<i>KYA:WE</i> -Water, Colorado River, Springs	12
Animal Resources (Animals, Fish, Birds, Insects & Reptiles)	14
Birds	15
Other Animals	18
2015 Zuni Colorado River Monitoring Trip Findings	19
Supai Man Petroglyph (AZ:C:6:5)	25
South Canyon (AZ:C:5:1)	26
Vasey's Paradise	27
Redwall Cavern	28
Nankoweap (AZ:C:9:1)	28
Kwagunt Site [AZ:C:9:28 (L-N)]	29
Malagosa Canyon (AZ:C:13:335)	29
Little Colorado River Confluence (61.7 Miles)	29
Salt Mine (AZ:C:13:3)	30
Pallisades (AZ:C:13:99)	30
Comanche Creek (AZ:C:13:339)	31
Tanner (camp area north of Tanner Trail)	31
Basalt Creek (AZ:C:13:92)	32
Cardenas: Lookout Site (Hilltop)	32
Furnace Flats (AZ:C:13:10)	33
Unkar Delta (AZ:C:13:1)	34
Lower Unkar (AZ:C:13:70)	34
Phantom Ranch (AZ:B:16:1)	35
Crystal Rapids Site (AZ:B:16:3)	35

Bass Camp (AZ:B:15:1)	37
Elves Chasm (spring)	37
Zuni Salt Deposit below Elves (River Mile 117.6; N4007296, E368978)	37
Deer Creek (AZ:B:10:01) and Deer Creek Falls	38
Havasu Creek (Zuni TCP)	38
Petroglyphs at Lava Rapids	38
Whitmore Wash (AZ:A:16:01)	39
Hematite Mine (AZ:A:15:25)	39
Zuni River Trip Participants Summary Comments	40
Summary of 2011 Zuni Monitoring	43
Presence in the Canyon	43
Springs and Animals	44
Conclusion and Management Recommendations	45
Recommendations to the Bureau of Reclamation	45
Recommendations to the Grand Canyon National Park Service	45
References	48
Appendix A: Zuni Glossary for the Glen Canyon Dam Adaptive Management Program	51

List of Figures

Figure 1. Zuni 2015 River Trip Participants. From left to right. Back row: Gerald Hooee, Sybert Nastacio, Darryl Niiha, Presly Haskie, Octavius Seowtewa, Eldred Quam, Jim Enote. Front row: Roger Yamutewa, Jr., Titus Ukestine, and Cornell Tsalate.	27
Figure 2. Supai Man Petroglyph with erosion identified by the Zuni monitoring trip. Photograph by P. Haskie, May 2015	26
Figure 3. Stone piling by tourists at South Canyon (Photograph by P. Haskie, May 2015)	27
Figure 4. Zuni river trip participants inspecting structure at Cardenas.	33
Figure 5. Structure at Crystal Rapids site during 2014 Zuni river monitoring trip.	36
Figure 6. Structure at Crystal Rapids site during 2015 Zuni river trip showing intrusive redware sherd.	36
Figure 7. Bighorn sheep (<i>Ovis Canadensis</i> ; <i>Haliku</i>) observed during previous river trip (photograph by K. Bowekaty)	44

List of Tables

Table 1. Zuni Representatives Participating in the 2015 Grand Canyon Monitoring River Trip	2
Table 2. Plants of Zuni Cultural Importance in the Grand Canyon.	9
Table 3. Minerals of Zuni Cultural Importance in the Grand Canyon.	12
Table 4. Zuni Sacred Fetish Birds Received by Rain Priests at <i>Chimik'yana'kyade'a</i> .	15
Table 5. Birds of Zuni Cultural Importance in Grand Canyon.	15
Table 6. Animals of Zuni Cultural Importance in the Grand Canyon.	19
Table 7. Fish, Amphibians and Reptiles of Zuni Cultural Importance in the Grand Canyon.	19
Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip.	20

Grand Canyon is sacred and is where many spirits of Zuni ancestors reside.

George Yawakie 2011

INTRODUCTION

Between 08 and 22 May 2015, the Zuni Heritage and Historic Preservation Office, on behalf of the Pueblo of Zuni, conducted a monitoring river trip on the Colorado River through Grand Canyon from Lees Ferry to Diamond Creek. The purpose of the river trip was to provide the Zuni religious leaders and cultural advisors an opportunity to inspect the health of the Colorado River ecosystem through Grand Canyon as part of the long-term monitoring program that is associated with the Glen Canyon Dam Adaptive Management Program (GCDAMP). The Zuni Heritage and Historic Preservation Office, on behalf of the Pueblo of Zuni, is funded (Contract R13AP40003) by the Bureau of Reclamation, Upper Colorado Regional Office through the Zuni Cultural Resource Enterprise, to implement the Zuni monitoring program. The 2015 Zuni monitoring river trip was conducted under the authority of the Grand Canyon National Park special use permit GRCA 3626.

This report presents the findings of the 2015 river trip, the impressions of the Zuni religious leaders and cultural advisors on the health of the resources that comprise the Colorado River ecosystem, and Zuni recommendations to the Department of the Interior (Bureau of Reclamation and Grand Canyon National Park) concerning management of the cultural, physical and biological resources located within the Colorado River corridor ecosystem through Glen and Grand Canyons.

PURPOSE AND METHODS

The purpose of the Zuni monitoring river trip is to provide the Zuni Cultural Resource Advisory Team (ZCRAT), other Zuni religious leaders, and cultural advisors an opportunity to inspect ancestral archaeological sites and Zuni traditional cultural properties that may be experiencing impacts from erosion, presence of humans, other natural forces, and/or flows released from operations of Glen Canyon Dam. The Zuni monitoring program is designed to collect data that is utilized in identifying adverse impacts resulting from these forces on Zuni traditional cultural properties situated along the Colorado River corridor through Grand Canyon. The Zuni monitoring data is employed to guide measures taken by the federal agencies to preserve Zuni traditional cultural properties in place for their continued use by ancestral and contemporary Zunis, and future generations of Zuni. Each annual Zuni monitoring river trip provides the Zuni representatives an opportunity to identify and ascertain the overall health and abundance of certain plant and animal communities of traditional cultural importance. It also provides an opportunity for the Zuni representatives to collect certain culturally important plants, minerals and water from springs and other areas for religious and ceremonial purposes.

Additionally, and perhaps more importantly, the annual monitoring river trips provide the Zuni religious leaders, Rain priests, Bow priests, Kiva members and members of medicine societies an opportunity to directly experience the place where the *A:shiwí* emerged (Ribbon Falls) from the fourth underworld into this world and ascended out of the Grand Canyon in search of the Middle Place. The cultural, biological, and physical resources located within the Grand Canyon are held most sacred by the Zuni as a result of their association with the Zuni emergence, migrations, and enduring ceremonies. Zuni *weltanschauung* is a relational one that presumes a personal responsible relationship with all life forms (i.e., animal and plant) that exist within the natural world. Embedded within this perspective is a Zuni mindfulness of

honoring the primacy and validity of direct personal interaction with the ecosystem. This spirit of deliberate care is one of the hallmarks of the Zuni ethic of environmental stewardship. It is through this direct personal interaction with the Colorado River ecosystem through Grand Canyon that provides the Zuni monitoring team with its foundation for understanding and evaluating the health and well-being of the Colorado River ecosystem through Grand Canyon.

In addition to visiting and making observations regarding the wellbeing of natural and cultural resources of traditional Zuni importance within the Grand Canyon, the annual Zuni monitoring river trip provides the Zuni Heritage and Historic Preservation Office with vital information regarding the condition of ancestral archaeological sites and Register-eligible Zuni traditional cultural properties located along the Colorado River corridor within Glen and Grand Canyons. This information is essential to the Pueblo of Zuni's participation, as a consulting signatory, in the Programmatic Agreement on the Operations of the Glen Canyon Dam (GCDPA) pursuant to the National Historic Preservation Act of 1966, as amended and the Bureau of Reclamation's compliance responsibilities and as a stakeholder in the GCDAMP.

In the past, the Zuni monitoring program has annually identified archaeological sites to be assessed as Zuni traditional cultural properties, defined specific sampling activities within designated archaeological sites, and which Zuni traditional cultural properties were to be monitored. Listing of proposed Zuni TCPs, archaeological sites, and sampling locations proposed for visitation during a river trip are provided to the Grand Canyon National Park Service as part of their permitting process and to the Grand Canyon Monitoring and Research Center who make possible the river trip. Archaeological sites of cultural importance to the Zuni were visited and inspected by the 2015 Zuni monitoring river trip for the purpose of assessing their condition from a Zuni traditional cultural perspective.

Ten (10) Zuni representatives participated in the 2015 Zuni monitoring river trip representing 2 medicine societies, 4 kiva groups, and the Rain priesthood (Figure 1). The Zuni representatives ranged in age from 39 to 62 with a mean age of 51.4 and a median age of 50.5 (Table 1).

Name	Age	Religious Societal Affiliation	Religious Position
Gerald Hooee, Sr.	56	Brain Kiva/Shalako Group	Leader/Member
Octavius Seowtewa	62	Galaxy Society (ZCRAT)/Eagle Down Society/Wide Wall Kiva	Leader/Member/Member
Eldred Quam	53	Small Kiva/Head Kiva	Spokesperson
Cornel Tsalate	50	Eagle Down/Brain Kiva/Ant society	Leader/Member/Leader
Titus Ukestine	47	Koyemshi Group/Corn Kiva	Member/Member
Darrel Niiha	39	Small Group Kiva / Shalako Group/Galaxy	Leader / Member/Member
Sybert Nastacio	51	Rain Priest	Rain Priest
Roger Yamutewa, Jr.	43	Galazy Fraternity/Wall Kiva	Leader/Member
Presly Haskie	62	Wide Wall Kiva/Shalako	Leader/Leader
Jim Enote	Unk	A:shiwi A:wan Museum and Heritage Center/Small Kiva	Director/Member



Figure 1. Zuni 2015 River Trip Participants. From left to right. Back row: Gerald Hooee, Sybert Nastacio, Darryl Niiha, Presly Haskie, Octavius Seowtewa, Eldred Quam, Jim Enote. Front row: Roger Yamutewa, Jr., Titus Ukestine, and Cornell Tsalate.

Accompanying the Zuni cultural advisors was Ms. Jen Dierker, Archaeologist, Grand Canyon National Park. The Zuni monitoring river trip was carried out by Mr. Kirk Burnett, boatman, and Ms. Tiffany Cooper, boatman assistant, both from the Grand Canyon Monitoring and Research Center.

On 27 May 2015, the Zuni monitoring river trip participants met with Kurt Dongoske, Principal Investigator, to discuss the results of the 2015 monitoring trip and provide input pertinent to the generation of this river trip monitoring report. On 17 August 2015, a draft of this Zuni monitoring report was reviewed by these same river trip participants to ensure that the cultural information provided to the Bureau of Reclamation and the National Park Service was accurate and the appropriate recommendations provided. The following individuals participated in the review of this draft report: Octavius Seowtewa (ZCRAT member and river trip participant), Eldred Quam (ZCRAT member and river trip participant), Presly Haskie (ZCRAT member and river trip participant), Darryl Niiha (river trip participant), Titus Ukestine (cultural advisor and river trip participant), and Head Councilman Phillip Vicenti.

The Grand Canyon and all the resources within it are culturally significant to the Zuni people (*A:shiwí*). The following is a brief narrative summary of the history of the Zuni ties to the Colorado River corridor through Grand Canyon, the Little Colorado River and how this traditional history is intertwined with Zuni cultural beliefs to establish a context for understanding the Zuni perspectives provided in this report.

ZUNI AND THE SACRED GRAND CANYON LANDSCAPE

From the time that the Zunis (*A:shiwí*) emerged on to the surface of the Earth, the Grand Canyon, and the Colorado River have been sacred. According to the narratives that describe the emergence of the Zuni people (*A:shiwí*) from Earth Mother's fourth womb, sacred items that identify the Zuni people, the *Etdo:we*, *Kya Etdo:wa*, *Chu Etdo:wa*, and *Mu Etdo:wa/La Etdo:wa* (sacred bundles) and *Eledeliwe*, were the first to emerge; the people then came out into the sunlight world at a location in the bottom of the Grand Canyon near present day Ribbon Falls. The creation narratives also describe the Zunis' (*A:shiwí*) subsequent search for the center of the world, *Idiwan'a* (the Middle Place). The people moved up the Colorado River and then up the Little Colorado River, periodically stopping and settling at locations along these rivers. At the junction of the Little Colorado and the Zuni Rivers, many of the supernatural beings, or *Koko*, came into existence. After a long search the Zunis located the middle of the world and settled there. The Middle Place is located in today's village of Zuni. From the Pueblo of Zuni, the *A:shiwí* continue to maintain very strong cultural and spiritual ties to the Grand Canyon, Colorado River and the Little Colorado River because of their emergence and migration narratives.

The creation and migration narratives of Zuni (*A:shiwí*) are learned by rote, word for word, and passed on from generation to generation exactly as they were told hundreds of years ago. Anthropologists have collected portions of these narratives over the past hundred years, transcribing the oral recitation. In so doing, scholars have marveled at the fact that the narratives have remained virtually unchanged over so many years. These narratives not only describe the locations of shrines and especially sacred areas, but also explain why areas such as the Grand Canyon are sacred. Zuni prayers often contain long lists of sacred areas, shrines, springs and other places of religious significance to the Zuni people.

The practice of Zuni religion is not limited to one day a week. Zunis have an amazingly complex organization of clans, medicine societies, kiva groups and priesthoods; all interlocking and overlapping. Similarly, each part of the Zuni universe is interconnected. Plants, animals and colors are associated with the various cardinal directions. Minerals, clay, rocks, plants and water are used in prayers to the supernatural beings. Prayers are accompanied by offerings of prayer sticks, which are made with the feathers of many birds attached to carved sticks, which in turn are painted with ceremonial pigments. It is no wonder, then, that virtually the entire environment at the bottom of the Grand Canyon is sacred to the Zuni. The animals, the birds, insects, rocks, sand, minerals, plants and water in the Grand Canyon all have special meaning to the Zuni people.

Trails used by the Zunis for religious purposes have special significance and are cared for by means of particular blessings and prayers. The trail from Zuni to the Grand Canyon thus has a continuously important religious meaning to the Zuni people. Once a trail is blessed, it remains blessed permanently. The Zuni people have important concerns regarding the ancient Zuni trail from their village to the bottom of the Grand Canyon.

To a great extent Zuni ceremonial activity is carried out in order to ensure adequate rainfall. Zunis pray not only for their own lands, but for all people and all lands. Their prayers are especially aimed at bringing precipitation to the Southwest. In order to successfully carry out the prayers, offerings and ceremonials necessary to ensure rainfall for crops and a balanced universe, Zunis must collect samples of spring water, plants, soil, rocks and other materials from various locations. Samples of spring water from the bottom of the Grand Canyon carried in sacred gourds during Zuni ceremonials have special significance to Zuni religious life and a very special meaning to the Zuni people.

In summary, the Zuni River, Zuni Heaven (*Ko'tu:wala:wa*), the Little Colorado River, the Colorado River and the Grand Canyon have been important to Zuni culture and religion for many centuries. Zuni religious beliefs, narratives, ceremonies and prayers are intrinsically tied to the entire ecosystem of the Grand Canyon, including the Zunis' familial relationship with the birds, animals, soils, rocks, vegetation and water. The Grand Canyon is very sacred and the Zuni people are concerned with activities that may affect the resources in this sacred place. Similarly, the Zuni people are concerned about activities that take place within the Grand Canyon that may have an impact on Zuni.

TRADITIONS AND PRACTICES OF THE ZUNI PEOPLE (A:SHIWI)

The Zuni beliefs, customs and traditional values originated subsequent to the creation of the world during and after the emergence of the *A:shiwí* from Mother Earth's womb. Zuni culture through its religion exists to be in harmony with the natural elements of Mother Earth and to provide fertility and welfare for the Zuni people. Zuni traditional and religious leaders take on the responsibility of carrying out the intricate rituals and ceremonies that are the framework of Zuni traditions and practices, but only after many long years of preparation and training.

These traditions and practices have been handed down through oral teachings over many generations from the ancestors. The intricate rituals and ceremonials performed at present day Zuni pay reverence to these ancient ancestral sites, shrines and other sacred places in the context of spiritual associations. Even if these places are over a hundred miles away, they are no less significant than those within close proximity that are used on an annual, seasonal or intermittent basis.

All Zuni ancestors play a tremendously significant role in Zuni culture in that present day Zunis request assistance and guidance from them in the course of their daily life. Zuni ancestors, following their trails, travel to Zuni along with the rain clouds that provide the sustenance for all things that live on the earth. The homes, shrines and other materials of the Zuni ancestors must remain undisturbed so that they may fulfill the purpose for which they were placed on the landscape. Disturbance to burials, cultural items, and traditional cultural places disrupts the balance of the universe, Zuni traditional cultural values, and the ability of the Zuni ancestors to fulfill their important role.

ZUNI CULTURAL AFFILIATION

The Pueblo of Zuni claims cultural affiliation to all prehistoric and many historic properties throughout much of the Southwest region of the United States. Cultural affiliation claims to all prehistoric cultures and their properties are based on Zuni traditional history of ancestral Zunis migrating and settling throughout this geographical area in their search for *Idiwan'a*, the Middle Place of the world, which is now Zuni Pueblo (Statement of Cultural Affiliation dated July 11, 1995; revised 11/21/97). Thus, traditional history of the Zuni people provides the cultural context and basis for understanding Zuni traditional cultural properties (TCP's).

The *A:shiwí* (or Zuni) trace the search for *Idiwan'a* from the origin point, *Chimik'yana'kya de'a* (Ribbon Falls in Grand Canyon). The ancestral Zunis, collectively known as the *Enodekwe*, embarked from the origin point and left many markers of their passing. These markers consist of the trails, habitation sites, campsites, burials, sacred shrines and other offering places established during the migration epoch. During their ancient journeys, specific events occurred during which ancestral Zunis named mountains, buttes, springs and other natural landmarks. These places remain rooted in Zuni's traditional history and culture (i.e., songs, prayers, and ceremonies since time immemorial).

The *A:shiwí* began their journey throughout Arizona, New Mexico, Utah, and Colorado in search of *Idiwan'a*, the Middle Place of all oceans of the world, the middle of all heavens of the universe. They traveled and settled in the deserts and canyon lands of the Southwest leaving behind the archaeological sites and sacred shrines to which they claim affinity today. The *A:shiwí* settled in places for four days, four days meant four years or four hundred years. From the place of emergence, the *A:shiwí* journeyed to the top of the San Francisco Peaks and there they received medicinal plants to assist them in their search for the Middle Place. They continued eastward and settled for awhile at *Kumanchi An:ahlakwa* (Chavez Pass). This is the place where the *A:shiwí* separated into three groups.

At *Kumanchi An:ahlakwa*, an ear of corn and two eggs were offered to the *A:shiwí*. Those that picked the macaw egg were given half of an ear of corn and followed the macaw southward in search of the Middle Place to the "land of the everlasting sun." They were asked to send word to the *A:shiwí* that picked the raven egg when they had indeed found the Middle Place, so that if one group found the Middle Place they would reunite. These people that journeyed south are the Zuni ancestors who reside in Mexico and South America and are known as *Che:be:ye:nule:kwe*, *Ts'ilubiya:kwe*. In part, these people also represent the cultures that are defined by modern day archaeologists as Hohokam, Mogollon, Mimbres and Salado. They are referred to by the *A:shiwí* as *Enoh:de:kwe ishalde:ma dek:kyt:na:kwin ahwakonna*, the "ancient ones that journeyed to the land of the everlasting sun." Today, Zunis do not divide the ancient ones into groups or cultures like archaeologists; rather, they are perceived as all one people as they were when they emerged from the womb of Mother Earth.

The *A:shiwí* (Zuni people) that picked the raven egg continued eastward crossing the Little Colorado River or *Kya:wana:ahononnai* (Red River). From there they journeyed eastward to *Denatsali im'a*, present day Woodruff Butte near Holbrook in northeastern Arizona. There they gathered more medicinal herbs and continued to *Ko'tu:wala:wa* at the confluence of the Little Colorado River and the Zuni River. *Ko'tu:wala:wa* is the place where the *Kok'ko* were created and this is the place where the spirits of the *A:shiwí* people go to live at the end of life. From *Ko'tu:wala:wa*, they traveled to the canyon of *Hantibinkya* where Zuni clans received their names, and event memorialized in the petroglyphs still visible at the location (Ferguson 2007:385). From here, the *A:shiwí* moved into the Zuni River Valley, eventually finding the Middle Place and settling there.

The Zuni Tribe's cultural affiliation claims are not limited to specific and narrow regions because the boundaries and places of the migrations by these ancestral groups were not restricted to a narrow route but reflect an affiliation to an extensive cultural landscape.

ZUNI TRADITIONAL CULTURAL PROPERTIES AND RESOURCES

Zuni traditional cultural properties or TCP's encompass a wide variety of cultural sites including, but not limited to, ancestral habitation (archaeological) sites, culturally significant archaeological/historic features, pictographs and petroglyph sites, collection areas for plants, water and minerals, natural landmarks, prominent topographic features (e.g., mountains, buttes, and mesas), shrines, sacred sites, and pilgrimage trails and routes. Below is a brief description of each of these categories of TCPs.

Archaeological Sites

All archaeological sites, including but not restricted to pictographs, petroglyphs, habitation areas, artifact scatters, special use areas, isolated occurrences and other archaeological manifestations are

considered ancestral sites which imbue great cultural and religious significance to the Zuni people. For Zuni, these archaeological sites have never been abandoned, but continue to maintain life and spiritual forces significant to the *A:shiwí* people.

These archaeological sites are interconnected to one another by trails and these trails connect the sites to the Zuni Pueblo. As such, the sites and trails act collectively as spiritual umbilical cords between Zuni ancestors and present day Zunis; connecting the places that define and maintain the spiritual connection to Zuni cultural landscape. Trails also link other sacred areas, shrines and archaeological sites situated within the Zuni aboriginal territory, as well as to ancestral sites established during the migrations of the *A:shiwí* people.

The Zuni Heritage and Historic Preservation Office (ZHHPO) consider ancestral archaeological sites to be TCP's because these sites are tangible monuments validating Zuni emergence and migrations which play a fundamental role in sustaining Zuni individual and collective cultural identities. ZHHPO also asserts that archaeological sites are Register-eligible Zuni TCP's per the definition provided by Parker and King (1989) in *National Register Bulletin* 38 (e.g., Ferguson et al. 1995:14-15; Anyon 1995; Dongoske et al. 1997).

Sacred Shrines and Offering Places

Religious shrines are used by the Zuni to mark their land claim boundary and these shrines, today, are considered sacred. Shrines are also established at other places of significance within the Zuni cultural landscape. Natural landmarks that define Zuni land boundaries and other important locations are marked by the Zunis placing clearly visible War God Shrines, pictographs of masks, Zuni fetishes, prayer sticks, turquoise, shells, pottery or other materials clearly identifiable as Zuni. The Zuni people preserve and maintain these "markers" or locations by making regular visits or pilgrimages to deposit offerings and to ask blessings upon the land.

Describing the importance of shrines to the Zuni people, whether they are regularly attended to or not, Governor Simplicio (1985) wrote:

Both these shrines [located a top Mt. Graham] are within the traditional use area of the Zuni people and are consequently of importance to our well-being and culture. It is important that two aspects of these shrines are clearly understood. The first is that the location is central to the purpose of the shrines. Thus, to disturb or move the shrines would be incompatible with the essence of their location with respect to the areas and the people they protect. Second, these locations have religious significance to the Zuni people, whether or not they appear to have been used recently. Once established they continue to provide their protection in perpetuity.

Pandey (1995:20) points out that shrines and other sacred cultural markers act in Zuni culture like maps, charts, and other documents do in a literature society. The distribution of shrines on the landscape act as cognitive maps for the Zuni when visiting these places and they serve to reaffirm their cultural tradition and beliefs. Sacred shrines and offering places were utilized by the Zuni ancestors, the *Che:be:ya:nule:kwe* and the *Enoh:de:kwe*. Sacred shrines and offering places are often related to archaeological sites and are of great cultural and religious significance. These shrines and offering places are also imbued with life and spiritual forces. Shrines hold great significance to the Zuni and are considered sacred.

Landforms

Landforms can be geologically and/or topographically prominent features on the landscape that are important in Zuni religion and culture. Landforms are natural landmarks such as specific mountains or specific geological formations, including waterfalls, caves, rock arches, hoodoos, etc. A landform may be part of an archaeological site, a shrine or an offering place, but it is a distinct geological or topographical feature that is imbued with cultural significance (e.g., Woodruffe Butte, Red Butte, Mt. Taylor, ect.).

Trails

The Zunis have many named places across their cultural landscapes that are interconnected with a series of trails. These trails often follow uplands where visibility of the surrounding landscape was enhanced. Trails are important to Zuni culture because they connect many different resource procurement and use areas of the Zuni throughout their aboriginal use area. Trails are also considered important because they act as spiritual umbilical cords that maintain strong and continuous connections between the heart of the Pueblo of Zuni and many culturally important distant places on the Zuni landscape.

Trails can often lead to shrines and offering places. Trails are blessed before their use, and once blessed, they are blessed in perpetuity. For the Zuni there are many prayers and offerings that are required to be made prior to a trip and during a trip, along the trail to *Chimik'yana'kya'de'a* and the Grand Canyon. The prayers provide those Zunis going to *Chimik'yana'kya'de'a* with guidance on what route is to be followed, and on the religious actions that are necessary along the trail. Whether travel was made by foot, horses, or burros, it was a very religious occasion and required serious preparations. Prayers and offerings were made at springs and shrines along the trail. The trail, the springs, and the shrine area are all sacred.

Most curing societies went to the Grand Canyon as part of their expeditions to Hopi, where they went to dance. A long time ago, according to Zuni elders, when travel was by foot and burro, Zunis took a traditional trail to the Grand Canyon and along the trail they had shrines. Even though the mode of travel was by foot, the Zunis had to plant feathers at streams and shrines along the way. These streams, shrines, and the trails themselves are sacred. *Heshodawe* ("house," i.e., archaeological sites) located along the trail are also sacred, being the homes of Zuni ancestors. The trail to the Grand Canyon is sacred and will also be used in the afterlife. Activities in the afterlife require use of trails made in this world.

Plants

Plants are perceived by the Zuni as a vital part of the landscape. Plants are sacred to the Zuni people. All plants were given to the Zuni by the ancestral, celestial, supernatural beings. The Zuni view all plants as the off-spring of Mother Earth because it was she who gave the plants to the Zuni (Stevenson 1993:2).

Native plants at *Chimik'yana'kya'de'a* are especially sacred as a result of their association with the Zuni emergence and migration. Zuni fraternities and esoteric groups consider these plants significant because of their past and present cultural importance and usage. These plants are collected and used for ceremonial, religious, subsistence and medicinal purposes.

Zunis use literally hundreds of plants for medicinal, cultural or religious purposes. Stevenson (1914) documented 123 plants used for various purposes. This amount vastly underestimates the true number of plants and their respective uses, because not all the uses of all plants are known to all Zuni people.

General plant usage is commonly known by most Zunis for consumption or other every day use. Whereas, knowledge about some plants may be known to only the members of a particular religious or medicine society, or in some cases, specific esoteric knowledge by a particular Zuni individual.

Plants played key roles in aiding the Zuni during their search for the middle place as recounted in the Zuni emergence and migration narrative.

Today, even with the availability of modern hospitals and medical care, the Zunis continue to rely on medicinal plants, herbs, fetishes, and other remedies which have served them through the ages. Camazine (1978) indentified nearly 100 plants still used by Zunis for medical treatments. As a result of four previous monitoring trips through Grand Canyon, the Zuni elders preliminarily indentified 32 plants of cultural importance as a result of the season in which these trips were taken (Table 2).

Common Name	Zuni Name	Scientific Name	Major Use
Devil's claw	Dashonchi	<i>Acacia greggi</i>	Dye
Agave	ładewa:we	<i>Agave sp.</i>	Medicinal
Prostrate Pigweed	Wiwa	<i>Amaranthus blitoides</i>	Religious, coloring
Goatshead	Mowa dapba	<i>Tribulus terrestris</i>	Religious
Fringed Sagewort	A:ku	<i>Artemisia frigid</i>	Religious, tea, folklore
Big Sagebrush	A:ku	<i>Artemisia tridentate</i>	Religious
Milkweed	łabishsho	<i>Asclepias sp.</i>	Edible
Fourwing Saltbrush	Ke'ma:we	<i>Atriplex canescens</i>	Medicinal, edible, religious
Fremont Barberry	Dalupts'i	<i>Berberis fremontii</i>	Religious, folklore, dye
Blue grama	Bets'i kowa	<i>Bouteloua gracilis</i>	Brooms, brushes
Reed grass	Showe	<i>Phragmites sp.</i>	Religious
Parry Bellflower	Yuda ti'anna	<i>Campanula parryi</i>	Medicinal
Wholeleaf Indian Paintbrush	Ts'uyan tsitsinakya	<i>Castilleja integra</i>	Dye
Netleaf Hackberry	łala:du	<i>Celtis reticulate</i>	Religious
Mountain Mahogany	Dak'wi	<i>Cercocarpus montanus</i>	Religious
Fernbrush	Ibina	<i>Chamaebatiaria millefolium</i>	Religious
Goosefoot	Hadekya	<i>Chenopodium sp.</i>	Edible, medicinal, folklore
Rabbitbrush	Hak'oha łupts'ina	<i>Chrysothamnus sp.</i>	Basketry, dyes
Buffalo gourd Pumpkin	Mobali	<i>Cucurbita foetidissima</i>	Edible, medicinal
Datura (sacred)	Aneklakky	<i>Datura meteloides</i>	Religious
Spectacle Pod	Ha:k'olokda	<i>Dithyreaea</i>	Tea, medicinal
Hedgehog cactus	Shunepba ts'ana	<i>Echinocereus engeimannii</i>	Edible, textile
Indian Tea	Tsipbo'sho	<i>Ephedra nevadensis</i>	Tea, medicinal
Scouring Rush (Horsetail)	Dotchipba	<i>Equisetum tacene</i>	Game call
Horseweed fleabane	Ham udeyanne	<i>Erigeron calvas Canadensis</i>	Medicinal

Table 2. Plants of Zuni Cultural Importance in the Grand Canyon			
Common Name	Zuni Name	Scientific Name	Major Use
Wild Buckwheat	Hasuski	Eriogonum sp.	Medicinal
Wallflower	Hasi'kyaldo:we	Erysimum sp.	Medicinal
Spurge	Ikwik'yakya	Euphorbia	Medicinal
Winterfat	Banashdu	Eurotia inata	Medicinal
Barrel cactus	Shunepba	Ferncactus sp.	Edible
Ocotillo	K'oshi	Fouquieria splendens	Religious
Many flowered Gilia	Hasilili	Gilia multiflora	Medicinal
Gilia	Ummok'yanakya	Gilia spp.	Medicinal
American Licorice	Banashdu (Chikwa)	Glycyrrhiza lepidota	Medicinal
Broom Snakeweed	K'yaha'bokk'o	Gutierrezia sarothrae	Medicinal
Common Sunflower	Omattsaba	Helianthus annis	Medicinal
Hymenoppapus	Ha:uheya:we	Hymenoppapus	Medicinal
Leadtree	Ummok'yanakya	Luecaena ericoides	Medicinal
Flax	Duna:w A:wan Ak'wanne	Linum spp.	Medicinal
Puccoon	K'ema:we	Lithospermum sp.	Medicinal
Cardinal Flower	Waya:siwulu	Lobelia cardinalis	Medicinal
Deer Vetch		Lotus wrightii	Medicinal
Wolfberry	K'ya:bu'li	Lyclum sp.	Edible, religious
Aster	Kwimi Lokk'zana Hamobiya:we	Machaeranthera sp.	Medicinal
Horse Mint	Udeya ibifdo	Mentha arvensis	Religious, edible
Stickleaf	Mil'an ibatchikya mih'an	Mentzelia pumila	Medicinal, folklore
Four O'clock	Shikkwamu	Mirabilis officinale	Medicinal
Catnip	K'yashima Mattsa	Nepeta cataria	Edible
Tobacco	Anade	Nicotiana sp.	Religious, clan name (A'na:kwe)
Bear Grass	T'sishshuk howe	Notina microcarpa	Religious
Evening Primrose	Udeya:w K'ohakwa	Oenothera sp.	Religious, medicinal
Hooker Evening Primrose	Kwimi Shilowa	Oenothera sp.	Medicinal
Prickly Pear	Mek'yaba' Metdanne	Opuntia sp.	Edible
Whipple Cholla	K'oshi	Opuntia whipplei	Edible
Chinchweed	Hambassa	Pectis papposa	edible
Beardtongue	Bok'yan Kwiminne	Penstemon sp.	Folklore
Juniper Mistletoe	Ohlibo'li	Phoradendron juniperinum	Edible, medicinal
Common Reed	Shodoyan:we	Phragmite sp.	Religious
Pinyon Pine	He'sho Datdanne	Pinus edulis	Religious, edible
Ponderosa Pine	Ashek'ya datdanne	Pinus ponderosa	Religious
Western Clammyweed	Asibifdo:we	Polanisia dodencondra	Religious, medicinal
Bush Mint	K'yashima mattsa (la:mattsa)	Poliomintha incana	Edible

Table 2. Plants of Zuni Cultural Importance in the Grand Canyon			
Common Name	Zuni Name	Scientific Name	Major Use
Fremont Cottonwood	Bola	<i>Populus fremonii</i>	Religious
Douglas Fir	K'yafats'ilo ts'itdo:we	<i>Pseudotsuga menziesii</i>	Religious
Paperflower	Ha:ts'okfik'o	<i>Psilostrophe tagetina</i>	Ceremonial
Scurf Pea	Ha:ts'ana	<i>Psoralea</i> sp.	Religious
Coneflower	Yak'onakya	<i>Ratibida</i> sp.	Medicinal
Squawbush	K'ose Wotdanne	<i>Rhus trilobata</i>	Basketry, ceremonial
Wild Currant	Kelashi:wuna	<i>Ribes</i> sp.	Edible
Dock	K'wimi Idobanahna	<i>Rumex</i> sp.	Edible, religious, medicinal
Willow	Bila Ławe	<i>Salix</i> sp.	Religious, cultural
American Bulrush	Doselu	<i>Scirpus americanus</i>	Religious
Buffalo Bur	Mok'yachiba	<i>Solanum rostratum</i>	Medicinal
Golden Rod	Hachifdo:we	<i>Solidago</i> sp.	Medicinal
Globe Mallow	K'owi K'owhi	<i>Sphaeraelcea</i> sp.	Medicinal, cultural
Grass Dropseed	Bishshu'liya:we	<i>Sporobulus</i> sp.	Weaving, religious, cultural
Desert Plume	Kwimi Łupts'inna	<i>Stanleya pinnata</i>	Medicinal
Common Cattail	Owelu	<i>Typha</i> sp.	Religious
Common Cocklebur	Mok'yachiba Be:mok'yachiba	<i>Xanthium</i> sp.	Medicinal, edible
Banana Yucca	Ho:k'yaba	<i>Yucca baccata</i>	Edible, religious, cultural
Narrowleaf Yucca	Ho:ts'ana	<i>Yucca</i> sp.	Religious, cultural

Minerals

The Zuni people do not differentiate between organic and inorganic materials, but consider all things to be living: the earth, the stones, and minerals, as well as the plants and animals. Thus, the collection of minerals is as important to the Zuni people as the collection and use of plants. Mineral sources are used to carry out religious activities, including the preparation of important ceremonial pigments.

Although Zunis may not have traveled specifically to the Grand Canyon solely for the purpose of collecting plants or animals, they did and do make numerous journeys there for the purpose of procuring minerals for religious ceremonies.

Edward Curtis (1922) documents the extensive trade in minerals between Zuni and the “. . . tribes near the Grand Canyon.”

“ Even in prehistoric times the pueblos of Cibola [Zuni] maintained constant communication with other and relatively distant people. A well-marked trail led eastward to the Rio Grande valley and the Tiwa villages, with a northerly branch to Zia. Another extended to the Hopi and on to the Grand Canyon.... The blue paint of the Zunis was famous, as were several other pigments. Groups of men would travel long distances from Zuni to trade their paints, turquoises, and skins for feathers and other paints. For instance, the trade with the Havasupai at the bottom of the Grand Canyon, probably involved, on the Zunis' part, blue paint and stones found from the Zuni mine which was in Bluewater district of

contemporary New Mexico, between Acoma and Zuni while the Havasupai had equally valuable items to trade in return.”

Parsons (1939) also mentions “certain sacrosanct stones” that Zunis believe had “. . . come up with the people.” The use of paint made from minerals brought from *Chimik’yana’kyade’a* in such a diversity of prayers and ceremonies signals the importance of these minerals in Zuni ceremonialism. Zunis have a tremendously developed and exact oral tradition, reflected in many prayers and ceremonies, that underscore the importance of mineral use from *Chimik’yana’kyade’a*. Table 5 lists the various minerals that derive cultural importance for the Zuni that are acquired from the Grand Canyon.

Table 3. Minerals of Zuni Cultural Importance in the Grand Canyon		
Common Name	Zuni Name	Major Uses
Yellow Ochre	Helupts’ikwa	Religious
Specular Hematite	Tsuhaba	Religious
Galena	Hetsuhaba	Religious
Red Hematite	Ahok’o	Religious
Salt	Ma:k’ose	Religious, edible
Land Snail Shells	Ts’uwe, Shodo:we	Religious
Obsidian	Abats’ina	Projectile points, tools
Turquoise	łi’akwa	Religious, fetishes
Azurite	Akwali	Religious
Crystal Cola	Małaluk’o	Religious
Clays	Hekk’yacho	Religious, ceremonial
Silt	Hedefa	Religious
Schist	Asalala:we	Religious, cultural
Sandstone	A:we	Cultural
Conglomerate	Ałashshi	Religious
Basalt	Upk’winnakya	Religious, cultural
Quartzite	Sayakuma	Religious, cultural

KYA:WE – Water, Colorado River, Springs

From the Zuni perspective, the earth is circular in shape and is surrounded on all sides by ocean. Under the earth is a system of covered waterways all ultimately connecting with the surrounding oceans. Springs and lakes, which are always regarded as sacred, are the openings to this system (Bunzel 1932:487). All springs and sources of water are sacred to the Zuni because they provide the life-giving substance, water that is necessary to maintain life within the Southwest’s harsh environment.

All water is deemed sacred to the Zuni, with springs “considered to be the most precious things on Earth” (Hart 1980: Vol. 1, 4). Springs within the Zuni territory are utilized among all religious groups for traditional and religious practices. Springs and seeps are also considered sacred to the Zuni. The Grand Canyon contains numerous springs that play an integral role in water collecting by the Zuni people for ceremonial use.

In the broadest sense, all sources of water are culturally important to Zuni. All springs, washes, ponds, pools, lakes, and rivers are sacred places in Zuni religious practice. This is because Zuni religion is focused on the blessings of water, a gift that is considered to be the ancestors themselves (Chimoni and

Hart 1994:2). Zunis pray for water; they pray at water sources; and they use water in religious ceremonies. Cushing wrote, the Zuni “consider water as the prime source of life” (Green 1979:241). As Dickie Shack explained, “The whole world has water and it’s all precious to us. We get it and bring it here for our religious stuff. We use it in paint for our prayer sticks-it’s so important to get rain. So this water is precious to us. If I go to the Grand Canyon, I’ll get me water there. I believe the rain is our fathers. Anywhere there are springs we hold out hand and say, ‘come with us to Zuni village’ and we pour the water on our heads.” Mr. Shack added, “In my Rain Priest doings, we pray for all directions, to the ocean, to our grandfather, *Ko’lowisi*, the serpent, in all directions. We say prayers so that they’ll help us with rain. So all this water around the world, even the ponds, it’s very important to us, for us to say prayers because we need rain in Zuni (as quoted in Colwell-Chanthaphonh and others 2010:36).”

The waters of the Colorado River are “definitely sacred,” according to Alex Seowtewa. The aquatic life in the river is connected to the Zuni religious societies and orders-prayers are made for the animals that live there, and the animals’ existence helps the Zunis in their prayers. Even in dry washes, such as the Paria, are important. The Zunis deem them “passageways” for water, whether or not water flows year-round.

Long before the Americans first ever saw and named the Colorado River, the Zuni named this watercourse *K’yawan’ A:honanne*. The name itself speaks to a time before the American government dammed the river, when its waters flowed red from the crimson-hued soils its currents carried. This traditional cultural property begins in the Colorado Rockies and ends at the Sea of Cortez, and extends from bank to bank. Zunis feel a general sense of sacredness for this body of water. As Octavius Seowtewa explained, “Our respect, our heritage and traditions believe this river has significance for our religion and way of life.”

The river is associated with the Zuni people’s emergence and first migrations; it is home to aquatic life that is important to Zuni traditions; the water from the river is used in ceremonies; and the waterway is a literal trail and a metaphorical umbilical cord that is linked directly to the Zuni home area via the Little Colorado River (Hart 1995:8). Seowtewa continued, “My medicine society talks about all the water life; it’s all mentioned in my prayers. So any disturbance of water life impacts my religion and way of life. I was taught to respect all life and now damming the river and pumping water [creates] ...a spiritual impact on our medicine practices. When you are a religious head you have to take care of even the lowliest form of life, even the stink bug, even the rocks, anything that is on the land.” This statement parallels previously documented Zuni values of the river. As Dongoske and others (2010:135) have written, “The Colorado River itself is regarded as an important conscious living being that has feelings, and is expressive of calmness and anger. The river can offer happiness, sadness, strength, life, sustenance, and the threat of death. According to many of the tribal beliefs, if a land and its resources are not used in an appropriate manner, the Creator will become disappointed or angry and withhold food, health, and power from humans.”

Further emphasizing the importance of all water life to the *Ne’we:kwe* Medicine Society, Seowtewa shared an excerpt from one of their ceremonial prayers:

“When the world was created, within the four Great Oceans and waterways (North Pole, South Pole, and Atlantic, Pacific Oceans)

Our Father that stayed behind and flourished

The Feathered Serpent

The Water Snakes

The Fish
The Turtle
The Tad Poles
The Toads
The Frog
The Water Boatman and all aquatic life

And all the protectors of the waters
The Crain
The Geese
The Ducks
The Coots
The Grebes
The Orioles
The Mocking birds
The Nut Hatch
The Wren
The Egrets
The Father Sun – Mother Moon
The Creator
These are the givers of the breath of life
The Aged and the Wisdom
The Water of Life
The Seed of Life
The belongings of life
The Off springs of life
The Strength
And the rest of the givers of life

I ask for their breath
If all goes accordingly and the breath of our feathers are respected
We will all see our fathers rising and setting sun
Arm in Arm
Strength in connection
We will all grow old in wisdom
Now I ask the fathers for that Breath
For the Breath of life for all.

Speaking about Glen Canyon Dam, Seowtewa stated, “They put the dam in without consultation, and . . . the dam restricted the umbilical cord (the Colorado River). It’s like when you’re in your mother’s womb and there’s a knot in the cord, then there’s a problem (as quoted in Colwell-Chanthaphonh and others 2010:54).”

Animal Resources (Animals, Fish, Birds, Insects & Reptiles)

Animals play a vital role in Zuni culture and religion. In the Zuni belief system, as Winston Kallestewa explained, “All animals are our ancestors that have come back to life in a different form- that’s why all living beings, even the smallest insect, are important to the Zuni people.” Dickie Shack explained that

common animals such as lizards play a role in Ant Medicine Society prayers, prayers so ancient that they are spoken in an ancient language, learned when the Zunis were migrating with those people.

All animals came out of the underworld with the Zunis. They are all important because they have a purpose explained in Zuni religion and **cannot be killed indiscriminately**. Wild life animals are the spiritual beings of the ancestors for the Zuni people and are mentioned in prayers and songs.

Birds

Birds are incorporated into nearly every aspect of Zuni life (Ladd 1963). Because they are viewed as messengers from the ancestral celestial beings, their appearance is closely watched. Consequently Zunis are generally excellent ornithologists. In discussing the cultural importance of birds with Zuni cultural advisors one becomes quickly amazed at the accuracy and consistency with which they distinguish closely related species, and are able to relate precisely the seasons when each species is present.

Throughout the migration of the Zuni people to find the Middle Place, they were also helped by birds: a raven took the bitterness away from the corn the Zunis had harvested and made it palatable; an owl helped them by making the corn which they had harvested soft enough to eat.

Common Name	Zuni Name	Scientific Name	Direction	Associated Color
Oriole	Onohli'kya	Icterus parisorum	North	Yellow
Steller's Jay	Maya	Cyanocitta stelleril	West	Blue
Macaw	Mula	Ara spp.	South	Red
Black Billed magpie	K'yade:dasha	Pica pica	East	White
Barn Swallow	Hel'onsedo	Hirundo rustica	Zeinth	All colors
Purple Martin	K'yaw luki	Progne subis	Nadir	Black

Table 4 presents a list of all birds of Zuni cultural significance that inhabit the Grand Canyon. A note of caution about this and other lists in this section of the report: only a limited number of the hundreds of culturally important plants and animals in the Grand Canyon have been identified by Zuni cultural advisors. This disparity exists for several reasons: (1) Zuni cultural advisors have been down into the Grand Canyon for only a limited number of visits; (2) these previous river trips did not encompass all the different seasons when certain plants would be flowering (and thus more easily recognizable) or certain migratory birds would be present; (3) the past river trips stopped at a limited number of sites in the Grand Canyon; and (4) much Zuni religious knowledge is proprietary, and only a select few individuals possess certain bits of information and it may be considered proprietary. Because representatives from all the religious societies which might have knowledge about a certain plant, animal or mineral have not yet participated in a past river trip, many species undoubtedly have not yet been identified.

Common Name	Zuni Name	Scientific Name	Major Use
Pied Billed Grebe	Haba' ochabekya	Podilymbus podiceps	Religious
Great Blue Heron	K'olokda	Ardea berpdias	Religious, clan representative
White Faced Ibis	Ts'uuya lana	Plegadis chihi	Religious

Table 5. Birds of Zuni Cultural Importance in Grand Canyon			
Common Name	Zuni Name	Scientific Name	Major Use
Canada Goose	Owa	<i>Branta Canadensis</i>	Religious, ceremonial
Mallard	Eya	<i>Anas platyrhynchos</i>	Religious, ceremonial
Northern Pintail	Eya	<i>Anas acuta</i>	Religious, ceremonial, Newekwe Society
Northern Shoveler	O'do k'yaba	<i>Anas clypeata</i>	Religious, Newekwe Society
Cinnamon Teal	Eya	<i>Anas cyanoptera</i>	Religious, Newekwe Society
Blue-winged Teal	Eya	<i>Anas discors</i>	Religious, Newekwe Society
Green-Winged Teal	Eya	<i>Anas crecca</i>	Religious, Newekwe Society
American Wigeon	Eya	<i>Anas Americana</i>	Religious, Ceremonial, Newekwe Society
Turkey Vulture	Shu:ts'ina	<i>Carhartes aura</i>	Ceremonial
Bald Eagle	Ba'k'oha	<i>Haliaetus leucocephalus</i>	Religious, ceremonial
Northern Harrier	Shok'yabiso	<i>Circus cyaneus</i>	Religious, ceremonial
Sharp-shinned Hawk	Hachu ts'ana	<i>Accipiter striatus</i>	Religious
Cooper's Hawk	Aneława	<i>Accipiter Cooperii</i>	Religious
Red-tailed Hawk	Bipbi	<i>Buteo jamanicensis</i>	Religious, ceremonial
Golden Eagle	Boshkwa	<i>Aquila chrysaetos</i>	Religious, ceremonial
American Kestrel	Tsililik'o	<i>Falco sparverius</i>	Religious
Merlin	Tsililik'o łana	<i>Falco columbarius</i>	Religious
American Coo	Hilu'kya	<i>Fulica Americana</i>	Newekwe Society
Killdeer	Dolowa	<i>Charadrius vociferous</i>	Religious
Sandpiper	Homa k'ossa	Sandpiper spp.	Religious
Mourning Dove	Nishabak'o	<i>Zenaida macroura</i>	Edible, religious
Greater Roadrunner	Boyyi	<i>Geococcyx californicus</i>	Religious, ceremonial
Great Horned Owl	Muhukwi	<i>Bubo virginianus</i>	Ceremonial
Burrowing Owl	Muhukwi ts'ana	<i>Speotyto cunicularia</i>	Ceremonial
Common Poor-will	Mewishokk'wa	<i>Phalaenoptilus nuttallii</i>	Religious, ceremonial
Common Nighthawk	Awadi łana	<i>Chordeiles minor</i>	Religious, ceremonial
White throated Swift	K'upchi k'o	<i>Aeronautes saxatalis</i>	Ceremonial
Broad-tailed hummingbird	Tsu ya	<i>Selasphorus platycercus</i>	Religious, ceremonial
Black-chinned hummingbird	Tsu ya	<i>Archilochus alexandri</i>	Ceremonial, religious
Calliope hummingbird	Tsu ya	<i>Stellula calliope</i>	Religious, ceremonial
Rufus hummingbird	Tsu ya	<i>Selasphorus rufus</i>	Religious, ceremonial
Northern flicker	Hokwisho	<i>Colaptes auratus</i>	Ceremonial, religious
Lewis' woodpecker	Hokwisho k'winna	<i>Melanerpes lewis</i>	Religious
Hairy woodpecker	Dumdununu	<i>Picoides villosus</i>	Religious
Downy woodpecker	Dumdununu	<i>Picoides pubescens</i>	Religious
Say's Phoebe	Its'u wakkya	<i>Sayornis saya</i>	Religious

Table 5. Birds of Zuni Cultural Importance in Grand Canyon			
Common Name	Zuni Name	Scientific Name	Major Use
Cassin's Kingbird	Its'uwakkya Łana	Tyrannus vociferanus	Religious
Ash-throated flycatcher	Its'uwakkya K'yade kon'ona	Myiarchus cinerascens	Religious, ceremonial
Horned lark	Silo	Eremophila alpestris	Ceremonial, religious
Stellers' Jay	Maya	Cyanocitts stelleri	Religious, ceremonial
Scrub Jay	Chaya' a	Aphelocoma coerulescens	Religious, ceremonial
Pinyon Jay	A' akkya	Gymnorhinus	Religious
Clark's Nutcracker	Lohaya Bo'ya	Nuciraga Columbiana	Ceremonial
American Crow	Kwa la shi	Corvus brachyrhynchos	Ceremonial
Common Raven	Kwa la shi	Corvus corax	Ceremonial
Mountain Chickadee	Danaya Wi'wishkya	Parus gambeli	Religious, ceremonial
White breasted Nuthatch	K'ohanna No'dekla banilen'ona	Sitta carolinensis	Ceremonial
Red-breasted Nuthatch	Shilowa' No'dekla Banilen'ona	Sitta Canadensis	Religious
Rock Wren	Ts'ilisho	Salpinctes obsoletus	Ceremonial
Canyon Wren	Chalawisho	Catherpes mexicanus	Ceremonial
Ruby-crowned Kinglet	Ts'apba	Regulus calendula	Religious
Golden-crowned Kinglet	Bits'its'i	Regulus satrapa	Religious
Blue-grey Gnatcatcher	Its'uwakkya	Poloptial caerulea	Folklore
Black-tailed Gnatcatcher	Its'uwakkya	Polioptial melanura	Folklore
Western Bluebird	Łaluk'o	Sialia Mexicana	Religious, ceremonial
Mountain Bluebird	Łah lu ko'	Sialia currucoides	Religious, ceremonial
Northern Mockingbird	K'yaycho'wa	Mimus polyglottos	Religious
Sage Thrasher	Dasisho	Oreoscoptes montanus	Religious, ceremonial
American Robin	Kwi shabak'o	Turdus migratorius	Religious, ceremonial
Yellow-rumped Warbler	Tsap ba	Dendroica coronate	Religious
Yellow Warbler	Tsap ba	Dendroica petechia	Religious, ceremonial
Wilson's Warbler	Tsap ba	Wilsonia pusilla	Religious
Grace's Warbler	Tsap ba	Dendroica graciae	Religious
Yellow-breasted Chat	Tsap ba	Icteria virens	Religious
Western Tanager	Onohtikya	Piranga ludoviciana	Religious, ceremonial
Lazuli Bunting	Onohtikya Łi'anna	Passerina amoena	Religious, ceremonial
Black-headed Grosbeak	O'do Łana	Pheucticus melanocephalus	Religious, ceremonial
Green-tailed Towhee	K'ewiya	Pipilo chlorurus	Religious, ceremonial
Rufous-sided Towhee	Kewiya	Pipilo erythrophthalmus	Religious, ceremonial
Brown Towhee	Kewiya	Pipilo fuscus	Religious, ceremonial
Lark Sparrow	Ketakojkwa	Chondestes grammacus	Religious
White-crowned Sparrow	Ts'uts'u'a	Zonotrichia leucophrys	Religious
Vesper Sparrow	Wi'wishkya	Poocetes gramineus	Folklore

Common Name	Zuni Name	Scientific Name	Major Use
Song Sparrow	Wi' wish kya	Melospiza melodia	Folklore
Dark-eyed Junco	Tsupiya	Junco hyemalis	Folklore
Northern Oriole	Onoh li' kya	Lcterus galbula	Religious, ceremonial
Western Meadowlark	Da'chitchi	Sturnella neglecta	Religious
Yellow-headed Blackbird	Bala'du	Xanthocephalus xanthocephalus	Religious, ceremonial
Brewer's Blackbird	K'etcho	Euphagus cyanocephalus	Religious, ceremonial
Great-tailed Grackle	Kya de dasha	Quiscalus mexicanus	Religious, ceremonial
Lesser Goldfinch	Tsu tsua	Carduelis psaltria	Religious, ceremonial
House Finch	Ts'uts'u'a	Carpodacus mexicanu	Folklore
House Sparrow	Wi' wish kya	Passer domesticus	Folklore

Other Animals

Although birds are probably the most important animals to Zuni, they are far from the only animals that Zunis view as religiously or culturally important. All animals have their place of reverence in Zuni cosmology (Tyler 1964). As mentioned above, even if Zunis did not need to collect any of these animals, their appearance is emblematic and auspicious of natural events, or man's response to them.

During the Zunis effort to emerge and reach the upper world, they were helped by four small creatures: a locust who, like the three birds before him, attempted to reach the upper world, and a spider, and a water strider, who eventually direct the Zuni people to *Halona-itiwana*, the Middle Place.

Zunis have a special relationship with water creatures, and this stems from events during their search for the middle place. During the migration (probably across the Colorado River), many Zunis children were released by their parents into the river and turned into water snakes, fish, frogs, and other aquatic life. The fact that Zuni children turned into aquatic wildlife establishes a lasting familial relationship between contemporary Zunis and all aquatic life in the Colorado River and other water sources. In the late nineteenth century, Frank Hamilton Cushing (1884, 1896, 1988) recorded this historical event as it was narrated to him by the Zuni. Cushing labeled the event as the "Abode of the Souls" and the following is a condensed version of that event:

"Shortly after Emergence, men of the Bear, Crane, and Seed clans strode into the red waters of the Colorado River and waded across. The men of the clans all crossed successfully. The women travelling with the men carried their children on their backs and they waded into the water. Their children, who were unfinished and immature (because this occurred shortly after Emergence), changed in their terror. Their skins turned cold and scaly and they grew tails. Their hands and feet became webbed and clawed for swimming. The children fell into the swift, red waters. Some of the children became lizards, others turned into frogs, turtles, newts and fish.

"The children of these clans were lost to the water. The mothers were able to make it to the other side of the river, where they wailed and cried for their children. The Twins heard them, returned, and advised the mothers to cherish their children through all dangers. After listening

to the Twins, those people who had yet to pass through the river took heart and clutched their children to them and safely proceeded to the opposite shore.

“The people who successfully made it out of the river rested, calmed the remaining children, and then arose and continued their journey to the plain east of the two mountains with great water between. Thence they turned northward to camp on the sunrise slopes of the uppermost mountains.”

Common Name	Zuni Name	Scientific Name	Major Use
Pronghorn Antelope	Mawe	<i>Antilocapra Americana</i>	
Coyote	Suski	<i>Canis latrans</i>	
Rocky Mountain Elk	Oh no' le	<i>Cervus elaphus</i>	
Black tailed Prairie Dog	Kushi	<i>Cynomys ludovicianus</i>	
Javelina	Kudebaidoh Bitsudi	<i>Dicotyles tajacu</i>	
Porcupine	Chibi	<i>Erethizon dorsatum</i>	
Mountain Lion	Hokdidasha	<i>Felis concolor</i>	
Bobcat	Debi	<i>Felis rufus</i>	
Black-tailed Jackrabbit	Bokya	<i>Lepus californicus</i>	
White-throated Woodrat	Kochi	<i>Neotoma albigula</i>	
Mule Deer	Tsi lu si	<i>Odocoileus hemionus</i>	
Bighorn Sheep	Haliku	<i>Ovis Canadensis</i>	
Raccoon	Wedasha	<i>Procyon rotor</i>	
Cotton Rabbit	Okshiko	<i>Sylvialgus audonbonii</i>	
Squirrel	Yashi	<i>Tamiasciurus spp.</i>	
Badger	Donashee	<i>Taxidea taxis</i>	
Grey Fox	Tlaniko	<i>Urocyon cinereoargenteus</i>	
American Black Bear	Anshi	<i>Ursus americanus</i>	

Common Name	Zuni Name	Scientific Name	Major Use
Fishes	Kyh' shida		
Frogs	Dok'kya	<i>Anura Ranidae</i>	
Horned Toads	Lahoohokyaba		
Lizards	Me'sho	<i>Sauria Lacertidae</i>	
Rattlesnakes	Chit'do'la	<i>Crotolus spp.</i>	
Tadpoles	Modolikya		
Turtles	Ed'dowa		
Water snake	Mi'kyali		
Water Striders	Gyan Asdebi		

2015 Zuni Colorado River Monitoring Trip Findings

The Zuni Colorado River monitoring trip occurred between 08 and 22 May 2015. Twenty-eight (28) places along the Colorado River ecosystem through Grand Canyon were monitored by the Zuni cultural

advisors. Impressions and reflections on the health of these places were recorded by the Zuni cultural advisors. Table 8 summarizes the places monitored during the 2015 Zuni Colorado River monitoring trip and the impressions by the cultural advisors on the condition of resources encountered at each location. Each specific place visited during the monitoring trip is described in the narrative below which includes a detailed account of the Zuni cultural advisors’ observations, comments, and concerns. Also provided are the Zuni cultural advisors’ perspectives regarding the overall health of the Colorado River ecosystem and their personal viewpoints about visiting this sacred place of emergence and the associated migrations.

Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip

Date	Places Monitored	Description	Impacts Identified	Zuni Cultural Concerns	Comments
09 May	Lees Ferry – Launch				
	AZ:C:6:5 (Supai Man Petroglyph)	Petroglyph panel and directional panel to Zuni Pueblo (<i>Idiwan’a</i>)	Direct impacts from water erosion	Zuni TCP associated with emergence and migrations	Zuni wants to collaborate with NPS to protect and fully document this site; need to implement erosion deterrents.
10 May	South Canyon	Zuni offering and mineral collection site	Visitors piling of rocks on masonry walls.	Visitors collecting artifacts negatively effects the site’s integrity	Zuni recommends NPS educate tourists about appropriate site visitation behavior.
	Vasey’s Paradise	Dense vegetation watered by waterfalls emanating from groundwater emerging from upper cliff face.	Reduced amount of water emanating from the spring as a result of the prolonged drought.	Zuni TCP; source of sacred water for use in ceremonies	Zuni recommends NPS continue annual monitoring.
	Redwall Cavern	Alcove created by Colorado River			No concerns
11 May	AZ:C:9:1 (Nankoweap Granaries)	Multiple loci of alignments, artifacts, granaries, and other features	Direct impacts from erosion and	Zuni TCP associated with emergence and	Restrict visitation and recommend NPS collect the turquoise offering deposited in the

Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip

Date	Places Monitored	Description	Impacts Identified	Zuni Cultural Concerns	Comments
			humans	migrations; Zuni shrine located here requires protection and spiritual attendance	granary.
	AZ:C:9:28 (L-N): Kwagunt	Over 10 rooms and features were encountered along with shrines, terraced gardens, and storage bins.	Site has been excavated; continuing human and natural impacts	Zuni TCP associated with emergence and migrations; Zuni shrine located here requires protection and spiritual attendance.	Zuni recommends the National Park Service continue to manage this site in the current fashion because site is in good condition.
12 May	AZ:C:13:365 (Malgosa Canyon)	Semi-rectangular rock alignment and artifact scatter	No concerns	Zuni TCP associated with emergence and migrations; Zuni shrine located here requires protection and spiritual attendance	Annual monitoring and maintenance of Zuni shrine
	Little Colorado River Confluence	Confluence of Little Colorado and Colorado Rivers	No concerns	Zuni TCP-Sacred place	Concern expressed about the Navajo Nation's Escalade Project and how

Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip

Date	Places Monitored	Description	Impacts Identified	Zuni Cultural Concerns	Comments
					that project will negatively impact the Zuni cultural and spiritual connection to this sacred place.
	Hopi Salt Mine		No concerns		Zunis left offerings
	AZ:C:13:99 - Palisades Area (mineral collection)	Early-mid PII Anasazi habitation site	Poor condition due to natural (water) erosion	Zuni TCP associated with emergence and migrations; Zuni mineral collection area	Annual monitoring; mitigate erosion. Zuni wants to be included in any future archaeological data recovery that may be planned for this site.
13 May	Tanner (camp area –north Tanner trail)	Zuni petroglyphs	No concerns		Zuni recommends that the BOR/NPS fund ZCRE and ZCRAT to develop a research project that would generate a Zuni interpretation of the petroglyphs located here.
	Basalt Creek (AZ:C:13:92)	Multi-component site consisting of a historic habitation camp and prehistoric artifact scatter.	Artifact piling by visitors	Site contains two Zuni shrines	Zuni recommends the NPS continue to monitor this site for impacts from visitation and to monitor physical condition of Zuni shrines located here.
14 May	Cardenas - Lookout Site	Single room feature with associated hearth	Visitors piling of rocks on stone	Zuni TCP associated with emergence	Zuni recommends that the National Park Service consider

Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip

Date	Places Monitored	Description	Impacts Identified	Zuni Cultural Concerns	Comments
			structure negatively impacting structure's integrity	and migrations; ceremonial structure and Zuni shrine	redirecting the trail away from the structure to keep visitors from piling rocks on this historic feature.
	AZ:C:13:10 (Furnace Flats)	Large, mulicomponent habitation site.	Fair condition with erosion affecting the site; Zuni shrine threatened by erosion.	Zuni TCP associated with emergence and migrations; Zuni shrine nearby.	Zuni recommends that the National Park Service move the metate that is at the river's edge so it does not wash away.
	Unkar Delta (AZ:C:13:1)			No concerns	Zuni wants to assist NPS in revising the public brochure about this site.
15 May	AZ:B:16:1 (Phantom Ranch)	PII-PIII roomblock, kiva, and artifact scatter	Good condition; human and erosion impacts	Zuni TCP associated with emergence and migrations	Annual monitoring; reduce visitor impacts
	Crystal Rapids Site (AZ:B:16:3)	PII masonry structures and artifact scatter	Good condition	Zuni collection of minerals for ceremonial purposes	Zuni recommends that the National Park Service collect the redware sherd that was left in one of the structures because it appears to be a recent intrusive deposition.
16 May	Bass Camp(AZ:B:15:1)	10+ rooms, thermal features	Good condition	Zuni TCP associated with	

Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip

Date	Places Monitored	Description	Impacts Identified	Zuni Cultural Concerns	Comments
				emergence and migrations; Zuni shrine	
	Elves Chasm (Spring)	A delicate waterfall and spring	Less water emanating from spring than observed in past river trips.	Zuni deposited offerings at shrine and collected water for ceremonial use.	No comments
	Zuni Salt Deposit (Mile 117.6 – Salt Deposit)		Good condition	Zuni collected salt and deposited an offering	Zuni recommends that the National Park Service annually monitor this site for disturbances.
18 May	AZ:B:10:1 & AZ:B:10:3 (Deer Creek)	PI-PII granaries and artifact scatter	Human impacts	Zuni TCP associated with emergence and migrations; Dutton Springs a Zuni TCP	Annual monitoring and protection
	Deer Creek Falls (spring & plant)	Zuni collection area for willow, tobacco, water, datura, and pigments	Human impacts	Zuni shrine	Facilitate Zuni privacy; protect spring
19 May	Havasus Creek	Havasus spring; Zuni collection of water	Human impacts and high visitation	Zuni TCP	Protect spring; reduce visitation
20 May	Petroglyphs at Lava Rapids	New petroglyph site depicting Zuni emergence and migrations	Good condition	Zuni TCP associated with emergence and migrations	Zuni recommends that NPS restrict access to this site; Zuni will provide NPS with a name for this site
	Whitmore Wash	Multicomponent: late	Erosion	Zuni TCP	Annual

Table 8. Summary of Places Visited and Observations Made During the 2015 Zuni Colorado River Monitoring Trip					
Date	Places Monitored	Description	Impacts Identified	Zuni Cultural Concerns	Comments
	(AZ:A:16:1)	Archaic-BMII; PI-III Virgin Anasazi; and late prehistoric-historic Paiute	and human impacts	associated with emergence and migrations	monitoring and protection with cactus to keep visitors away. Restrict area.
21 May	Hematite Mine (mineral collection)	Source for hematite collection; cave.	Good condition	Collection of traditionally important mineral (hematite)	Zuni does not want hematite mine closed by NPS.
22 May	Diamond Creek-Take Out				

Supai Man Petroglyph (AZ:C:6:5)

Site description: This site consists of a sandstone bedrock petroglyph panel with three pecked figures. The panel is approximately 1.6 m². The petroglyph elements were in excellent shape, with minimal wind/water erosion, during their initial recording in the early 1990s. The figures include an anthropomorph, a pecked line, and an abstract element shaped like a flying “U” (Fairley and others 1994:219).

Zuni 2015 River Trip Observations: The Zuni believe the anthropomorphic figure with long earrings depicted in the rock art is the supernatural being (one of the War Twins) that led the Zuni out from the underworld. The figure of the head has also been said by some Zunis to look like *Paiyatamu*, one of the Zuni *Kokko*. *Paiyatamu*, a flute player supernatural being, was identified on the basis of how he is represented graphically at the Pueblo of Zuni. At Zuni *Paiyatamu* is associated with the Galaxy (*Ne’we:kwe*) clowns. The line in front of the figure is said to be the migration route. The ZCRAT have indicated that if you follow the direction of the line in front of this figure, it points to a place on the rim of the canyon where a similar petroglyph is located and marks the direction to the Pueblo of Zuni. They infer that Zuni ancestors deliberately marked a connection between the Grand Canyon and the final destination of the migrations: Zuni Pueblo (Dongoske and Hays-Gilpin n.d.). This site is very important to the Zuni people and their way of life because it is an affirmation of the Zuni origin account, the subsequent migrations, and the arrival at the predestined home for the Zuni. The Zuni river trip participants expressed concern about the erosion that is occurring to the petroglyph image and associated pecked line because the sandstone appears to be exfoliating as a result of side canyon runoff. Specifically, Mr. Eldred Quam stated “we don’t want this pictograph to fade away because it is there for our history of where our ancestors came from.”



Figure 2. Supai Man Petroglyph with erosion identified by the Zuni monitoring trip. Photograph by P. Haskie, May 2015.

Zuni Recommendation: The Zuni river trip participants want the National Park Service to develop the most appropriate method, in consultation with the Zuni, of diverting the side canyon runoff to alleviate or stop the erosion occurring at this site. One method suggested by a Zuni cultural advisor was to employ a type of sealant to spread over the rock that would protect the images from further erosion. Additionally, the Zuni cultural advisors would like to see the National Park Service conduct more documentation of this petroglyph panel because the pecked line appears to be disappearing. They recommended full formal documentation which could include photographs. Mr. Sybert Nastacio speculated that there were other pictographs present at this site but could not be detected with the naked eye. He suggested that they might be visible through the use of a polarizing lens with high resolution and wanted the National Park Service to consider utilizing a polarizing lens during full documentation.

South Canyon (AZ:C:5:1)

Site description: The site consists of a masonry habitation complex with 12 defined structures situated mostly along an open area on a bench within the Redwall limestone formation, with two contiguous structures located at the mouth of a small solution cave approximately 25-30 m above. On the lower terrace structures are more or less grouped into three areas. On the downstream end are two structures (F1 and 12) with plaza like walls on either end (F9 and 11). The middle section includes a large masonry structure (F3) associated with a petroglyph boulder. The upstream section consists of habitation rooms and a possible storage room (F4, 5, and 10). Overall, ceramic type diversity makes the site difficult to place culturally, although Kayenta Anasazi ceramics tend to dominate the assemblage, suggesting a PII



Figure 3. Stone piling by tourists at South Canyon (Photograph by P. Haskie, May 2015).

affiliation. Two roasting features, one below Feature 11 and one below Feature 7, may be the result of re-use of the site by Paiutes. The massive size of some of the structures and quantity of trash indicate substantial occupation; the south room complex may be a kiva or a plaza (Fairley and others 1994:216-17).

Zuni 2015 River Trip Observations: South Canyon is a place where the Zuni river trip participants collected minerals (gypsum) and pigments (kaolin) for use in their religious ceremonies. South Canyon is considered a very important place to the Zuni. The South Canyon site contains a Zuni shrine where the Zuni cultural advisors left offerings. The site no longer contains surface artifacts and the Zunis believe this is the result of visitors collecting artifacts. The Zuni river trip participants noting a trail that leads visitors directly to this site and near the petroglyphs expressed concern that the high visitor presence continues to threaten the existence of this site.

Zuni Recommendations: The Zunis want the National Park Service to stress visitor education regarding the appropriate behavior when visiting archaeological sites and to discourage artifact collecting and the creation of new trails.

Vasey's Paradise

Site Description: Vasey's Paradise is an oasis 1.5 miles below Mile 30 Sand Bar on the Colorado River in Grand Canyon. In a semi desert environment it supports dense vegetation watered by a waterfall emanating from groundwater emerging from the upper cliff faces. John Wesley Powell characterized Vasey's Paradise in writing ".fountains bursting from the rock high overhead, and the spray in the sunshine forms the gems which bedeck the wall. The rocks are covered with mosses and ferns and many beautiful flowering plants" (Belknap and Evans 2011:37). Powell named Vasey's Paradise after botanist G.W. Vasey (Stevens 2013).

Zuni 2015 River Trip Observations: For the Zuni people water is life. As such, all springs and sources of water are sacred to the Zuni because they provide the life-giving substance, water that is necessary to maintain life within the Southwest's harsh environment. All water is deemed sacred to the Zuni, with springs "considered to be the most precious things on Earth" (Hart 1980: Vol. 1, 4). Springs within the Zuni territory are utilized among all religious groups for traditional and religious practices. Springs and seeps are also considered sacred to the Zuni. At Vasey's Paradise the Zuni river trip participants collect the spring water for use in religious ceremonies. Additionally, while at this spring the Zuni river trip participants physically took water from the spring and threw it in the direction of Zuni pueblo encouraging rain to come to Zuni. The Zuni river trip participants believe Vasey's Paradise is being negatively affected by the prolonged drought because the water emanating from the wall was just a trickle.

Zuni Recommendation: The Zuni recommend that the National Park Service continue to monitor the water flow from Vasey's Paradise. Additionally, the Zuni are interested in the results of a National Park Service's current research on springs in and around the Grand Canyon National Park.

Redwall Cavern

Site Description: located at river mile 33.1, the Redwall Cavern is a very large alcove in the Redwall sandstone situated at river level. It is an amphitheater created by the Colorado River as it eroded away the limestone cliff walls and a popular spot for river rafters to stop and explore. John Wesley Powell said that he believed it could hold about 50,000 people.

Zuni 2015 River Trip Observations: The Zuni river trip participants stopped here to rest and get out of the sun. The place is interesting to the Zuni, but does not hold any special religious or cultural importance other than it is a persuasive example of the power of water and prompts the remembrance of a Zuni saying, "Nothing is Stronger than Water!"

Nankoweap (greater area, shrine and granaries; AZ:C:9:1)

Site description: AZ:C:9:1 consists of several loci of rock alignments, artifacts, and other features that were originally recorded by R. Euler and re-recorded by Grand Canyon River Corridor crews in the early 1990s. Loci A-C, however, were not re-recorded by the Grand Canyon River Corridor archaeological survey. According to Fairley and others (1994:219) locus G was re-recorded as sites AZ:C:9:51 and :52, locus H was re-recorded as site AZ:C:9:53, and locus D was re-recorded as site AZ:C:9:80. Loci E, F, I, and J were re-recorded using their original designations. Locus E consists of a sparse artifact scatter, primarily lithics with a few Paiute sherds, associated with an ephemeral charcoal-stained lens. Locus F consists of two granaries in a Muav cliff face. Locus I consists of a ridge slope with numerous rock alignments oriented perpendicular to the slope and a few PII Anasazi sherds. Locus J consists of several rock alignments that form terrace-like areas. The site is considered mutli-component because locus E was interpreted and recorded as a Paiute use area, locus F attributed to PI-III Anasazi; and loci I and J are deemed mid-late PII Anasazi occupations (Fairley and others 1994:219).

Zuni 2015 River Trip Observations: The Zuni river trip participants interpret AZ:C:9:52 as a Zuni ancestral site utilized by Zuni ancestors during migrations within the Grand Canyon. The Zuni river trip participants made offerings at a Zuni shrine located here. They noted that no changes have occurred to the shrine and the restriction of non-Zuni tourists from this place has positively resulted in no identified impacts. The Zuni river trip participants identified turquoise had been deposited in one of the granaries and they

want the National Park Service to know that this is not a Zuni offering because Zunis do not leave offerings at habitation sites; Zunis only leave offerings at shrines and springs.

Zuni Recommendations: Zuni recommends that the National Park Service protect the granaries to keep them from being inadvertently damaged by tourism. The Zuni recommend that the National Park Service collect and remove the turquoise that was deposited in the granaries and considering restricting public access to this site if the National Park Service deems it necessary in order to effectively protect this important place.

Kwagunt Site [shrine; AZ:C:9:28 (L-N)]

Site Description: This site is fairly new to the Zuni cultural advisors and the monitoring program. The site was first visited in 2001 when it was pointed out to the Zuni monitoring team by a river boatman. The site consists of over 10 rooms and associated features along with several shrines, terraced gardens, and storage bins. The site is located at the base of the first terrace from the river and may have been previously excavated.

Zuni 2015 River Trip Observations: The Zuni river trip participants noted that this site has been closed to tourists by the National Park Service and that this is considered the reason there are still some large ceramic artifacts still visible on the site's surface. The site was considered to be in good shape by the Zuni river trip participants. There is a Zuni shrine located here and the Zuni cultural advisors made offerings to that shrine.

Zuni Recommendations: Zuni encourages the National Park Service to continue managing this site in the current fashion because it appears to be very effective.

Malgosa Canyon (shrine; AZ:C:13:365)

Site description: This is a small limited activity area of unknown cultural affiliation that consists of a semi-rectangular rock alignment (F1), a sparse artifact scatter, and two FCR concentrations (F2 and F3), which are eroding from a dune bank. According to Fairley and others (1994:235), Feature 1 is at the north end of the site and measures 2.7 x 3 m and is a single course rock alignment with elements of unshaped limestone and sandstone cobble boulders of unknown function. Recorded artifacts at the site include tertiary flakes and a metate and mano fragment. The FCR concentrations each have 10-15 burned stone fragments, but no discernible charcoal staining (Fairley and others 1994:235).

Zuni 2015 River Trip Observations: There is an active Zuni shrine located here, considered the largest Zuni shrine in the Grand Canyon, and it is semi-circular in shape with an opening to the northeast. The Zuni river trip participants stop here to honor the shrine and make offerings. Although the archaeological site is located approximately 200 meters west of the shrine, the shrine is still considered by the Zuni to be associated with this site. This location is also important for the Zuni as a hackberry (*łala:du*) collection area because hackberry is important to Zuni religious societies. Years ago, the Zunis made an offering to a lone hackberry tree located here. Now, there are five hackberry trees growing at this location and the Zuni river trip participants believe that the Zuni prayers have directly helped the lone tree to live and prosper. This particular hackberry tree is specifically mentioned in Zuni prayer. The shrine and site are recommended for monitoring on an annual basis.

Little Colorado River Confluence (61.7 mile)

Site Description: Here, at river mile 61.7, the Little Colorado River confluence with the Colorado River marks the terminus of Marble Canyon and the beginning of the central Grand Canyon. When the Little Colorado River (LCR) is not in flood stage, this milky blue stream contrasts dramatically with the green-brown waters of the larger Colorado River. The confluence is more than just water moving downhill. It represents a crossroads of nature, history, and culture. The confluence of the Little Colorado and the Colorado rivers is also a critical habitat for endangered fish species, primarily the humpback chub.

Zuni 2015 River Trip Observations: The Little Colorado River is the umbilical cord that connects Zuni to their place of origin and emergence within the Grand Canyon. Additionally, the Little Colorado River provides a connection between Zuni and Zuni Heaven. The Zuni river trip participants noted that the Little Colorado River (LCR) was exceptionally clear and blue in color and was flowing at a higher level than last year. This is a good sign. During the visitation to the confluence the Zuni river trip participants deposited an offering. The Zuni river trip participants expressed serious concern over the Navajo Nation's proposed Escalade Project and the construction of a tramway to take people from the rim to the bottom of the Little Colorado River Gorge near the confluence. They believe that the construction of this project will directly threaten the spiritual link between the Pueblo of Zuni and their aboriginal home lands. More specifically, the Zuni river trip participants believe that the increase of tourists and businesses that will result from this project will negatively impact the Zuni's spiritual and physical connection (facilitated by the Zuni River's confluence with the LCR and the LCR's confluence with the Colorado River) to this sacred place because it will create many physical barriers that will ultimately disconnect Zuni from their ancestral lands and their spiritual connection. The Zuni river trip participants do not want to lose their spiritual and physical connection to the place of Emergence which will be a result of the Escalade project. This place is also a collection area for phragmites which was used in the final stages of the Emergence and the proposed development will directly threaten the continued growth of this culturally important plant.

Salt Mine (AZ: C:13:3)

Site Description: The site consists of two main areas (referred to as adits) where abundant salt within shallow alcoves has been mined by the Hopi and perhaps the Havasupai. The largest of these adits is 4 m in depth, 1.5 m in height, and 8 m in length. The second is 7 m in length, 1-2 m in depth and less than a meter in height. Salt is forming in many areas along the Tapeats cliff, but appears to have been actively removed primarily from these two areas. The adit to the north has 25-30 red hematite pictograph elements above it. Below this same source area, towards the river's edge, is a long Tapeats slab with four ground, shallow basins along the top of it (Fairley and others 1994:225).

Zuni 2015 River Trip Observations: The Zuni river trip participants determined that this site and the salt appeared to be in good shape. The Zuni river trip participants collected salt here and deposited offerings. The Zuni river trip participants expressed appreciation for the National Park Service's decision to close this site off from public visitation. This salt mine is considered a very important place to the Zuni people.

Palisades (AZ:C:13:99)

Site Description: The site consists of two loci (A&B) of fire-cracked rock features, buried or collapsed structures, and artifacts extending over an area covering approximately 25 x 40 meters. According to Fairley and others (1994:228), locus A includes several charcoal lens and burned rock features, and an

artifact concentration. Many of these features are eroding out of a sand dune-like area being cut by an arroyo. Several sherds and Redwall chert flakes are present including ceramic artifacts that suggest an early-mid PII Anasazi occupation. Locus B consists of at least one masonry structure constructed of undressed sandstone and limestone river rocks. Another possible structure or roasting feature is being heavily eroded in the southern portion of Locus B (Fairley and others 1994:228).

Zuni 2015 River Trip Observations: The Zuni river trip participants identified that natural erosion was still occurring at this site, but not as extensive as in the past. The check dams placed at the site by the National Park Service appeared to the Zuni river trip participants to still be an effective method of minimizing and controlling gully wash erosion. This site is considered a Zuni traditional cultural property and blue pigment is collected here by the Zuni. In terms of the past archaeological excavation work that has been conducted here, the Zuni river trip participants want the National Park Service to know that the excavated circular room with a bench and wall niches is not a kiva as previously interpreted by the National Park Service but rather a medicine society house and represents the first established medicine houses for the purpose of curing in the Grand Canyon.

Zuni Recommendations: If the archaeological site is further threatened by loss from erosion, then Zuni recommends total archaeological data recovery with direct Zuni involvement.

Comanche Creek (AZ:C:13:339; river mile 67.8)

Site Description: The site consists of several features. There is a burned rock midden with sparse lithics and ceramics on the north side of the site eroding out of a cutbank. Feature 2 is a two-meter diameter rock alignment/structure, possibly storage related, with elements aligned and overlapped in a semi-circle open toward the cliff (upslope) side. Feature 6 is a rock alignment visible in the arroyo wall. There are also at least two or three cists (perhaps as many as five in all). Artifacts indicate that this was a mid-late PII Anasazi occupation (Fairley and others 1994:232).

Zuni 2015 River Trip Observations: This site is called *Heshoda uhta an De'lashinna* ("House by the cliff shrine") in Zuni and this name was given to this place during the 2015 river trip. The Zuni river trip participants believed this site to be in danger of erosion which is causing it to wash away.

Zuni Recommendations: Zuni would like the National Park Service to do erosion control at this site by diverting the water runoff that originates at the rock face immediately above the site. If this is not possible, then Zuni recommends that the National Park Service consider implementing full scale data recovery at this site with direct Zuni involvement to save the Zuni historic information contained at this site.

Tanner (camp area north of Tanner trail) – left shrine and Tanner Right rock art boulders

Zuni 2015 River Trip Observations: At this location the Zuni river trip participants deposited an offering and examined a petroglyph panel (labeled "Newspaper Boulder") that contained a lot of information for the Zuni to interpret. This petroglyph panel exhibited pecked depictions of trails, sun, moon, star, anthropomorphic figures, two anthropomorphic figures tied with tails, and mountains. The two figures tied with tails, according to Mr. Cornell Tsalate and Mr. Titus Ukestine, are referenced in Zuni prayers and represent Zuni ancestors helping each other through strength as one in leaving the womb. The Zuni river trip participants want the Colorado River boatmen who take visitors to this site to tell the visitors

not to touch the rock art symbols located here. According to Mr. Octavius Seowtewa, the petroglyphs, taken in totality, may represent a trail map of the Colorado River.

Zuni Recommendations: Zuni recommends that the National Park Service consider implementing methods to protect the "Newspaper Boulder" because it is directly tied to Zuni prayers. Additionally, Zuni recommends that the National Park Service consider eliminating the obvious trails that lead to this site. Zuni recommends that the National Park Service and/or the Bureau of Reclamation consider funding a joint research project between the Zuni Cultural Resource Enterprise and the Zuni Cultural Resource Advisory Team to research and interpret the trail network throughout the Grand Canyon that is depicted on the Newspaper Boulder.

Basalt Creek (AZ:C:13:92 - shrine)

Site description: This is a multi-component site consisting of a historic habitation camp, and a prehistoric artifact scatter. The main historic feature is the remains of a small, rectangular foundation/tent platform constructed of driftwood and 2-3 inch thick hard-hewn pine planks. About 5 m to the east of this is another possible foundation of beams and driftwood. There is a possible sandstone outhouse foundation about 50 m east. There are few historic artifacts on the site which include the bulk of a small, cast-iron stove, a three-inch-long piece of half-inch rod with a threaded end; numerous wire-cut nails; and a single fragment of an opaque, aqua glass bottle. To the north, on a talus slope, is a small, sparse, prehistoric artifact scatter of sherds and lithics. The historic component is probably late nineteenth to early twentieth century; the prehistoric component appears to be Late PI-early PII Anasazi.

Zuni 2015 River Trip Observations: The Zuni river trip participants named this shrine site **Ah'su'sunan ah'la** (Fire Starter Sits or Stays) because of the presence of fire starter sticks. The Zuni river trip participants consider this site to contain two shrines and an area for collecting. The Zuni river trip participants made offerings at the shrines here. One of the shrines appears to be in danger of being lost from erosion and according to the Zuni river trip participants, intervention is considered not permissible; nature must take its course. Any Zuni shrine impacted by nature must be left alone; cannot intervene like archaeological site excavation as a form of mitigation. Otherwise, the site appears to be in good condition and well maintained.

Zuni Recommendations: The Zuni would like the National Park Service to continue to monitor this site for any adverse effects that may result from tourist visitation and to monitor the condition of the Zuni shrines.

Cardenas: Lookout Site (Hilltop)

Site Description: This site is situated on a hill top overlooking the Colorado River and is across the river from Furnace Flats (AZ:C:13:10). The site consists of a single stone room oriented in a north-south direction that measures 10 x 5 meters. A thermal feature (hearth) is located in the center of the room. There are two Zuni shrines located here; one on the way up to the hilltop structure and another shrine on top of the ridge.



Figure 4. Zuni river trip participants inspecting structure at Cardenas.

Zuni 2015 River Trip Observations: The Zuni river trip participants determined that this site was in fairly good condition; however, they noted that tourists are continuing to pile rocks on top of the walls of the structure which is having a negative impact on the integrity of this structure. The Zuni river trip participants made offerings at both shrines located here.

Zuni Recommendations: Zuni recommends that the National Park Service consider redirecting the trails away from this site to keep tourists from piling rocks on this structure. Additionally, Zuni recommends that the National Park Service consider studying old photographs of the hilltop site's structure and based on those photographic depictions return the structure to its historical appearance. Finally, the Zuni river trip participants believe that the structures, located at both the Lookout and Tanner sites, are associated with winter and summer solstice observations and that the National Park Service and/or the Bureau of Reclamation should consider funding an ethnographic and archaeological research effort by the Zuni Cultural Resource Enterprise in cooperation with the Zuni Cultural Resource Advisory Team to scientifically document the Zuni functional interpretation.

Furnace Flats (AZ:C:13:10)

Site Description: According to Fairley and others (1994:226), this is a large, multi-component habitation site that was divided into three "locales" by A.T. Jones, who supervised testing at this location in 1984. Locale 1 was previously recorded by R. Euler and W. Taylor in 1965; whereas, locales 2 and 3 were added after being discovered on a 1983 monitoring trip. Five structures and 21 features were assigned to locale 1, including a pithouse, several 1-2 room masonry structures, a pueblo, cists/hearths, and rubble/wall alignments. Four structures and 16 features were noted at locale 2, including rooms and rubble piles. Locale 3 contained two structures and five features, including a shelter, cists, wall/room remains. Results from testing suggested that the site may have had from 2-3 occupations, including use

by PI Cohonina and PII Anasazi; ceramics also suggest a late prehistoric-early historic Hopi presence (Fairley and others 1994:226).

Zuni 2015 River Trip Observations: The Zuni cultural advisors consider AZ:C:13:10 to be a Zuni traditional cultural property that is in danger of being lost. The Zuni shrine located at this site is still threatened by falling into the arroyo. The Zunis are concerned that this shrine may be lost due to erosion which would intensify the Zuni loss here because the Zunis have already lost a shrine at this site due to erosion. Additionally, the Zuni cultural advisors believe that this site is a Zuni ancestral site because of the stone carvings discovered here during the archaeological excavations in 1968. The Zuni cultural advisors made an offering to the shrine located here.

Zuni Cultural Advisors Recommendations: The Zuni cultural advisors want the National Park Service to consider collecting and moving the metate that is currently located at the river's edge. The Zuni cultural advisors believe that any loss of artifacts from this site represents a loss of Zuni information and they do not want to see any more Zuni information lost.

Unkar Delta (AZ:C:13:1)

Site Description: This is a large delta complex with numerous habitation, storage, and agricultural features that was partly excavated by Douglas Schwartz and others in 1967 and 1968. During two seasons of field work 52 sites and two distinct occupations were identified. The two occupations consisted of an early Cohonina presence around A.D. 900 followed by a Western Anasazi occupation between A.D. 1050-1150 (Fairley and others 1994:225).

Zuni 2015 River Trip Observations: The Zuni river trip participants believe that the first occupants of this site were Zuni ancestors and after the Zuni ancestors left, the site was subsequently occupied by ancestors of the Hualapai, Havasupai, and Paiutes. Some of the Zuni river trip participants collected wolfberries here which are intended for use in the Shalako ceremonies later this year. The Zuni river trip participants continued to express concern about the wording of the site's tour brochure which is currently being revised by the National Park Service. The Zuni river trip participants expressed their desire to have Zuni involved in reviewing the new wording for that brochure. Zuni river trip participants expressed concern about tourists collecting and/or moving artifacts at this site and the resultant loss of Zuni historical information.

Lower Unkar (AZ: C:13:70; shrine)

Site Description: According to Fairley and others (1994:227) this site consists of four loci (A-D) of artifact concentrations and features situated along the edge of a terrace overlooking the river at the mouth of an unnamed tributary. Locus A consists of three artifact concentrations; the largest overlooks the drainage mouth; two other, smaller concentrations are along the terrace edge to the NE. An expedient grinding slab is located in the northeastern concentration; an expedient one-hand cobble mano was upslope adjacent to an ephemeral drainage with a few charcoal pieces eroding out of it. Locus B is a rubble mound that suggests a small masonry structure, about 1.3 m in diameter and probably circular. Abundant sherds/lithics are located around the structure and upslope. Locus C consists of artifact concentrations, primarily ceramics, scattered over the surface. Locus D includes 3-4 charred logs exposed in an arroyo that may be the remains of a structure. The logs may be part of a roof. The quantity and diversity of artifacts suggests that this is a habitation site; however, few architectural

features were actually identified. Artifacts suggest a temporal assignment of PII to early PIII Anasazi occupation.

Zuni 2015 River Trip Observations: The Zuni river trip participants support the National Park Service's decision to restrict tourist visitation to this important Zuni ancestral site and feel that this policy will promote the continued preservation of this place. The Zuni river trip participants also made offerings to two shrines that are located at this site.

Phantom Ranch (AZ:B:16:1)

Site Description: AZ:B:16:1 is a well known, excavated site dating to the mid-late PII-early PIII Kayenta Anasazi period and consists of a use area/plaza (F1), a roomblock of four contiguous rooms (F3-6) and a single room (F2) on the northeast end of the block abutting and partially sharing a wall with the northeastern most room of the roomblock, and a detached kiva (F8) with an attached room-like feature (F7). According to Fairley and others (1994:206), three of these rooms have firepits; the fourth room is smaller, probably used for storage. The single room on the northeast corner also has a firepit. Southeast of the roomblock is a deep, square kiva with an L-shaped wall attached on the northeast end that forms another room with a firepit. All rooms appear to have been dug into the terrace. The walls are of unshaped local schist, blocky and tabular in form, and wet-laid. A light gray chert projectile point tip that was not very well thinned was recorded adjacent to the roomblock (Fairley and others 1994:206).

Zuni 2015 River Trip Observation: Approximately ten years ago, the Zuni Cultural Resource Advisory Team requested that the National Park Service change the public signage at this site because it didn't well convey or represent the heritage of this site and its association with the Zuni people due to the use of Navajo words in the public interpretation. Recently, the National Park Service changed the public signage at this site and the Zuni river trip participants inspected the new National Park Service signage and approved of it.

Crystal Rapids site (AZ:B:16:3)

Site Description: According to Fairley and others (1994:206) this site consists of five well-defined masonry structures (F1-5) aligned along the base of a schist slope at the intersection of a terrace overlooking the Colorado River. The structures are all constructed from multi-coursed tabular schist. Sherds and lithics are lightly dispersed on the terrace, but are more concentrated in front of Feature 3. A historic side canyon flood has severely eroded the terrace where the site is located creating a steep, vertical slope approximately 10 meters south of the structures. As a result, other prehistoric features or material culture may have been washed away. Ceramic assemblage suggests a PII Anasazi temporal and cultural affiliation (Fairley and others 1994:206).

Zuni 2015 River Trip Observations: The Zuni river trip participants gathered mineral (schist) for use in religious ceremonies at this site. They also observed a redware bowl sherd located within one of the masonry structures located at this site. The sherd appeared to be intrusive because the Zuni participants who were on the Zuni river trip last year stated that the sherd was not there at that time.



Figure 5. Structure at Crystal Rapids site during 2014 Zuni river monitoring trip.



Figure 6. Structure at Crystal Rapids site during 2015 Zuni river trip showing intrusive redware sherd.

Zuni Recommendations: Zuni recommends that the National Park Service remove the sherd because it is intrusive and was probably deposited there by a tourist.

Bass Camp (AZ:B:15:1)

Site Description: According to Fairley and others (1994:202), this site was originally recorded by R. Euler in the summer of 1962 and is comprised of three separate loci: A, B, and C. Locus A is a set of habitation features, two appear to have been excavated, one is naturally deflated, one remains buried, and another (previously labeled Room 5) is a collapsed cist or storage space. Locus B consists of a single curved rock wall under a shallow overhang on a bench 40 m above Room 4 at locus A and appears to have been a storage space that has fallen and eroded since Euler's initial visit. Locus C consists of a structure in a smoke-blackened overhang and a possible wall alignment 10 m east; few artifacts remain. The initial ceramic analysis of the site's material culture revealed a mix of Virgin and Kayenta Anasazi wares, dominated by Moenkopi Corrugated. A schist cobble tool with a used edge and a possible Rose Spring projectile point were also identified. This site has been assigned to a PI-III Anasazi temporal and cultural affiliation (Fairley and others 1994:202).

Zuni 2015 River Trip Observations: The Zuni river trip participants named this site *Tsuhap:iman an Detashinna* (Schist stays or sits). The Zuni river trip participants made offerings at the shrine located at this site and collected schist for use in religious ceremonies. The Zuni river trip participants thought the site look good with no noticeable disturbances.

Elves Chasm (spring)

Site Description: Elves Chasm is located at approximately river mile 117.25 and is less than a quarter mile from the river. Elves Chasm consists of a delicate waterfall that trickles around huge boulders into a pool in a shady canyon of ferns and mosses. The spring located here is considered a traditional cultural property by the Zuni and is employed for water collection.

Zuni 2015 River Trip Observations: The Zuni river trip participants deposited offerings at a shrine located here and collect water for ceremonial use. One of the Zuni cultural advisors, Sybert Nastacio, who visited the site in 2001, thought that there was noticeably less water emanating from the spring than in 2001.

Zuni Salt Deposit below Elves (River Mile 117.6; N4007296, E368978)

Site Description: This area is a newly identified site by the Zuni for acquiring salt from the Grand Canyon that is located north of Elves Chasm. Salt forms and is exposed within the crevices of the western wall of the Canyon.

Zuni 2015 River Trip Observation: The Zuni river trip participants stopped here, made an offering, and collected salt. The Zuni's believe the salt deposits here produce a better salt than that found at the Hopi Salt Mines. The Zuni river trip participants also noted that there was more water at this site than they have witnessed in the past.

Zuni Recommendations: The Zuni recommend that the National Park Service monitor this site as a means of protecting it from future disturbance.

Deer Creek (AZ:B:10:01) and Deer Creek Falls

Site Description: According to Fairley and others (1994:194), AZ:B:10:01 is a PI to early PII Formative storage area consisting of seven granaries, a few sherds, and pieces of twine/cordage (found in Structure 1). The site is in a shallow overhang but visible from the river. The granaries vary in size, construction, and integrity, and are generally built of wet-laid and dry-laid Tapeats sandstone slabs, with walls often 4-5 or 6-7 courses high. In some instances, it appears that recreational river runners and/or visitors have re-laid or newly laid additional stone elements as topmost courses.

Deer Creek Falls is a 100-foot-high waterfall that cascades out of a sinuous Tapeats sandstone tributary, creating an oasis on the lower Colorado River at mile 136.75. Recreational river runners often stop here to hike around the falls to Deer Creek Narrows, along a trail barely wider than a footstep, suspended high above the rushing creek waters. This area is known by the Zuni for the collection of willow, yucca, tobacco, water, datura, phragmites and pigments.

Zuni 2015 River Trip Observations: The Zuni river trip participants hiked from the Colorado River up to Thunder River falls and over to the other side of Deer Creek. At Thunder River falls offerings were made and water collected by the Zuni river trip participants. During their hike they came across an archaeological site (B:11:001), a multi-room pueblo that exhibited ground stone and ceramic artifacts. Located above Deer Creek Falls is Dutton Springs which is considered a traditional cultural property by the Zuni because water is generally collected there and a known shrine to the Zuni is repeatedly visited and offerings presented. During this river monitoring trip, the Zuni river trip participants collected water, phragmites, and willow sprigs. Below Dutton Springs is a boulder with a heart shape inscribed into the stone; an obvious recent act of vandalism. The Zuni river trip participants want the National Park Service to remove or cover up the heart shape.

Havasu Creek (Zuni TCP)

Site Description: Havasu Creek starts out above the Canyon wall as a small trickle of snow run-off and rain water. This water meanders on the plains above the canyon for about 50 miles (80 km) until it enters *Cataract (Havasu) Canyon*. It then reaches *Havasu Springs*, where an underground river feeds the creek. This spring can be accessed by heading upstream when the creek is first encountered. The water stays at about 70° F (21° C) all year around. The creek is well-known for its blue-green color and distinctive travertine formations that result from large amounts of calcium carbonate in the water that formed the limestone that lines the creek and strongly reflects its color. The creek runs through the village of Supai, and ultimately confluences with the Colorado River.

Zuni 2015 River Trip Observations: The Zuni river trip participants visited this site and noted a large number of visitors at this place. The Zuni river trip participants also noted approximately two dozen humpback chub measuring 18-20 inches in length and about 4 trout at the mouth of the Havasu Creek.

Petroglyphs at Lava Rapids

Site Description: This is a petroglyph site identified by Octavius Seowtewa during a 2010 river trip with the *A:Shiwi A:wan* Museum. The petroglyphs apparently depict a migration outline consisting of a circle with a wiggly line descending from the circle, a reptile-appearing anthropomorph, and a modern human form. The three petroglyphs are located side-by-side on a small boulder. According to Mr. Seowtewa, the petroglyphs depict the evolution of Zuni after emergence when the *A:Shiwi* began in a reptile form that ultimately transformed into the modern human shape. Alongside these two anthropomorphic

petroglyphs is a depiction of the migration route from the Grand Canyon to the Middle Place of Zuni (the circle with the wiggly line).

Zuni 2015 River Trip Observations: The Zuni river trip participants noted a rock art depiction of an anthropomorph with an appendage protruding from his forehead and exhibiting webbed hands and feet and containing a tail. Next to this anthropomorph was a trail with a circle on top and the trail descending downward. The Zuni participants affirmed that this rock art panel is a depiction of Zuni prayers that recount the beginning of time and how humans initially looked and how they changed after coming out of the earth from the underworld. The circle with a descending line depicts how the Zuni traveled to find the Middle Place. This origin account is also recounted in Zuni ceremonial songs. This site is very important and essential to the migration heritage of the Zuni people.

Whitmore Wash (AZ:A:16:01)

Site Description: According to Fairley and others (1994:187), the site consists of two extremely shallow rockshelters at the base of a Tapeats sandstone cliff with associated perishable artifacts and nearby pictographs located approximately 30 m from the Colorado River. This is a multi-component site with evidence of late Archaic-Basketmaker II, PI-III Virgin Anasazi, and late prehistoric-protohistoric Paiute occupations, and remnants of a historic visitation in the late 1950s. The pictographs are located southwest of the shelters along the cliff face. There is one main group of hematite pictographs, and several smaller ones that are partially obliterated, but painted in white. The main shelter area consists of a deeply stratified midden exposed by a small gully about 1 m deep. Considerable amounts of charcoal, animal bone, cordage, corn cobs, and matting are visible; some vandalism (i.e., pothunting) has impacted the site. The site was recorded and recommended for excavation by R. Euler in 1960. The midden (locus A) was partially excavated in May and June of 1984, and a rock retaining wall was built as a management action to retard erosion. A prominent historic addition to the site were the words "Wilson Austin – Surveyors, Casa Grande, Ariz.," which were painted in white on the cliff face on the downstream side of the site (Fairley and others 1994:187).

Zuni 2015 River Trip Observations: This site is important to the Zuni because it depicts the Zuni history of emergence, evolution of the Zuni form through previous worlds, and the final emergence into this world from the Fourth Underworld at Ribbon Falls. The petroglyphs also show how the emerging Zuni were greeted by Father Sun and Mother Moon to the world of light. It also depicts Father Sun's two Warrior sons who led the *A:Shiwi* out of the Canyon toward the Middle Place. The Zuni river trip participants believe it is very important to protect this site and keep wind/water erosion to a minimum and they recommend restricting public access to this area. The Zuni river trip participants also watered the cacti that are in the garden they created in collaboration with the National Park Service to keep tourists away from the rock art panels.

Hematite Mine (AZ:A:15:25)

Site Description: This is a well known hematite mine with artifacts that are currently associated with Hualapai use but may also be affiliated with late PI-early PII Virgin Anasazi and late prehistoric-early historic Pai/Paiute cultures. The hematite is occurring in stratified sediments as well as in large, amorphous concentrations in solutional cavities above a bench. Several hand tools are present, which have been used as percussion/grinding devices; no metates were visible. There is a lot of charcoal present on the surface, but no apparent formal fire rings. Ceramics were also observed. The hematite itself is the result of infusion from the mafic rocks that flowed over the sediment (Fairley and others

1994:183). This mine is where tribal river trips stop to collect hematite. The National Park Service strongly encourages the recreational river running public not to stop here.

Zuni 2015 River Trip Observation: The Zuni consider this site to be sacred and the Zuni use and association to this place was historically documented by Frank Hamilton Cushing in the nineteenth century. The Zuni river trip participants are concerned about a Hopi request to the National Park Service to stop the collection of hematite from this mine. The Zuni river trip participants believe that the request was made because other Hopis have collected large quantities of hematite from this site for the purpose of commercial sales. The Zuni river trip participants want the National Park Service to know that the Zuni will defend their right to collect hematite from this location because it is used in ceremonies and is never for sale. Zuni river trip participants recommend annual visitation to this mine and consider it to be in good condition.

Zuni River Trip Participants Summary Comments

Each of the river trip participants were asked to summarize their experience and perspectives from their participation in the 2015 river monitoring trips. These reflections, presented below, were expressed by each Zuni river trip participant at the post river trip meeting on 27 May 2015 held in the conference room of ZCRE.

Presley Haskie, Wide Wall Kiva Leader (Shalako): This is my second trip down the river. It has always been very interesting and an experience at every site that we visited. It was always stimulating to get up in the morning to see what new things this day would be brought to us.

At the Whitmore panel area, monitored the transplanted cactus plants. Water was taken up by the group and watered all the cactus plants along the panel area. Most of the cactus are starting to root. Along the river I noticed that there were not too many trout, usually they would come to the beach area when we did our spirit offerings of small pieces of food into the river. Last year the trout would be swimming around the beach area, but not much or sometimes none this year.

On our way down during the last day, sometime in the morning portion, we noticed a Desert Sheep Ewe with a lamb. We noticed that the lamb had some kind of growth or a wound on the right side of the stomach area. We hope that the National Park Service staff would check this lamb of what the wound or growth could be.

Looking back at some of the things that occurred that are not part of ancestral relations is sad, because people that make the alterations of our ancestors do not understand the purpose of why these sites were left as they were. I understand that the National Park Service people cannot be at every site to police and monitor after visitors leave. The ZCRAT works closely with the National Park Service at least annually on these monitoring trips to assist in policing and monitoring these sites.

Those visitors that go into the Grand Canyon area they need to be orientated in length of all these sites. Companies that provide tours need to orientated and inform their passengers to have the respect of not to fix or remove any objects or stones from any and all sites. If damage was made, report it to proper National Park Service personnel. Pamphlets or leaflets should be provided to all that participate in the boat rides and hiker where restrictions are. In this literature should state the dos and don'ts while in the jurisdiction of the Grand Canyon Park Services and respect of others during visitation.

I am very thankful to the National Park Service staff that provided us the tours and sharing their knowledge of these sites. Therefore, we as the ZCRAT are not afraid to share our knowledge of our cultural and religious entities of how they relate to ancestral times. We shall continue to work closely with the National Park Service and their staff in the preservation of our ancestral origination point. Elah-Quah! (Thank You!)

Octavius Seowtewa, Galaxy Society Leader/ZCRAT member: Long association with the Grand Canyon and the Colorado River. I have learned a lot about the river and the canyon; especially, shrines in which we reconnect to the place of Zuni origins. Zunis have identified shrines at every stop. River is changing. We identified 3 different rock falls which suggests that the Canyon is constantly changing. Cannot change or impact Nature's changes. Zuni wants a voice in visitor impacts. Zuni should write history of Unkar Delta by working with the National Park Service. Perhaps one day convince the National Park Service to close off Ribbon Falls from the public visitation. It is important for Zunis to maintain involvement. High flow impacts at places like Basalt Creek where sand dune is getting higher and having a positive effect on archaeological sites there. Waste of money to measure windblown sand. After 17 trips down the Colorado River through Grand Canyon, the Canyon still looks the same. Zuni is the original caretaker of the Grand Canyon because we originated there not the National Park Service. The National Park Service should help Zuni be the caretaker of the Canyon. Zuni Cultural Resource Enterprise should be part of any data recovery work in the Grand Canyon.

Eldred Quam, Small Kiva and Head Kiva Spokeperson: High flows are doing a good job on preserving archaeological sites. Visitors leave trash behind, bad thing, do not leave trash behind. I have done 5 river trips. Canyon very little change, some rockslides affect the river. Regarding fish, there are more humpback chub down there than trout. Let nature take its course.

Darryl Niiha, Small Group Kiva, Galaxy Fraternity, and Shalako Group: Supai man slowly eroding. Zuni wants to preserve it. High flows appear to be successfully helping preserve archaeological sites. Rockslides appear to be occurring more often. So my last word would be that we the religious people don't want anything happening to our shrines and also don't want the Navajos doing anything at Grand Canyon because it tells us about our history and for a person like me having a Granddad talking about it at dinner time and growing up listening to the old timers talking about it in the Kiva; it's there.

Gerald Hooee, Brain Kiva and Shalako Group: This was my third trip. Being a part of the TWG and AMWG still didn't fully understand the reason for the HFEs. Main thing appears to be creating visitor beaches and camping areas. No control over visitors, people are impacting this place of importance to Zuni. Drinking and partying by visitors has an impact on the Zuni experience. Tourists are a problem – artifacts disappearing or piling of artifacts at archaeological sites. These artifacts need to be scattered about the archaeological sites again and this changes the historic information of artifact placement. Artifacts are how Zuni interprets these sites when we visit them. At Deer Creek tourists are pecking a big heart into a boulder. Some tourist put it there and it wasn't originally there – this act of vandalism takes away from the importance of the site. There is a lack of control over hikers and river running tourists. A lot more the National Park Service can do to control these tourists; need greater education of tourists. Vegetation control and creating of camping beaches in areas where there are no trails or access to archaeological sites. Recommendation to the National Park Service to utilize Zuni and other tribal personnel that have experience in fire-fighting and vegetation control to assist in planting native vegetation. Don't understand why these federal agencies want to duplicate what Mother Nature does. High flows in the spring encourage trout reproduction and then strand redds and young fish by low flows to kill them. A lot of projects are counter-productive to other projects. High flow beach sands have

an impact on some sites but not all archaeological sites. Other archaeological sites need data recovery because they are eroding. Good opportunity for ZCRAT to observe data recovery at sites in Grand Canyon. Vegetation control, non-natives taking over; Indian Creek area overgrown with vegetation. When John Wesley Powell visited Indian Creek there were gardens there, planted and used by Native Americans. Powell took vegetables from this place; may have been Zuni there then. Projects need to be re-evaluated and the money used more productively. Example is trout control which doesn't seem to be working. Change fishing regulations. Multiple agencies have conflicting goals, impossible to work with Fish and Wildlife Service and Arizona Game and Fish Department. Invasive weeds, camel thorn, taking over sites. Manual work to eradicate the camel thorn. Humpback chub stay in areas where they know they can survive. Otolith studies are not useful need to spend money in a more productive manner.

Cornell Tsalate, Eagle Down: Ever since I was growing up both my grandparents from my Mother's and my Father's side always told the oral history about where the Zuni came from and how the evolution of the world started when the great star fell on earth. It all starts when the Sun sent his two warrior sons down to the fourth underworld to lead the Zuni people out at Ribbon Falls. The Grand Canyon it was said when the Zuni people came into the world of light. The world was raw meaning the world was still forming itself, such as landscapes, mountains, and rivers. They also talked about volcanoes that shot out magma, what they called rain of fire. Here they saw supernatural beings and giant animals. They would say the people stayed for four years or four hundred years or even more. Most impact from visitors. Need brochure for visitors to sign off on. Trails cause impacts; well used trails down to rocks. National Park Service will be fixing trails or restricting use of some trails. Cardenas and Lookout sites visitor access is changing the sites because people are piling stones. I have done 13 river trips. River itself is alive and takes its course. Lava – spring has shifted location. Big boulders have moved; erosion is very strong. Ecosystem is really changing, more insects and snakes. Saw insects that we have not observed before. Water (river level) levels rose on Wednesday and Sunday. Tourists just having a good time, Zuni try to understand our ancestors and what they were doing there. Identify shrines not known about before; reconnecting is very heart warming. Visitors' trash is a big problem.

Titus Ukestine, Koyemshi Group: This is our land! Sacred place where our ancestors come from. Mostly visitors that impact the Canyon. My first trip a lot of artifacts on surface, this trip not so many. I am very concerned about the proposed Escalade project. Vote to have it stopped. Need to treat Grand Canyon like a museum; look but don't touch.

Sybert Nastacio, Rain Priest: Emphasizing human impacts; tourists impacting these sites and impacting their integrity and interpretation. Affect negatively how these sites are represented by future Zuni generations. Need some public information education videos. National Park Service needs to increase the public restrictions to these sites. If beaches created for public camping efforts need to be put into place to restrict the public from encroaching on these [archaeological] sites. Private river rafters are a problem, not necessarily the river rafting tours. High water flows have encouraged native species growth and abundance. First river trip in 2001. Place very different, the LCR was turquoise color and clear in 2001, now very reddish brown with sediment. Preserve endangered archaeological sites, lessen public impact. Negative sanctions against public who wander off the trails. Collecting of artifacts by tourists, a lot of information in Grand Canyon that I can connect to my prayers. Validate the evolution of the Zuni people. We see a lot of things in the Grand Canyon that are not visible to the naked eye. Need Public education.

Roger Yamutewa, Jr., Clown Fraternity/Galaxy Fraternity: First river trip. Heard our history. First thing I noticed was the piling of rocks. Trip validates Zuni history of how our people got out of the fourth underworld. Wonderful trip.

Summary of 2015 Zuni River Trip Monitoring

As stated above the purpose of these river trips are to monitor Zuni ancestral sites (i.e., archaeological sites) and other traditional cultural properties within the Grand Canyon that may be affected by erosion (both natural and human induced), and to identify, if possible, direct impacts related to the operations of Glen Canyon Dam. During the 2015 Colorado River monitoring trip, Zuni river trip participants monitored 28 places of traditional cultural importance. Of these 28 places, 19 are considered to be Zuni ancestral archaeological sites that are labeled as traditional cultural properties for their association with the Zuni emergence and the subsequent migrations that are part of Zuni traditional history, 10 represent Zuni collection areas, 3 contain Zuni sacred springs, 13 contain Zuni shrines that require protection and spiritual attendance by Zuni religious leaders, 4 are places that contain petroglyphs that are considered the writings of ancestral *A:Shiwi* during their historic migrations, 7 are plant and mineral collection areas, 3 places contain resources of Zuni traditional importance, and one is considered a uniquely sacred place (Little Colorado River confluence).

During the monitoring trip the Zuni river trip participants also assessed the condition of these 28 places and concluded that 5 sites were experiencing impacts from erosion and other natural forces, 5 sites were receiving impacts from natural and humans forces, 6 sites were experiencing negative impacts directly related to human visitation, and that 8 sites were stable and Zuni had no concerns. Thirty-nine percent (39%) of the places monitored by the Zuni cultural advisors were determined to be experiencing adverse (negative) impacts as a result of human visitation that manifest in artifact piling, loss of surface artifacts, threats to Zuni petroglyphs, or defacing of Zuni shrines. The Zuni river trip participants recommend that the National Park Service more effectively monitor and control recreational visitation to these sacred places by non-Indians.

Presence in the Canyon

For the Zuni, their connection to this cultural landscape is what differentiates them from other tribal peoples, and what differentiates them from the dominant colonialist society. The Grand Canyon is a significant place that contributes to the Zuni collective and individual identities. Experiencing the Grand Canyon through these monitoring trips allows Zuni individuals to transcend time, provides them an immediate connection to Zuni ancestors, and reinforces and reaffirms their connection to the emergence event, the migrations of the *A:shiwi* ancestors, and the creation of sacred bundles.

Experiencing the Grand Canyon links the present with the past and the Zuni cultural advisors' individual identities with their respective medicine societies, kiva groups, and kin groups. What the Zunis know about the Grand Canyon flows through them from the 'echo of generations,' and their knowledge cannot be universalized, that is, placed in quantitative terms that can be understood through a scientific paradigm, because they arise from the Zuni epistemological experience of this sacred place (see Kovach 2009:61). For the Zuni, experiencing the Grand Canyon and the validation of their associated historical traditions provides comfort and grounding and offers the warmth of reinforcing the strong spiritual umbilical connection between the Grand Canyon and the Pueblo of Zuni (*Id'iwanana*).

Being in the Grand Canyon reaffirms the Zuni interconnection with their cultural landscape and how that forms Zuni epistemology. That is, the Zuni epistemological interrelationship between the Grand Canyon and Colorado River, the Zuni language, the rocks, plants, and animals, and the Zuni knowledge of the ecosystem. The key to Zuni knowledge of maintaining harmony with the universe is, in part, based on insuring this relational balance with the ecosystem. The Zuni cultural advisors also felt that it is important to have all Zuni religious leaders experience a river trip through Grand Canyon because this location is where it all started and it needs to be seen and experienced by the Zuni religious hierarchy. Back in 2011, George Yawakie stated “we have songs we sing that speak of the Grand Canyon and our ancestors. If all our religious leaders see this place our people and our religion will be stronger.”

Springs and Animals

During the river trip, the Zuni river trip participants encountered 5 Desert Bighorn Sheep (*Ovis Canadensis nelsoni*), 4 geese (*Branta canadensis*), 21 Mallard Ducks (*Anas platyrhynchos*), 2 Cranes (*Gruidae* sp.), 27 Ravens (*Corvus corax*), 4 Red-tailed Hawk (*Buteo jamaicensis*), a Black Hawk (*Buteogallus anthracinus*), 9 Turkey Vultures (*Cathartes aura*), 5 Cormorants (*Phalacrocoracidae* sp.), 3 Golden Eagles (*Aquila chrysaetos*), 1 Night Heron (*Ardeidae* sp.), 2 Magansers (*Mergus merganser*) and 3 Grand Canyon pink rattlesnakes (*Crotalus oregonus abyssus*) in the Grand Canyon. The Zuni river trip participants when they see these animals believe that they are a blessing for them, because they were in the Zuni ancestors’ homeland and that they must acknowledge these animals so they can spiritually keep with them even when they return back to the Pueblo of Zuni. In addition, seeing many forms of wildlife during the river trip was a good sign, it meant that they were being watched by Zuni ancestors and that the Zuni ancestors were glad they were here, in Grand Canyon.



Figure 7. Bighorn sheep (*Ovis Canadensis*; *Haliku*) observed during previous river trip (photograph by K. Bowekaty).

Moreover, the Zuni ancestors understood that the Zuni river trip participants were here on a pilgrimage to collect and this is why they were blessed with the plants that they collected and how easy it was to find all those things. The animals the Zuni river trip participants observed will also bless their use of the materials collected.

For example, water collected from the spring at Vasey's Paradise will be used for the cleansing ceremony, but not all of it because some would be saved for the medicine bowl. Seeing the white Bighorn sheep ram was considered very auspicious by the Zuni river trip participants because it validates the Zuni presence in the Canyon through the ram's decision to reveal itself to the Zunis demonstrating its understanding and approval of the Zuni's purpose for being here.

Conclusion and Management Recommendations

Between 08 and 22 May 2015, the Zuni Heritage and Historic Preservation Office, on behalf of the Pueblo of Zuni, conducted a monitoring river trip on the Colorado River through Grand Canyon from Lees Ferry to Diamond Creek. The purpose of this river trip was to provide the Zuni religious leaders and cultural advisors an opportunity to inspect the health of the Colorado River ecosystem through Grand Canyon as part of the long-term monitoring program that is associated with the Glen Canyon Dam Adaptive Management Program (GCDAMP). Ten (10) Zuni representatives participated in the 2015 Zuni monitoring river trip representing 2 medicine societies, 4 kiva groups, and the Rain priesthood. During the 2015 Colorado River monitoring trip, Zuni river trip participants monitored 28 places of traditional cultural importance. Of these 28 places, 20 are considered to be Zuni ancestral archaeological sites that are labeled as traditional cultural properties for their association with the Zuni emergence and the subsequent migrations that are part of Zuni traditional history, 10 represent Zuni collection areas, 3 contain Zuni sacred springs, 13 contain Zuni shrines that require protection and spiritual attendance by Zuni religious leaders, 5 places contain resources of Zuni traditional importance, and one is considered a uniquely sacred place (Little Colorado River confluence). Overall, the Zuni river trip participants feel that the Colorado River ecosystem through Grand Canyon is in stable condition. The Zuni river trip participants feel that the presence of Glen Canyon Dam has negatively impacted the entire Colorado River and its ecosystem. The majority of impacts detected by the Zuni river trip participants are related to visitor impacts at important Zuni cultural sites.

As a result of the Zuni monitoring trip the following fifteen management recommendations are provided to the Bureau of Reclamation and Grand Canyon National Park. The first recommendation is directed toward the Bureau of Reclamation and the broader Glen Canyon Dam Adaptive Management Program. This recommendation is then followed by fourteen management recommendations that are primarily directed to the Grand Canyon National Park Service regarding the management of natural and cultural resources located within the Grand Canyon. Management recommendation number 15 is directed to both the Bureau of Reclamation and the Grand Canyon National Park Service for consideration.

Recommendations to the Bureau of Reclamation

Zuni recommends that the Bureau of Reclamation consider funding a joint ethnographic and archaeological research effort between Zuni Cultural Resource Enterprise and the Zuni Cultural Resource Advisory Team to document and interpret the architecture at the Lookout and Tanner sites as winter and summer solstice observatories.

Recommendations to the Grand Canyon National Park Service

The Zuni recommend that the Grand Canyon National Park Service develop the most appropriate method, in consultation with Zuni, to divert the side canyon runoff to alleviate or stop the erosion that is occurring at the Supai Man petroglyph. Additionally, Zuni recommends that the Grand Canyon National Park Service initiate more formal documentation of the petroglyph panel before they disappear or are irreparably damaged.

Zuni recommends that the Grand Canyon National Park Service stress visitor education regarding the appropriate behavior when visiting archaeological sites, including discouraging artifact collecting and piling and the creation of new trails.

Zuni recommends Grand Canyon National Park Service monitor the water flow emanating from Vasey's Paradise. Zuni is concerned about the health of the springs in and around Grand Canyon.

Zuni recommends that the Grand Canyon National Park Service protect the granaries at Nankoweap to keep them from being inadvertently damaged by tourism. Also, Zuni recommends that the Grand Canyon National Park Service remove the turquoise that was deposited in a granary and consider restricting public access to this site.

Zuni recommends that the Grand Canyon National Park Service continue to manage the Kwagunt site (AZ:C:9:28 [L-N]) in the current fashion because it appears to be very effective.

Zuni recommends that the Grand Canyon National Park Service consider initiating data recovery at AZ:C:13:99 if erosion control is not successful. Zuni wants to be involved in the design and implementation of any archaeological data recovery at this site.

Zuni recommends that the Grand Canyon National Park Service initiate a program of erosion control at AZ:C:13:339; if erosion control is not possible, then Zuni recommends implementation of archaeological data recovery with direct Zuni involvement.

Zuni recommends that the Grand Canyon National Park Service continue to monitor AZ:C:13:92 and the Zuni shrine located there for adverse effects that result from tourism.

Zuni recommends that the Grand Canyon National Park Service redirect visitor trails away from the masonry structure at the Lookout site and implement activities to restore the structure to its natural appearance (e.g., prior to visitors piling rocks on top of the standing walls).

Zuni recommends that the Grand Canyon National Park Service remove the metate from along the river's edge to a safer place to preserve this artifact and its historic information at AZ:C:13:10.

Zuni recommends that the Grand Canyon National Park Service remove the redware sherd located within one of the masonry structures at AZ:B:16:3, because it is considered intrusive as a result of visitor behavior.

Zuni recommends that the Grand Canyon National Park Service monitor the Zuni Salt Deposit below Elves Chasm for any type of disturbance.

Zuni recommends that the Grand Canyon National Park Service consider closing Ribbon Falls to visitation because of its highly cultural and religious sensitivity to the Zuni people.

Zuni recommends that the Grand Canyon National Park Service and the Bureau of Reclamation consider utilizing Zuni and other tribal personnel that have experience in fire-fighting and vegetation control to assist in planting native vegetation and eradicating non-native, invasive vegetation.

References

Anyon, Roger

1995 Letter to Editor. *Society for American Archaeology Bulletin* 13(5).

Belknap, Buzz and Loie Belknap Evans

2011 *Belknap's Waterproof Grand Canyon River Guide*. Westwater Books, Evergreen, Colorado.

Bunzel, Ruth

1932 Zuni Katcinas. In *Forty-seventh Annual Report of the Bureau of American Ethnology*, pp. 837-1086, Smithsonian Institution, Washington, D.C.

1932 Zuni Ritual Poetry. In *Forty-seventh Annual Report of the Bureau of American Ethnology*. pp 615-835. Smithsonian Institution, Washington, D.C.

1932 Introduction to Zuni Ceremonialism. In *Forty-seventh Annual Report of the Bureau of American Ethnology*, pp. 467-544. Smithsonian Institution, Washington, D.C.

Camazine, Scott

1978 Native Zuni Indian Medical Practices with Special Reference to the Pharmacological and Physiological Bases of Plant Remedies. Thesis submitted in partial fulfillment of a M.D. Degree, Harvard – M.I.T Division of Health Sciences and Technology, Cambridge, Mass.

Chimoni, Harry, and E. Richard Hart

1994 Zuni and the Grand Canyon. Annual Meeting of the Western History Association, Albuquerque, NM.

Colwell-Chanthaphonh, Chip, Steve Albert, William Widener, and Shawn Kelley

2011 *Kwa Kyaw An Kwaaf Loh Umma* (Nothing is Stronger than Water): Zuni Ethnographic Assessment of the Lake Powell Pipeline Project Area. Report on file at the Zuni Heritage and Historic Preservation Office, Zuni, New Mexico.

Curtis, Edward S.

1922 *The North American Indian*. Vol. XVII. The Paton press, Norwood, Mass.

Cushing, Frank H.

1883 Zuni Fetishes. In *Second Annual Report of the Bureau of Ethnology*, Government Printing Office, Washington D.C.

1884 Outlines of Zuni Creation Myths. *The Milestone* IX, no. 1:1-3.

1896 *Outlines of Zuni Creation Myths*. Thirteenth Annual Report of the Bureau of American Ethnology 1891-92, pp. 321-447. Washington DC

1965 *The Nation of Willows*. Northland Press, Flagstaff, AZ.

1979 Creation and the Origin of Corn. In *Zuñi: Selected Writings of Frank Hamilton Cushing* edited by Jesse Green, pp. 346-363. University of Nebraska Press, Lincoln.

1988 *The Mythic World of the Zuni* (edited and illustrated by Barton Wright). University

of New Mexico Press, Albuquerque.

Dongoske, Kurt E. Michael Yeatts, Roger Anyon, and T.J. Ferguson

1997 Archaeological Cultures and Cultural Affiliation: Hopi and Zuni Perspectives in the American Southwest. *American Antiquity* 62(4):600-608.

Dongoske, Kurt E., Loretta Jackson-Kelley, and Charley Bullets

2010 Confluence of Values: The Role of Science and Native Americans in the Glen Canyon Dam Adaptive Management Program. In Proceedings of the Colorado River Basin Science and Resource Management Symposium. Theodore S. Melis, John F. Hamill, Lewis G. Coggins, Jr., Paul E. Grams, Theodore A. Kennedy, Dennis M. Kubly, and Barbara E. Ralston, eds. Pp. 133-140. Scientific Investigations Report 2010-5135, Reston, VA: US Geological Survey.

Dongoske, Kurt E. and Kelley Hays-Gilpin

In press Parks, Petroglyphs, Fish, and Zuni: an emotional geography of contemporary human-animal - water relationships. In *Relating to Rock Art in the Contemporary World: navigating symbolism, meaning and significance* edited by Liam M. Brady and Paul S.C. Taçon, University of Colorado Press, Boulder.

Fairley, Helen C., Peter W. Bungart, Christopher M. Coder, Jim Huffman, Terry L. Samples, and Janet R. Balsom

1994 The Grand Canyon River Corridor Survey Project: Archaeological Survey along the Colorado River between Glen Canyon Dam and Separation Canyon. Prepared in cooperation with the Glen Canyon Environmental Studies Program, Grand Canyon National Park. Submitted to the USDI National Park Service, Agreement No. 9AA-40—7920. Copies available from the USDI National Park Service, Grand Canyon, Arizona.

Ferguson, T.J.

2007 Zuni Traditional History and Cultural Geography. In *Zuni Origins: Toward a New Synthesis of Southwestern Archaeology* edited by David A. Gregory and David R. Wilcox. Pp. 377-403. University of Arizona Press, Tucson.

Ferguson, T.J., G. Lennis Berlin, and E. Richard Hart

1995 Hopi and Zuni Trails and Traditional Cultural Properties in and near the Interstate, Dead Wash, and Kelsey Housing Clusters on Chambers-Sanders Trust Lands, Apache County, Arizona. Pueblo of Zuni, NM: Zuni Heritage and Historic Preservation Office.

Ferst, S.

1976 *Life in a Narrow Place*. David McKay, Co., New York.

Green, Jesse, ed.

1979 Zuni: Selected Writings of Frank Hamilton Cushing. Lincoln: University of Nebraska Press.

Hart, E. Richard

1995 Zuni and the Grand Canyon: A Glen Canyon Environmental Studies Report. Zuni GCES Ethnohistorical Report: Summary of Zuni Fieldwork and Interviews. Confidential report on file at the Zuni Heritage and Historic Preservation Office, Zuni, New Mexico.

1980 Boundaries of Zuni Land, 1846-1946. Expert testimony submitted to the United States Claims

Court as evidence in the case Zuni Indian Tribe v. United States, Docket 327-81L.

Kovach, Margaret

2009 *Indigenous Methodologies: Characteristics, Conversations, and Contexts*. University of Toronto Press, Canada.

Ladd, Edward J.

1963 *Zuni Ethno-Ornithology*, "Master's Thesis in Anthropology, Department of Anthropology, University of New Mexico, Albuquerque.

Parker, Patricia L., and Thomas F. King

1989 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. National Park Service *National Register Bulletin* 38 Washington, D.C.: U.S. Government Printing Office.

Parsons, Elsie Clews

1939 *Pueblo Indian Religion*, Vol. I. University of Illinois Press, Chicago.

Simplicio, Chauncey

1985 Letter to Martin M. Karpiscak, Office of Arid Lands Studies, University of Arizona, November 12.

Stevens, Larry

2013 *The Colorado River in Grand Canyon: A River Runner's Map and Guide to its Natural and Human History*. Red Lake Books, Flagstaff, Az.

Stevenson, Matilda Coxe

1887 *The Religious Life of the Zuni Child*. In *Fifth Annual Report of the Bureau of American Ethnology*. Smithsonian Institution: Washington DC.

1904 *The Zuni Indians: Their Mythology, Esoteric Fratemies, and Ceremonies*, Reprint. The Rio Grande Press, Glorieta, New Mexico.

1914 *Ethnobotany of the Zuni Indians*. In *Thirtieth Annual Report of the Bureau of American Ethnology*,

1908-1909. Smithsonian Institution: Washington, D.C.

Tyler, H.

1979 *Pueblo Birds and Myths*. University of Oklahoma Press, Norman.

Tyler, R

1964 *Pueblo Animals and Myths*. University of Oklahoma Press, Norman.

Weber, Steven A. and Seaman, David P.

1985 *Havasupai Habitat: A.F. Whiting's Ethnography of a Traditional Indian Culture*. The University of Arizona Press, Tucson.

Young, J.M.

1988 *Signs from the Ancestors: Zuni Cultural Symbolism and Perceptions of Rock Art*. University of New Mexico Press, Albuquerque.

APPENDIX A

ZUNI GLOSSARY
FOR THE
GLEN CANYON DAM
ADAPTIVE MANAGEMENT PROGRAM

ZUNI GLOSSARY

(Adopted from the work of E. Richard Hart)

Apithla:shiwanni. Bow Priests.

A:shiwanni. Rain Priests.

A:Shiwi. The Zunis name for themselves in the Zuni language.

A'witentehula. The Fourth Womb or level of the Zuni underworld.

Akwathle. Azurite.

Chimik'yanakya day'a. Located on the Colorado River, in the Grand Canyon, willows, herbs, sands, clay and water are collected here. This is the original point of origin in the Zuni origin and migration narrations. It is visited by the Galaxy Fraternity.

Da:biliyanku. Located east of Denatsali Im'a, this is a site near the Little Colorado River mentioned in the migration narratives.

Da:kwe. Mountain Mahogany.

Denatsali Im'a. Woodruff Butte, located near the Little Colorado River; this is a very sacred place mentioned in migration narration. It is also a place in the Kyaklo prayer.

Hanathlipinkya. Place on the migration route, southwest of Witch Wells.

Hatin K/ya:kwe. "Listening Spring" or "Whispering Spring" is found near the base of Korkokhi Mountain, near the confluence of the Little Colorado and Zuni Rivers.

Hetsupapa. Iron pyrite.

Ibina. Salt bush.

Itiwa Kyana. A sacred spring along the Zuni River on the trail to Kolhu/wala:wa.

K/ya:kwe. "Water Place" in the Zuni language.

Kiatuthlanna. North of St. Johns, stopping place on migration route.

Kokko. The supernatural beings who inhabit Kolhu/wala:wa and are responsible for the well being of those living in this world.

Kolhu/wala:wa. A location near the confluence of the Zuni and Little Colorado Rivers. The home of the supernatural Kokko, and the place where all Zunis go after death.

Kolowisi Kyakwe. Sacred spring and shrine mentioned in migration narratives, on Zuni River.

<i>Kuhnis.</i>	Havasupais.
<i>Kumanche an A'lakwin.</i>	Canyon Diablo ("Commanche Rock Drawer"), near Two Guns, Arizona.
<i>Kyana Bathlta.</i>	A sacred spring along the trail to Kolhu/wala:wa and near the Zuni River.
<i>Kyana Itiwana.</i>	A sacred spring near the Zuni River along the trail to Kolhu/wala:wa.
<i>Ma/ettude.</i> Canyon.	A place along the trail to Hopi, located on the Puerco River at Manuelito Canyon.
<i>Mahko Se'naye.</i> Canyon.	Salt Seeps at Navajo Springs, on the trail from Zuni to Hopi and the Grand Canyon.
<i>Mathlaluco.</i>	Malachite.
<i>Nawisho An Kyana.</i>	A spring of the Kokko called Nawisho is found near Kolhu/wala:wa.
<i>/Oh/emm/a.</i>	A location north of the Puerco River along the trail to Hopi that was a campsite.
<i>Onnane.</i>	"Road" or "Trail" in the Zuni language.
<i>Prayermeal.</i>	Offerings made for the Kokko and Zuni ancestors, consisting of cornmeal, ground shell and turquoise.
<i>Prayerstick.</i>	Prayersticks are constructed as offerings. Their length is usually the distance from the tip of the middle finger to a spot on the wrist of the person making the prayer and prayerstick. Feathers and sometimes corral or turquoise beads are tied to the stick, which is offered in prayer to the sun, moon, ancestors, and Koko, depending on how it is constructed.
<i>Sipocho.</i>	Mormon Tea.
<i>Sunha: Ky'yaba:chu Yalanne.</i>	San Francisco Peaks.
<i>Tsitowe.</i>	Generic term for evergreens.
<i>Tsuhapa.</i>	Specular hematite used as a pigment.
<i>Uwannami.</i>	The Zunis' ancestors when they are above the clouds acting as beings to bring rain to Zuni and the earth, in response to prayers that are made by Zunis to the Kokko and the ancestors.
<i>Wanuadina.</i>	Jacob's Well

Note on Orthograph: :=elongated vowel

' or// = glottal stop
t or hl=thl