

HEART OF THE MOUNTAIN

National Park Service, 2009
Timpanogos Cave National Monument

ISBN-13: 978-0-615-66896-3

Printed in the United States of America

HEART OF THE MOUNTAIN

THE HISTORY OF TIMPANOGOS CAVE NATIONAL MONUMENT

*By Cami Pulham
Timpanogos Cave National Monument*

Special Thanks

*Jason Mateljak
Andrew McKinney
Jon Jasper
Michael Gosse
Alan Walker
Francis Foster
Zella Nesbitt
Rex Walker
Eldon Schoonover
Denny May
Sue McGill
Scott Isaacson
Bill Wellman
Mike Tranel
Kathy Brown
Liz Roberts
Cordell Roy
Mike Hill
Arlo Shelley
Jay Allen
Royce Shelley
Don "Dino" Robinson
Charmaine Thompson
Rod Horrocks
Bj Cluff
Rachael Keske
Natalie Johnson
Valerie Reeves
Camille Jensen
Anita Pulham
Denis Davis
Kit Mullen
Janet McDonnell
Bob Spude
Katy Worlton-Pulham*

*Thanks to Brandon
Kowallis for assistance with
the cover and layout design*

CONTENTS

INTRODUCTION	1
CHAPTER 1	
<i>Early Visitors of the Monument</i>	7
CHAPTER 2	
<i>Discoveries</i>	14
CHAPTER 3	
<i>Middle Cave and the Monument</i>	20
CHAPTER 4	
<i>Forest Service and the Timpanogos Outdoor Committee</i>	31
CHAPTER 5	
<i>National Park Service and the Timpanogos Cave Committee</i>	40
CHAPTER 6	
<i>Walker Years</i>	52
CHAPTER 7	
<i>Modernizing the Monument</i>	65
CHAPTER 8	
<i>Planning for the Future</i>	75
CHAPTER 9	
<i>Program Progress</i>	82
CONCLUSION	96
APPENDIX	97

CONTENTS

PREFACE

CHAPTER I

CHAPTER II

CHAPTER III

CHAPTER IV

CHAPTER V

CHAPTER VI

CHAPTER VII

CHAPTER VIII

CHAPTER IX

CHAPTER X

CHAPTER XI

CHAPTER XII

CHAPTER XIII

CHAPTER XIV

CHAPTER XV

CHAPTER XVI

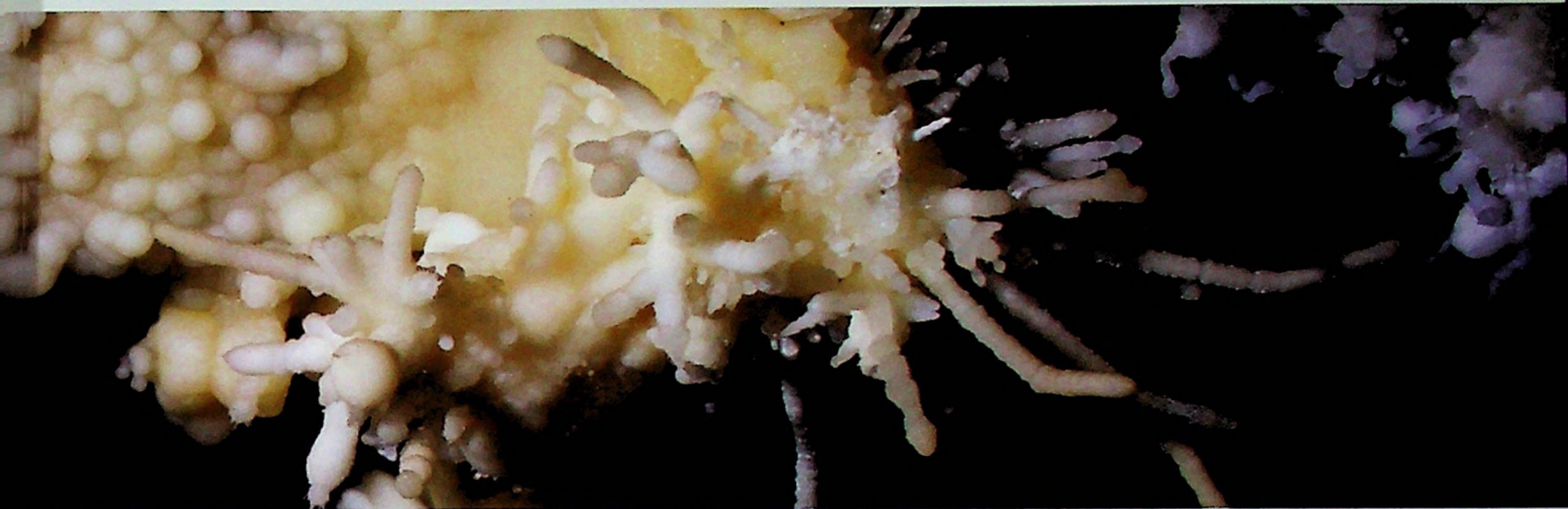
CHAPTER XVII

CHAPTER XVIII

CHAPTER XIX

CHAPTER XX

INTRODUCTION



Hidden high in the cliffs of Mount Timpanogos are three valuable and irreplaceable treasures: the Timpanogos, Middle, and Hansen Caves. Following their discoveries between 1887 and 1921, these caves quickly became known for the profuse rock decorations of stalactites, helictites, and aragonite. The fear of losing these treasures to mining operations and vandalism, inspired many people in the local communities to rally together for the caves' preservation and to request national protection. Just fourteen months after the rediscovery of Timpanogos Cave, and approximately one month from the official request, Timpanogos Cave was declared a national monument by President Warren G. Harding on October 14, 1922.

During the many decades of discovery and management, a variety of people and groups have contributed to making Timpanogos Cave National Monument what people see today. Each of these people contributed to the development and the preservation of Timpanogos Cave National Monument. Several individuals contributed to the discovery of each cave. Many worked to preserve the monument by gaining national monument status.

Others worked to develop trails, lights, and structures to enable the many thousands of visitors to come to view the caves. And more have developed programs to promote educational experiences, research, and resource preservation and protection.

Since the early discoveries and development, dedicated and influential individuals have built on the original preservation ethic to protect Timpanogos Cave National Monument and its resources. Gaining a better understanding of the motives and struggles of the past helps create a better future for the monument and the Timpanogos Cave System. Though varieties of people from all over the globe come to visit and work at the small monument, all can find values that support the park mission to “preserve the outstanding cave formations, geological processes, and historical values of the Timpanogos Cave System and associated features for the recreational and educational enjoyment, scientific value, and inspiration of this and future generations.”¹

Photo by B. Kowallis

Monument Description

Timpanogos Cave National Monument consists of 250 acres located in rugged American Fork Canyon of the Wasatch Range and just 30 miles from the major metropolitan areas of Salt Lake City and Provo, Utah. The monument is situated on the northern slope of 11,750 ft Mount Timpanogos and is surrounded by the Uinta-Wasatch-Cache National Forest. Running through the lower elevations of the monument is the American Fork River and Utah Highway 92.

The visitor center offers interpretive displays and educational videos interpreting the caves and monument. Situated near the visitor center is several picnic areas: the Canyon Picnic Area across from the visitor center and the Swinging Bridge Picnic Area located a half mile east on Highway 92. The two areas are joined by the interpretive Canyon Nature Trail. Still further down the canyon are the maintenance building and the Rock House offices.

The access trail to the cave is a 1.5-mile paved trail that ascends 1,092 feet from the visitor center to the Hansen Cave Entrance. Along the trail, visitors are able to view geology that ranges from Pre-Cambrian through the late Mississippian-aged rocks, providing what may be the best exposed, easiest accessed, and varied geologic records in the United States. This trail regularly used for recreation as well as cave access.

Approximately 110,000 people, both foreign and domestic, visit the monument annually with 60,000 to 80,000 touring the caves. The caves are closed from mid-October to early May due to high snow accumulation in the winter. The main attraction is the interpretive cave tour through the Timpanogos Cave System.

The Hansen, Middle, and Timpanogos Caves are located at an elevation of 6,730 feet and run along a fault zone roughly perpendicular to the nearby Wasatch Fault. A total of 1.2 miles (6,257 feet) of surveyed caves passage exists in the three different, but closely related caves in the monument.

The Timpanogos Cave System is considered to be alpine caves and is covered by snow through most of the winter season. It consists of three natural caves joined by two man-made tunnels and contains a wide variety of cave formations. The caves are best known for their abundant decorations of delicate helictites and aragonite. They are also known for their unusual speleogenesis, distinct coloration, and rich human history.

Reference

- 1 Timpanogos Cave National Monument Mission Statement.

Speleothems of Timpanogos Cave

Aragonite/ Frostwork:

Frostwork is formed from crystal aragonite, an unstable form of calcite. Certain conditions are often observed where frostwork is present: (1) airflow and evaporation, (2) finely textured and highly porous bedrock, and (3) slow seeping water. These crystals form as water is being wicked out from the walls.



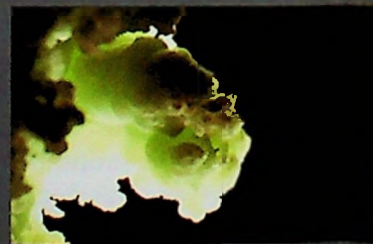
Helictite: Helictites are small formations that twist and spiral in defiance of gravity. These formations get their name from the Greek root "helix" which means to spiral. It is believed that each helictite is formed through a central canal significantly smaller than a drop of water. Hydrostatic pressure pushes



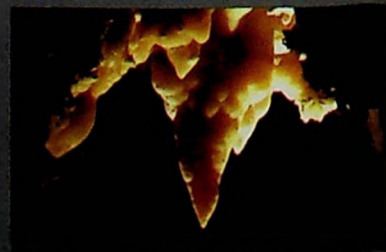
the water out from the tip. The tip's growth of several inconsistent calcite crystal shapes and sizes causes helictites to twist and spiral.

Popcorn/ coralloid:

Popcorn forms by calcite being deposited from wind spread water. It occurs when dripping water splashes or condenses on surfaces near long standing cave pools.

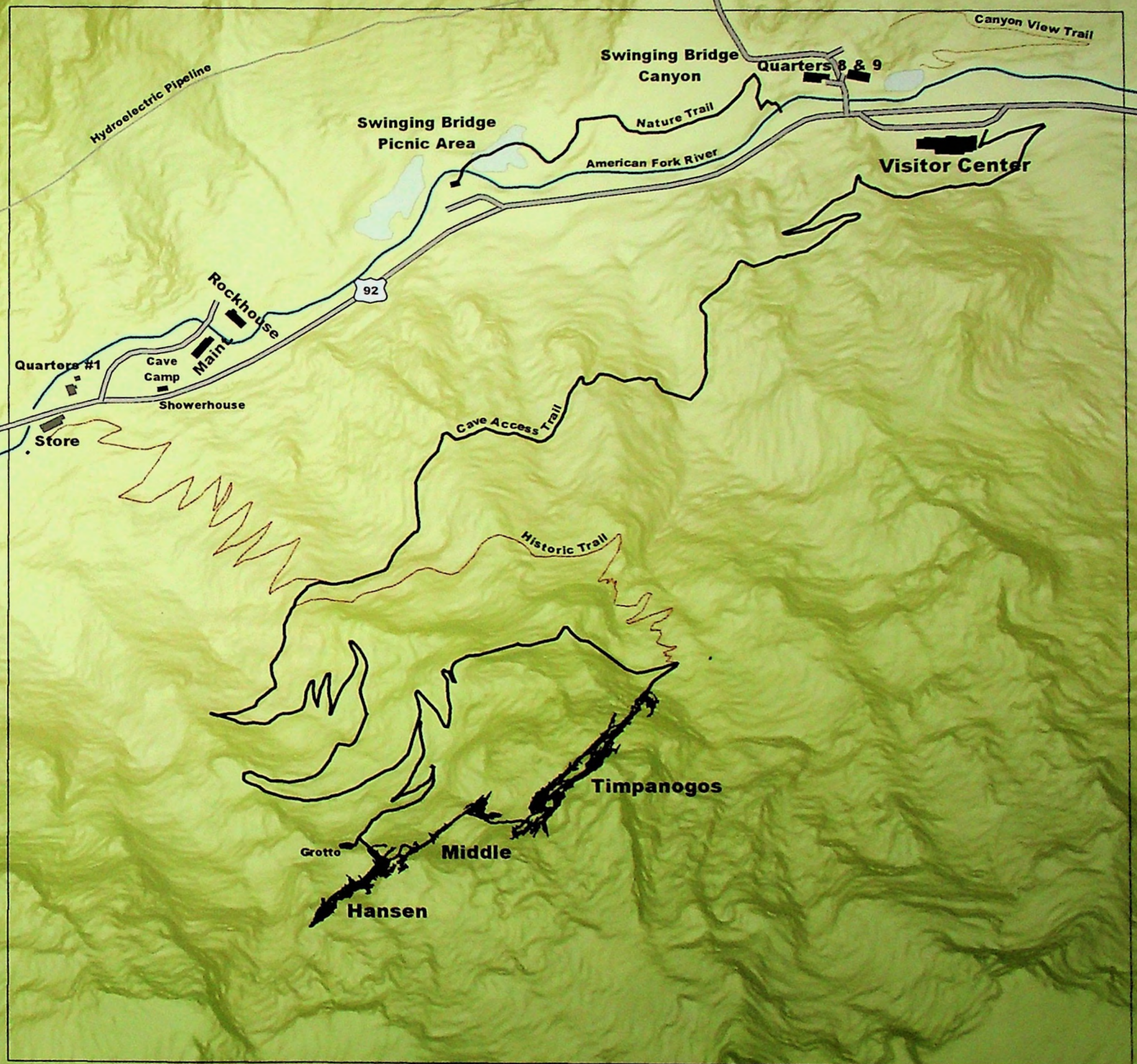


Stalactite and Stalagmite: Stalactites form as water deposits micro-crystalline calcite as slender conical shapes on the ceilings of a cave. As water drips from the end of a stalactite calcite slowly accumulates as broad conical shapes on the cave's floor forming stalagmites.



Photos by Brandon Kowallis

Timpanogos Cave National Monument

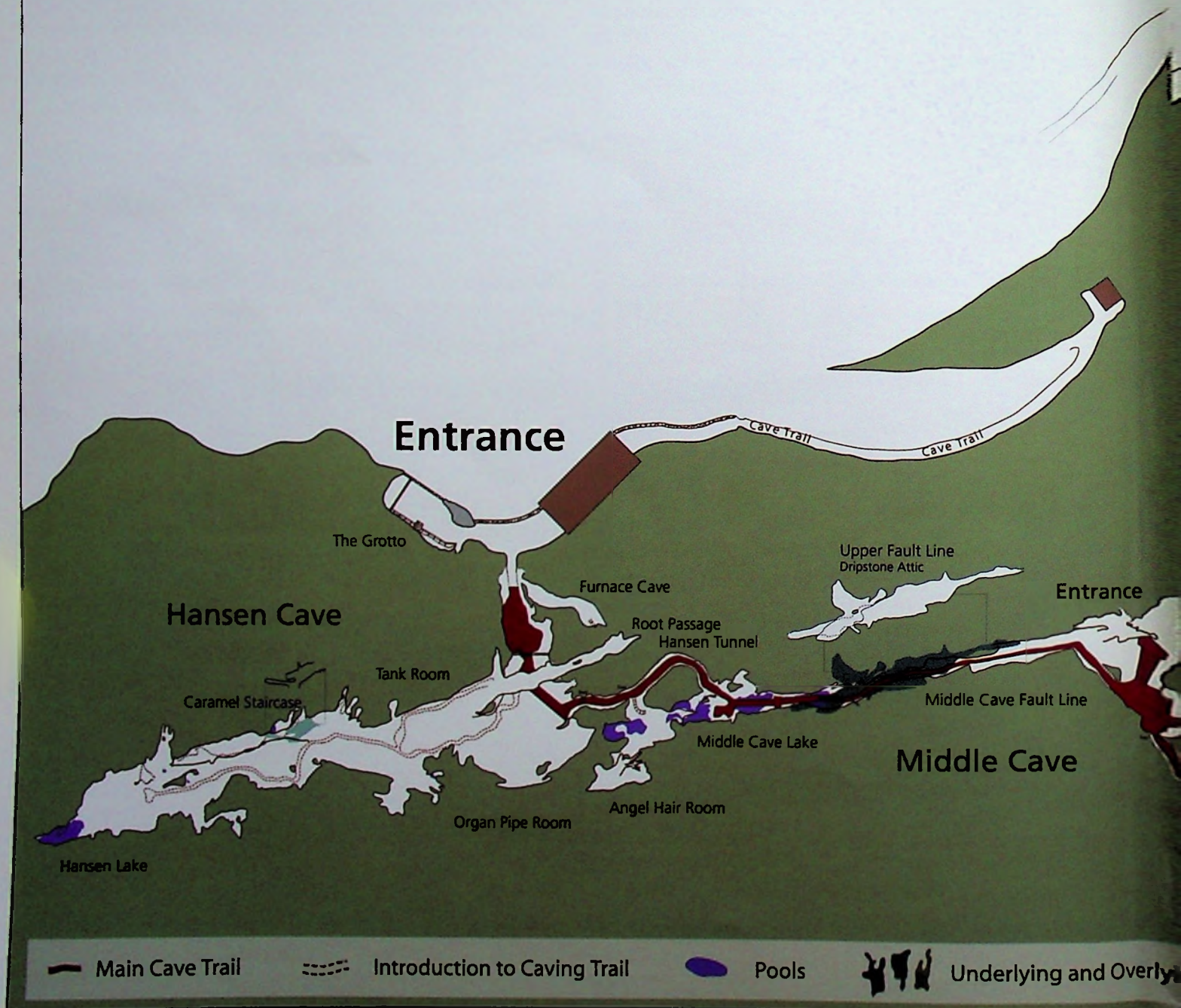


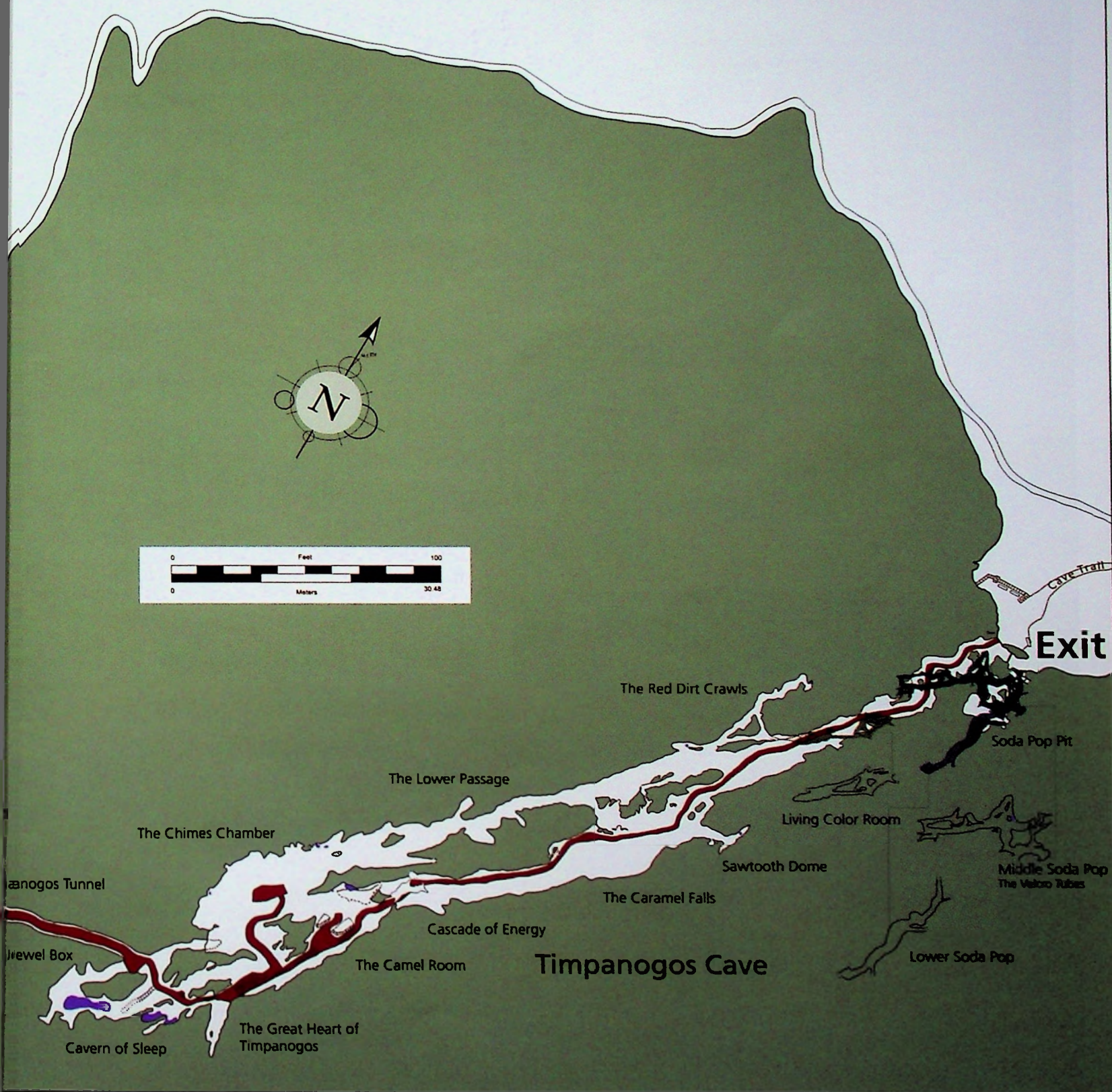
- | | | |
|--------------------|---------------------|------------------|
| Old Buildings | Cave Trail | Historic Trail |
| Existing Buildings | Pipeline | Old Nature Trail |
| Picnic Areas | Highway | TICA Boundary |
| | American Fork River | |



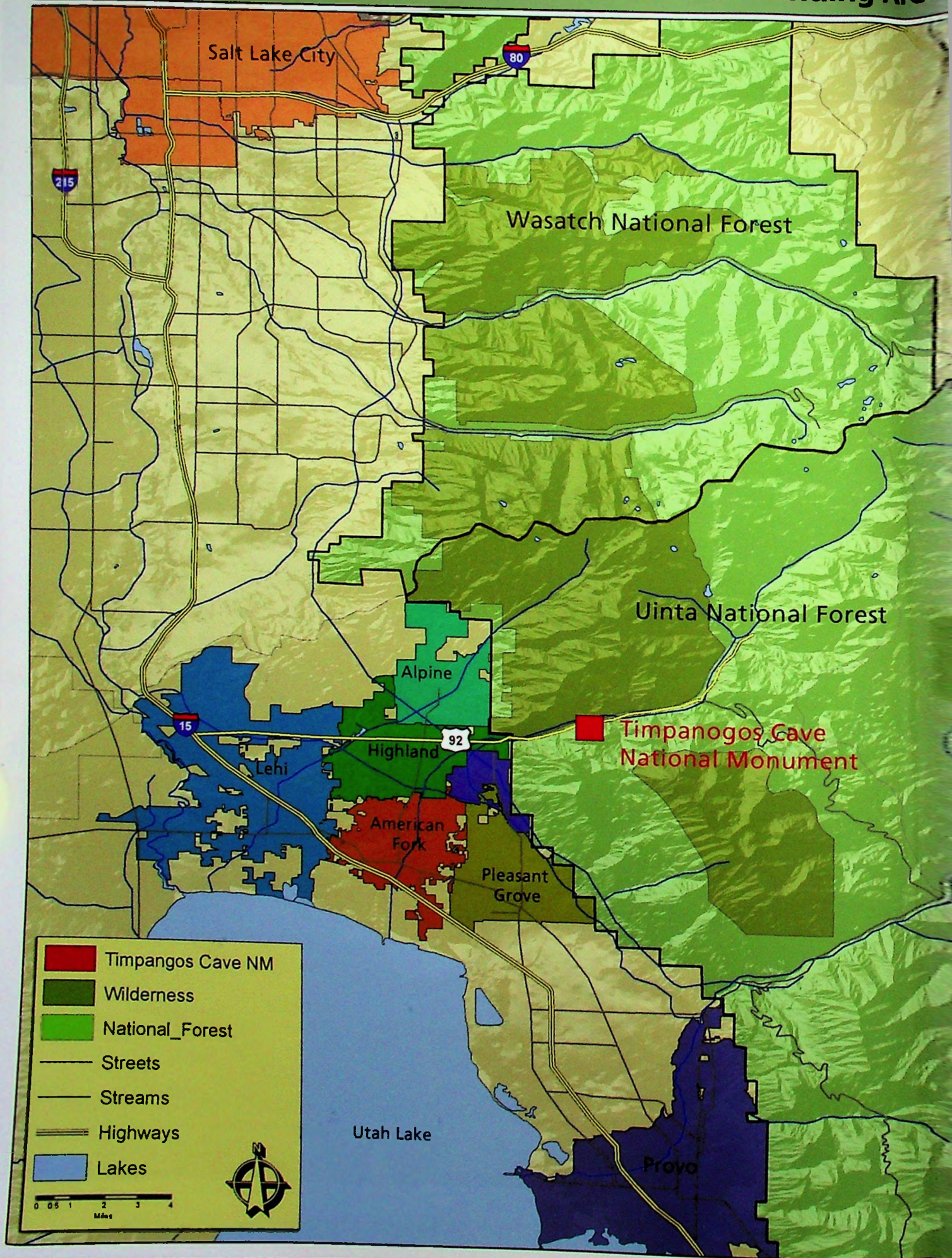
0 125 250 500 750 1,000 Feet

Timpanogos Cave System





Timpanogos Cave National Monument and Surrounding Area



CHAPTER I

Early Visitors of the Monument

Timpanogos Cave National Monument has a rich and varied human history. It received many visitors to its lands prior to President Harding's declaration. People such as ancient and recent American Indians, European and American explorers, fur trappers, pioneers, and miners used monument lands and the surrounding areas long before the discovery of the caves. Though all these people must have used and passed through the present-day monument boundaries, there is no evidence of people entering the Timpanogos Cave System before the discoveries in 1887 and 1921.

The human history of the monument began nearly 12,000 years ago with the Paleo-Indian people, who lived a life focused on hunting large mammals. These people likely entered American Fork Canyon and passed through what would later become the monument land.¹ Because of the cooler climate during that period, these people likely focused on valley and lakeside resources.² Although there are no known Paleo-Indian sites within the monument or nearby Uinta-Wasatch-Cache National Forest, archeologists discovered Paleo-Indian artifacts nearby in Utah Valley.

As the climate warmed, the lifestyle of the people living in Utah Valley changed. Archaic people, who occupied Utah Valley from approximately 10,000 BC to AD 1, collected a wide variety of plant and animal foods. Gathering wild berries and hunting big game such as deer and bighorn sheep, likely lured these people into American Fork Canyon and up to the high elevations of

the Wasatch Mountains. Though little is known about the Archaic people in Utah Valley, excavations conducted just outside monument boundaries in American Fork Cave found evidence of these early people hunting primarily bighorn sheep starting in 1,700 BC. Hunters used this cave as a base camp for hunting expeditions in the canyon, and then would return to family camps in the valley.³

From AD 1 to 500, a cultural transition occurred in Utah Valley. The archeological evidence of the hunting and gathering Archaic people disappears and was gradually replaced by farming communities comprised by those known as the Fremont. The Fremont people built small farms and villages scattered across the valley, where they cultivated corn, squash, and beans. Excavations in American Fork Cave found ceramics, cordage, ground stone, and corn kernels associated with the Fremont people, indicating these farmers also utilized the mountain resources.⁴ Additionally, a 10-inch Fremont pictograph is located in the lower elevations of the monument. This pictograph depicts the body and appendages of a man with a V-shaped head and large ears that resemble a mule deer. Near the pictograph, rangers also found two small, desiccated corncobs possibly of Fremont origin.⁵

Around AD 1,300, the climate changed again, becoming cooler, and the Fremont people abandoned their farming way of life in Utah. Archeologists suspect that Fremont people either adopted the hunting and

The Origin of "Timpanogos"

The word Timpanogos has its roots in the most recent American Indian group to live in the Utah Valley area, the Utes. The Utah Valley Utes have been referred to by a variety of names. They called themselves the *Paganunts*, meaning "the fish eaters", or the *Timpanogotsis*, which means the "rock canyon people". The Utes called nearby Provo River the *Timpanoquint* or *Tim-pa-gu-wa* and Utah Lake *Timpanogi*. The early Utes referred to Mount Timpanogos as *Pa-ak-ar-et* meaning "very high mountain".⁸

Anthropologists who worked with the Ute people recorded several Ute interpretations of Timpanogos. In 1935, Albert Reagan recorded that *Tim* (peg) means "rock". *Pah* means "water" and *To-yab-by* means "mountain".⁹ Omer Stewart declared that *Timpi* means "rock" and *Panogos* translates to "water mouth" or "canyon", and *Ots* means "people".¹⁰ In 1947, Theron Luke recorded that *Timp* or *Timpe* means "rock" or

"stone". *Pa* or *Pah* translated to "water", and *Noquint* means "running". Based on these translations, Luke determined that Timpanogos might translate into "rocky, running river".¹¹ In 1974, Anne Smith said that other Utes referred to these Native Americans as the *Timpana-nuu-ci*, *Timpana* meaning "mouth" and *Nuu-ci* meaning "people". These translations combined create "mouth people".¹² All of these translations likely refer to the tributaries (such as the American Fork River) that flowed out of the rocky mouths of the canyons and into Utah Valley. This, combined with the name "fish eaters", reinforces the importance of the resources of Utah Lake and its tributaries to the Ute people.



Mount Timpanogos from the Timpooneke Trail J. Jasper



Fremont Pictograph in American Fork Canyon

using the nearby canyons to hunt deer, bear, elk, and mountain sheep. They also gathered wild raspberries, serviceberries, and chokecherries.⁷

Despite all the evidence of these various peoples using American Fork Canyon, American Fork Cave, the

gathering practices of their predecessors or moved out of the area entirely.⁶ Like the Archaic people before them, the people residing in the valley maintained a life based on hunting and gathering, and are possibly the ancestors of the Utes. This group particularly depended on the plants and animals living around and in Utah Lake. The Timpanogos Utes or Utah Valley Utes inhabited the valley

forest, and the monument lands, there is no evidence of prehistoric humans discovering or having used Hansen Middle, or Timpanogos Cave.

While the Ute people flourished in the valley, Priests Fray Francisco Atanasio Domínguez and Fray Silvestre Vélez de Escalante became the first recorded European explorers to enter Utah Valley. These men led a Spanish expedition seeking an overland route from Santa Fe, New Mexico to the Spanish missions in California. Brought to Utah Valley by a Ute guide from the Timpanogots tribe, Domínguez and Escalante entered the valley on September 23, 1776 via Spanish Fork Canyon. They included a description of Utah Lake and Utah Valley in their report, which the group named Nuestra Señora de la Merced de los Timpanogotsis (Our Lady Mercy of the Timpanogotizis). Their map noted the American Fork River to the north, identifying it as the "Rio de Santa Ana." The priests recognized the natural richness of the area and recorded in their journal the promising future that this valley would offer for settlements. They envisioned irrigation systems in the valley and grazing in the mountains. They suspected that the mountains would also contain mineral wealth as well as combustible fuels and water. The Spanish priests could visualize all



Priest Fray Silvestre Velez de Escalante map of Utah Valley and lower Sevier River.



Sawmill in American Fork Canyon

the requirements necessary for the establishment of large communities in the future.¹³

Because of Dominguez and Escalante's explorations, the Spanish claimed Utah as their land and then shortly after in 1821 it became Mexican territory. The Spanish and Mexicans traded with the Utes of Southern Colorado then later with the Timpanogots. This continued until the United States acquired the area later called Utah in 1848.¹⁴

In 1820, fur trappers became the next explorers to enter Utah Valley. Several fur trapping companies worked along the streams and rivers that fed into Utah Lake. Well-known trapper Jedediah Smith trapped in this area in 1826, and although there is no confirmed evidence, he may have possibly trapped on American Fork River as he passed through the valley. Beaver became scarce by 1830, causing the fur trade to move north.¹⁵

As more trappers and explorers began to travel through Utah, John C. Frémont, acting as lieutenant for the United States Bureau of Topographical Engineers, led his first mapping expedition along the Wasatch Front in May of 1844. The following year, Frémont returned to explore along the Provo River, which he referred to as the "Timpanogos River" in his notes. His group traveled west through Provo Canyon and passed the entrance of American Fork Canyon on their journey north into Salt Lake Valley.¹⁶ Frémont's records, as well as those from other trappers and explorers, prepared the way for settlement in Utah Valley.

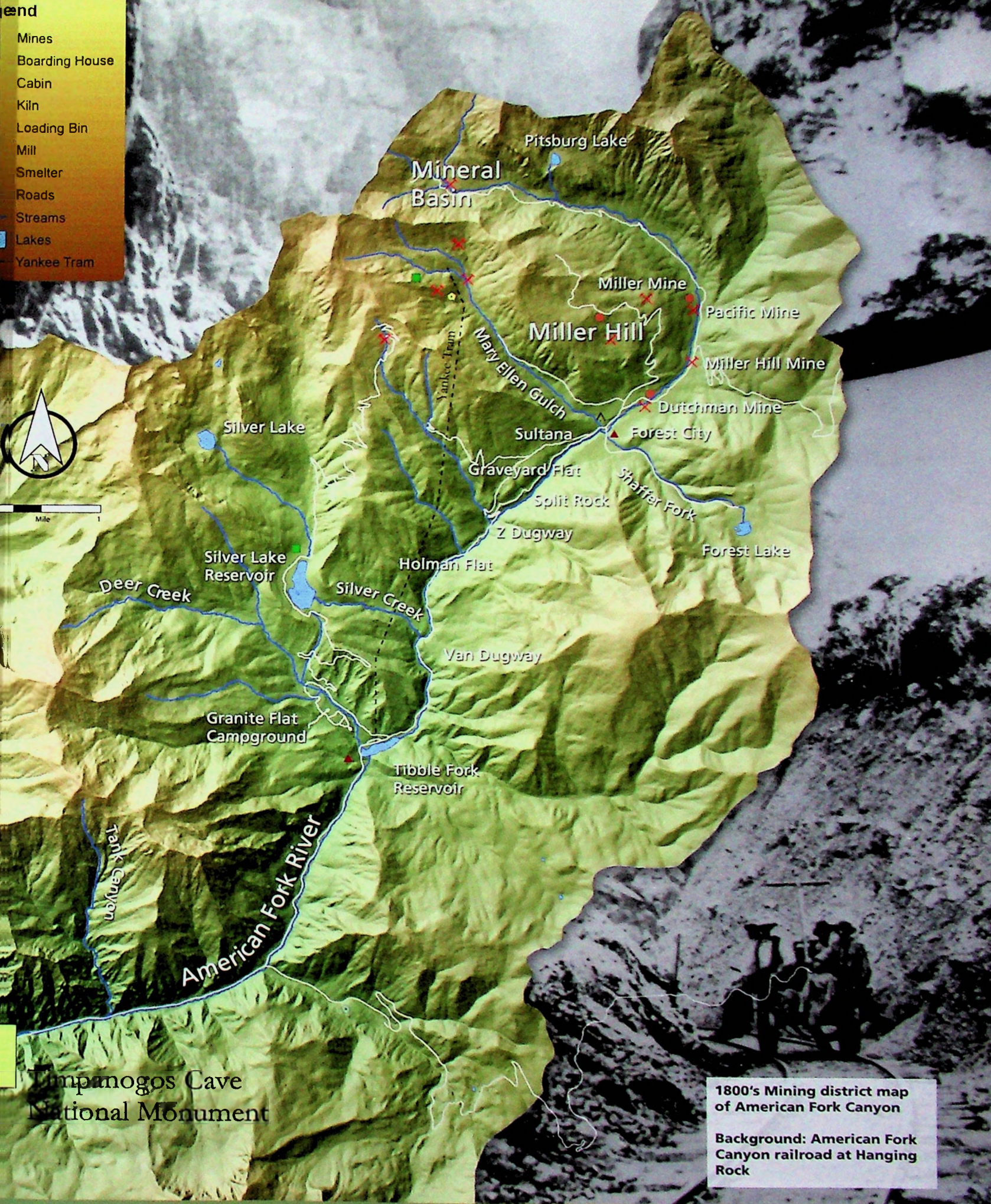
Members of the Church of Jesus Christ of Latter-day Saints (LDS), also called Mormons, became the first Europeans to settle in Utah Valley. The LDS people

migrated to the Salt Lake Valley in 1847, and by the end of the year, more than 17,000 people resided in the Salt Lake area. In December of that year, LDS President Brigham Young sent Parley Pratt south to explore Utah Valley and evaluate the area for the expanding Mormon settlements. Due to the strong Ute presence in the valley, settlement of the area began slowly. Later in 1850, Young sent Washburn Chipman and his family to settle along the American Fork River. Before long, several other families had also settled there and likely explored into American Fork Canyon.¹⁷

These settlers soon ventured up American Fork Canyon in search of building materials and established a small road for transporting timber. They build sawmills in canyon at places like Hanging Rock to process the timber. When the canyon began to show an influx of mining activity in 1870, they improved the poorly maintained logging road.

Soldiers, rather than settlers in the American Fork area, initiated the early mining activity in American Fork Canyon. The U.S. Army stationed a garrison of troops at Camp Floyd, west of Utah Valley to monitor the activities of the settlers. Then in 1861, the garrison moved to the eastern United States due to the outbreak of war between the northern and southern states. Soon after their departure, problems began to arise with protecting the overland stage route and volunteer soldiers came from California to ensure its security. Many of these soldiers initially worked as miners and prospectors during the California Gold Rush of 1849 and some of these men identified the rich mineral deposits of silver, lead, and zinc in the Wasatch Mountains, including American Fork Canyon.¹⁸ The California volunteers received dismissals

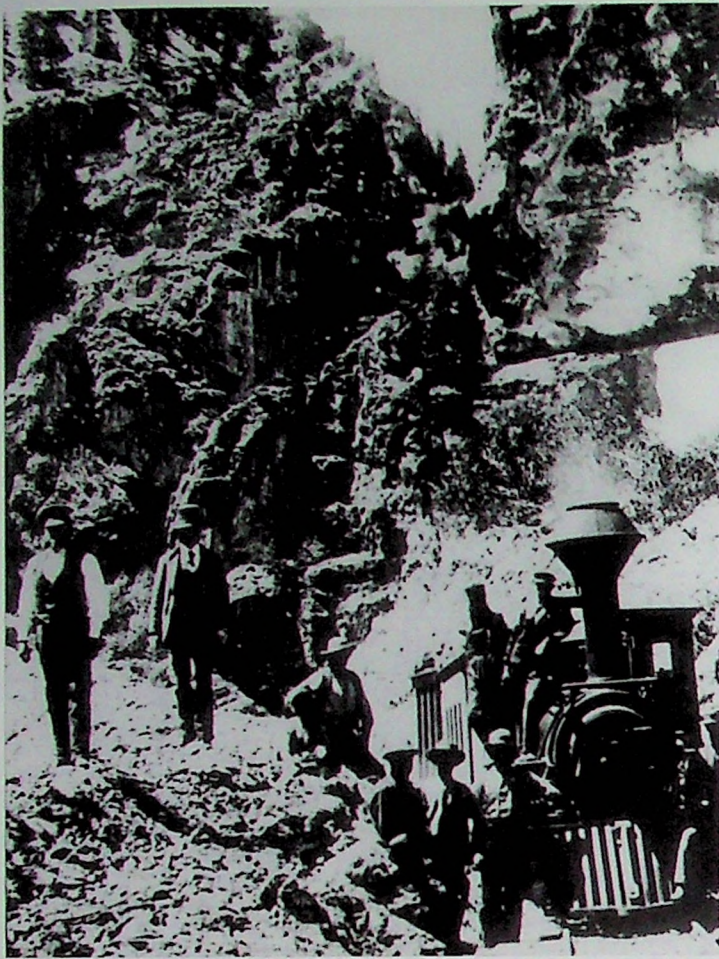
- Legend
- Mines
 - Boarding House
 - Cabin
 - Kiln
 - Loading Bin
 - Mill
 - Smelter
 - Roads
 - Streams
 - Lakes
 - Yankee Tram



Timpanogos Cave
National Monument

1800's Mining district map
of American Fork Canyon

Background: American Fork
Canyon railroad at Hanging
Rock



Above: American Fork Canyon Railroad by Hanging Rock
Below: Miners who worked in American Fork Canyon

in 1866 at the end of the Civil War, but regular Army soldiers followed and continued prospecting.

Although many people knew of the ore deposits in the canyon, the high cost of shipping the ores to processing plants made mine development difficult. This changed with the coming of the transcontinental railroad in 1869. Rail lines quickly connected the transcontinental line to the Salt Lake Valley, and mining development rapidly followed. Jacob and William Miller of Alta staked the first significant claims in American Fork Canyon in 1870.

Only a year later, the Aspinwall Steamship Company of New York purchased these claims. The Aspinwall Company immediately began to make mining ore more profitable by improving access roads to the American Fork Mining District. As roads improved, it became practical to construct the Sultana Smelter at the mouth of Mary Ellen Gulch to concentrate the raw ore also easing in its transportation and profitability. Mining activity also increased dramatically at other mines, and American Fork Canyon, experienced its first and largest mining boom.

As ore production escalated, the Aspinwall Steamship Company constructed a narrow-gauge railroad in 1872 over the old canyon road. The railroad enabled them to transport ore more efficiently from the canyon to the main rail line in American Fork City. The company intended that the railroad would haul ore via locomotive from the mining town of Forest City at the



Sultana Smelter down to the valley. However, as construction of the rails progressed, the increasing grade became too severe for the train and therefore, it terminated at Deer Creek City (now Tibble Fork Reservoir) located several miles up the canyon.¹⁹ The engine pulled the train cars up the canyon and then on the return trip, one brakeman slowed each car individually to assist the engine in the steep decent.²⁰

As mining activity increased in the canyon, so did the need for lumber. An estimated eleven sawmills operated in the canyon to supply timber, not only for mining operations but also provide lumber and firewood to the nearby cities.²¹ These sawmills required a "mammoth amount of dry lumber" cut and distributed through the canyon and valley. Although many people worked to keep sawdust and debris from reaching the river, the canyon began to see the results of extensive logging.²²

By 1876, the rich ores originally found at the Aspinwall mines began to decrease, making the railroad unprofitable. Seeking an alternative use for the railroad, the rail line began to take sight-seeing groups to view American Fork Canyon and advertisements called the canyon- "The rival to the Yosemite."²³ To further reduce costs, mules assisted the engine in pulling cars up the canyon. However, by 1878, the railroad was no longer in use and the rails pulled up.²⁴

Even after the removal of the rails and the closure of several mines and sawmills, people continued to use American Fork Canyon for logging, mining, grazing, and recreation. Many of the early visitors to the area recognized the value and beauty found in American Fork Canyon and found it to be vital to life in Utah Valley.

Reference

- 1 Janetski, Joel. Utah Lake: Its Role in the Prehistory of Utah Valley. *Utah Historical Quarterly* 58(1):5-31. 1990.
- 2 Nelson, Shaun R. *History of Uinta National Forest: A Century of Stewardship*. Uinta National Forest. Provo, Utah. 1997.
- 3 Janetski, Joel. Utah Lake: Its Role in the Prehistory of Utah Valley. *Utah Historical Quarterly* 58(1):5-31. 1990.
- 4 Ibid.
- 5 Thompson, Charmaine. Letter to C. Pulham. Uinta National Forest. Provo, Utah. August 20, 2003.
- 6 Nelson, Shaun R. *History of Uinta National Forest: A Century of Stewardship*. Uinta National Forest. Provo, Utah. 1997.
- 7 Janetski, Joel. The Ute of Utah Lake. *University of Utah Anthropological Papers* No 116. University of Utah Press. Salt Lake City, Utah. 1991.
- 8 Palmer, William R. Indian Names in Utah Geography. *Utah Historical Quarterly* Vol. 1 No. 8. 1928.
- 9 Reagan, Albert B. Some Names of the Utah Indians of Utah. *Utah Academy of Science, Arts, and Letters*. 1935.
- 10 Stewart, Omer C. Culture Elements Distributions. XVII, Ute-Southern Paiute. *University of California Anthropological Records*. Vol. 6, No. 4, pp. 231-355. 1942.
- 11 Luke, Theron. *The Utah Magazine*. Salt Lake City, Utah. 1947.
- 12 Smith, Anne M. Cook. Ethnography of the Northern Ute. *Papers in Anthropology*, No 17. University of New Mexico, Albuquerque. 1974.
- 13 Warner, Ted J. The Dominguez-Escalante Journal. Trans. Fray Angelico Chavez. Brigham Young University Press. Provo, Utah. 1976.
- 14 Nelson, Shaun R. *History of Uinta National Forest: A Century of Stewardship*. Uinta National Forest. Provo, Utah. 1997.

- 15 Ellsworth, S. George. *The New Utah's Heritage*. G.M. Smith. Salt Lake City, Utah. 1985.
- 16 Egan, Ferol. *Frémont: Explorer of a Restless Nation*. Doubleday and Company, Inc. New York. 1977.
- 17 Holzapfel, Richard N. A History of Utah County. *Utah Centennial County History Series*. Utah County Commission. 1999.
- 18 Adams, Effie. Mining in American Fork Canyon. Betty Spencer. *American Fork Citizen*. American Fork, Utah. 1988.
- 19 Stauffer, Alan C. *Histories of American Fork Canyon*. U.S. Forest Service. Pleasant Grove, Utah. 1971.
- 20 Swenson, Ezra. Mining in American Fork Canyon. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1969.
- 21 Ibid.
- 22 Forbes, Joseph D. Forbes Sawmill: American Fork Canyon, Utah. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1969-1972.
- 23 Shearer, Fredrick E. *The Pacific Tourist: The 1884 Illustrated Trans-Continental Guide of Travel from the Atlantic to the Pacific Ocean*. Adams and Bishop, Publishers. New York. 1884.
- 24 Adams, Effie. Mining in American Fork Canyon. Betty Spencer. *American Fork Citizen*. American Fork, Utah. 1988.

CHAPTER II

Discoveries

As populations grew in the Utah and Salt Lake Valleys, more and more people visited American Fork Canyon. With that growth, the demand on forest products in the canyon also increased. The need for these resources quickly exhausted the readily available lumber supplies on the canyon floor and timber cutters found it necessary to climb higher on canyon walls in search of trees. Soon people began to notice the dramatic reductions in wildlife and vegetation caused by the intense extraction of timber. The extensive logging left a noticeable reduction of spruce, and the forestry industry in American Fork Canyon began to suffer. Several abandoned sawmills remained in the canyon, and in many places sawdust and logging debris filled the river.¹

Martin Hansen worked as a teamster and logger in American Fork Canyon. A native of Denmark, Hansen came to Utah with the Mormon pioneers and settled in American Fork City in 1861. He often used the forest timbers to cut cedar posts and firewood² to sell to Hy Heisel and Fred Smith of American Fork, men contracted to supply timber to the railroads.³

Hansen family stories state that in October 1887, Hansen hiked high up a south canyon wall to cut timber in American Fork Canyon. At the end of the day, he left his ax at the base of a tree and went home. When he returned the following day, Hansen found mountain

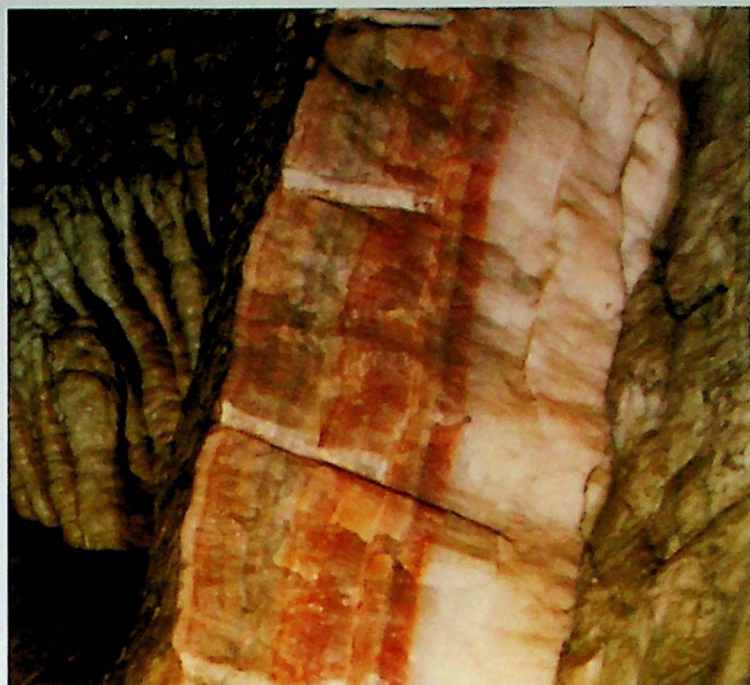


Martin Hansen

lion tracks in the newly fallen snow. He took his ax and followed the lion tracks up the mountain to the entrance of a cave. He explored the cave only as far as the light reached into the darkness and observed animal bones and debris littering the floor; he left for fear of encountering the lion.⁴

Intrigued by his discovery, Hansen returned on several occasions to better explore the cave and often brought his children on some of these visits.⁵ During the following winter, Hansen persuaded several men to help him develop the cave for tours. Charles and Joseph Burgess and brother-in-law Richard Steele assisted Hansen in building a crude trail that ascended from the canyon floor up to the cave entrance. The men cut the trail into the side of the mountain, climbing nearly straight up 1,200 feet with few switchbacks or efforts to reduce the steep grade. Where the path met a cliff face, they cut down nearby trees, trimmed the branches and then lashed the log to the rock to create "tree ladders." In other locations, they bolted logs directly to the cliffs to provide footing. The men placed a wooden door over the entrance of the cave as the final improvement for the project.⁶

Over the next several years, Martin Hansen charged a small fee for guiding groups through the cave, back to a small pool. Hansen's grandson, Wayne Hansen, recalled climbing back to the pool to dip his hands in the cold water.⁷ During this time, a few people called the cave



Drill marks in Hansen Cave flowstone

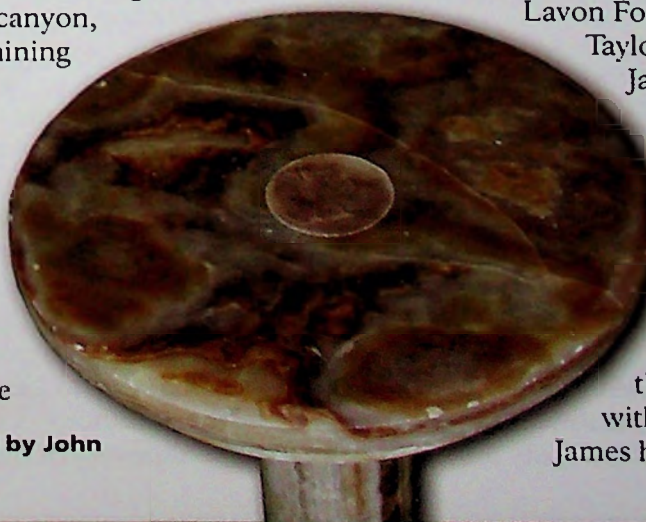
“Cave of the Buried Rivers,”⁸ but locals typically called it Hansen Cave. By 1891, tours became unprofitable and Martin Hansen ceased tour operations.⁹

Unknown to Hansen, a group of men mistook the cave flowstone for onyx and worked to remove the stone from Hansen Cave during the winter of 1892 to 1893. William Wadley, Isaac Wadley, and John Devey placed claims on the onyx deposits of not only Hansen Cave but also another cave on Mahogany Mountain (a sub-peak of Mt. Timpanogos). Subsequently, they leased their Hansen Cave claim to the Duke Onyx Company of Chicago, Illinois and in return received the contract for removing the stone.¹⁰

The men used a simple process for removing the cave formations. The miners drilled holes into the flowstone and inserted dry wooden pegs. They then soaked the pegs with water, causing the wood to expand and break slabs of stone away from the walls. The men then enlarged the entrance to remove the large stone slabs from the cave.¹¹ They loaded the slabs into carts and lowered them down the steep cliffs and slopes on cables anchored to trees. Once they reached the gravel slides at lower elevations of the canyon, horses pulled the stone the remaining distance to the road.¹²

Although there are no known records indicating the sale or use of the stone, reports state that at least two freight car loads of “onyx” from Hansen Cave, including several slabs weighing more than fifteen tons, were shipped to the eastern United States. One

A flowstone table cut and owned by John Devey



account indicates that the American Museum of Natural History in New York City constructed one of its primary wings during that time and may have used the stone for decorative work.¹³ Also during that time, the Salt Lake Temple of the Church of Jesus Christ of Latter-day Saints neared completion and John Devey of Lehi built a mantle on the third floor using polished onyx reportedly removed from a cave. Additionally, a grand-daughter of Devey currently owns a small table supposedly constructed using calcite taken from Hansen Cave.¹⁴ The Wadleys and Devey discontinued mining in Hansen Cave when they learned that the stone did not contain onyx and found the brittle flowstone largely unprofitable.

After mining operations ceased, several written accounts indicate that other people visited Hansen Cave. A group from the University of Utah reported to have toured the cave in 1898 and Vearl J. Manwill, the later discoverer of Timpanogos Cave, also visited Hansen Cave with friends sometime between the years 1909 and 1918.¹⁵

In 1916, the local newspaper, the *American Fork Citizen*, printed an article claiming that American Fork Canyon stood out above all the other canyons because of Hansen Cave. The article stated:

... a few days work with the pick and shovel, powder and drill, would make it of easy access. It would be a great advertising nature and if given proper publicity, would draw many tourists up the canyon... dripping water for countless ages has filled the deep wide cavities with fine grade onyx, which can be taken out in immense slabs and polished and used for interior decorative work.¹⁶

This news article, as well as visitors seeing broken formations in the cave left from mining activity, likely encouraged further damage to Hansen Cave and its formations from the subsequent visitors.

Timpanogos Cave

In the summer of approximately 1913, another group came to visit Hansen Cave. This group consisted of James C. Gough, Harmon Johnson, Wilma Johnson, Lavon Fox, George Price, and Thomas A.

Taylor as well as fourteen-year-old boys James W. Gough and Frank Johnson.

The group entered the cave, but the boys quickly became bored and left the others to explore the ledges above the entrance. The boys soon found that they could no longer climb back down and began to seek another route back to Hansen Cave. In their searching, they climbed down near a large rock with mineralization that resembled what James had seen in other mines. Excited by



Martin Hansen



Frank Johnson



James W. Gough



Vearl Manwill

Discoverers of Hansen and Timpanogos Cave

the prospect of precious minerals, they dug around the rock until they found that it opened into a dark hole. Looking in, the boys could see daylight in the darkness coming from another opening. They climbed around to the other opening and found it covered by a large boulder. After clearing away dirt and rocks surrounding the boulder, it fell into the void, opening an entrance to a cave.

James W. Gough and Frank Johnson explored the cave until they came to a deep pit, which they found impassable. The boys then decided to return to Hansen Cave and located their group. The boys led the group to their discovery and again stopped at the pit. To solve the dilemma, the men brought in a log from the surface creating a small bridge. The group continued their explorations until the passage began to branch in several directions near the stalactite now known as the "Heart of Timpanogos." Fearing that they would become lost, the group decided to return another day with better equipment.

Two weeks later, the group returned bringing rope, string, and carbide lanterns to finish their exploration. They explored until they reached a small lake in the area later known as "Father Time's Jewel Box". They also found many of the branching trails were only short passages, abating their original fears of getting lost.¹⁷

James C. Gough and James W. Gough took a profound interest in the cave. During their explorations, they found a collection of bones, including a calcite-coated vertebra near the entrance that they presumed to be of human origin. They took these to local naturalist John Hutchings for identification. Hutchings concurred with their speculation and identified the cave as an Indian burial site. Following this, James Gough Jr. claimed to have found an arrowhead inside the caves.¹⁸ Years later, monument staff took the vertebra to various biologists and paleontologists at Brigham Young University for

identification. Researchers quickly eliminated the initial identification, and concluded the bones to be the lower vertebra of an adolescent lynx.¹⁹

Approximately a year after the discovery of the cave, Gough and his father sent several samples of the mineralized rock from the entrance area to Hutchings for analysis, who reported the sample to contain 3 percent zinc. Following the analysis, Hutchings interest in the cave intensified and the Goughs invited him to the cave to explore, study, and collect formations. The Hutchings Natural History Museum in Lehi, Utah currently displays many of these cave specimens.²⁰

Based on the mineral results, James C. Gough, James W. Gough, and John Hutchings determined that the cave had economic value and on August 8, 1915, two years after James W. discovered the cave, they filed a mining claim on the cave minerals. They recorded the claim at the Utah County Assessors office on September 9, calling it the "Lone Star Lode Claim", with each man holding one third interest.²¹

In addition to mining, James W. Gough made plans for the cave. He suggested leveling the floor in one of the larger rooms in order to build a floor and install colored lights so that people might dance under the "Heart of Timpanogos."²²

James W. Gough noted that the several bats disturbed when he first opened the cave entrance never returned; however, woodrats quickly moved into the cave. On what he recorded as his last trip to the cave before moving to Shelley, Idaho, the younger Gough took a box containing Hercules powder sticks, fuses, powder caps, and carbide that Hutchings had given him and stored the box at the bottom of the entrance slope with several broken cave formations. He covered it with a pair of coveralls and a stiff Levi jumper before leaving and burying the entrance.²³ Later parties found these items with the rediscovery of the cave in 1921.²⁴

After moving to Idaho, the Goughs and Hutchings failed to complete the yearly assessment work required to maintain the Lone Star Lode Claim. Because of a landslide in the area and the lapse of time, James W. Gough was unable to locate the cave when he returned to Lehi several years later.²⁵ Despite several visits by the Gough family, John Hutchings, and several of their friends, knowledge of the cave seemed to fade away.

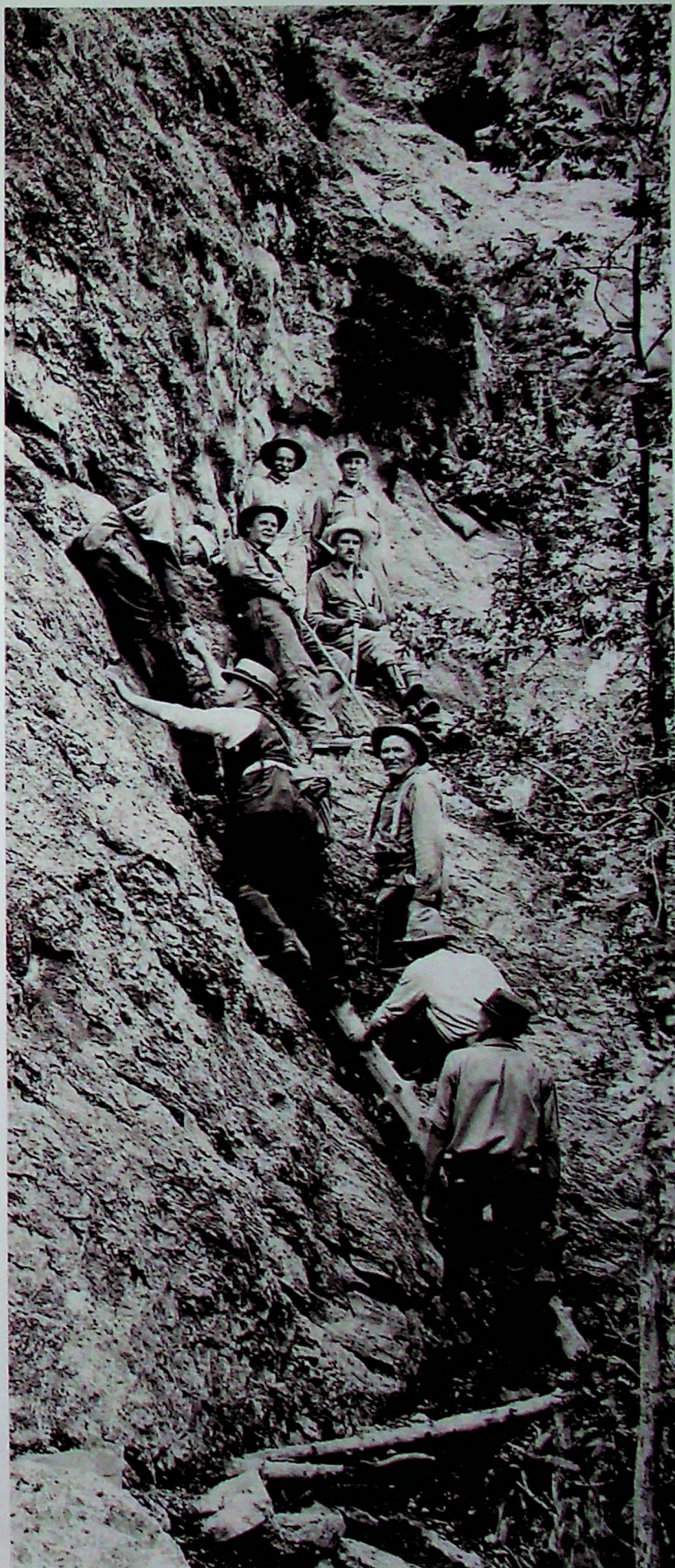
The area was left largely undisturbed for the next several years with the exception of three mining claims filed on land below Hansen Cave. On May 18 and 25, 1920, E. T. Culmer, S. F. Snyder, Don Workman, and David Andrews filed the claims: Bet Your Boots, Golden Arrow, and Joy Mine.²⁶ These claims later became the center of a property dispute following the proclamation establishing Timpanogos Cave as a national monument.

By 1921, local interest in a secret cave began to increase when the *American Fork Citizen* published the article "Another Beautiful Cave Discovered" that perpetuated rumors of a cave other than Hansen Cave in American Fork Canyon.²⁷ On June 30, Wasatch Forest Supervisor Dana Parkinson received a letter from Edwin Poulsen, a photographer from American Fork, which alerted Parkinson to the possibility of caves other than Hansen Cave and described it as:

...much larger and more stupendous than Hansen's Cave. [The cave] is over 1,000 feet long with 8 or 10 rooms... some that are large enough to put the local bank building in. Stalactites and stalagmites are large and plentiful. It is about a half mile from Hansen's Cave.²⁸

Poulsen also warned that John Hutchings and James W. Gough were attempting to sell the cave formations to the Chicago University. Despite his description of the cave, Poulsen stated that he did not know its whereabouts but asked Parkinson to include him on the first trip to the cave with the expectation of receiving exclusive photographic rights for the creation and selling of postcards.²⁹

After seeing the degradation of Hansen Cave, Parkinson expressed concern about the loss of another beautiful cave in the forest. Parkinson went to visit the Gough home with Poulsen to discuss the whereabouts of the cave and the rumored sale of the formations. Unfortunately, Parkinson was unable to learn anything and reported that Gough wanted \$10,000 before divulging any information.³⁰ Parkinson warned Gough that, "It would be illegal to molest any of the formations in the cave." To this Gough responded saying that "the Forest Service could not prevent him from doing as he pleased with the cave."³¹ Parkinson then asked Deputy Supervisor Walter Mann and Ranger Vivian West to find the new cave. Searches near Hansen Cave did not reveal its location, but the men began to monitor the area closely.



Early trail to Hansen Cave

Rediscovery of Timpanogos Cave

Unaware of these events, another group became interested in finding the mysterious cave. Following the annual Mount Timpanogos summit hike, a group of friends planned a subsequent activity to visit Hansen Cave and to search for the missing cave. Several members of this group had read the article published in the *American Fork Citizen* and became curious as to the whereabouts of the cave. One group member, Vearl Manwill, who spent much of his childhood in American Fork Canyon, sought out Martin Hansen for advice. Hansen told Manwill that although he had also heard the rumors, he did not know the caves' location and advised that they look in the same area and elevation as Hansen Cave.³²

On August 14, 1921, Manwill and a small group began their trip by exploring Hansen Cave. The group included Vearl Manwill, Elon Manwill, Dr. and Mrs. Pfouts, George

Martin, Florence Fairbanks, Dr. and Mrs. A. N. Early, W. Calderwood, and Pearl Taylor.³³ The group disappointedly found extensive damage in Hansen Cave. After exploring the cave, they returned to the surface and split up to search for the new cave. Vearl Manwill climbed along the ledges of the cave entrance. When he stopped to rest, he noticed "artificial masonry." Manwill kicked at these rocks, only to have them fall into an opening in the mountain. He dug out the hole and realized that he had found the missing cave and then called to the rest of the group.³⁴

The group climbed into the cave and discovered a dynamite box left years earlier by James W. Gough. The group explored the cave and described crawling on their bellies and making human ladders and bridges, until they reached the end of the cave at "Father Time's Jewel Box."

That night, the group discussed their discovery around the campfire. The memory of the damage of Hansen Cave fresh in their minds, they discussed ways in which to preserve this newly rediscovered cave. Their plans involved organizing the Payson Alpine Club, a group designed to protect the cave. They voted Vearl Manwill as president.



Payson Alpine Club in Timpanogos Cave

his sister, Elon Manwill as secretary. They also planned a trip two weeks from that time to map and photograph the cave. The group decided that after the second trip, they would turn the information over to the Forest Service.

On this second visit, the group explored the cave and upon returning to the entrance, they found Deputy Supervisor Walter G. Mann and Ranger Vivian West waiting for them. The rangers tracked the group up the mountain and upon reaching the cave, confused the group with those trying to exploit the cave as described in Poulsen's letter. Now knowing the location of the cave, the Forest Service officially declared it a Public Service Site, placing a small amount of protection on the area.³⁵

Reference

- 1 A Trip up American Fork Canyon on R.R. Described. *Journal of History* 1874 Sept. - Oct. Doc. Hist. 4029. LDS Archives. 1874.
- 2 National Park Service. Hansen Cave Discovery Centennial Material. Cat # 3115. Timpanogos Cave NM. American Fork, Utah. 1987.
- 3 Walker, Thomas A. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1987.
- 4 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 5 Nesbit, Zella H. History of Martin Hansen. Hansen Family Materials. Salt Lake City, Utah. May 1962.
- 6 National Park Service. Hansen Cave Discovery Centennial Material. Cat # 3115. Timpanogos Cave NM. American Fork, Utah. 1987.
- 7 Hansen, Wayne. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1987.
- 8 Horrocks, Rodney. *The Story of Timpanogos Cave*. Unpublished draft. Timpanogos Cave NM. American Fork, Utah. 1998.
- 9 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 10 Wadley, William. *Tiller of the Earth*. Cat #3426. P.G Printers, Inc. Pleasant Grove, Utah. 1986.
- 11 National Park Service. Hansen Cave Discovery Centennial Material. Cat # 3115. Timpanogos Cave NM. American Fork, Utah. 1987.
- 12 Wadley, William. *Tiller of the Earth*. Cat #3426. P.G Printers, Inc. Pleasant Grove, Utah. 1986.
- 13 Mason, Brian. Letter from Mason to Ralph Iorio. Cat #1408. New York Museum of Natural History. . 1960.
- 14 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 15 Manwill, Vearl J. Historical Affidavit. Cat #808. Timpanogos Cave NM. American Fork, Utah. 1961.
- 16 "Wonderful Canyon Cave should be Tourist Mecca". *American Fork Citizen*. American Fork, Utah. March 16, 1916.
- 17 Gough, James W. Historical Affidavit. Cat #805. Timpanogos Cave NM. American Fork, Utah. 1960.
- 18 Gough, James W. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1972.
- 19 Pulham, Camille R. Human Bones in Timpanogos. Part II. Timpanogos Cave NM. American Fork, Utah. Nov. 22, 2004.
- 20 Hutchings, John. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1969-1972.
- 21 Gough, James W. Historical Affidavit. Cat #805. Timpanogos Cave NM. American Fork, Utah. 1960.
- 22 Gough, James C. Timpanogos Cave National Monument. *Lehi Free Press*. Lehi, Utah. Sept 8, 1938.
- 23 Gough, James W. Historical Affidavit. Cat #805. Timpanogos Cave NM. American Fork, Utah. 1960.
- 24 Manwill, Vearl. Historical Affidavit. Ibid.
- 25 Gough, James W. Historical Affidavit. Cat #805. Timpanogos Cave NM. American Fork, Utah. 1960.
- 26 Truscott, Charles J. Plat Map of American Fork Canyon. Cat #1259. American Fork, Utah. 1923.
- 27 Another Beautiful Cave Discovered. *American Fork Citizen*. American Fork, Utah. July 30, 1921.
- 28 Poulsen, Edwin S. Letter to Dana Parkinson. Cat #990. U-Need-A-Photo Art Co. American Fork, Utah. 1921.
- 29 Ibid.
- 30 "Wonder Cave in American Fork Canyon is Placed with Utah's Four Scenic Wonders." *American Fork Citizen*. American Fork, Utah. September 24, 1921.
- 31 Parkinson, Dana. Letter to Thomas Walker. Timpanogos Cave NM. American Fork, Utah. 1961.
- 32 Manwill, James Vearl. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 33 Manwill, Vearl. Letter to Edwin Poulsen. Cat #924. Payson, Utah. October 1921.
- 34 Manwill, Vearl. Historical Affidavit. Cat #808. Timpanogos Cave NM. American Fork, Utah. 1961.
- 35 Manwill, Vearl. Historical Affidavit. Cat #808. Timpanogos Cave NM. American Fork, Utah. 1961.

CHAPTER III

Middle Cave & The Monument



Those involved in the recent rediscovery of Timpanogos Cave immediately recognized the need to preserve and protect it. Movement toward the new cave's preservation required quick actions by the Forest Service. The need to protect the cave from mining and souvenir hunters greatly concerned Forest Service personnel and they began to plan for cave management during the next several weeks.

Ranger West returned to the cave the following day with Forest Supervisor Dana Parkinson, Amber Boulter, Surveyor Waldo Manning, and photographer Edwin Poulsen to explore the cave. They explored for several hours, spending much of their time assisting Poulsen with taking photographs and transporting equipment. Despite seeing only half of the cave, the men marveled at its contents and reported to the *American Fork Citizen* that the cave's beauty exceed that of Hansen Cave. They continued to describe the interior as having "three lakes and hundreds of rooms filled with stalactites and stalagmites" and that it was "complete with everything just as nature made it."¹

Before descending to the canyon floor, Parkinson and the group outlined the Forest Service actions necessary to protect the cave so that future generations could also enjoy its splendor. They determined that a guard would ensure the cave's preservation temporarily and that a door built over the entrance would provide protection in the absence of the attendant. They also decided that lights and a trail to the cave would make

it more accessible to the public. Ultimately, Amber Boulter remained at the cave as safeguard and to ensure that no one removed any specimens or damaged the cave until the Forest Service could take appropriate actions to protect the cave.



Ranger Vivian West

By Thursday of that week, West and Parkinson returned, this time bringing District Forester R.E. Gerry, Martin Hansen, Clifford E. Young, University of Utah geologists Dr. Fredrick Pack and Dr. Griffith, and several others in an effort to gain support for preserving the cave. The group explored for three hours and all recognized the beauty of the cave. They entered several rooms, naming the room they felt most exceptional "The Boudoir of the Princess." Parkinson, having reported accounts of these trips in the local papers, sensed the community's desire to give the cave a name. He informed the *American Fork Citizen* that the popular choice was the "Cave of the Crystal Chimes" because of the beautiful music heard when tapping the stalactites within the cave.²

Now having seen the cave, District Forester R.E. Gerry added his support for protecting it. While exploring the options available to the Forest Service, he learned that the land surrounding the cave was included in the Lone Star Lode mining claim, and after some research, released a memorandum on September 3, 1921, stating:



September 21, 1921 Visit to Timpanogos Cave

In order that the beauties of the cave may be preserved for the people of Utah and general public, immediate action should be taken to preserve the same from vandalism or it will meet the fate of the Hansen Cave. . .the beauties of the cave should be protected by whatever means available. The locator has done no work on the claim and as it has been posted with Public Service Signs, by the Service, no present attention will be paid thereto by the Service.³

Parkinson agreed with the District Forester's declaration, stating that the locators had not completed the assessment work required to maintain the claim. Therefore, the locators forfeited their rights and title to the claim and that "[the cave] is therefore reserved for all time to the people of Utah, and if [museums in] New York or Chicago wish to see it, we invite them to visit Utah."⁴

Several days later, the Forest Service hosted a meeting with Parkinson, District Supervisor R.H. Rutledge, and several others to plan for official federal protection and management of the cave. Those involved determined that they would need to manage visitors, likely through organized tour operations, if they were to protect the cave from vandalism. Consequently, Rutledge stated that although the cave warranted protection and had potential for tours; the Forest Service was not capable of undertaking such a project.⁵ However, he did appropriate \$250 for constructing a door over the entrance to provide

minimal protection. Shortly after, Parkinson met with the American Fork Commercial Club (AFCC), an interested group of local businessmen, to report on the Forest Service's funding and seek additional financial support for the improvements needed to facilitate visitor access. Parkinson revealed that the Forest Service planned to construct a 20% grade access trail up the mountainside, hire a ranger to serve as a guide, and construct a cabin on the canyon floor for ranger housing. He encouraged the club to become involved in the development and asked the group to plan and raise the necessary funds for a cave lighting system. Parkinson also stated that if the club could expedite this project then Congress would be more likely to contribute additional funding for future improvements. Following Parkinson's presentation, club member Clifford E. Young presented a motion to create a lighting committee responsible for fundraising. The motion passed and the club formed a committee that including individuals from the neighboring communities of American Fork, Alpine, Lehi, and Pleasant Grove.⁶

On the morning of September 8, 1921, an official delegation visited the cave to support the American Fork Commercial Club and show the benefits that proper cave exploration could yield to future development. The delegation consisted of Parkinson, Dr. Fredrick Pack, Salt Lake City Mayor Clarence Nelsen, delegates from the Salt Lake and Utah Railroads, along with several local men. Upon exiting the cave, many in the group felt that the cave needed an official name. Two prominent names used

during that time included: "Utah's Wonder Cave" and "Utah's Fairy Cave." However, Parkinson felt that "neither of these names described the marvelous formations of stalagmites and stalactites of this under-the-mountain system of labyrinths recently opened in the shadow of Timpanogos."⁷ He felt that the name should reiterate the cave's location in one of Utah's scenic canyons, and simultaneously allude to the natural features found within the cave. Concerned about choosing an appropriate name, Parkinson solicited the various people and groups involved, as well as the local community for additional name suggestions.⁸

While the cave continued to go unnamed, the American Fork Commercial Club (AFCC) became involved with a local outdoor group, the Wasatch Mountain Club of Pleasant Grove, and began planning for the installation of a lighting system. Thomas Coddington, C. L. Warnick, and Vivian West visited the cave to determine the size and type of system that could best light the cave for tours. As a result of this assessment, the AFCC formed the Timpanogos Outdoor Committee to promote the cave and to raise money for the lighting system. This new committee consisted of S. L. Chipman, A. P. Warnick, E. W. Paxman, and J. L. Firmage, with Chipman and Warnick serving as president and secretary. The club pledged to raise \$1,200 to \$1,500 for the cave lighting by charging \$2 per person for a tour, later lowered to \$1 per person.

Subsequently, promotions of the cave continued and on September 24, 1921, the *Deseret News* published an article titled "Cavern Found in Utah Rivals Famous Mammoth Cave of Kentucky." This article featured several of Edwin Poulsen's photographs, taken during the Forest Service's first visit to the cave, in a full-page pictorial. In addition to his photographs, Poulsen repeatedly referred to the cave as "The Wonder Cave."⁹

In response to the media attention and likely fearing unwanted visitors, Parkinson declared the cave closed to the public. He announced visitors could not visit the cave until the Forest Service completed several development projects including the construction and placement of a steel entrance door, construction of walkways, bridges, walls, and the installation of an electric lighting system.¹⁰

The Timpanogos Outdoor Committee (TOC) met with Dana Parkinson and the Wasatch Mountain Club of Pleasant Grove to discuss the development and future operations of the cave. The TOC previously planned to raise funds by charging an admission fee. However, they learned that before they could charge fees on federal land, they needed to obtain a charter from the Department of Agriculture. Parkinson explained the procedure for obtaining a charter and conveyed to the group that a considerable amount of time and resources were involved in getting it approved.¹¹ He then suggested that a partnership with the Utah Outdoor Association of Salt Lake City would alleviate this process as the association had already obtained a similar charter. The partnership would relieve the necessity of obtaining a second charter and improvements on the cave could begin

immediately. Thus on November 7, 1921, the TOC sent a letter to the Utah Outdoor Association inquiring as to the possibility of a partnership, the association agreed and the groups began to move forward as a joint venture. The Forest Service acknowledged this partnership with the stipulation that "money taken in as entrance fees to the cave be put back into beautifying the canyon and the cave."¹² They imposed no other restrictions and management of the cave remained in the hands of the TOC, under the direction of the U.S. Forest Service. With this action, the groups solidified management and efforts to develop the cave for tours could begin.

Even as management began to take shape, controversy over naming the cave increased, as the different groups used a variety of names when referring to the cave. Dr. Pfouts, representing the Payson Alpine Club, wrote to Dana Parkinson stating that the club favored the name "Cave of the Crystal Cliff." The Payson Alpine Club felt that because they rediscovered the cave, they had the right to give it the official name.¹³ Conversely, Edwin Poulsen also wanted some credit for its rediscovery for alerting the Forest Service of its existence and suggested the name "Timpanogos Wonder Cave" stating that the cave needed a middle name. Poulsen presented this suggestion and received unanimous acceptance by the American Fork Commercial Club.¹⁴ Poulsen then wrote to Parkinson, pleading that the cave receive the official name "Timpanogos Wonder Cave" as soon as possible. He requested that if the Forest Service did not select this name, then the group also favored the alternative title "The Cave of Timpanogos."¹⁵ Parkinson considered these names, as well as many other suggestions, including: "The Wonder Cave," "Cave of the Crystal Chimes," "Fairy Cave," and "Cave of the Elves," but felt that none of these were appropriate.¹⁶

On October 24, Forest Supervisor Dana Parkinson officially announced the cave's name as Timpanogos Cave, stating that this "name is unique and will help advertise the mountain, while at the same time the mountain will help advertise the cave."¹⁷ Additionally, Parkinson maintained that this name would also honor the "great chieftain Timpanogos" who he claimed used the area for a rendezvous.¹⁸ Unfortunately, this announcement displeased many people. Some felt that the cave was stealing glory from Mount Timpanogos by copying its name or argued that the cave was part of Mahogany Mountain.¹⁹

Middle Cave

In all the excitement surrounding Timpanogos Cave, a group discovered a third cave, later called Middle Cave, in the same area as Timpanogos Cave and Hansen Cave. Despite all the activity in the area, this cave remained unnoticed until an article in the *American Fork Citizen* announced its discovery on November 19, 1921.

On October 15, 1921, Heber Hansen (son of Martin Hansen) took his eighteen-year-old nephew Wayne

Hansen hunting in American Fork Canyon. Leaving their horses and wagon on the canyon floor, they climbed up Tank Canyon located across the canyon from the caves. After traversing west and climbing over ledges for several hours, they stopped for lunch. While resting, they peered through field glasses and Wayne spotted the entrances of Timpanogos and Hansen Caves but upon closer inspection, he identified another opening situated between the two cave entrances. Martin Hansen often told stories of other caves that he found near Hansen Cave, and as they had not seen any game, the two men abandoned their hunting trip to locate this new cave.²⁰

The men climbed down the steep south-facing wall of the canyon, left everything but their rifles in the wagon, and ascended the cliffs towards Hansen Cave. Once there, they began to work their way around the ledges from the Hansen Cave Entrance until they reached a small three by five foot opening. Heber and Wayne explored the cave entrance area using only matches and soon discovered a pit. Before leaving, they dropped several rocks down the hole to estimate its depth. The returning sounds indicated they would need a rope for further exploration.²¹

That evening, the two men told an excited Hansen family about their discovery, and immediately planned a second trip to explore the new cave. Wayne and Heber included Thomas Hansen (Wayne's uncle), brothers Edward and Leo Hansen, father Richard Hansen, as

well as, 74-year-old family patriarch Martin Hansen on this excursion. They brought with them candles, carbide lanterns, flashlights, picks, and sixty feet of hay derrick rope to facilitate cave exploration. Heber prepared the group for entering the cave with a safety lecture, he then lowered a candle tied to string down into the pit to check the air quality, and finally he secured the rope. The men rappelled into the cave by wrapping the rope around their body and leg while descending the pit.²² As Martin Hansen descended the rope, he slipped, receiving painful rope burns on his hands. The group explored for several hours, leaving Martin with Leo on a ledge to recover. The group then climbed out of the cave, secured Martin to the end of the rope, and Thomas and Heber pulled him out of the pit.²³

On another visit, the same group brought with them Wayne's younger brother Martin E. Hansen and brothers-in-law Leo Thorne and Junius Adams. Grandfather Martin Hansen decided not to join this trip, as he found the last to be physically demanding. Leo and Junius, who both completed the midnight shift at the Lehi Sugar Factory, rode their bicycles approximately

ten miles to the bottom of the trail to meet the rest of the group. After



Back Row: Richard Hansen, Leo Thorne, Rosamond Hansen, Pearl Hansen Front Row: Wayne Hansen, Edmund Hansen, Martin Hansen. Inset: Heber Hansen and Wayne Hansen



Trail crew at Timpanogos Cave Entrance

spending several hours exploring the cave, they each began to make the arduous hand-over-hand climb up the rope out of the cave, using the few narrow places to brace against the walls to rest.²⁴ As Leo climbed to the top of the rope, Edmund reached out to assist him. Before Leo could take the offered hand, he fainted from exhaustion and fell 110 feet to the bottom.²⁵ The group, assuming that he was either dead or seriously injured, sent Wayne to the Utah Power and Light operator's house to call Dr. Kelly of American Fork. Meanwhile, the rest of the group tied the rope around Leo and hauled him out of the cave. They were surprised to find him unconscious but not seriously hurt. Though he did not break any bones, Leo carried scars on his head and back for the rest of his life.²⁶

Development

Though the Forest Service deemed this new cave, called "Middle Cave" or occasionally "Center Cave" significant, the vertical drop made entry difficult and dangerous to regular visitors. Thus, during the winter of 1921 to 1922, the Forest Service concentrated on completing the improvements necessary to allow tours in Timpanogos Cave rather than further exploration and development of Middle Cave. These improvements included constructing a secured and more accessible entrance, an access trail to the cave, and a tour trail

within Timpanogos Cave, as well as installing the lighting system. The final improvement included the construction of a parking area and campground at the base of the cave access trail.

To build a more accessible entrance to Timpanogos Cave, the Forest Service sent Cliff Smith, I. L. Smith, and several other men to blast a new entrance several feet down the hill from the natural opening. Unfortunately, during this project, the powder smoke settled on the cave walls and formations in the Lower Passage near the opening, blackening many of the once beautiful formations,²⁷ and leaving an unsightly scar that remains today. The men framed the new entrance much like a mine tunnel and installed a locked wooden door between the adjacent support beams.

To provide the cave with additional protection from unauthorized visitors and vandalism, the Forest Service stationed Ranger L. L. Hammer at the base of the Hansen Cave trail where he and his family lived in a tent. Later in November of 1921, the Service hired a second ranger, Errol "Mick" Halliday, who would stay nearly twelve years. Halliday immediately began work on various improvement projects in the canyon and cave area.

During that same month, Ranger Vivian West received authorization to begin construction on an access trail from the canyon floor to the Timpanogos Cave Entrance. Jake Nelson and his crew of Frank Richards, Clift Clark, Amber Boulter, Reeves Coble, E. Smith, Elmer Bezzant, Elroy West, and Mick Halliday²⁸ ceased working on the nearby Mount Timpanogos summit trail and began constructing the cave access trail.²⁹ The men cut the path into talus slopes wherever possible on the lower half of the trail. However, many sections in the upper half of the trail required blasting into the cliff. To set the explosives into the cliff faces, the group suspended one man on rope to drill the blast shot holes by hand. Favorable weather allowed Nelson's crew to work on the trail well into January. The men set the final charge on January 31, 1922, but a heavy snow fell throughout that day and continued through the night, postponing the completion of the trail until spring. Once completed, the trail measured two feet wide, one mile long, and climbed 1,200 feet in elevation.³⁰

As construction of the access trail progressed, Frank Richards and Reeves Coble worked to build a tour trail inside the cave. The men filled the path with gravel, leveled floors, enlarged crawl spaces, and installed stairs and other necessary additions. At the flowstone formation known as the "Cascade of Energy," the men attempted to carve steps into the calcite, but they abandoned this project because "the material was too hard." They used wooden planks, up to twenty feet in length, to construct staircases and bridges. They carried one of these planks up the trail each day as they hiked to work.³¹

With the trail nearing completion, the Timpanogos Outdoor Committee searched to find a contractor for the installation of the cave lighting system and began to take initial bids for the project. The committee decided



Left: Frank Richards and Mick Halliday
Right: Trail crew building the trail to the caves



to separate the project into two electrical contracts: one for the power line to the cave entrance and the other for the lights inside the cave. The committee contracted the firm of Paul and Johnson to construct a 2300-volt electric power line from the hydroelectric power station, located a half mile down canyon from the trailhead up to the cave entrance. This power station provided all the electrical power to the cave and campground for many years. The contractors encountered several problems running the power line. First, the steep slopes made work challenging and dangerous. Second, the heavy twenty-foot long poles required several men to carry them up the steep trail. And third, the project funding was limited. Thus, to complete construction on the power line, the committee recruited volunteers from the nearby towns of Pleasant Grove, American Fork, and Alpine. The TOC awarded the second electrical contract to the Fugal Brothers of Pleasant Grove to install the cave lighting system for \$3,481. The American Fork Commercial Club and several other organizations and businesses contributed an additional \$1,200 to help fund this lighting system.³²

The Fugal Brothers completed most of the wiring during the winter of 1921 to 1922 as work on the trail continued on the surface. The men suspended the 350-pound transformer between two poles and then carried it to the cave on the shoulders of four men. Once completed, the lighting system consisted of wooden pegs driven into the cave walls to support lighting fixtures with the cable suspended in the open between the pegs.³³

The committee invited E.H. Eastmond of Provo to design the actual lighting scheme, who incorporated colored lights to highlight various cave features.³⁴ A later article in the *American Fork Citizen* stated that the elaborate colored lights “produced an effect that was both beautiful and weird.”³⁵

That spring, to cap off the improvement projects, the trail crew constructed an improved parking and camping area at the base of the cave access trail known as “Cave Camp.” The men found the designated site strewn with boulders and overgrown with poison ivy and wild roses, which required removal. Several trucks brought dirt from the valley to level the canyon floor and make the area more

suitable for camping. To supply drinking water, the men laid a pipe from a spring located at the northeast end of the site and throughout the campground. Then they built two small pit toilets and lastly, placed a table and fire ring in each site.³⁶ As the campground began to see use, men returned to build a bridge across the river to the spring and string electric lights on posts around the campground.³⁷

Management Issues

Although management had been established and construction projects neared completion, management control of the cave became a battle between Utah County and Salt Lake County organizations. Many people surfaced to express their displeasure with the Forest Service over the charter affiliation. They accused the Service of giving the cave management to Salt Lake County and the Utah Outdoor Association by encouraging the partnership between the Association and the American Fork Commercial Club through the Timpanogos Outdoor Committee. In an article published in the *American Fork Citizen*, Eugene L. Roberts, best known as "Timp" Roberts, conveyed his opposition of the Forest Service allowing a Salt Lake County organization to manage the cave. Edwin Poulsen, now claiming to have rediscovered Timpanogos Cave before Vearl Manwill, accused Dana Parkinson of "railroading" the decision to involve the Utah Outdoor Association. In response, Parkinson claimed that originally he approached Provo City about managing the cave but stated that they rejected his proposal.³⁸ An article in the *Provo Herald* retaliated by challenging Parkinson to reveal the individual who rejected the proposal and threatened to have him investigated.³⁹

Despite accusations, Parkinson worked to improve community relations between the Forest Service and the two counties. On February 21, 1922, Parkinson received a letter from the Provo Chamber of Commerce stating that Provo City was tired of the bickering, felt that Timpanogos Cave was an element of a government institution, and the Forest Service should manage it as such. The letter also suggested that the Forest Service organize a committee to create greater support in Utah County and promote activities at the cave.⁴⁰ Parkinson replied to the city, informing them of the establishment of the Timpanogos Outdoor Committee for that purpose and encouraged them to join.

Parkinson resolved the management conflicts on April 26, 1922, when he issued a Special Use Permit to the Timpanogos Outdoor Committee (TOC) of American Fork, in care of Stephen L. Chipman, chairman of the committee, which effectively allowed the Utah County organization to manage Timpanogos Cave. The permit allowed the TOC to manage the cave for "advertising, developing, operating and maintaining [the] cave for its scenic beauty." The permit included the contingency that the committee use all funds collected through managing



Timpanogos Entrance, circa 1925

the cave for the development of recreation in American Fork Canyon and that any improvements needed prior approval from the Forest Service.⁴¹

With the issuance of the permit, the Timpanogos Outdoor Committee, originally organized to raise funds for the cave electrical system, reorganized to manage cave tour operations. The committee included Stephen L. Chipman (president of Chipman's Mercantile), Clifford E. Young (manager of Chipman's Bank), John "Jack" L. Firmage (owner of Firmage Co. in Provo), Charles L. Warnick (farmer), Vivian West (Forest Service ranger) with secretary Joe Walton (clerk for the Alpine School District). With the exception of the secretary/treasurer position, each member served as a volunteer and received no compensation for their services. Ultimately, the majority of these members remained active in the TOC until 1947 when it finally disbanded.

Cave Tours

Following the signing of the permit in May 1922, Stephen Chipman announced the completion of the lighting project and other improvements and that Timpanogos Cave would open for tours within the month. Visitors could purchase cave tour tickets not only at the newly completed Cave Camp but also at numerous businesses in the valley. The committee set prices for tours at \$1.00 for a season ticket, 50¢ for a

SPECIAL USE PERMIT

Use—Baldwin
Timpanogos Outdoor Committee
Date—4/26/22

(Use designation.)

Permission is hereby granted to Timpanogos Outdoor Committee,to Mr. Stephen L. Chipman, American Fork, Utah.

to use the following described lands: located in the SW 1/4 of Sec. 27, T4 S.,
(Describe the lands to be conveyed, if more than 1/4, 1/2, or 3/4 section, with reference to a road or
R. 2 N., S. 1 E., approximately one mile S.W. and 1/2 mile
stream or well known landmark; right of way by lateral point, direction, and back corner plat.)
southwest from the Upper Lower Plant in American Fork Canyon.

for the purpose of Advertising, developing, operating and maintaining
(Clearly but briefly describe the use, giving area of inclosure, length and width of right of way, etc.)
this cave for its scenic beauty.

subject to the following conditions:

1. The permittee shall pay to the No Charge Bank of _____ (United States Depository), to be placed to the credit of the Treasurer of the United States, in consideration for this use, the sum of _____ dollars (\$) for the period from _____, 19____, to December 31, 19____, and thereafter annually, on January 1, _____ dollars (\$_____).
2. The permittee shall comply with the regulations of the Department of Agriculture governing the National Forest, shall observe all sanitary laws and regulations applicable to the premises, and shall keep the premises in a neat and orderly condition and dispose of all refuse and locate outhouses and cesspools as required by the Forest officers.
3. This permit is subject to all valid claims.
4. The permittee shall take all reasonable precaution to prevent and suppress forest fires.

5. The permittee, if engaged in business, shall conduct same in an orderly manner and in accordance with all requirements of the laws of the State of _____, as well as the laws of the United States.

6. The permittee shall pay the United States for any damage to its property resulting from this use.

7. The permittee shall fully repair all damage, other than ordinary wear and tear, to roads and trails in the National Forests caused by the permittee in the exercise of the privilege granted by this permit.

8. Construction work (for occupancy and use) under this permit shall begin within _____ months, be completed within _____ years from the date of the permit, and this use shall be actually exercised at least _____ days each year, unless the time is extended or shortened.

9. In case of change of address, permittee shall immediately notify the Forest Supervisor.

10. The charges for this use may be readjusted whenever necessary to place this permit on a basis consistent with the charges to other permittees for like privileges. A general readjustment will be made at the end of five years from the date of issuance of permit and at the end of each five-year period thereafter.

11. No National Forest timber may be cut or destroyed without first obtaining a permit from the Forest Supervisor.

12. Upon the abandonment, termination, or revocation of this permit, and in the absence of an agreement to the contrary, the permittee, if all the rental charges due the Government have been paid, may, within a reasonable period to be determined by the issuing officer, remove all structures which have been placed on the premises by him, except where the material was furnished by the Forest Service, but upon failure to remove the structures within that period they shall become the property of the United States.

13. This permit may be transferred with the approval of the officer by whom it was given or his successor, subject to such conditions as may be imposed at the time of transfer. It shall terminate upon breach of any of the conditions herein or at the discretion of the District Forester or the Forester.

14. The permittee shall provide, whenever requested by the Forest officers, a way across the land covered by this permit for the free ingress or egress of forest officers and for users of National Forest land and purchasers of National Forest products.

15. This permit is issued with the understanding that all income from this use be devoted to the development of recreation within the Baldwin National Forest in American Fork Canyon and vicinity. No admittance charge shall be made to Forest Officers visiting this cave.

16. No improvements or changes in the cave or on the Forest are to be made without permission from the Forest Supervisor.

April 26, 1922.

Don J. Eversoll
 Forest Supervisor

Timpanogos Outdoor Committee Special Use Permit

single admission, and 25¢ for Boy Scouts, Beehive Girls- a Mormon youth group, and all other children under the age of twelve.⁴²

By the end of May, the cave began to receive visitors for tours. The Timpanogos Outdoor Committee immediately realized that the sudden popularity of cave tours and the high numbers of visitors created problems with tour size, lighting, and damage to the cave. The TOC quickly determined that the cave could not accommodate large crowds of people; therefore, they limited tour groups to thirty people and a maximum of two hundred visitors per day. However, on Memorial Day 1922, 350 visitors toured the cave⁴³ and within that month, more than one thousand people visited the cave. Guides adapted quickly and reduced the group size from thirty down to twenty people for the one-hour tour, and as a result of this limitation, they turned many people away.⁴⁴ Officials also decided that because of the limited number able to visit the cave in a day, they would not designate official opening day.⁴⁵ Another problem arose with crowd control. Because streams of visitors entered and exited the cave at the same location, the guides needed to develop a system to avoid congestion in areas where the tour route overlapped. To alleviate the problem, they trenched a trail through a side passage near the back of the cave to create a loop. Tours then could enter the cave and follow the upper passage, and upon reaching the Heart of Timpanogos, take this side passage to the Chimes Chamber and follow the Lower Passage out of the cave.⁴⁶

Almost immediately, the high numbers of visitors and the damp cave environment demonstrated problems with the lighting system. Many complained of dim lighting and as a result, plans began for a new lighting system. Later that summer, rangers tested large spotlights, and by October, they installed six to seven of these bright lights in various rooms. The lights illuminated every dark corner and gave the appearance of being in "broad daylight."⁴⁷

The large number of visitors and the lack of respect for the delicate cave formations also began taking its toll on the cave. In late June, aspiring mining engineer and reporter Frank Eversoll visited the cave to assist photographer Doc J.E. Broadbuss. In his article published in the *American Fork Citizen*, Eversoll observed the "beautiful crystal flowers growing inside the cave." Unfortunately, as he sat in the cave, he observed that as groups came through, many people would ask to take a piece of the formations and although the guide would give a negative reply, they would break off a piece and stuff it into their pockets when the guide turned his back. Eversoll reported, "Timpanogos Cave would be a despoiled treasure house within the year. Gawky kids, thoughtless women, and hard-boiled men go in that cave and try to carry away as many of those crystals as they can stuff in their pockets." He also watched boys kicking at formations just to hear them ring. He was concerned that publishing his article would only "bring more of the breed of cattle to destroy with one blow a work that has taken thousands of years to accomplish."⁴⁸ Possibly as a

By the President of the United States of America.

. A Proclamation.

WHEREAS, a natural cave, known as the Timpanogos Cave, which is situated upon unsurveyed lands within the Wasatch National Forest in the State of Utah, is of unusual scientific interest and importance, and it appears that the public interests will be promoted by reserving this cave with as much land as may be necessary for the proper protection thereof, as a National Monument.

NOW, THEREFORE, I, Warren G. Harding, President of the United States of America, by virtue of the power in me vested by section two of the Act of Congress approved June eight, nineteen hundred and six, entitled, "An Act for the preservation of American antiquities," do proclaim that there is hereby reserved from all forms of appropriation under the public land laws, subject to all prior valid adverse claims, and set apart as a National Monument, the tract of land in the State of Utah shown as the Timpanogos Cave National Monument on the diagram forming a part hereof.

The reservation made by this proclamation is not intended to prevent the use of the lands for National Forest purposes under the proclamation establishing the Wasatch National Forest, and the two reservations shall both be effective on the land withdrawn but the National Monument hereby established shall be the dominant reservation and any use of the land which interferes with its preservation or protection as a National Monument is hereby forbidden.

Warning is hereby given to all unauthorized persons not to appropriate, injure, deface, remove, or destroy any feature of this National Monument, or to locate or settle on any of the lands reserved by this proclamation.

In Witness Whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this fourteenth day of October,
in the year of our Lord one thousand nine hundred and twenty-
[SEAL.] two, and of the Independence of the United States of America
the one hundred and forty-seventh.

WARREN G HARDING

By the President:

CHARLES E. HUGHES

Secretary of State.

[No. 1640.]

result of this article and the awareness that it brought, on July 4, 1922, Ranger Hammer apprehended a man who, while on a tour, was caught breaking off a formation that resembled a "Kewpie doll." Hammer turned the man over to Dana Parkinson, who considered the offense serious in nature and imposed a heavy fine.⁴⁹

The Timpanogos Outdoor Committee began to feel more comfortable with operations during that first season when a serious legal issue arose threatening not only tour operations but the preservation of the cave. In early July, Ed Culmer came forward declaring that Timpanogos Cave did not belong to either the Forest Service or the American Fork Commercial Club (and the Timpanogos Outdoor Committee) but to Culmer and the "Joy Group." This group consisted of Culmer, S. F. Snyder, Don Markman, and David Andrew who maintained the "Bet Your Boots," "Joy," and "Golden Arrow" mine claims since 1920, and located just below the three caves. The men claimed that they knew of caves in the mountain and worked under the theory that mineral ore had washed out of these caves and down through fissures in the mountain. They also claimed to have begun assessment work on these claims and had already found rich mineral ore. Culmer also stated that although they held the right to terminate tour operations and other uses in the area, they did not plan to close the caves or the camp at that time. However, on September 30, the Joy Group served Ranger Hammer with a notice stating that the group owned the claims and that Hammer was to "leave, vacate, quit and cease to occupy said premises or otherwise the owners of said property will be required to take the necessary legal procedure as in such cases may be provided."⁵⁰ Then on October 6, the law firm of Hutchinson and Hutchinson, representing the Joy Group, inquired to Regional Forester Rutledge as to what authority he used to withdraw Timpanogos Cave as a "Public Service Site."⁵¹

Rutledge had already felt uneasy about the Forest Service's ability to protect the cave from mining activity. He believed the "Public Service Site" withdrawal could not provide sufficient protection for the caves. Several weeks before the inquiry, Rutledge wrote a letter to National Forester William B. Greenley in Washington D. C. requesting the establishment of Timpanogos Cave National Monument.⁵²

On October 14, 1922, President Warren G. Harding signed Proclamation 1640 creating Timpanogos Cave National Monument using the powers given to the president in the Antiquities Act of 1906. Harding stated in the proclamation that "[Timpanogos Cave] is of unusual scientific interest and importance, and it appears that the public interest will be promoted by reserving this cave with as much land as may be necessary for the proper protection thereof, as a National Monument."⁵³ And although guides only conducted tours through Timpanogos Cave at that time, the proclamation also gave federal protection to Hansen Cave and Middle Cave. The proclamation designated 250 acres for the monument boundaries that included the three caves, the cave access

trail, and Cave Camp.

Although this designation fell under the preservation standards of the National Park System, the management of Timpanogos Cave reverted back to the responsibility of the Forest Service. The National Park Service had been created six years before, and at this time, it was common for the origin agencies to manage new national monuments. Other forests held special use agreements in the country but none for managing tour operations like those at the caves. The local Forest officials relied on the partnership with the Timpanogos Outdoor Committee to orchestrate the management of tours. This cohesive partnership created a strong foundation for protecting the caves and a situation that was unique in the system at that time.

Harding's proclamation changed Timpanogos Cave from a small local cave operation and business venture to a federally recognized treasure. Concern over the loss of this beautiful cave caused the Forest Service, the American Fork Commercial Club, and many other individuals to come together in the name of preserving Timpanogos Cave for the entire country and the world.

Reference

- 1 "U.S. Forest Service Locates Big Scenic Cave In Canyon." *American Fork Citizen*. American Fork, Utah. Sept 3, 1921.
- 2 Ibid.
- 3 Gerry, R.E. Memorandum Report: Uses of Wasatch, American Fork Canyon Cave. Cat #990. U.S. Forest Service. Ogden, Utah. Sept 3, 1921.
- 4 "'Wonder Cave' in American Fork Canyon is Placed with Utah's Four Scenic Wonders." *American Fork Citizen*. American Fork, Utah. Sept 24, 1921.
- 5 "Salt Lakers Visit Utah's Wonder Cave." *American Fork Citizen*. American Fork, Utah. Sept 10, 1921.
- 6 "Commercial Club Will Protect 'Wonder Cave.'" *American Fork Citizen*. American Fork, Utah. Sept 10, 1921.
- 7 "Salt Lakers Visit Utah's Wonder Cave." *American Fork Citizen*. American Fork, Utah. Sept 10, 1921.
- 8 Ibid.
- 9 "Cavern Found in Utah Rivals Famous Mammoth Cave of Kentucky." *Deseret News*. Salt Lake City, Utah. Sept 24, 1921.
- 10 "'Wonder Cave' in American Fork Canyon is Placed With Utah's Four Scenic Wonders." *American Fork Citizen*. American Fork, Utah. Sept 24, 1921.
- 11 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 12 Light, J.E. Letter to P.M. Nelson. Cat #990. Salt Lake City, Utah. Nov 16, 1921.
- 13 Pfouts, L.D. Letter to Dana Parkinson. Cat #990. Payson, Utah. Sept 28, 1921.
- 14 Poulsen, Edwin S. Letter to Dana Parkinson. Cat #990. American Fork, Utah. Oct 21, 1921.
- 15 Ibid.
- 16 Parkinson, Dana. Letter to L.D Pfouts. Cat #990. U.S. Forest Service. American Fork, Utah. Sept 28, 1921.
- 17 Parkinson, Dana. Letter to American Fork Commercial Club. Cat #990. U.S. Forest Service. American Fork, Utah. Oct 24, 1921.
- 18 "Cave Officially Named 'Timpanogos Cave.'" *American Fork Citizen*. American Fork, Utah. Oct 29, 1921.
- 19 Adams, Effie. *Magnificent Mt Timpanogos*. Pleasant Grove, Utah. 1988.
- 20 Hansen, Leo T. et al. Historical Affidavit. Cat #807. American Fork, Utah. May 15 1955.
- 21 Hansen, Wayne E. Discovery of the Middle Cave of Timpanogos

Cave National Monument. Cat #806. Timpanogos Cave NM. American Fork, Utah. October 1956.

22 Hansen, Wayne E. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. June 29, 1987.

23 Gough, Thorah. *The Life of George Heber Hansen*. Christian Hansen Materials. Jerome, ID. May 1962.

24 Hansen, Wayne E. Discovery of the Middle Cave of Timpanogos Cave National Monument. Cat #806. Timpanogos Cave NM. American Fork, Utah. October 1956.

25 Hansen, Leo T et al. Historical Affidavit. Cat #807. American Fork, Utah. May 15 1955.

26 Hansen, Wayne E. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. Aug 3, 1972.

27 Beeson, J.J. *Geology of Timpanogos Cave*. Cat #793. Timpanogos Cave NM. American Fork, Utah. 1930.

28 Johnson, Ned. The Ned Johnson Collection. Time keeping log. Cat #3106. Pleasant Grove, Utah. 1921.

29 Harris, Linda. Tale of trails Tells Story of Timpanogos. *Daily Herald*. Cat #3106. Provo, Utah. Unknown Date.

30 *Hansen Cave Discovery Centennial Material*. Cat #3115. Timpanogos Cave NM. American Fork, Utah. 1987.

31 Ibid.

32 Ibid.

33 "Scenic Loop Will Be Built- Work to Start at Once." *American Fork Citizen*. American Fork, Utah. April 22, 1922.

34 "Timpanogos Cave Opened to Public." *American Fork Citizen*. American Fork, Utah. May 27, 1922.

35 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.

36 "Many Improvements on Timp Grounds." *American Fork Citizen*. American Fork, Utah. July 22, 1922.

37 Ibid.

38 Provo Turned Me Down Cold Says Parkinson. *Provo Herald*. Provo, Utah. February 20, 1922.

39 "Control of County's Scenic Wonders Railroaded by Parkinson." *Provo Herald*. Provo, Utah. February 22, 1922.

40 Cunningham, Elmo. Letter to Dana Parkinson. Cat #990. Provo, Utah. February 21, 1922.

41 U.S. Forest Service. Special Use Permit to Timpanogos Cave Committee. Cat #922. U.S. Forest Service. American Fork, Utah. April 26, 1922.

42 "Clubs Meet and Discuss Policies of New Cave." *American Fork Citizen*. American Fork, Utah. May 13, 1922.

43 "350 People Make Trip Thru Cave Decoration Day." *American Fork Citizen*. American Fork, Utah. June 3, 1922.

44 "Cave of Wonders Attracting Many." *American Fork Citizen*. American Fork, Utah. June 17, 1922.

45 "Timpanogos Cave Opened to Public." *American Fork Citizen*. American Fork, Utah. May 27, 1922.

46 Walker, Rex. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. Dec. 5, 2005.

47 "Many Visit Cave During Summer." *American Fork Citizen*. American Fork, Utah. October 7, 1922.

48 "A Flower Garden a Million Years Old." *American Fork Citizen*. American Fork, Utah. July 1, 1922.

49 "Man Arrested at Timpanogos Cave." *American Fork Citizen*. American Fork, Utah. July 15, 1922.

50 Parkinson, Dana. Letter to Thomas Walker. Cat #1480. Washington D.C. Jan 29, 1961.

51 Ibid.

52 Ibid.

53 Harding, Warren G. Timpanogos Cave National Monument-Utah. Proclamation 1640 of October 14, 1922. U.S. 42 Statute 2285.

CHAPTER IV

The Forest Service & The Timpanogos Outdoor Committee

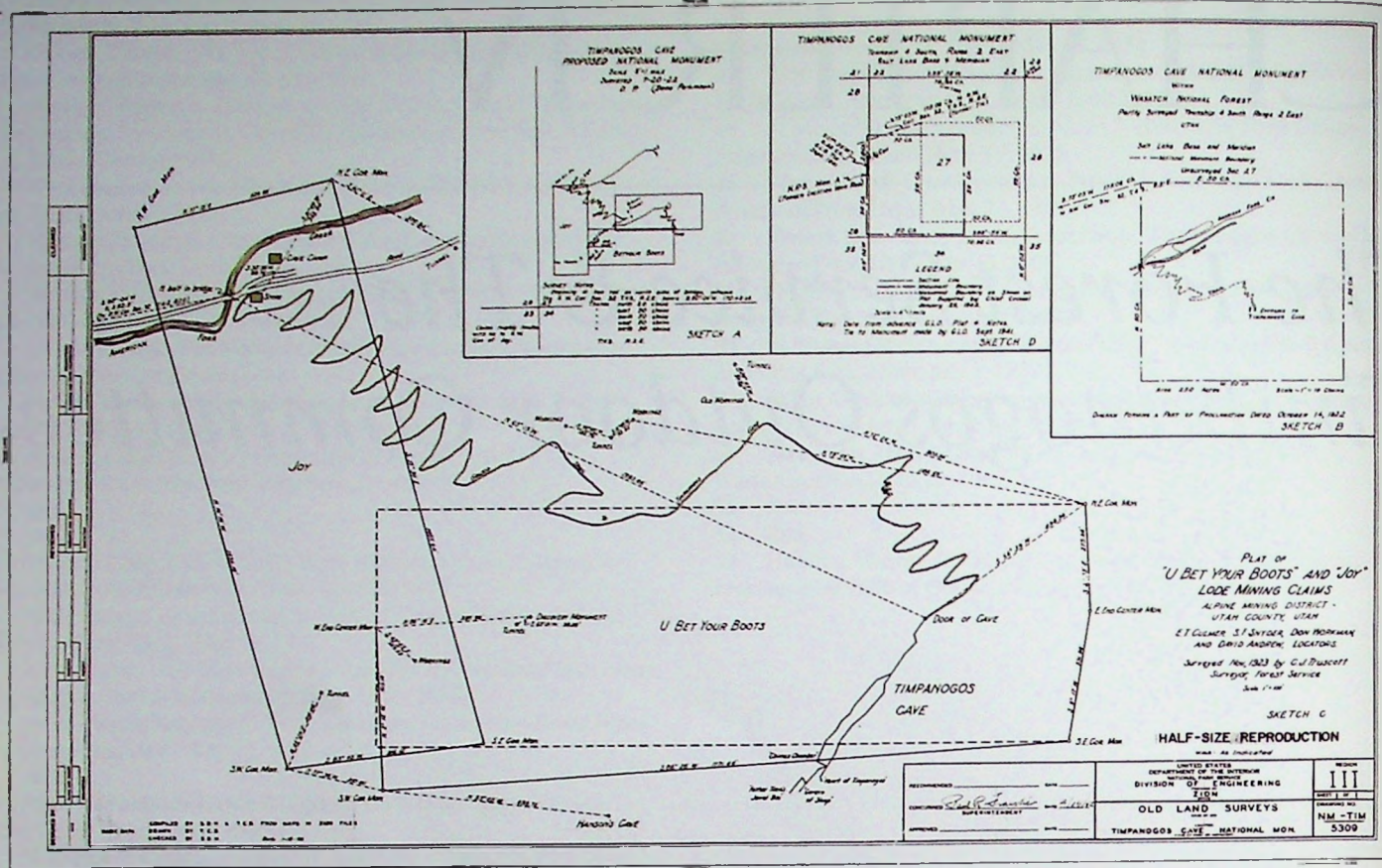
The proclamation of Timpanogos Cave National Monument only brought temporary relief to the Forest Service and the local supporters. Despite the proclamation granting protection to the caves, it did not resolve the issues surrounding the Joy Group mining claims.

Immediately after the declaration, the Joy Group began to contest their rights to the land and dispute the designation of the monument. On October 31, 1922, David Andrew of the Joy Group wrote a letter to President Harding stating that they had legal claim to the cave and asked for Harding's support in protecting their rights from the Forest Service. Following this letter and in attempt to address the controversy, the Forest Service requested a hearing at the General Land Office to contest the claims.

On November 26, a hearing convened before the Register and Receiver of the General Land Office in Salt Lake City, Utah. Manley Thompson, solicitor for the U.S. Forest Service Regional Office in Ogden, Utah, conducted the case on behalf of the Forest Service. Thompson summoned several Forest Service officers and various members of the involved clubs to testify on behalf of the creation of the monument. Additionally, private citizens raised money to hire an expert mining geologist, who presented charts and data that demonstrated that the Timpanogos Cave area did not contain enough profitable minerals to "justify a prudent man to invest his time and money" as required by the General Mining Act

of 1872.¹ Lawyers representing the Joy Group also hired a geologist from the University of Utah to back the mine claims and validate the claimant's mineral theories about the caves. At the conclusion of the hearing and following the numerous testimonies, the Register and Receiver ruled in favor of the Forest Service and declared the Joy Group claims invalid.²

Even as these litigations were in process, operations at the cave continued and an estimated 10,000 people visited the Timpanogos Cave during the summer of 1922. Monument staff found the daily routine of providing tours for large numbers of visitors, maintenance duties at Cave Camp, and dealing with the strenuous trail physically demanding. This active workload proved too strenuous for Ranger Hammer, and he transferred from his post at Timpanogos Cave National Monument in the fall of 1922. To fill the vacant position, the Timpanogos Outdoor Committee promoted Mick Halliday to Ranger-in-Charge. Although the committee hired and paid Halliday, the Forest Service needed to approve this promotion. Although this type of management arrangement was not common in the Forest Service, there were a few similar situations on other Forest properties in the country. To accommodate these associates, the Forest Service granted specific non-federal employees a "collaborator appointment" which authorized these individuals to perform certain functions in an official or quasi-official capacity. Halliday's position fell in this category, and although he worked for the Timpanogos Outdoor Committee, he often wore a Forest Service



Mine Claims at Timpanogos Cave National Monument

uniform and ranger badge during his employment at the monument.³

In the fall and winter of 1922 to 1923, Halliday, in addition to his regular responsibilities, began construction on a stone-frame store for concessionaire use and a residence for the cave custodian. In addition to these two buildings, Halliday also replaced the two small pit toilets in the campground with a much larger building near the trailhead.⁴ Halliday constructed the residence known as "Wood House" across the road from the trailhead in the west corner of Cave Camp. He



Cave Store

built the house with four small rooms and a screened-in porch.⁵ Halliday build the concessions store with a rock foundation and a wooden frame at the base of the cave access trail. It had a large porch on the west side, a small sales area, and a kitchen and bedroom on the east side of the building.⁶

Though Halliday completed the concessions building that winter, concessionaires had been operating during the first summer. In the summer of 1922, Basil Walker opened a small concessions operation in Cave Camp. His facilities originally consisted of two tents with a rain fly in between. He used one tent for food preparation and storage, the other for living quarters, and the fly-covered space for dining. In the fall, the Forest Service granted Basil Walker an official permit to continue concession operations in Cave Camp. Walker assisted Halliday in completing the store⁷ and initially funded the project. The Timpanogos Outdoor Committee later reimbursed him for the building donations.⁸ Upon the completion of the structure, Walker and his family moved into the building and would live in it during the summer months for the next several years.

In addition to concessions operations at Cave Camp, Walker also operated a concessions counter at the Timpanogos Cave Entrance particularly because water was not available on the trail or in the cave. During the first summer, guides took water from cave lakes for

drinking but this practice quickly ended as the lake water levels decreased and the water became contaminated by the littering habits of visitors. To resolve this issue, Walker sold bottled soft drinks at the cave for 10¢ per bottle. He packed beverages up the cave access trail and stored the soft drinks in the naturally cool cave.⁹ Staff did not find an alternative solution to the drinking water problem until 1939, when the Hansen Cave Entrance opened for tours that enabled staff to pump water from Hansen Cave Lake.

During the summer of 1923, guides began to recognize the problem with the sporadic arrival of visitors throughout the day. The ranger at the cave entrance could not observe the entire length of the trail from the cave entrance and if visitors did not appear, the ranger would often hike down the mountain to work on the trail or campground. Invariably a visitor would show up for a cave tour and the ranger would have to make the arduous climb again. Initially they solved this problem by having the concessionaire alerting rangers to the presence of visitors with the honk of a car horn.¹⁰ Later this system improved when staff installed a ground-return telephone. Rangers could contact the ticket seller via telephone

and record the number of visitors and their projected time of arrival. This information allowed guides to make practical adjustments to their schedule.

In addition to the improved communication and scheduling, interpretive programs in the cave began to take shape. Early in the 1920s, Eugene "Timp" Roberts began telling his "Legend of Timpanogos" as a part of the festivities preceding the annual Mount Timpanogos Hike. The Legend told of the deaths of two Indian lovers whose hearts were fused to the ceiling of Timpanogos Cave. In 1922, Roberts published this story and locals quickly accepted this modern story as an authentic Indian legend.¹¹ Guides soon incorporated this story into their tours and often told dramatized versions when showing the Heart of Timpanogos.

Interpretive improvements at the monument continued with the first attempt to interpret the geology of the canyon to the visitors in 1924. Rangers placed signs along the cave access trail describing faults, unconformities, and various rock formations. Gradually they expanded this, placing signs to describe canyon flora and by 1927, interpretive displays identified many of the common plants, shrubs, and trees.¹³

The Legend of Timpanogos



Long, long ago there were Indians that lived on Timpanogos. Every year they gave a sacrifice to the Great God Timpanogos.

This one year it was very dry, and the Indians thought the great God was angry.

The Chief had a young daughter, who was very beautiful. She was of age to be chosen. All the young girls in the tribe were blindfolded and given an opportunity to choose a pebble from a pottery dish. The young princess, Utahna, chose the black pebble. It was her fate to go upon the mountain.

All her tribesmen were sad and they wanted someone else to go instead. But, she bade her friends goodbye and

ascended the mountain, winding her way towards the highest peak.

When she reached the top, she knelt in prayer. Begging for rain, she held her arms outstretched. A handsome young brave had seen her and followed her. "Please do not jump!" he said.

She thought he was the Great God of Timpanogos. He led her to a cave. Here they lived together, because they had fallen in love.

One day he was attacked by a bear and injured. Because he was hurt, she knew he wasn't the Great God Timpanogos. She cared for him until he got well. Then she left one morning very early to ascend the mountain.

When the sun was up, she reached up

her arms and leaped to the crags below. The young warrior gathered her broken body in his arms and carried her to the cave. Here the two hearts were made into one, as we can still see the Great Heart of Timpanogos.

If you look closely at the mountain, they say you can still see the outline of Utahna in Mount Timpanogos, where she was found by Red Eagle.¹²



The Great Heart of Timpanogos

C. L. Joy

With the immediate success of cave tours and other monument programs, the Timpanogos Outdoor Committee easily raised sufficient funds to install an electrical system more suitable for the cave environment. The system upgrade began with the replacement of the existing feeder line with a 6600-volt line and employing a heavier gauge galvanized wire that would carry power from the canyon power plant to the Timpanogos Cave Entrance. Within the cave, they removed the wiring, previously strung between wooden pegs, and installed a new feeder line of Parkway Cable. The men found transporting these items to the cave a challenging task. Two dozen men carried one long piece of cable, weighing more than 1,000 pounds up the forty switchbacks of the cave access trail. Although transporting the cable only took the men an hour and forty minutes, they spent the remainder of that day and all of the next cautiously threading it through the cave. Dr. Plum, consulting electrical engineer from the General Electric Company and head of the engineering school at the University of Utah, supervised the cable placement. The higher voltage provided by the new cable also required the crew to install a new transformer at the cave entrance. The workers hauled the transformer to the cave on a horse-drawn stoneboat, which proved tedious as it required seven

men and two days to pull it around the many hairpin turns of the trail.¹⁴

In addition to replacing the power cable, Dr. Plum made several changes to the feature lights. He experimented with lighting cave features indirectly, which he determined successful and used it wherever possible. Additionally, he connected circuit lines to each switch allowing rangers to control the lights in separate sections of the cave. As with the previous lighting system, he left colored lights at the Great Heart of Timpanogos, Father Time's Jewel Box, and the Chocolate Fountain. However, after several visitor complaints, rangers replaced these with clear bulbs with the exception of the red bulb behind the Heart of Timpanogos.¹⁵

Shortly before the installation of the new cave lighting system, surveyors completed the first cave mapping. Charles J. Truscott, Forest Service Surveyor, completed a simple survey of Timpanogos Cave and included the Joy Group mining claims. He added to this survey in 1925 when he mapped Middle Cave and the Tank Room and Root Passage of Hansen Cave. In January 1925, Truscott published the survey results as a lineplot map at a scale of fifty feet to the inch. He called the three caves the "Timpanogos Cave Group."¹⁶ This map contained a plan and profile view of the survey but

lacked passage detail and the vertical profile of the Root Passage. The existing map and several wooden survey pegs in the ceiling of Hansen Cave, one with a brass tag with the letter "J" stamped into it, are all that remain from this early survey.¹⁷

In the early 1920s, Stephen T. Mather, Director of the National Park Service, worked constantly to promote national parks. Many national parks and monuments remained relatively unknown to the American people. In an effort to boost visitation and promote the National Park System, Mather organized transcontinental tours with the assistance of the *Brooklyn Daily Eagle* newspaper, where groups would visit several parks on a multi-week trip.¹⁸ These tours became very successful and in 1924, one of these tours made a visit to Timpanogos Cave National Monument. Although two years had passed since the proclamation, Timpanogos Outdoor Committee had not held an official dedication. On Friday, July 25, 1924, the *Brooklyn Daily Eagle*, led by well-known newspaperman and radio commentator H. V. Kaltenborn, visited Timpanogos Cave National Monument to attend the dedication. The staff organized a large ceremony at the monument with New York Publisher Alvah Davison presenting the dedicatory speech.¹⁹

Other unusual visitors came to see the cave the following year. Ranger Mick Halliday was surprised early one morning when a media group from the Fox Corporation came to film the cave. Dr. Lowry Nelson and H. R. Merrill from Brigham Young University previously mentioned the nearby scenic areas of Timpanogos Cave, Alpine Scenic Loop Road, and the Mt. Timpanogos Trail to the Fox Film Exchange. The Exchange relayed the message to the Fox Corporate offices in New York where the manager responded with a telegram saying, "We want the cave now."²² Before the men could send word to the Timpanogos Outdoor Committee, Fox staff came to film the cave to meet an early April 8th deadline. Halliday accompanied the group to the cave, supervising filming. They sent the footage to offices in New York City.²³ The Fox group hoped that the film would give people the opportunity to experience the cave without making the hike up the trail. Unfortunately,

the whereabouts and use of this footage is unknown.

In the mid-1920s, the monument experienced several changes in management, staffing, and visitation. In 1926, Joe Walton stepped down from his position and Leo Meredith became the secretary and treasurer of the Timpanogos Outdoor Committee. Simultaneously, Dana Parkinson left and E. C. Shepherd filled the Forest Supervisor position and just one year later, Arthur G. Nord replaced Shepherd. Nord served until 1934 when Timpanogos Cave National Monument moved to the

jurisdiction of the National Park Service. Over the years, Parkinson, Shepherd, and Nord regularly attended the TOC meetings and took more than just an official interest in the problems of the monument.²⁴

In the summers of 1925 and 1926, Forest Ranger Vivian West hired Thomas Walker to work as a cave tour guide. Walker continued to work seasonally while attending Utah Agricultural College (later Utah State University) in Logan, Utah and later served as the monument's first superintendent under the management of the National Park Service.²⁵ Also in 1926,

the Timpanogos Outdoor Committee changed its name. Though it is unknown if the group intentionally changed the name, after many years of using two names, the group committed to using the title: Timpanogos Cave Committee.

Beginning in 1926, the Timpanogos

Cave Committee (TCC) began to notice continual decrease in visitation. In

1923, visitation peaked with 15,570 visitors but then gradually declined during the years following. In an attempt to offset this decline, the TCC appointed volunteer guide Reed Warnick the responsibility of publicizing the monument.²⁶ Warnick published one of the first advertisements for the cave later that year, which appeared in the *Union Pacific Magazine*. This ad described many cave formations as "shaped in odd and droll figures which require little imagination to conjure into creatures from fairyland, humor, beasts, and fowls."²⁷ Warnick also described Timpanogos Cave as "one of

From 1924 to 1934, the Forest Service maintained a deer pen on the west boundary of the monument. Ranger Vivian West traveled to the Kaibab National Forest near the North Rim of the Grand Canyon, captured two does and a buck, and released them in American Fork Canyon. West monitored and fed the deer during the winter.²⁰ He released the deer in the summer but many would return during cold weather for winter feedings. When winters became especially severe, other deer would gather at the pen. Reportedly, from thirty to thirty-five animals regularly lived at this site.²¹



Deer Pen at Cave Camp
Walker Family Photograph



Pidgee at Timpanogos Cave

"American Fork," called the conductor. Pffffss-s--puff. The train stopped. Pidgee and Mother Mouse looked out. "Oh I want to get off the train and stretch my legs, it looks so nice outside," said Pidgee. "Be very careful, don't stay too long," warned Mother Mouse. Pidgee jumped down from the train. "I'll see if they have any good food in this LUNCH ROOM," he said. He was just rounding the corner of the station when he heard a shrill toot-loo-oot and saw the long train going down the track. Oh dreadful! Here he was in American Fork and Mother Mouse was on the train speeding farther and farther away. What should he do? At the other side of the station a crowd of people were getting into an auto. Pidgee heard one of them say "After we have seen all the sights, we'll get the train at Provo." Of course Pidgee thought that must be the train he had missed. Here was a chance to do some sight-seeing and catch the train again. So he climbed up in the spare car and hoped he wouldn't be seen. They went over a winding track and into a beautiful canyon between towering mountains. All at once—thump! The train went over a bump! Pidgee shot into the air and down into a bunch of bushes by the track. The train kept right on going. Of course nobody missed Pidgee for no one had known he was there. Pidgee was not really hurt, but he was rather afraid in the bushes all alone. He trudged on and on down the track, growing more and more tired. Then it began to grow dark. Pidgee was lost and dreadfully frightened. At last he came to a cave in the side of the canyon. As he felt along the walls, what do you suppose he found?—An electric switch! Presto—He had lighted the whole cave, and oh how beautiful it was! "It must be Jack Frost's home," thought Pidgee as he gazed at the glittering frosted formations that hung from walls and ceiling. In the center a clear lake mirrored the fairyland around it. Pidgee curled up and went to sleep. He was awakened next morning by a deep voice saying, "This is famous Timpanogos Cave." It was the guide with a number of people. They laughed heartily over Pidgee's predicament. Then he put Pidgee up on his back to ride. When they returned to American Fork, he put Pidgee on another train and explained to the conductor what had happened. When the train stopped at Provo, there was Mother Mouse waiting for Pidgee. My but he was glad to see her and tell his adventure!

Frances E. Pfeiffer

Pidgee is the product of our staff artist and is published exclusively in *The Union Pacific Magazine*.



Visitors waiting for tour at Timpanogos Cave Entrance

the earth's jewels" and the canyon as the "Switzerland of America."²⁸ Later, a calendar was published showing a C. L. Joy photograph of Timpanogos Cave's Hanging Gardens and the stalagmite named "Gulliver's Candlestick." Visitors could purchase the calendar at the American Fork Co-operative Institution.²⁹ To supplement Warnick's efforts in May of 1929, the TCC launched a radio advertising campaign, sold season passes, and distributed windshield stickers.³⁰

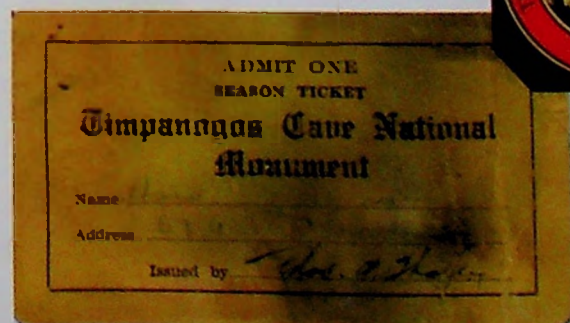
In conjunction with advertising articles, Warnick published a document discussing the unusual geology of Timpanogos Cave. He stated that the formations developed over thousands of years of "nature's artistry." Warnick researched the development of helictites and consulted with George P. Merrill from the U.S. National Museum, who helped him to theorize that "capillarity" water movement contributed to the development of helictites, that through surface tension, water could creep upward leaving mineral deposits and aiding helictites in "defying gravity". In addition to the helictite theory, Warnick also claimed in this document that "as proof of the freshness of [the] water, a goldfish was placed [in a] cave pool and lived for 18 months".³¹

Additional efforts to increase visitation involved improving Cave Camp, the cave tour trail, and the cave access trail. Ranger Halliday built 125 picnic tables and then distributed them throughout the canyon. He and his staff replaced the pit toilets in Cave Camp with flush toilets. Inside the cave, the improvements included replacing wooden walkways and stairs with steel, and enlarging several sections of the tour trail.³² Lastly, they rebuilt sections of the cave access trail that showed

excessive damage from the preceding winter.

The monument made another attempt to improve visitation by advertising cave tours with its first documented brochure, published in 1930. This brochure announced that rangers conducted tours year-round but because of snow, few visitors came to the cave between November and April. It described the lighting, stating that the guides did not carry "hand flash lamps" because the cave lighting included "spots, clusters, reflectors, indirects, glows and the full prism list of colors to set off the cave features." The brochure also quoted J. Cecil Alter's unusual description of Timpanogos Cave in his book, *Through the Heart of the Scenic West*. He described the cave as:

[An] inner vestibule [that] resembles an immense papillae-covered throat, frosted over and congealed. [Nearly] the entire interior cave surface is thinly thatched with a macaroni like filigree. . . frosty feather boas, and neatly



Cave tour ticket and sticker

braided wreaths trimmed the walls and corners. Fine coral forms betoken the purity and perfection of the designs.³³

Finally, the brochure included J. J. Beeson's geologic description of Timpanogos Cave, theorizing the caves development by sulfuric acid.³⁴

Despite all the efforts to publicize Timpanogos Cave, in 1929, the entire country sank into the Great Depression. As a result, many people viewed cave tours as a luxury and visitation continued to decrease with only 8,544 visitors in 1930. Ranger Vivian West further attributed the low numbers to radio announcements claiming the canyon roads to be dangerous and impassable. He attempted to rectify the negative press by reporting to the *Salt Lake Tribune* as to the good condition of the canyon roads and not dangerous to automobile tourists in any way.³⁵

In addition to low visitation, the Timpanogos Cave Committee faced another unexpected challenge on February 24, 1930 when American Fork City filed with the State of Utah for the water rights on the Cave Camp spring. Through an oversight, neither the Forest Service nor the TCC had legal claim to the water used for the Cave Camp facilities. In response, the Forest Service filed a similar claim that same day. This conflict resolved itself by the summer of 1931, when drought conditions and low elevations of the cities intake boxes caused the Cave Camp spring and the campground water system to run dry. As a result, to maintain Cave Camp, staff took water directly from the American Fork River. Subsequently, American Fork City attempted to access the Cave Camp water and tried to mine for water in the hillside behind the Cave Camp spring. Men dug a mine tunnel into the hillside with a shaft straight down at the back to access the water. However, the water levels never reached a height that would promote independent water flow out of the mine opening.³⁶ Fortunately, they located another spring in Swinging Bridge Canyon, which produced a flow similar to Cave Camp Springs of 0.3 cubic feet per second. The TCC quickly made a reciprocal agreement with the city for shared water rights, and then laid pipes from the new water source to Cave Camp.³⁷

Area developments continued through the Depression when the Forest Service contracted Paul Paulsen to improve and realign the canyon road in 1932.³⁸ The improved road would make traveling easier for visitors to drive to the monument and the canyon. Over the following two summers, Paulsen worked with a crew of thirty to forty men constructing a road over the old road and former railroad bed.³⁹ In addition to road work in the canyon, many worked to rebuilt and gravel highways outside the canyon with two separate five-mile sections of road. One of these road improvements extended from the town of Pleasant Grove to the mouth of the canyon and the second from American Fork City to the canyon. With all these projects connecting and improving travel routes, monument staff recognized a slight increase in visitation in 1935.⁴⁰

Despite all the efforts to advertise, promote, and improve the monument, the effects of the Great Depression could not be combated and further additional negative events occurred that influenced management policies in the early 1930s. At this time, the estimated budget of monument operations cost the Timpanogos Cave Committee approximately \$2,200 per year. The TCC transferred its operating funds to the nearby People's State Bank of American Fork in 1932.⁴¹ However, later that year the bank, as with many others, fell victim to the Great Depression and closed for several months, preventing the TCC from accessing the monument's account.⁴² To prevent the bank from closing entirely, Clifford E. Young, a TCC member and manager of the bank, and several other bank employees sold and mortgaged personal property to raise the necessary funds for the bank's survival.⁴³ Their efforts worked and several months later the bank reopened, allowing the TCC to access funds and resume transactions.⁴⁴

Another unfortunate event occurred early in the early 1930s when the monument experienced its first recorded fatality, when rockfall killed a young girl visiting Timpanogos Cave with her family. Witnesses stated that the girl sat on a bench outside the Timpanogos Cave Entrance waiting for her tour when a rock fell from the cliffs above hitting a nearby post and breaking it in half. Another rock followed immediately after that hit her in the head. Still another rock hit the bench breaking it length-wise and pinning her between the boards, preventing her from tumbling down the mountain. A nearby ranger swept her up in his arms and ran down the mountain for medical help. Despite the quick actions of the ranger, the young girl died from her injuries.⁴⁵

Likely as a result of this and various other accidents in the canyon, in 1933, the American Red Cross asked Ranger Tom Walker and his wife Lucile to open a Red Cross First Aid Station in the canyon. Following the death of the young girl, both Tom and Lucile felt they needed to receive first aid training and then continued on to acquire instructor certifications. This station would treat injuries from the various accidents in the canyon that occurred in the following years.⁴⁶

In 1933, Halliday resigned his position at Timpanogos Cave National Monument to take a post as a fire guard. Shortly thereafter, he died in a car accident on the Alpine Loop Road. Upon his departure, the Timpanogos Cave Committee asked A. Russell Croft, a naturalist from Weber High School, to manage cave tour operations during that summer. The TCC then selected Kenneth Maughn to take the post as Ranger-in-Charge that fall, when Croft returned to teaching school.⁴⁷

The years following the proclamation that created Timpanogos Cave National Monument were eventful and trying. The Timpanogos Cave Committee, with the assistance of the U. S. Forest Service, became more comfortable with operations and dealing with the dynamic issues and conflicts. Despite local and national issues, visitors came regularly Timpanogos Cave National Monument and many local citizens maintained a close

relationship with the area. The monument endured the pressures of the Great Depression and remained open throughout its strains. The monument proved a resilient and valuable addition to the national parks and monuments of the country.

Reference

- 1 Parkinson, Dana. Letter to Thomas Walker. Cat #1408. Washington D.C. 1961.
- 2 Ibid.
- 3 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 4 Ibid.
- 5 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 6 Walker, Lee. Notes from Lee Walker. American Fork, Utah. Aug 22, 1994.
- 7 Timpanogos Cave Made National Monument by President Harding. *American Fork Citizen*. American Fork, Utah. Oct. 21, 1922.
- 8 Walker, Rex. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 2005.
- 9 Walker, Rex. Interview by author. Kamas, Utah. Sept. 3, 2003.
- 10 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 11 Roberts, Eugene L. The Legend of Timpanogos. Provo, Utah. 1922.
- 12 Luke, Theron H. "The Legend of Timpanogos." *The Herald*. Provo, Utah. July 25, 1982.
- 13 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 14 Ibid.
- 15 Walker, Thomas. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1969.
- 16 Truscott, Charles J. Timpanogos Cave Group Map. Cat #1243. Wasatch National Forest. 1925.
- 17 Horrocks, Rodney. Timpanogos Cave Resurvey Project, 1991-1992. NSS News Vol. 52:1. 1994.
- 18 Shankland, Robert. Steve Mather of the National Parks. Alfred A. Knopf, Inc. United States of America. 1951.
- 19 "Eagle's Tourists to Spend 42 Days in Sightseeing." *Brooklyn Daily Eagle*. Brooklyn, New York. 1924.
- 20 Walker, Alan. Interview by author. American Fork, Utah. 2004.
- 21 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 22 Merrill, Harrison R. Letter to Stephen L Chipman. Cat #991-5. Provo, Utah. April 21, 1925.
- 23 Ibid.
- 24 Iorio, Ralph. *The History of Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1968.
- 25 Personal History of Thomas A Walker. American Fork, Utah. 1995.
- 26 Warnick, Reed. Oral History Collection. P 15. Brigham Young University. Provo, Utah. Feb 10, 1983.
- 27 Warnick, Reed. Under the Spell of Timpanogos: A trip to Utah's American Fork Canyon, Mt. Timpanogos and Timpanogos Cave. *Union Pacific Magazine*. Vol. V No. 6. June 1926.
- 28 Ibid.
- 29 Joy, Charles L. Calendar 1924. American Fork Cooperative Institution. Cat # 3042. American Fork, Utah. 1924.
- 30 Meredith, Leo. Timpanogos Cave Committee Minutes. American Fork, Utah. May 11, 1929.
- 31 Warnick, Reed. The Geological Phenomena of Timpanogos Cave. Cat #3112. Timpanogos Cave NM. American Fork, Utah. 1928.
- 32 Bullock, Kenneth G. Geologic Notes on the Timpanogos Caves: Utah's Fairyland. Technical Note #14. Salt Lake Grotto, NSS. July 1954.
- 33 Wasatch National Forest. *Timpanogos Cave National Monument*. Cat #793. Timpanogos Cave NM. American Fork, Utah. 1930.
- 34 Ibid.
- 35 "Timpanogos Cave Visitors Decreasing; Radio Blamed." *Salt Lake Tribune*. Salt Lake City, Utah. December 5, 1930.
- 36 Walker, Rex. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 2005.
- 37 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 38 Keetch, Gary Vern. Impact of Man in American Fork Canyon. Brigham Young University. Provo, Utah. May 1968.
- 39 "Canyon Road Work Resumed." *American Fork Citizen*. American Fork, Utah. February 7, 1933.
- 40 Keetch, Gary Vern. Impact of Man in American Fork Canyon. Brigham Young University. Provo, Utah. May 1968.
- 41 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. July 9, 1932.
- 42 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 43 "Bank of American Fork History". Bank of American Fork. www.bankaf.com (accessed Feb 2004).
- 44 Nord, A.G. Letter to Leo Meredith. Cat #991-5. U.S. Forest Service. American Fork, Utah. August 3, 1932.
- 45 Walker, Rex. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 2005.
- 46 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 47 Ibid.

CHAPTER V

The National Park Service & The Timpanogos Cave Committee



Timpanogos Cave National Monument experienced an unexpected change in management in 1933. Although the local Forest Service office felt comfortable managing the small monument and its leaders personally involved in its issues, changes in Washington converted management responsibility of all national monuments to the National Park Service. While this switch could have resulted in a dramatic impact on the management of Timpanogos Cave National Monument, the Park Service allowed the Timpanogos Cave Committee to continue supervising operations--an uncharacteristic action for the Service. This allowance enabled a more gradual transition from the directives of the U. S. Forest Service to the directives of the National Park Service.

The transfer of Timpanogos Cave National Monument to the National Park Service was not a singular event but rather one resulting from the general reorganization of the entire Executive Branch of the U.S. Government during President Franklin D. Roosevelt's administration. On June 10, 1933, Roosevelt signed Executive Order 6166 creating the legislative mandate to enact changes to the structure of the Executive Branch of the government. National Park Service Director Horace Albright spent several years campaigning for the consolidation of national monuments and war sites.¹ Through this reorganization, "public buildings, national monuments, and national cemeteries" transferred to the jurisdiction of the National Park Service.² The War

Department released management of several historic war sites and the U. S. Forest Service released sixteen national monuments to the National Park Service. The Forest Service transfer not only included Timpanogos Cave but also three other monument cave sites. Timpanogos Cave, Oregon Caves, Lehman Caves, and Jewel Cave would join those caves already managed by the National Park System- Mammoth Cave, Carlsbad Caverns, and Wind Cave.³

Roosevelt designated August 10, 1933 for Executive Order 6166 to take effect, long-standing disagreements between the U. S. Forest Service and the National Park Service delayed the transfer of many national monuments for several months.⁴ Although initially slow in responding to the order, the Forest Service appealed Executive Order 6166 claiming that the monuments "were essential to the work of this department and should not therefore be transferred."⁵ On January 28, 1934, the Forest Service's appeal was rejected and Secretary of the Interior Harold Ickes issued a statement that all national monuments under the jurisdiction of the U. S. Forest Service at that time would transfer to the National Park Service. On July 1, 1934, Zion National Park Superintendent Preston P. Patraw officially assumed the administrative responsibility of Timpanogos Cave National Monument and the Timpanogos Cave Committee began to organize the transfer of administration to the National Park Service.

Although the administering agency changed, few immediate or drastic changes occurred at an operational



Ranger Parley Robinson

level. Zion National Park administration acquired management responsibility of the monument as well as that of a few other parks, but received no additional funding to support any other operations. Superintendent Patraw quickly issued a Special Use Permit to the Timpanogos Cave Committee for the purpose of "conducting guided trips through Timpanogos Cave, collecting fees therefore and expending such revenues for supplies and services necessary in the operation, maintenance and improvement of [the] said monument."⁶ Ranger Vivian West, who served as a member of the Timpanogos Cave Committee for twelve years as a U. S. Forest Service representative, vacated his position with the group. Superintendent Patraw from Zion National Park assumed West's position to represent the National Park Service.⁷

Under the management of the National Park Service, guides became subject to a variety of rules and requirements regarding personal appearance and instructed to enforce rules aligned with the mission of

the NPS. The National Park Service required guides to have hair cut short, a clean-shaven face, and wear the NPS uniform. Guide Parley Robinson became the first to purchase a uniform. National Park Service rules also encouraged guides to enforce rules on cave tours such as not touching formations and prohibiting smoking.⁸

Just prior to the official transfer of the monument to the National Park Service, the Forest Service and the TCC made several changes to the staff. Kenneth Maughn resigned his position as Ranger-in-Charge in March after working in the position for just a few months. By April 1, 1934, Thomas Walker filled this position, now titled Custodian or occasionally "Cave Keeper," with a starting annual salary of \$1,000. Walker spent previous seasons working as a seasonal ranger in a variety of capacities for both the Forest Service and the Timpanogos Cave Committee. The Forest Service originally intended for Walker to maintain the custodial position only until the National Park Service took over on July 1, but at that time Zion National Park appointed him Ranger-Custodian



Surveyors ascend to Hansen Cave

in American Fork Canyon and was paid by the TCC through the collected fees.⁹ As Custodian, Timpanogos Cave Committee inducted Walker as a new member. In addition to hiring Walker, the Timpanogos Cave Committee hired two high school students, Clifford E. Young Jr. and Barratt Chadwick. These new employees worked during summer months assisting Walker with maintenance projects and cave tours.¹⁰

Although the transition to the National Park Service changed management at the monument, the Timpanogos Cave Committee already planned for a bigger change to the tour operations. In the months preceding the administrative change, the Timpanogos Cave Committee held a meeting on July 24, 1933, where they decided to connect the Hansen, Middle, and Timpanogos Caves via tunnels. The original design plan stated that the connection from Hansen Cave to Middle Cave would require only 31 feet of blasting, and an additional 121 feet to connect Middle Cave to Timpanogos Cave. As the project began to develop, the committee became increasingly concerned that blast smoke from tunnel construction would mar cave formations as had occurred during the blasting for the Timpanogos Cave tour entrance 1921. Additionally, the committee determined that before construction of the tunnels could commence, they would need to build an improved trail to Hansen Cave. This portion of the project would require several years, various attempts at trail design, several work groups, and avoidance of its demise through the transition of the monument between two agencies with differing ideals. Following the meeting, Secretary of the Timpanogos Cave Committee Leo Meredith applied to what the Roosevelt administration called the Civilian Conservation Corps to assist in the upcoming projects.

As the Great Depression continued to grip the country, President Franklin D. Roosevelt formulated ideas to improve the poor economy and create jobs. Through his efforts, he created a series of programs and plans collectively called the New Deal. The New Deal created the Civilian Conservation Corps (CCC), a work relief program for young, unemployed men that focused primarily on conservation-oriented projects, many of which on National Park and U. S. Forest lands.¹¹ A CCC group was organized locally in 1933 and soon began construction on the new trail to Hansen Cave by cutting a zigzagging trail into the cliffs.

The work on the new trail began near the mid-point of the access trail to Timpanogos Cave with the CCC crew cutting a path two feet wide into the rocky slopes. The men worked hard in difficult terrain. Finally, after several accidents caused by the challenging working conditions, the Timpanogos Cave Committee elected to suspend the project temporarily. In one reported incident, Elby Hollis of Salt Lake City worked on a narrow ledge when it gave way and he fell twenty feet. Although not seriously injured, Forest Service Supervisor A. G. Nord rushed Hollis to the hospital where doctors treated him for a broken wrist and several scratches to his face and head.¹² Three years later the project would resume under the

direction of the National Park Service.

Tours at the monument continued despite the changes in administration and construction projects. The decline in visitation caused by the Great Depression reached an all time low in 1933 with only 3,962 people visiting the cave. In an attempt to counteract this trend, the TCC launched an aggressive advertising campaign. Radio advertising continued as well as advertisements in the local magazine *The Improvement Era*, aimed at the LDS church, school and other groups. The committee also announced a contest to local service stations to compete by fitting the greatest number of cars into the Cave Camp area.¹³

Concessionaires also attempted to promote visitation with a moderately successful venture that brought large tour groups from Salt Lake City to visit Timpanogos Cave. Bus loads of twenty to twenty-five people came to the monument. These visitors received a cave tour and following their tour, Florence Walker, wife of concessionaire Basil Walker, would have a hot meal waiting for them upon their return to Cave Camp. In addition to facilitating tour groups, the Walkers also sold candy, soda pop, and postcards at the entrance of Timpanogos Cave to visitors awaiting cave tours.¹⁵ Walker carried sodas and other supplies up the trail on his back or by a mule known as "Hattie."¹⁶ As the country began its slow climb out of the Depression, these attempts to draw visitors were successful and visitation began to slowly increase.

In addition to promoting tours, Monument staff also began to participate and sponsor several research projects. In 1935, the Utah State Agricultural College, later Utah State University, initiated a cooperative agreement with Timpanogos Cave National Monument whereby monument staff would conduct monthly snow surveys to measure the available water in the American Fork River drainage basin. Staff would collect data from several areas in the canyon including the Timpanogos

Divide, Altamont, Timpooneke, and Mutual Dell.¹⁷ Thomas Walker, the individual originally given this responsibility, would often walk, snowshoe, or ski from Cave Camp to these sites to gather the measurements, and in many instances, on his personal time. Walker initially sent reports to the college and later to the Weather Bureau. In 1954, the Soil Conservation Service took over the snow survey, yet Walker continued collecting the data until 1983 when he was eighty years old.¹⁸

Also in 1935, Regional Geologist Vincent W. Vandiver of the National Park Service visited Timpanogos Cave for a geologic evaluation. In his reports, Vandiver noted the varying geologic features along the cave access trail and identified the name of each geologic formation. He also quoted the J. J. Beeson theory of the sulfuric acid origin of the caves in his report and suggested using another blasting powder in the upcoming tunnel project.¹⁹

As planning for the tunnels and new access trail began again, American Fork City acquired approval from the NPS director to change the stream channel that flowed through Cave Camp.²⁰ The city hoped to protect the water supply from chemical treatments and the

pending construction activity at the monument.

During the Timpanogos Cave Committee annual meeting held on March 1936, a representative from Zion National Park revealed to the committee of a National Park Service allocation of \$11,000 towards the developing, landscaping, and engineering required to connect the three caves.²¹ Additionally, Zion NP also announced they would send a survey crew to prepare for the projects. This group surveyed the caves in September 1935 and came again in the spring of 1936. During the later visit, surveyors encountered large amounts of snow that required them to tunnel fifteen feet through a snowdrift to access Timpanogos Cave. Due to the

1933 Radio Announcement

Make your outing educational for your family or for your organization by a trip to Timpanogos Cave National Monument in American Fork Canyon—the wonderland of phenomena. In addition to scenes of rugged grandeur and alpine forests along the Alpine Scenic Drive, the mysteries of Nature abounding in Timpanogos Cave and the flora and geology along the nature study trail

will make the day replete with thrills and information—All within one hour's drive over excellent highways from Salt Lake City or Provo, and but a few minutes from American Fork. An interesting folder describing Timpanogos Cave will be sent to you upon request by calling or writing the Forest Service: 467 Federal Building Salt Lake City, Utah or by addressing the station to which you are listening.¹⁴



Promotional postcard sold at Timpanogos Cave

necessity of extreme accuracy, surveyors turned each angle reading eight times and took level readings three times. The surveyors began planning the best route for the access trail to Hansen Cave for first the construction of the tunnels, and then later for visitor use when tunnels connected the caves. The men determined that the most practical solution for the access trail would be to complete, rehabilitate, and widen the trail begun 1933 by the Civilian Conservation Corps.²²

Before construction could begin on the tunnels, work crews need to finish constructing the access trail to Hansen Cave. Work on the trail commenced shortly after the survey crew had finished their work on April 20, 1936. Under the direction of foreman Joe Halverstadt, the organized trail crew consisted primarily of men recently laid-off at the nearby Yankee Mine.²³ The project began by widening the previous trail from two feet to four feet, then to construct a guide trail in the surface from Hansen Cave Entrance to the Timpanogos Cave Entrance. The crew hauled a compressor, used for air drills, up the trail on skids pulled by a horse. To provide platforms for the drillers who worked along sheer cliffs, the men drilled holes and inserted steel plugs,

and then balanced boards on the plugs. Clyde Birk, one of the drillers, occasionally drilled hanging over the cliff with a rope tied around his waist, which he considered an unnerving experience.²⁴

Initially the outlined plan stated that the tourist route would begin in Hansen Cave, pass through Middle Cave, and leave the cave system through Timpanogos Cave, then descending the mountain via the old access trail. The guides could then use the new guide trail to return to Hansen Cave for the next tour without needing to walk back through the caves. After considering the practicality of maintaining two trails in rugged terrain, management decided to abandon the upper portion of the old Timpanogos Cave access trail entirely. Instead, the crew adjusted the guide trail for departing visitors. By eliminating the original trail, the monument would save considerable sums of money on trail maintenance.²⁵ Work progressed quickly and by October 1936, the crew completed the trail and began constructing the tunnels.

As the crew prepared to begin blasting the first tunnel, Tom Walker invited Francis Foster, writer and photographer for the *Salt Lake Tribune*, to document Middle Cave before the cave trail and tunnel work



Lloyd West, Tom Walker, Walter Widman, R.T. McClelland, and Dilbert Dinkins Engineering Crew

altered the cave's appearance. Following the visit, Foster published an article that described his adventure. He reported to have entered the cave using ladders, crawling around the cave formations, and crossing "Lake Erie."²⁶ Photographing the cave and formations, he used a small-view Kodak camera with the aid of many flashbulbs. To obtain quality photographs in the dark cave environment, Walker illuminated each subject with a flashlight while Foster focused his camera. Once Foster focused his camera on the subject, Walker would step out of the frame and Foster would fire the flashbulb and capture the image.²⁷

Construction on the Hansen Cave Tunnel began at the end of October, but soon stopped because the dry drilling method compromised the health of the workers and discolored the formations.²⁸ The men reassessed the project and work began again on February 3, 1937, using a wet drill method. Experienced drillers set blast rounds set in a circular pattern surrounding a center blasting cap set to go off a fraction of a second before the others. This method caused the explosion to blow inward and minimized the outward blast of debris—protecting both workers and cave formations. The men used waste rock to level the floor of the cave by filling pits with the rock debris, and then took the remaining rubble outside of the cave. The crew broke into Middle Cave on February 23. The completed tunnel was approximately four feet wide by seven feet tall.²⁹

Regional Geologist J. Volney Lewis sent a letter to the Regional Director commenting on the placement of a cave tour trail through Hansen Cave and Middle Cave. Lewis emphasized National Park Service ideals by conserving the unique cave formations and rugged character of the caves, to which he described, "the true character of the cave is impressed upon the visitor by the necessity of stooping... [and] walking over uneven surfaces."³⁰ He further stated, "People that go into a cave do not demand an easy trail." Thus, Lewis proposed that the tour trail in Middle Cave should follow the natural course of the cave rather than what the National Park Service deemed preferable. He went on to suggest that they should avoid straightening and widening cave passages, give a vertical clearance of seven feet except where cave formations were present, and make only minimal adjustments to provide a safe tour trail.³¹

Shortly after completing the first tunnel, the crew began work on the second tunnel that connected Middle Cave to Timpanogos Cave. Original tunnel plans construction showed the tunnel beginning in the Coral Gardens, but upon the suggestions of Lewis, the tunnel opening moved to a wall adjacent to the Coral Gardens to avoid damaging the delicate formations in that area. Workers attached a rope blanket over the opening to catch flying debris and protect the crew and the formations. The crew again used debris to level the floor and fill depressions and pits along the Middle Cave fault passage. By July 1937, work ceased with the tunnel only partially completed as the project exhausted the allocated funding. To gain the necessary funding to complete the



Middle Cave Lake Column

F. Foster

Photo used by permission from Foster Family. All rights Reserved.

tunnel, Superintendent Patraw requested and secured an unobligated \$2,500 from Lehman Caves National Monument and tunneling resumed on May 2, 1938.³²

Tour operations continued at the monument as tunnel construction neared completion. Ranger Walker stood in the Chimes Chamber of Timpanogos Cave when tunnel crews detonated a charge. He described the experience: "The shock waves of the explosion started all the hanging limestone formations vibrating in high pitched tones at once. It was the most beautiful sound ever to touch my ears... as if the mountain were singing for joy."³³ As the tunnel neared Timpanogos Cave, the crew used less powder and shorter holes, until they broke into the cave on August 22. Driller Clyde Birk claimed that they constructed the tunnels with such care that only a "hat full" of damage resulted from the blasting.³⁴

Immediately after the completion of the tunnels, staff observed a change in the airflow through the caves and recognized the breeze passing between the three entrances. To reduce this effect, Walker placed heavy doors on the artificial entrances to Hansen Cave and Timpanogos Cave rather than iron grill work stated in the original plans.³⁵ The alteration of the air patterns left an additional impact. Shortly after the completion of the tunnels, Walker noticed that the moss that once grew on the trees near the natural entrance to Timpanogos Cave died without the cooler, moist air blowing from the caves.³⁶



Electrical Cable being carried to the caves

The next phase of the project involved installing a lighting system in Hansen and Middle Caves and updating the existing electrical system in Timpanogos Cave. The existing galvanized electrical system could not produce enough power to light all three caves. To prepare for a new power system, Utah Power and Light agreed to install a new copper wire from the American Fork Hydroelectric Plant to the Cave Store and in exchange could install power meter at the Cave Store and charge commercial rates. Tom Walker served as a supervisor on this project to ensure its completion. He secured further assistance from a Works Progress Administration (W.P.A.) crew—another work relief organization created through Roosevelt's New Deal program—to lay the power lines from the Cave Store to Hansen Cave.³⁷

Placement of the new lighting system occurred during that winter and involved a process similar to that of previous lighting installations. This system required teams of men to carry the new 6,600-volt transformer, feeder cables, and lighting fixtures to the cave and install the system more discreetly than in previous versions. Additionally, plans required that the placement of the

new transformer be situated to accommodate feeder cables for all three caves and thus they placed it at the Middle Cave Entrance. Since they could not splice the new feeder cable into sections, approximately twenty-five men carried a one thousand-pound, 950-foot long insulated cable up the trail to the caves. Each man looped the cable over his shoulder and spaced themselves at distances sufficient to prevent the cable from touching the ground. Once reaching the caves, the group spent the remainder of the day threading the cable through the caves, taking care to not damage any of the delicate cave formations.³⁸ To hide the cable, the men constructed the cave tour trail over it. To complete the project, the crew placed porcelain light shields around light fixtures to highlight various cave formations.³⁹ The Economic Recovery Administration (E.R.A.), which provided funding to alleviate unemployment, supplied funding in the amount of \$4,096; additionally the Timpanogos Cave Committee contributed \$3,070 for project costs.

Installation of the lighting system carried over into 1939. Upon the completion of the system in Hansen and Middle Caves, the men proceeded to replace the lighting system in Timpanogos Cave. Once completed, Tom Walker described the cave lighting as "...second to none in perfect illumination."⁴⁰

To prepare the cave tour trail for visitors, men placed iron mesh onto slippery surfaces on the path, and when necessary, installed steel catwalks and stairways. The mesh trails soon began to rust in the wet cave and the crew replaced the rusting metal with gravel, and then ultimately converted the trail to rock masonry or cement. Trail construction extended into Timpanogos Cave and the crew replaced the existing metal steps with rough-hewn limestone blocks.⁴¹

In March 1939, the E.R.A. funded several additional projects. The E.R.A. administration allocated a sum of \$7,412 for improvements to trail and picnic grounds as well as the construction of a restroom near the Hansen Cave Entrance. Staff found the latter a valuable addition, for until this time, only a small pit toilet at the Timpanogos Cave Entrance was available for visitor use. The W.P.A. crew built the new restroom from limestone quarried from the adjacent cliff, but transported the necessary sand and cement for binding the limestone blocks up the trail by horse and mule to the construction site.⁴²

The final phase of the developments at Hansen and Middle Caves included improvement to a small shelter cave near the Hansen Cave Entrance known as "the Grotto."⁴³ Crews developed this area into a waiting room, built rock benches along one wall for seating, and left a large natural opening to provide natural lighting.⁴⁴ To alleviate the perpetual need for water at the cave, they placed an electric pump, originally used to draw water from Hansen Cave Lake for cleaning formations during tunnel blasting, to supply drinking water to visitors.⁴⁵

In 1939 while projects neared completion, Timpanogos Cave National Monument experienced a few changes to the administration. Timpanogos Cave

Caught in an Avalanche



Crews worked on constructing the trail through the winter, despite the weather. Following a heavy snowfall during the early spring, Foreman Joe Halverstadt decided to ascend the trail for work. Tom Walker warned him of the high avalanche danger in the area but Halverstadt was concerned about being behind schedule and insisted on not missing another

day. Walker began to lead the crew up the mountain, using his skills in snow travel. He traveled ahead of the group, coaxing the horse that pulled the wooden plow used for trail clearing and for hauling drilling equipment. Walker stopped at Artist Point, a small lookout on the lower trail, to allow himself and the horse to rest. A tremendous gust of wind suddenly hit him and then an avalanche immediately after. Walker tumbled down the slope while the avalanche wrapped the horse and plow around a nearby tree. As the avalanche moved downward, it split to follow two different paths, ultimately sparing the rest of the group. Walker attempted to "swim" out of the slide and described the experience as swimming underwater at night. He worked himself to the surface of the moving snow and then to the edge of the slide where he clung to a small tree as the snow passed over the top of him and on down the mountainside. Ultimately, Walker tumbled six hundred feet down the mountain.

Despite Walker's layered clothing of thermal underwear, heavy socks, breeches, and buckheck boots, he received a deep cut on his lower leg. After the avalanche passed, he climbed down to the road and found his way to his house. Walker explained the recent events to his wife Lucile and they quickly treated his wound. While the Walker's cared for Tom's leg, Halverstadt frantically rushed down the mountain. He came running into the house speaking unintelligibly to Lucile. When she showed little emotion and as she tried to calm Halverstadt, he finally yelled, "You do not understand- Tom has been buried alive!" At this time, Tom walked out from the back room with a grin on his face. Halverstadt could not speak for several minutes. He promised Walker that he would never ignore his warnings again.⁵²

Committee member C. L. Warnick stepped down from his position as he moved from the area. Warnick served as a member of the TCC since its inception in 1921, his brother Wilford W. Warnick filled position. Superintendent Patraw left his position at Zion National Park and the TCC, and Paul R. Franke filled both positions. Additionally, at this time the committee decided, for convenience, to transfer their bank accounts back from Utah State National Bank in Salt Lake City, which maintained monument funds following the bank closures in American Fork, to the federally-insured People's State Bank in American Fork.⁴⁶

W.P.A crews completed all the changes and construction for the official opening of a one-way tour featuring all three caves on April 30, 1939. Zion Superintendent Paul R. Franke and Timpanogos Cave Committee members Stephen L. Chipman, Clifford E. Young, John L. Firmage, Wilford W. Warnick, Leo Meredith, and Custodian Thomas Walker came to witness the occasion.⁴⁷ The total visitation numbers for that day set a record for an opening day. Leo Meredith predicted that the cave would have its busiest season and speculated that over 20,000 visitors would tour the caves during that season.⁴⁸ While visitation for that year only reached 12,276, managers still considered this high in light of the continuing effects of the Great Depression.

With the success of the cave improvement projects, Franke and the TCC initiated several new projects on the canyon bottom the following year. The National Park Service allocated \$1,000 for the construction of a stone house, what would become known as the Rock House, for housing the monument custodian and his family, and an accompanying bridge to access the residence.⁴⁹ They again requested assistance from the Works Progress Administration (W.P.A.) to work on this project. Crews immediately began quarrying rock from local quartzite deposits in the canyon for the structures. They completed the house the following year and by January 1942, Tom Walker and his family moved in. In addition to building the Rock House, W.P.A. crews also rebuilt the roadside stone monuments at the east and west boundary using left over stone from the house construction.

Throughout and following the completion of development projects, visitation increased, requiring additional changes to accommodate it. Automobile



Rock House Construction



Soldiers on the Cave Trail

parking had become a problem and vehicles often parked haphazardly among the trees. Due to the limited space, Walker found few available solutions. Vehicles frequently used an area in the canyon, located one-half mile east of Cave Camp, as overflow parking. Walker found this area sufficient for accommodating a new parking area for the existing and future monument needs. Walker soon proposed this area as a site for a new monument headquarters and museum building.⁵⁰

In addition to proposing the relocation of the parking area and administrative buildings, Walker also suggested that the trailhead of the cave access trail relocate to this site. Engineering surveys demonstrated that a new trail from the proposed parking area could join the existing cave access trail near the trail mid-point. Rerouting the trail would raise the starting elevation 165 feet and lengthen the trail by approximately one-half mile. With a decreased grade, the new trailhead location would ultimately reduce the strenuousness of hiking to the caves. Construction on the new trail began in the fall of 1941 and by February 1942, crews had completed nearly two thousand feet of the new trail.

Across the canyon from the future trailhead site, and in anticipation of the new headquarters building, a W.P.A. crew began trenching for water lines from the existing intake in Swinging Bridge Canyon to the new visitor center site.⁵¹

World War II

With increased tensions and imminent war in Europe and the speculation of U.S. involvement, the monument experienced several changes as the country prepared for war. The Timpanogos Cave Committee announced that any Armed Services person would receive a discount and could tour the caves for 25¢ instead of to the usual 50¢.⁵³ As a training exercise, troops stationed at the Pleasant Grove military camp occasionally ran up the canyon and then hiked the trail to the caves.⁵⁴ In addition, many war workers from nearby Geneva Steel, the government steel plant in Orem, also visited the caves.

In December 1941, the United States officially entered into World War II. All government projects deemed non-vital to national security ceased throughout the country. Many of the work-relief programs created through the New Deal, including the Civilian Conservation Corps and the Works Progress Administration, disbanded to support war efforts.⁵⁵ As a result, construction on the new trail ceased. At this time, a map was prepared showing all "Vital War Facilities" in American Fork Canyon, which included the hydroelectric plant, power lines, aqueduct, and highways.⁵⁶

Despite the many improvements and the short-lived increase in visitation, the monument struggled to combat the strain of the war and experienced decreased visitation throughout all of World War II. Wartime rationing made traveling difficult and people often struggled to obtain items such as tires, gasoline, and automobiles. The war also made hiring tour guides difficult as many people

either served in the war or sought work in steel mills. Even Tom Walker obtained permission to work at Geneva Steel during the slow winter months of 1942. To cover the tours during the summer, the Timpanogos Cave Committee again began to hire students and teachers not called to serve in the war to work as tour guides.⁵⁷

Seeking to increase visitation during wartime by professionalizing tours, the administration released a Statement of Interpretation that followed the National Park Service trends: "The interpretive program is directed towards an appreciation of the cave's beauty and an understanding of the geologic formations."⁵⁸ Tom Walker felt that guides needed to interpret the importance of caves and the natural resources, and not simply conduct "fairyland" tours by pointing out the fanciful shapes. Thus, he encouraged staff to give scientific descriptions of cave development.⁵⁹ The monument also began again to publicize package tours such as the Timpanogos Loop Tour, offered with the assistance of concessionaires Basil and Florence Walker, which included a bus trip from Salt Lake City, a lunch at the Cave Store, and a cave tour for \$6.50.⁶⁰

Wartime rationing greatly strained the concession operation. Starting in 1941, Basil Walker began to find it increasingly difficult to obtain supplies for the Cave Store. That year, the Cave Store sold gasoline for 25¢ to 30¢ per gallon, an exorbitant amount for the time.⁶¹ Once the war began, Walker could no longer obtain highly rationed items such as ice cream, meat, sugar, or soda. Walker could only able to obtain enough of these items to sell them on weekends. Finally, by the end of 1942, Basil and Florence Walker gave up their concessions permit after 20 years of work. Lillie Miner received the concessions permit and following an unsuccessful season, also released the permit. The 1943 shortages and lack of sales

forced a discontinuance of a full-time concessionaire.⁶² For the next few years, Lucile Walker and Mrs. Harold Smith continued to sell tour tickets and operated the store on weekends.

The following year, in 1942, a proposal was presented to incorporate all of Mount Timpanogos into the monument. Nothing ever came from this proposal, but it would resurface several times in the following years.⁶³ At this time, the Timpanogos Cave Committee permitted a resurvey of the monument boundaries. The survey showed that the existing survey points did not coincide with the boundaries designated in the proclamation creating the monument.⁶⁴ Zion Superintendent Franke applied to Congress for a correction, but the boundaries were not conformed to the physically marked boundary until March 1962.⁶⁵

Beginning in 1944, Timpanogos Cave National Monument began a dramatic shift in staffing and administrative leadership. On March 24, 1944, Tom Walker accepted a permanent position for the National Park Service as Ranger-In-Charge at Bryce Canyon National Park. Walker left his wife and children in Utah Valley and reported to his new appointment.⁶⁶ The Timpanogos Cave Committee selected Tom's brother Charles Walker to fill the vacant position. Charles Walker worked as a school teacher during the fall and winter; this only allowed him to give the monument his full attention during the summer months. However, the committee arrangement for him to occupy the custodian's residence throughout the year, as his presence in the area provided a certain degree of protection to the caves, Cave Camp, and the monument. During the slack winter months, Charles Walker continued his regular employment while his wife, Edna Walker, took over management of concessions.⁶⁷

Another major change in leadership occurred in March 1945, when Stephen L. Chipman died. Chipman served as president of the Timpanogos Cave Committee since its inception. Committee member Clifford Young acted in Chipman's position for the duration of the committee existence.⁶⁸

During this time, new Zion National Park Superintendent Charles J. Smith began to take a greater interest in the management of Timpanogos Cave National Monument. He wrote a letter to the regional director of the National Park Service describing the unique management of the monument. In his letter, Smith stated, "Timpanogos Cave is handled by a cave committee operating under a special use permit, composed of responsible businessmen of American Fork, and Mr. Walker's salary is paid by receipts from the cave."⁶⁹ Later at the June 8, 1945 Timpanogos Cave Committee meeting, Smith emphasized the unusual nature of the TCC in the National Park System and proposed to the group that the National Park Service take full operational control of the monument. After some deliberation,



Clifford Young and Leo Meredith
Above: Original Timpanogos Cave Committee badge

the committee authorized Smith to proceed with the necessary steps to transfer the operations of Timpanogos Cave National Monument to the Department of the Interior. The TCC determined that at the conclusion of the transfer the committee would dissolve.⁷⁰

The Timpanogos Cave Committee made tentative plans for the National Park Service to assume full operational control of Timpanogos Cave National Monument in 1946. However, Superintendent Smith determined that the initial annual appropriation from the National Park Service for the monument's management of \$5,500 insufficient to support operations, and he asked the committee to continue to use their funds until the conclusion of the calendar year.⁷¹

At the final committee meeting held November 4, 1946, Clifford Young reported that many local stakeholders expressed concern that the National Park Service acquire Timpanogos Cave National Monument. Many individuals in the local community opposed government offices acquiring additional lands and managing them from distant offices such as Washington D. C. or Zion National Park. Superintendent Smith responded by reminding the committee that Timpanogos Cave National Monument was already government land and that the change in administration did not alter or increase government ownership of the monument. The committee accepted this response and at the conclusion of the meeting, released the remaining \$6,000 in their account to the National Park Service for "those items which could beneficially be acquired for the area."⁷²

A few weeks later, on January 1, 1947, Timpanogos Cave Committee held a dinner party at the Hotel Utah in Salt Lake City where it officially dissolved. Although many of its members drove from Salt Lake City and other surrounding cities for meetings, the majority of the original Committee remained intact for its entire 24 years of service. Following the dissolution of the group, the National Park Service began fully funding the operations of the monument.⁷³

The Timpanogos Cave Committee formed originally to raise funds for development at Timpanogos Cave shortly after its rediscovery, then later to manage tour operations. Each member of the group dedicated himself to its success and the TCC operated the monument solely on funds raised through ticket sales. The committee aided the monument and eased transition from the U. S. Forest Service to the National Park Service. Their efforts helped the monument survive strains in the economy and national crisis's while still upholding National Park Service ideals. These men sacrificed time and their efforts laid the groundwork for what Timpanogos Cave National Monument would become and evidenced throughout the monument today.

Reference

- 1 Unrau, Harlan D., and G. Frank Williss. *Administrative History: Expansion of the National Park Service in the 1930s*. Denver Service Center. Denver, Colorado. 1983.
- 2 Reorganization of Government, Executive Order No. 6166 of June 10, 1933 (5 U.S.C. secs. 124-132).
- 3 Harpers Ferry Center. *The National Parks: Shaping the System*. U.S. Department of the Interior. National Park Service. Washington DC. 1991.
- 4 Albright, Horace M. *The Birth of the National Park Service: the Founding Years 1913-1933*. Howe Brothers. Salt Lake City, Utah. 1985.
- 5 Unrau, Harlan D., and G. Frank Williss. *Administrative History: Expansion of the National Park Service in the 1930s*. Denver Service Center. Denver, Colorado. 1983.
- 6 Special Use Permit. Cat #923. Zion National Park. Springdale, Utah. July 31, 1934.
- 7 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. July 8, 1934.
- 8 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 9 Walker, Thomas. Official Personnel Folder. Timpanogos Cave NM. American Fork, Utah. 1966.
- 10 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. July 8, 1934.
- 11 Everhart, William C. *The National Park Service*. Praeger Publishers. New York, New York. 1972.
- 12 "CCC Man Injured in Canyon." *American Fork Citizen*. American Fork, Utah. August 4, 1933.
- 13 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. June 24, 1933.
- 14 Timpanogos Cave Committee. Radio Announcement. Timpanogos Cave NM. American Fork, Utah. 1933.
- 15 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 16 Walker, Rex. Interview with author. Kamas, Utah. September 3, 2003.
- 17 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 18 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 19 Vandiver, Vincent. Memorandum on Trip to Timpanogos Cave National Monument on Oct 13, 1935. Region III. Santa Fe, NM October 13, 1935.
- 20 Walker, Thomas. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1986.
- 21 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. March 21, 1936.
- 22 Walker, Thomas. "Men Battle Difficulty in Tunnel Work." *American Fork Citizen*. American Fork, Utah. April 28, 1939.
- 23 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 24 Birk, Clyde. Personal Recollections of Tunnel Blasting at Timpanogos Cave National Monument. American Fork, Utah. July 1972.
- 25 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 26 Foster, Francis. "Wonders of Middle Timpanogos Cave." *Salt Lake Tribune*. Salt Lake City, Utah. July 12, 1936.
- 27 Foster, Francis. Interview with author. Ogden, Utah. January 13, 2005.
- 28 Parker, Thomas C. Letter to Thomas A. Walker. Cat #991-4. Branch of Engineering: NPS. San Francisco, Cal. November 9, 1936.
- 29 Birk, Clyde. Personal Recollections of Tunnel Blasting at Timpanogos Cave National Monument. American Fork, Utah. July 1972.
- 30 Lewis, J. Volney. Memorandum to the Regional Director. Cat #992. Region III. Santa Fe, NM. April 6, 1939.
- 31 Ibid.
- 32 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. April 3, 1937.
- 33 Wadsworth, Nelson. "Timpanogos Jewel Box." *Salt Lake Tribune*. Salt Lake City, Utah. July 15, 1962.
- 34 Birk, Clyde. Personal Recollections of Tunnel Blasting at Timpanogos Cave National Monument. American Fork, Utah. July 1972.
- 35 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 36 Walker, Thomas. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1986.
- 37 Timpanogos Cave Committee Minutes. Timpanogos Cave NM.

- American Fork, Utah. April 9, 1938.
- 38 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
 - 39 Robinson, Don. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
 - 40 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. April 27, 1940.
 - 41 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
 - 42 Schoonover, Eldon. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. June 9, 2005.
 - 43 Lewis, J. Volney. Memorandum to the Regional Director. Cat #992. Region III. Santa Fe, NM. April 29, 1937.
 - 44 Walker, Thomas. Letter to Paul R. Franke. Cat #991. Timpanogos Cave NM. American Fork, Utah. 1939.
 - 45 Shelley, Arlo. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
 - 46 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. April 1, 1939.
 - 47 "Officials Look Forward to Record Year with Opening of New Cave." *American Fork Citizen*. American Fork, Utah. April 28, 1939.
 - 48 "Visitor Season at Timpanogos Cave Will Open Today." *Salt Lake Tribune*. Salt Lake City, Utah. April 23, 1939.
 - 49 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. April 27, 1940.
 - 50 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
 - 51 Ibid.
 - 52 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
 - 53 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. March 22, 1941.
 - 54 Horrocks, Rodney. The Story of Timpanogos Cave. Unpublished draft. Timpanogos Cave NM. American Fork, Utah. 1998.
 - 55 Unrau, Harlan D. and Williss, G. Frank. *Administrative History: Expansion of the National Park Service in the 1930s*. Denver Service Center. National Park Service. 1983.
 - 56 *Timpanogos Cave National Monument Vital War Facilities Threatened by Fire*. Cat #944. Timpanogos Cave NM. American Fork, Utah. 1942.
 - 57 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
 - 58 Timpanogos Cave National Monument. Timpanogos Cave NM. U.S. Dept of the Interior, Cullon & Ghertner Co. Nashville, TN. 1942.
 - 59 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
 - 60 *Utah, A Guide to the State*. Hasting House. New York, NY. 1941.
 - 61 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
 - 62 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. May 7, 1942.
 - 63 Development Outline. Cat #1304. Timpanogos Cave NM. American Fork, Utah. 1942.
 - 64 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. May 7, 1942.
 - 65 Timpanogos Cave National Monument: Statement for Management. Cat # 956. Timpanogos Cave NM. American Fork, Utah. August 1986.
 - 66 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
 - 67 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. May 7, 1942.
 - 68 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. June 8, 1945.
 - 69 Smith, Charles J. Letter to Regional Director. November 2, 1943. Thomas Walker: Official Personnel Folder. Santa Fe, NM. 1966.
 - 70 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. June 8, 1945.
 - 71 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
 - 72 Timpanogos Cave Committee Minutes. Timpanogos Cave NM. American Fork, Utah. Nov 4, 1946.
 - 73 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.

CHAPTER VI

Walker Years



Thomas Walker

After the Timpanogos Cave Committee disbanded, Timpanogos Cave National Monument sought to maintain some management consistency while the National Park Service obtained complete control of monument operations. To aid in managing a distant monument, Zion National Park transferred Thomas Walker back to Timpanogos Cave National Monument, where he would remain for the next twenty years,¹ first as custodian and later becoming the first Timpanogos Cave National Monument superintendent and arguably the monument's most influential administrator. Monument staff felt Walker's legacy several decades after his retirement. In 1988, entering Superintendent Michael Hill described his encounter with Tom Walker's influence: "As I toured the monument to learn operations, I would often ask the staff about why things were done a certain way. I was surprised by the answer, 'That is the way [Tom Walker] wanted it.'"²

Zion National Park administrators began management by patterning monument staffing after the Timpanogos Cave Committee. The staff would consist of one permanent position and three seasonal employees, known as "When Actually Employed" or WAE.³ Walker accepted the one permanent position and came back to the monument from Bryce Canyon National Park. The TCC needed Walker for his experience as well as for his understanding of the cave electrical system. The previous custodian, his brother Charles Walker, never mastered the cave lighting system and many problems marred cave

tours during the previous season.⁴

The conclusion of World War II marked the end of low visitation, tour numbers began to steadily increase, and by 1948, this increase strained monument facilities beyond their capacities. Thus began a new period of development and reorganization under Tom Walker's management to accommodate the demands of increasing popularity and visitation. Once again, Tom Walker and Zion National Park administration reengineered and modernized the cave lighting system, the cave tour trail, and the cave access trail, as well as the campground and other facilities at the canyon bottom.

The moist cave environment and the increasing visitor numbers caused the steel walks and dirt trail within the caves to deteriorate rapidly and required the staff to constantly maintain cave's tour trail to keep it in satisfactory condition.⁵ To rectify this, Walker obtained design drawings for a set of new concrete stairs to replace the rusted steel stairs at the Cascade of Energy and the bridge over the Living Color Room. To repair the dirt trail, horses carried bags of cement and sand up the trail for constructing a hardened surface in the Camel Room, the first hardened section of the cave tour trail.⁶

By the 1950s, the monument's facilities at the canyon bottom also needed improvements. Increases in visitation deteriorated the existing infrastructure and expanded use into areas surrounding the monument. To relieve the strain on Cave Camp, visitors occasionally used the Swinging Bridge picnic area as an overflow campground.⁷ Additional visitation strain came when the

State of Utah improved Highway U-80 (later State Road 92) to American Fork Canyon, which made access to the monument easier, increasing visitor traffic from Salt Lake City and other northern areas. In 1951, the State of Utah also improved the Alpine Loop Road, connecting American Fork Canyon to Provo Canyon with a paved highway.

The first series of the monument's lower canyon improvements included replacing the tables and fireplace rings in Cave Camp and burying the electrical cable previously hung from posts in the campground. Next, staff renovated and modernized the Cave Store and Wood House to better accommodate visitors. Soon after, Walker revived plans for developing a new parking area and re-routing the cave access trail, and work on these projects began in 1951. As the need for additional parking space became more critical, work began on it first. Work went quickly and the crew completed the parking area in September, allowing the men to focus their attention on completing the cave access trail.⁸

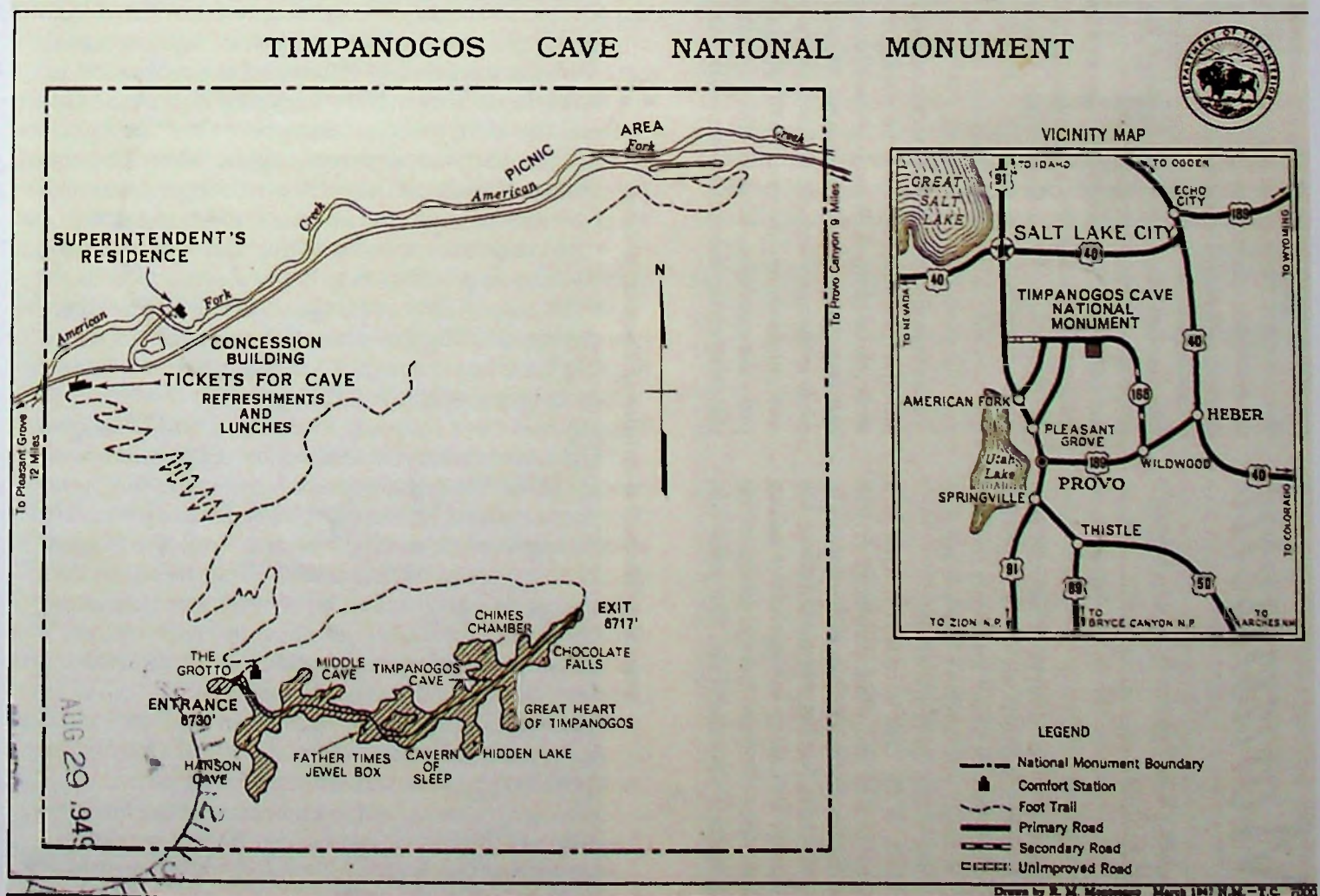
Construction on the redirected cave access trail to the new parking site began that winter and progressed rapidly. Crews working on the trail encountered very little difficulty or delay with the exception of two locations where they blasted short tunnels through

quartzite. The men conducted blasting for the trail and tunnels primarily in the winter, which allowed snow to cushion the flying debris and prevent rocks from rolling to the road.⁹

Despite the relatively smooth progress on the trail, one minor incident occurred while blasting the tunnels. During a day when driller Clyde Birk was sick and unable to work, Walker told young ranger Arlo Shelley that as he assisted Birk, he would continue drilling and not slow trail progress. Shelley, inexperienced in the use of explosives, drilled a hole too deep, and used too much dynamite. The resulting explosion sent debris across to the opposite side of the canyon to settle near the hydroelectric pipeline.¹⁰

The crew completed the new access in 1952,¹¹ at a final cost of \$11,622.¹² The new trail featured several improvements over the previous trail. First, the trail featured drainpipes and a slight inward tilt, allowing water to drain off the trail and down the mountainside.¹³ Another major improvement to the access trail was the reduction in the grade, making the hike much more manageable for visitors. During the 1952 season, visitors used both the old and new trails to access the caves.¹⁴

In 1952, efforts to rehabilitate additional areas in the monument continued with the installation of a new



Brochure map showing incomplete trail



Trail Tunnel construction

bridge at the Swinging Bridge Picnic Area and pit toilets at the new parking lot. During the winter, when the river was at its lowest flow, the monument contracted E. R. Allen Construction Company of Pleasant Grove to build a rock bridge across the American Fork River to provide easier access to Swinging Bridge Canyon. With a horse and slip scraper, the company hauled rock from the surrounding area for the bridge construction.¹⁵ At the new parking area and trailhead, another crew installed a sewer system with two pit toilets. They then installed a septic tank 220 yards down canyon, with the disposal system another 220 yards farther down from the septic tank.¹⁶

The Cave Camp water system also needed repairs. The previous spring, a flood came down Swinging Bridge Canyon and filled the water lines with sediment.¹⁷ Rainstorms and floods often carried sand and silt into the pipes, contaminating the water stored in the above-ground intake storage boxes. To eliminate this problem, and in anticipation for future development, work crews constructed a new water collection and distribution systems, as well as intake boxes to replace the existing ones in Swinging Bridge Canyon. The new system tapped springs at their source and transported the water through approximately 1,200 feet of six-inch pipe to a 22,000-gallon storage-settling tank. To mitigate the flashfloods that sporadically came down Swinging Bridge

Canyon, they built a flood control dam in conjunction with the water line and completed the project by 1954.¹⁸

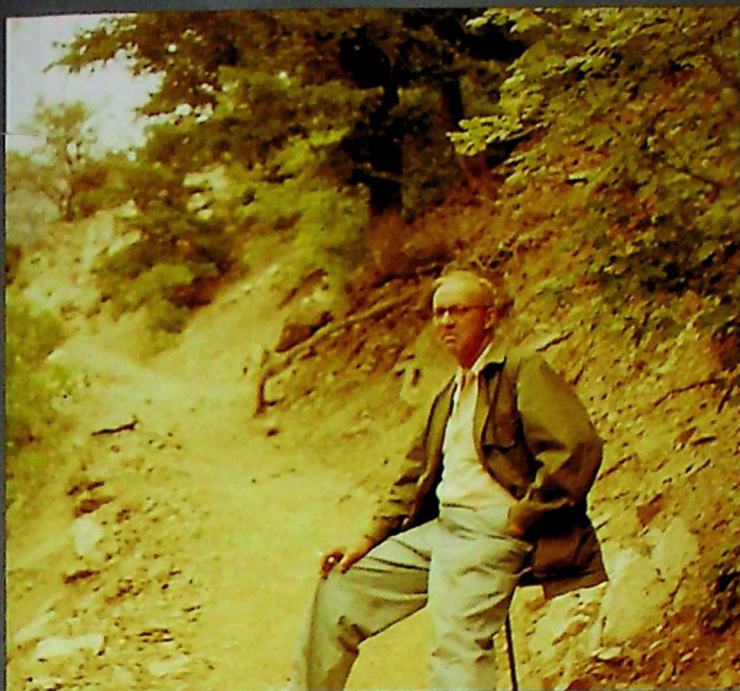
Simultaneous to the Swinging Bridge Canyon construction projects, Utah Power and Light also began working in the area with the conversion of the hydroelectric pipeline. The original wood-stave pipe constructed in 1901 and showed major deterioration. To prevent further wear, the power company converted the pipe from wood to welded steel. This construction converted the entire length of the pipe, including a portion that passed through the monument's northern boundary.¹⁹

As visitors now began hiking from a different location, a need arose for a ticket building at the new trailhead. To solve this need, the monument requisitioned two small army surplus buildings from Lake Mead National Recreation Area to serve as a ticket office and concession stand. Walker placed them in the new parking area.²⁰ An article published in the *Daily Herald* highlighted the improvements to the trail, as well as the canyon floor facilities and stated that visitors enjoyed the developments.²¹ A later article in the same newspaper described how these improvements led to an increase in visitation at the monument, specifically pointing out the ease of the new trail as the most significant contributor to this increase.²²

With these successes, staff began to focus improvements on the cave lighting system. They began an experiment to incorporate "natural" lighting into the cave with the intention of enhancing the true colors of the formations. Staff initially experimented in the Cavern of Sleep and the Coral Gardens where blue "daylight" bulbs replaced the incandescent lights. Many responded positively to the effects of the new lighting scheme and soon the staff changed the entire cave lighting system from the incandescent bulbs to the "daylight" bulbs.²³ Staff also made an effort to hide the electrical cables inside the caves. They accomplished this by chiseling into the rock, hiding the wires with rock or cement, or burying the wires in the trailside sediments.²⁴

After completing the lighting system changes, Timpanogos Cave National Monument and Utah Power and Light made an agreement concerning the monument power. In the Electrical Service Agreement, the power company assumed full responsibility for the government-installed power line to the caves and agreed to furnish electrical service to the monument.²⁵ At this time, the cave power line descended the steep slopes connecting directly to the American Fork Canyon Hydroelectric Station and by both monument staff and Utah Power and Light employees maintained the station.

As crews completed the changes to the trail and lighting system, Jacob Coleman of Greater Utah Valley Incorporated proposed an unusual development. Coleman, who also served as chairman of the Provo Chamber of Commerce, solicited the assistance of Senator Arthur V. Watkins to build a chairlift to the caves. They reasoned that "...Timpanogos Cave could become one of America's greatest attractions if it had a chairlift to



During the 1952 season, the monument experienced its second fatality. Decorated Canadian Bush Pilot Wilfrid Reid "Wop" May, a World War I Ace who received the Medal of Freedom with Bronze Palm from the United States government for saving the lives of many American airmen during W.W.II, visited the cave with his son Denny. Denny described the event:

On June 21st, we headed to Provo and to the parking lot for Timpanogos Cave and started up the steep trail. About half way up my dad said 'I can't go any further, you go on ahead and see the caves and I'll head back to the car.' I started up the trail and he called me back saying, 'take my picture to show people I got this far.' I headed on up the trail, and on coming out of the caves, found my dad lying dead. He had suffered a stroke, but he made it all the way to the top.²⁶

Wilfrid "Wop" May
Photo by Denny May

eliminate the rigorous climb." Senator Watkins stated that he "... hadn't actually seen the cave" and that "... earlier in life, [he] didn't have time to see it, and later didn't have what it took."²⁷ However, the National Park Service felt that a chairlift was inconsistent with its standards and nothing ever came of this proposal.

In 1953, Regional Naturalist and well-known author and photographer, Natt N. Dodge visited the monument and reviewed the improvements. During his visit, Dodge suggested that monument develop a nature trail guidebook to supplement hike up the new cave access trail. Ranger Arlo Shelley and Custodian Tom Walker began preparing the guide booklet and completed it by the 1956 season. The mimeographed trail guide interpreted the local flora along the cave access trail at locations marked by numbered stakes. Walker patterned the pamphlet after the 1927 interpretive trail guide that followed the old cave access trail highlighting the nearby geology and flora.²⁸

In 1954, another publication interpreted the monument's resources. Master's student Kenneth Bullock, later an associate professor of geology at Brigham Young University, with the assistance of Dr. William R. Halliday, published an abridged version of his thesis on the geology of Timpanogos Cave for the local caving community. In his work, Bullock boldly contradicted the long-time sulfuric acid theory put forth in the 1920s by J. J. Beeson and proposed that a flowing stream instigated the development of the Timpanogos Cave System.²⁹ This theory was argued for many years and later incorporated into a greater analysis of the cave system development.

As staff saw the completion to changes to the trail and lighting system they then experienced a dramatic change to the monument's administrative during the 1955 season. That year the monument became independent

from Zion National Park jurisdiction and began to expand its permanent staff with an independent budget. With this change, National Park Service administrators appointed Thomas Walker to fill the GS-9 superintendent position—the first superintendent unique to Timpanogos Cave National Monument.³⁰ Walker described his responsibilities in a letter: "The superintendent must be an expert in forestry, road building, law enforcement, electricity, plumbing, and must have a good knowledge of botany and geology."³¹ To assist in monument duties, Walker gave Harold Smith, who already worked as a seasonal employee, the monument's second permanent



Ticket Office

position to supervise maintenance projects.³²

With new independence, Walker attended a superintendent's conference in Gatlinburg, Tennessee.³³ At the time of the conference, National Park Service Director Conrad L. Wirth petitioned Congress searching for funds for park development. During World War II and the Korean War, federal budgets cut appropriations for the National Park Service but at the conclusion of these wars, visitation escalated throughout the United States and Timpanogos Cave National Monument and parks nationwide showed the strain. At the conference, Wirth presented a plan to bring the parks up to standard for the National Park Service's fiftieth anniversary in 1966 by improving facilities, staffing, and resource protection. This initiative quickly gained support from President Dwight D. Eisenhower and Congress, and became known as "Mission 66."³⁴

Mission 66

Locally, the *Salt Lake Tribune* reported that through the Mission 66 program "the development of the monument will be based upon the objectives of the protection of the delicate and fragile cave features and provisions of visitor service to enhance controlled use and enjoyment of the monument."³⁵ The Mission 66 master plan for Timpanogos Cave National Monument included a new visitor center, staff housing, and a maintenance facility.

The visitor center would include administrative offices, an auditorium, an exhibit area, and new concession facilities. Walker identified the current parking area, located at the base of the new trailhead, for this new building as it could accommodate not only the new structure but sufficient parking for the increasing numbers of visitors.³⁶ He then selected a site for the residences opposite the new visitor center on the north side of the river.³⁷

Minor developments began immediately and monument staff started by paving the access trail to the caves. Work crews initially carried the asphalt up the trail in a small powered wheelbarrow and then spread by hand, mixing the Liquid bitumel on-site and using available materials to provide surface coating. This surface soon proved to be unsatisfactory and staff quickly replaced it with a more durable surface. Other challenges came with using the small powered wheelbarrows as they could not negotiate the steep grades of the upper portions of the trail. Thus, at the end of the season the crew had only paved only two-thirds of the trail.

As the steep grades of the trail always challenging the equipment, monument administration purchased a larger trail "buggy" the following season that could navigate the 20 to 25-degree slope to the top of the cave access trail. Although this vehicle could transport the bitumel and chips to the work sites, it could not navigate many of the narrow corners and sections of the trail. Before asphaltting could begin and the new machine



Cave tour in Chimes Chamber, 1958

driven up the trail, staff had to widen several sections of the trail and enlarge many of the tight corners. The trail buggy could carry much heavier loads, and therefore the crew used a heavier base of sand and bitumel to produce a much more serviceable and durable trail surface.³⁸ Ultimately, the \$12,000 spent on surfacing the trail provided an improved footpath that staff could maintain more economically. The buggy also allowed employees to transport equipment and supplies to the cave mechanically rather than by man or horse.

Mission 66 also included an element of operational development. In the 1956 season, the monument staff focused on interpretive improvements and programs. By this time, the tour season extended until snow prevented visitors from accessing the caves safely, typically until mid-November. Guides offered tours daily from 8:00 a.m. to 3:00 p.m. and the monument boasted having ten guides.³⁹

One major change came to tours in the 1956 season, as it was the last time that guides would “chime” formations for tours in the Chimes Chamber. Guides would often climb over the railing, down a chain, and tap on the “pencil stalactites” for tour groups. Several rangers even claimed they could play songs.⁴⁰ One ranger stated that, “Sometimes it seemed more important to hit [the formations] hard enough so that everybody could hear them.” After a formation cracked and broke when tapped, monument staff declared this practice detrimental to the cave and discontinued the practice.⁴¹

Another change occurred in 1956 when Arsena Robinson obtained the contract for the monument concessions.⁴² Concessions operators had changed regularly since Basil Walker released the contract in 1941. Robinson would run concessions until she died in 1965, then her daughter Betsy Wagner took over the contract and continued to maintain the concessions operations to the present day.⁴³

The 1956 season concluded with a celebration on October 22, honoring the 34th anniversary of Timpanogos Cave becoming a national monument. Many guests attended the event including: Wayne Hansen, Leo T. Hansen, members of the Payson Alpine Club Vearl Manwill and Elon Manwill Calderwood, and Leo Meredith and Clifford Young, members of the Timpanogos Cave Committee.⁴⁴

Other events also occurred during this time that



Leo Hansen, Tom Hansen, Wayne Hansen, and Leo Thorn

impacted interpretation at the monument. Early in the 1950s, Eugene ‘Timp’ Roberts passed away.⁴⁵ Roberts authored the Legend of Timpanogos, and by the time of his death, rangers made the Legend ingrained element of tours in Timpanogos Cave. Then in 1957, Edward R. Tuttle published a poetic version of the legend titled “The Heart of Timpanogos” and to promote his publication, Tuttle held a book signing at the monument.⁴⁶ This poetic version of the classic story became even more popular when three local women known as the “Choraliers” began to perform readings and songs based on the book at civic and church functions throughout the area.⁴⁷ Although the Legend had no real ties to the American Indians of the area, the story was endeared to many of the local people and became an artifact that bolstered community pride.

To build the programs at the monument, Walker hired several new staff members during the Mission 66 era. Ralph Iorio began working at Timpanogos Cave NM, and shortly after his arrival, Superintendent Walker asked him to compile a complete history of the monument. Over the years, many disagreements surfaced over various elements of the monument’s history, and Walker hoped that Iorio’s research would resolve disputed facts. Iorio spent the next year researching, and with the assistance of Walker and Leo Meredith of the Timpanogos Cave Committee, he published a 53-page document entitled *Timpanogos Cave National Monument*.⁴⁸ This document became required reading for new employees and a few years later, Ranger Wayne McDaniel updated the



Redwood Tank in Hansen Cave

document to include some changes that came shortly after its completion. Furthermore, throughout the Mission 66 program, the monument hired additional permanent staff, raising the total number of permanent employees to four. Walker hired James W. Stringer as the first administrative assistant and David Huntzinger as the monument's first naturalist. The staff now included a permanent superintendent (Tom Walker), maintenance worker (Fred Robinson), administrative assistant (James Stringer), and a park naturalist (David Huntzinger).⁴⁹

Huntzinger immediately began expanding the monument's knowledge of the local natural resources by studying the various animal species in the monument. He began a collection of animal skins and an insect collection that would include a butterfly collection. He sent the collected specimens to various specialists throughout the country for proper identification. His research would continue for several years, with the entomology collection totaling 960 insects from 120 families and 14 orders.⁵⁰ The monument later donated this insect collection to Brigham Young University (BYU). While collecting insect specimens, Huntzinger also found two

small corncobs on a quartzite ledge near the American Fork River. BYU archeologists identified these corncobs as "Indian type" then sent on to the Western Museum Laboratory for further identification.⁵¹ While Huntzinger worked on animal and insect collections, Ranger Arlo Shelley began collecting botanical specimens, compiling 61 plants for the monument's herbarium. Shelley's efforts then contributed to an expanded botanical inventory of American Fork Canyon in a master's thesis by Kelly Allred through BYU.⁵²

Mission 66 era was an eventful time of program and facility development at Timpanogos Cave National Monument. Although the monument had yet to obtain funding for the larger structures, smaller development projects progressed not only in the lower canyon but also at the caves.

One project increased drinking water availability at the cave entrance. Since the opening of tours through Hansen Cave, employees piped water from Hansen Cave Lake or pulled from Middle Cave Lake in buckets to provide drinking water for both staff and visitors. Typically, the lakes would slowly drain during the season

and by the end of the summer, water was unavailable. In 1959, staff built a redwood tank inside Hansen Cave to store the water from Hansen Cave Lake for drinking and enable visitors to have access to drinking water late into the season, despite depleting lake levels. Staff constructed this tank with redwood staves, held together with iron bands, and placed in an area of the cave not visited by tours.⁵³ Water could then pass from the tank to the Introduction Room of Hansen Cave where staff installed a faucet and cup dispenser for visitor use.⁵⁴ Later, employees built a second 2500-gallon redwood water tank to further increase water storage capabilities. The new tanks solved one problem but created another: the wood from the tank dyed the water red. To correct this, maintenance employees added chlorine bleach to remove the color.⁵⁵

A few years later in 1961, another cave-area project became necessary to accommodate the ever-increasing numbers of visitors. The stone restroom located near Hansen Cave was becoming inadequate for visitors and staff. Monument employees then built a sewage vault below the restroom to solve the increased use.⁵⁶

Later that year, the U. S. Forest Service began planning for a new trail that would affect the monument. The local ranger district designed a canyon overlook trail that would lead from the Timpooneke Road to the cliffs above the monument. Concerned that hikers might cause rockfall onto the cave access trail below, the Timpanogos Cave National Monument administration opposed the development of this trail and the Forest Service complied by terminating the project.⁵⁷

Monument staff continued to be pleased with development projects. However, they were surprised

by the attention they received from the Washington D. C. offices when on March 27, 1962, President John F. Kennedy signed Proclamation 3457, redefining the monument's boundaries. Nearly twenty years earlier, the General Land Office in Salt Lake City surveyed the monument and showed that the current boundary markers were not accurate. Kennedy's proclamation redefined the boundaries to match boundary markers on the ground outlining the monument. This resolved confusion with Park Service/Forest Service borders and better enabled the monument staff to identify and protect monument lands.⁵⁸

Although the monument staff found this exciting, they desired more national attention that would grant the funding to complete the larger Mission 66 projects outlined in the master plan. Superintendent Walker was beginning to become concerned that the monument would never receive the money necessary for construction of the buildings. Under the Mission 66 guidelines, park maintenance crews would complete smaller projects and parks would contract out larger projects, such as buildings. Walker expressed his concerns to an unidentified former guide and son of a Timpanogos Cave Committee member (likely Kip Young). That evening, the former employee contacted an uncle that served as a senator in Washington D. C. Not long after, with the support of Senator Wallace F. Bennett, the monument received approval for building construction and an appropriation made to Timpanogos Cave National Monument for the construction of a visitor center, two residences, and a restroom facility at Swinging Bridge Picnic Area.⁵⁹

By the summer of 1962, construction on the two residences began across the river from the visitor center site. The monument built the two homes at a combined cost of \$38,000.⁶⁰ As the homes reached completion, work began on a maintenance facility located in Cave Camp. The National Park Service also drafted the plans for the new visitor center and began soliciting for bids for its construction.⁶¹

Early in 1963, contractors began construction on the new visitor center and the completed the majority of the structure by August of that year. The building design included an entrance lobby, exhibit room, several offices, restrooms, as well as a concession stand with a patio. Development of the exhibits and auditorium continued into the next year and contractors completed the building by that spring. The single story building cost the National Park Service \$146,808 to complete.⁶²



Mission 66 Visitor Center



American Fork Canyon following 1965 flood

and with its native stone trim, many regarded it as one of the more attractive visitor centers in the National Park System.⁶³ Administration hosted a dedication ceremony outside the new building on June 6, 1964. Former Timpanogos Cave Committee member Leo Meredith chaired the event, while the regional director Daniel B. Beard gave the dedicatory speech. Local bank president, Orville Gunther cut the ribbon at the entrance of the building at the conclusion of the ceremony.⁶⁴

The final development of the Mission 66 Program at Timpanogos Cave National Monument came at the end of 1963 with the building of a 100,000-gallon steel water tank in Swinging Bridge Canyon, contracted to the Witt Construction Company. In conjunction with the construction of the water tank, the Witt Company laid a water line from the tank to the new facilities. The tank enlarged the monument's water storage and increased fire protection to the new buildings.⁶⁵ Concluding the development in the monument, the unneeded Cave Store, located across the highway from Cave Camp, was dismantled.⁶⁶

As Mission 66 facility developments ceased at the monument, the *Deseret News* announced that the improvements not only at Timpanogos Cave National

Monument but also throughout the National Park System as "so developed and managed and used that our children and our children's children will enjoy the values of this their great estate."⁶⁷

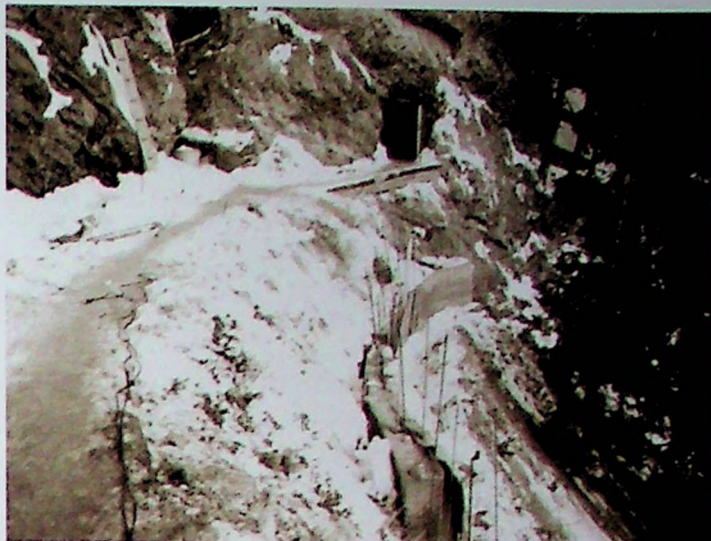
Throughout this time of development, staff made efforts to improve interpretation in the monument. Monument staff worked with their cooperating association, the Southwest Parks and Monuments Association (SPMA), to publish an updated trail guidebook entitled the *Hillside Nature Trail*.⁶⁸ They again used the numbered markers along the cave access trail to accompany this booklet that interpreted local flora and geology. Additionally staff created another interpretive site with the installation of the first trail wayside signs inside the Grotto.⁶⁹ These signs described the discovery of Hansen Cave and interpreted the Grotto's use as a mountain lion den. Many people saw these displays as such positive additions that a few years later Ranger Tom Ritter created other wayside signs. Ritter designed and constructed geologic waysides and placed them near the visitor center and along the cave access trail. Ritter began by constructing a large sign that he placed at the trailhead with samples of each rock type seen along the hike, and then smaller signs bolted to the cliff along the trail at

the various rock formations that described its geologic development. New park naturalist Neal Bullington completed this project several years later.⁷⁰

Along with interpretive booklets and waysides, tour passage through the caves became easier when the maintenance staff dug a deeper trench through a low narrow section called the Fat Man's Misery, later known as Thirteen Stitch.⁷¹ With a very low ceiling, this area continually caused problems and lowering the trail decreased the number of visitor injuries. At the same time, they installed cement steps and handrails in various locations throughout the cave to further increase visitor safety.⁷²

Despite all the exciting improvements, a series of unfortunate events caught monument staff unprepared beginning in the 1965 season. Monument staff and American Fork Canyon visitors were surprised on July 18, 1965, when what started as a beautiful day soon darkened with an oncoming storm; heavy clouds moved in, pouring rain into the canyon. The sudden heavy rains caused water to pour down the drainages, the river to rise dramatically, and finally a flood to come rushing down the canyon.⁷³ After the storm concluded and the river subsided, rock debris buried sections of the cave access trail, run-off eroded away a section of the cave access trail between the tunnels, floods washed away pipes from the canyon water system and buried picnic tables in the Swinging Bridge Picnic Area debris, the rising river washed away several sections of the road, and the flood filled the Superintendent's house (the Rock House) with several feet of mud and debris.⁷⁴ Nine families found themselves stranded at the visitor center for two days requiring them to sleep on the floor⁷⁵ and eight more campers were trapped at Cave Camp.⁷⁶

Monument staff spent the remainder of that season and the next several years removing the debris and repairing the damage caused by the flood. To begin repairs, they reinforced retaining walls in the river with concrete and removed approximately 3,500 cubic yards of material from the riverbed. In the picnic area, work crews leveled the ground, replaced lost top soil, and



Hansen Cave Entrance Platform construction and completion

planted lawn seed throughout the grounds. They then installed new picnic tables by simply placing them on top of the old, buried tables.⁷⁷ Monument staff also noted the absence of badger and mink in the canyon as a result of the flood. Previously these species lived in large populations in American Fork Canyon.⁷⁸

The battered cave access trail also needed repairs. While driving the buggy up the mountain to conduct repairs on trail, maintenance worker Ralph Murdock experienced complications. As he began to descend the highest switchbacks of the trail, Murdock compressed the brakes of the buggy when they gave out. Murdock jumped free of the vehicle just as it fell over the cliff, the buggy rolled the majority of the way down the mountain, with the wheels breaking free and tumbling all the way to the road. Fortunately, Murdock was unharmed.⁷⁹

Just a week later, on July 25, 1965, a falling rock struck visitor Betty Heckathorn when she hiked to the caves.⁸⁰ The fifteen-year-old girl hurried up the trail to the cave leaving her parents behind. As she ascended the trail below the Grotto, several rocks began falling. As other visitors ran for protection, Heckathorn looked up and a golf-ball sized rock struck her in the face, ultimately causing her to lose her right eye. Although many suspected that another visitor caused the rocks to fall, Heckathorn's family filed a lawsuit against the National Park Service.⁸¹

Two years following the event, on November 13, 1967, the trial *Heckathorn vs. the United States of America*



Destroyed Buggy

took place in Salt Lake City.⁸² Heckathorn filed a tort claim in the amount of \$126,000 against Timpanogos Cave National Monument for the loss of her eye. The suit contended that the monument knew of the rockfall danger yet did not take the proper precautions to warn visitors by posting the proper signs.⁸³ At the conclusion of the trial, Heckathorn received a settlement of \$11,000⁸⁴ as well as an additional \$3,500 from a third-party defendant.⁸⁵

To protect visitors from falling rocks and to improve the safety of waiting visitors, following the trial, maintenance workers posted many signs along the trail and built a platform outside of the Hansen Cave Entrance for waiting visitors. They constructed the platform building a vertical wall approximately fifteen feet tall down slope from the cliff and trail, then blasted the adjacent cliff to fill behind the new wall.⁸⁶

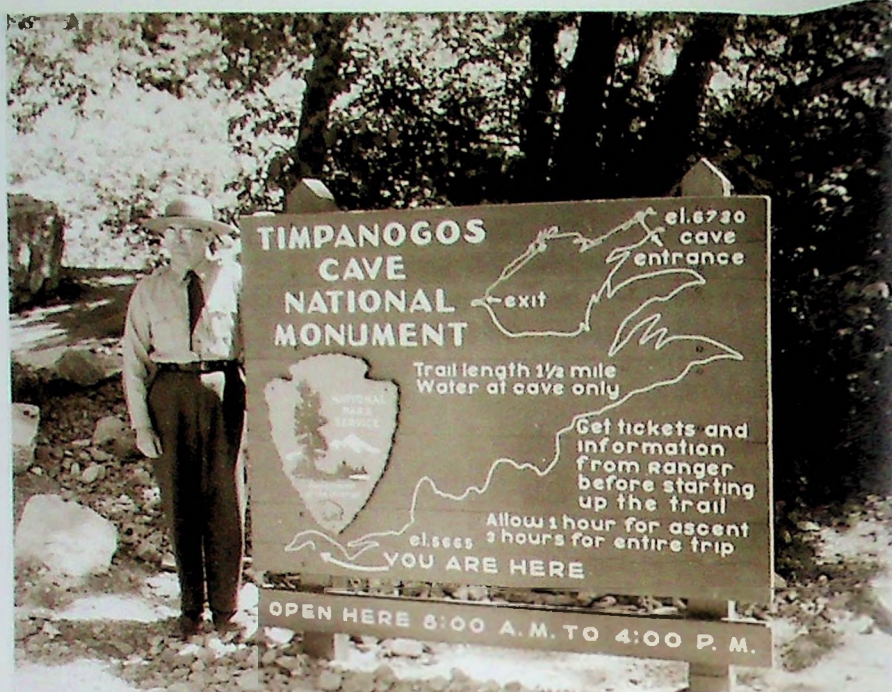
In 1966, Vearl J. Manwill, rediscoverer of Timpanogos Cave, died at the age of 65 after a battle with cancer.⁸⁷ Manwill aided the Forest Service in protecting the cave at the outset of his initial discovery and visited the cave many times over the years. Superintendent Walker and other guides often invited him to participate in tours by telling his story of the discovery of Timpanogos Cave.⁸⁸

Despite dealing with many negative events, the monument staff excitedly celebrated its one-millionth visitor on August 10, 1966. Tom Walker presented a framed photograph of a cave formation and a certificate to Mrs. Burke Bristol of Fallon, Nevada.⁸⁹ The monument also celebrated the successes of the Mission 66 Program and the 50th Anniversary of the National Park Service just a few days later. Timpanogos Cave National Monument hosted a "Canyon Round-Up" that included a joint National Park Service and U. S. Forest Service picnic and square dance.⁹⁰

While the period of development ceased at the monument, Park Naturalist Neal Bullington resumed the research begun years earlier by David Huntzinger. Bullington initially continued the wildlife inventories, and collected several Harvestmen spiders inside the caves to researchers for identification.⁹¹ He also collected a variety of other cave specimens including insects, algae, and moss.⁹²

A private company also studied the geology of the area in the summer of 1968. The Lange Company of Prescott, Arizona used their research to produce a relief map of the Timpanogos Cave Quadrangle. They color-coded the map to identify various geologic formations and forest cover. Additionally, Dr. Brimhall of Pleasant Grove, along with his student Jay Allen, began studying the hydrology inside the Timpanogos Cave System. They worked to determine the yearly temperature and mineral content of water flowing inside the caves.⁹³ Allen's research led him to work at the monument in an official capacity. He would serve as an influential member of the staff for over thirty years.

Staff utilized the research conducted in the monument and surrounding area to influence interpretive



Superintendent Thomas Walker

development at Timpanogos Cave National Monument. During the 1960s, an interest of environmental conservation became a national issue with environmental protection and education at the forefront. Guides interpreted geology and wildlife and supplemental programs reflected this national environmental education attitude. These interpretive programs flourished, and the monument offered slide lectures and evening programs in addition to cave tours. Presentations offered by the monument employees included titles such as "Geology and History of Timpanogos Cave," "Seasons of Timpanogos Cave," "National Parks and Monuments of Utah,"⁹⁴ "Plant Life of the Mountains," "Indians of Utah," "Nature Appreciation," and "The History of Utah Valley."⁹⁵

Though many employees returned from year to year, the new tour guides required training. Supervisors trained a new guide by giving them a flashlight and uniform, and instructed them to follow three tours. The new employee could then develop a personalized cave tour. During the 1960s, guides discouraged touching formations as natural oils found in human skin is found to be detrimental to cave formation development; however, they allowed visitors to touch a few designated formations, specifically two small stalagmites known as the "Salt and Pepper Shakers" and periodically a large piece of flowstone known as the "Cascade of Energy."⁹⁶

Guides conducted an experiment at this time to allow visitors self-guided tours with a ranger stationed at the major stops throughout the cave to direct visitors. Unfortunately, the rangers found this system difficult to regulate, as many people would stop and not leave, while many other groups would separate and spread throughout the caves. Thus, this experiment only lasted one day.⁹⁷ At this time, guides limited tour sizes to twenty-five people, though they often ignored this rule with school groups, which occasionally reached sizes of forty people or more.

Despite efforts to improve interpretation and visitor safety, on May 29, 1968, another monument visitor

received a rockfall injury. Visitor Bettie Hulet neared the restroom at the top of the trail when rocks came down and hit her. The rockfall caused Hulet to suffer from a fractured ankle, arm, and rib.⁹⁸ Hulet sued Timpanogos Cave National Monument for \$150,000 for negligence and to compensate for her injuries. Lawyers representing Hulet contended that the National Park Service knew of the rockfall danger and that proper fencing and an overhanging roof over the trail was necessary to properly protect visitors.⁹⁹ Representatives from the National Park Service argued that "... to take such an action would both be financially impossible and completely contrary to congressional intent to preserve unusual natural areas in their native condition."¹⁰⁰ During the 1972 trial held in Boise, Idaho, a judge found Timpanogos Cave National Monument liable for the injuries that Hulet received. The court also stated that the monument had not adequately signed trail, and thus, visitors had insufficient rockfall warnings. Finally, the judge ordered the National Park Service to pay \$45,766 for Hulet's injuries.¹⁰¹ A court order was also issued requiring the monument staff to climb above the trail each season and bar all loose rocks down.¹⁰² Following the trial, staff placed more rockfall warning signs in various locations near the top of the cave access trail.

At the conclusion of these events and after forty years of federal service, with the majority of that time at Timpanogos Cave National Monument, Superintendent Thomas A. Walker retired on February 28, 1969. The monument staff held a retirement dinner to honor Walker. He received the Department of the Interior's Meritorious Service Award from the Southwest Regional Director Frank F. Kowski¹⁰³ for his work in developing Timpanogos Cave National Monument as well as his efforts in building community relations.¹⁰⁴ Walker also received the John Holms Companion Award and the Thomas Jefferson Award for thirty years of service to the Weather Bureau.¹⁰⁵

Following his retirement, Walker continued to make proposals to improve the monument, including one to expand the boundaries of the monument to include the entire lower canyon, adding 11,000 acres. He also suggested that the Forest Service install a fee station at the mouth of the canyon. Neither of these proposals were addressed at that time.¹⁰⁶

Thomas Walker left a legacy and a work ethic that would remain at the monument for many decades after. Staff described him as strict, demanding, and "Park Service in every way."¹⁰⁷ He began his career in 1926 as a seasonal guide, his responsibilities evolved into the position of custodian, and later the first superintendent. His long-term dedication to the monument was immeasurable, making Walker one of the Timpanogos Cave National Monument's most influential administrators.

Reference

- 1 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 2 Hill, Michael O. Interview with author. Timpanogos Cave NM. American Fork, Utah. July 13, 2005.
- 3 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 4 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 5 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 6 Walker, Lee. Notes from Lee Walker. Timpanogos Cave NM. American Fork, Utah. Aug 22, 1994.
- 7 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 8 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 9 Shelley, Arlo F. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 10 Ibid.
- 11 Walker, Thomas A. Letter to T. Bryson. Cat #991. Timpanogos Cave NM. American Fork, Utah. 1958.
- 12 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 13 Tregaskis, Lyle R. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 14 Shelley, Arlo F. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 15 Allen, Douglas W. Interview with Rodney Horrocks. Big Piney, Wyoming. 1997.
- 16 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 17 Walker, Thomas A. Photo of river debris removal. Cat #2719. Timpanogos Cave NM. American Fork, Utah. Aug. 4, 1951.
- 18 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 19 The Circuit. American Fork Number Two. Cat #5141. February 1956.
- 20 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 21 Reid, Dorothy. "Underground Cavern on Shoulder of Mt Timpanogos Attracts Many Tourist." *The Sunday Herald*. Salt Lake City, Utah. July 27, 1952.
- 22 Cave Visitors Reach Records. *Daily Herald*. Provo, Utah. Nov 4, 1952.
- 23 Shelley, Arlo F. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 24 Teuscher, Marvin. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 25 Wellman, William E. Statement for Management. Cat #956. Timpanogos Cave NM. American Fork, Utah. July 1, 1986.
- 26 May, Denny. The Final Adventure. www.wopmay.com (accessed July 2004)
- 27 "Sen. Watkins Aid Sought to get Chairlift to Timpanogos Cave." *Daily Herald*. Provo, Utah. Dec. 16, 1952.
- 28 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 29 Bullock, Kenneth C. "Geologic Notes on the Timpanogos Caves: Utah's Fairyland." Technical Note #14. Salt Lake Grotto. Cat #3086.1. July 1954.
- 30 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 31 Walker, Thomas A. Letter to Bryson. Cat #991. Timpanogos Cave NM. American Fork, Utah. 1958.
- 32 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 33 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 34 Appleman, Roy E. *A History of the National Park Service Mission 66 Program*. Department of the Interior: National Park Service. Denver, CO. Nov 1958.
- 35 "50 Years of Triumph and Compromise." *Salt Lake Tribune*. Salt Lake City, Utah. Sept 4, 1966.
- 36 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.

- 37 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 38 Murdoch, Ralph A. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 39 "Snowfall to Silence Indian Story on Dying Lovers." *Salt Lake Tribune*. Salt Lake City, Utah. Sept. 14, 1958.
- 40 Tregaskis, Lyle R. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 41 Shelley, Arlo F. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 42 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 43 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 44 "Birthday Fete to be Held for Timp Cave." *Deseret News*. Salt Lake City, Utah. Oct. 12, 1956.
- 45 "Timpanogos Roberts." *Daily Herald*. Provo, Utah. Jan. 10, 1953.
- 46 "Utahn Authors New Volume on Timpanogos Legend." *Daily Herald*. Provo, Utah. June 2, 1957.
- 47 "Choraliers Make Music at Conferences." *The Church News*. Salt Lake City, Utah. Nov. 28, 1959.
- 48 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 49 Iorio, Ralph. *Timpanogos Cave National Monument*. Timpanogos Cave NM. American Fork, Utah. 1969.
- 50 Huntzinger, David. Interpretive Monthly Narrative. Cat #1401. Timpanogos Cave NM. American Fork, Utah. Oct. 31, 1963.
- 51 Ibid.
- 52 Allred, Kelly W. Timpanogos Flora. Cat #4899. Brigham Young University. Provo, Utah. April 1975.
- 53 Shelley, Arlo F. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 54 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 55 Ritter, Tom. Monthly Narrative. Cat #1404. Timpanogos Cave NM. American Fork, Utah. May 1967.
- 56 National Park Service, Engineering Branch. Working Blueprints. Cat #1156. Washington D.C. July 1961.
- 57 Murdock, Ralph A. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 58 Kennedy, John F. Proclamation 3457. *Redefining the External Boundaries of the Timpanogos Cave National Monument*, Utah. 67 Stat. 1457. March 27, 1962.
- 59 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 60 "New Visitor Center Heads Improvements at Timp Cave." *Daily Herald*. Provo, Utah. Aug. 13, 1963.
- 61 "Bids Sought on Shelter at Cave Site." *Deseret News*. Salt Lake City, Utah. April 20, 1962.
- 62 "New Visitor Center Heads Improvements at Timp Cave." *Daily Herald*. Provo, Utah. Aug. 13, 1963.
- 63 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 64 National Park Service. Dedication Program. Cat #812. Timpanogos Cave NM. American Fork, Utah. 1964.
- 65 "New Visitor Center Heads Improvements at Timp Cave." *Daily Herald*. Provo, Utah. Aug. 13, 1963.
- 66 Huntzinger, David. Photograph. Cat #1802. Timpanogos Cave NM. American Fork, Utah. 1963.
- 67 "Mission 66 Gives a New Look to Timpanogos Cave." *Deseret News*. Salt Lake City, Utah. Apr 23, 1966.
- 68 Southwest Parks and Monuments. Hillside Nature Trail. Cat #937. Timpanogos Cave NM. American Fork, Utah. 1965.
- 69 Huntzinger, David. Interpretive Monthly Narrative. Cat #1401. Timpanogos Cave NM. American Fork, Utah. 1965.
- 70 Walker, Thomas. Survey of Interpretive Facilities. Letter to Regional Director. Cat #1410. Timpanogos Cave NM. American Fork, Utah. Oct 15, 1968.
- 71 Huntzinger, David. Photograph. Cat #2136 and Cat #2137. Timpanogos Cave NM. American Fork, Utah. 1965.
- 72 Huntzinger, David. Interpretive Monthly Narrative. Cat #1401. Timpanogos Cave NM. American Fork, Utah. 1965.
- 73 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 74 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 75 Huntzinger, David. Interpretive Monthly Narrative. Cat #1401. Timpanogos Cave NM. American Fork, Utah. 1965.
- 76 "Utahns Trapped by Rains, Slides." *Deseret News*. Salt Lake City, Utah. July 19, 1965.
- 77 Rehab at Timp Cave Monument Area. *American Fork Citizen*. American Fork, Utah. June 8. 1967.
- 78 Ritter, Thomas. Interpretive Monthly Narrative. Cat #1401. Timpanogos Cave NM. American Fork, Utah. 1966.
- 79 Murdoch, Ralph. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 80 McKibbin, Kevin. Interpretive Monthly Narrative. Cat #1401. Timpanogos Cave NM. American Fork, Utah. Aug 3, 1965.
- 81 Walker, Thomas. Letter to Superintendent of Carlsbad Caverns. Cat #930. Timpanogos Cave NM. American Fork, Utah. Dec. 23, 1967.
- 82 Parker, Thomas. Letter to Thomas Walker. Cat #930. US Department of the Interior. Salt Lake City, Utah. Sept. 27, 1967.
- 83 "Girl Sues U.S. for Loss of Eye in Accident on Trail." *Salt Lake Tribune*. Salt Lake City, Utah. July 25, 1967.
- 84 Walker, Thomas. Letter to Neal Guse. Cat #930. Timpanogos Cave NM. American Fork, Utah. Dec. 18, 1967.
- 85 Laughlin, John G. Letter to S. Eismann. Cat #927. US Department of Interior. Washington DC. Oct. 20, 1970.
- 86 Ritter, Tom. Photograph. Cat #2454-2456 and 2480. Timpanogos Cave NM. American Fork, Utah. 1968.
- 87 "Death Claims Founder of SL Concern." *Salt Lake Tribune*. Salt Lake City, Utah. 1966.
- 88 Coulam, Carma Manwill. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 89 "Timp Tidings." *National Park Courier*. Unknown publisher. 1966.
- 90 Walker, Thomas. Monthly Narrative. Cat #1404. Timpanogos Cave NM. American Fork, Utah. Sept 3, 1966.
- 91 Bullington, Neal. Letter to William Elliot. Cat #3053. Timpanogos Cave NM. American Fork, Utah. 1972.
- 92 Walker, Thomas. Monthly Narrative. Cat #1404. Timpanogos Cave NM. American Fork, Utah. May 7, 1967.
- 93 Ritter, Tom. Quarterly Report. Cat #1402. Timpanogos Cave NM. American Fork, Utah. July 11, 1968.
- 94 "Free Evening Programs at Timp Cave Scheduled." *American Fork Citizen*. American Fork, Utah. 1966.
- 95 "Summer Programs Begin for Timp. Tours." *Salt Lake Tribune*. Salt Lake City, Utah. June 8, 1968.
- 96 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 97 Ibid.
- 98 Johnston, Oliver M.D. Letter to Marion Callister. Cat #927. Salt Lake City, Utah. Jan. 9, 1969.
- 99 Memorandum to the Office of the Solicitor. Cat #927. US Department of the Interior. Washington DC. June 13, 1969.
- 100 Laughlin, John G. Letter to Eismann. Cat #928. US Department of Interior. Washington DC. Oct 16, 1970.
- 101 Dargo, John M. Letter to NPS Division of Safety. Cat #928. US Department of Interior. Washington DC. Sept. 14, 1971.
- 102
- 103 "Thomas A. Walker Retires As Timpanogos Cave Superintendent. Open House Saturday." *American Fork Citizen*. American Fork, Utah. March 27, 1969.
- 104 The Personal History of Thomas A. Walker. American Fork, Utah. 1995.
- 105 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 106 Horrocks, Rodney. The Story of Timpanogos Cave. Unpublished draft. Timpanogos Cave NM. American Fork, Utah. 1998.
- 107 Walker, Lucile. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.

CHAPTER VII

Modernizing the Monument



Timpanogos Cave National Monument enjoyed management consistency through several decades with Superintendent Thomas Walker while administration transitioned first from the Timpanogos Cave Committee to Zion National Park and then from Zion National Park to becoming an independent monument. Following Walker's retirement, the monument's administration changed several times under a variety of superintendents. Though each brought varying philosophies, all worked to run operations while continuing to protect the Timpanogos Cave System and uphold National Park Service ideals.

Shortly after Walker's departure, the monument began the first of several administrative changes. In April of 1969, Paul A. Berger became the second superintendent at Timpanogos Cave National Monument. Berger spent the previous six years at El Morro National Monument.¹ Unfortunately, as Berger was beginning to understand operations, and just a few months after his arrival, he suffered from two separate strokes. Due to his poor health, Berger took early medical retirement and sadly, died within a year of his arrival. Rangers Lloyd Jacklin and then Roger Siglin each stepped in as acting superintendent until the regional office could find a replacement.²

Before Berger's retirement and few years after the various Mission 66 improvements, the monument's administration submitted a request to the regional office to close Cave Camp.³ Following regional approval,

administration prohibited camping in the monument and staff removed all the campground facilities. Until this time, Cave Camp had eight campsites and a use fee of \$1 per night. Each site included a table, stove, and a parking space. Due to constant high use, very little vegetation grew in the campground, leaving mostly exposed dirt and rocks.⁴ Administration also closed Swinging Bridge Picnic Area, occasionally used as a campground overflow, for campers and designated that area to served strictly as a picnic site. At the time of the closure, staff encouraged visitors to use campgrounds on nearby Forest Service lands that provided more camping sites and could better handle large numbers of campers.⁵

After several months without an official superintendent, Donald H. Castleberry finally filled the vacant position in June 1970. Castleberry left Cedar Breaks National Monument where he worked as the administrative assistant for his new position in American Fork Canyon.⁶ He began working to enhancing visitor services and programs at the monument as well as sought support for several significant research projects conducted inside the caves.

Shortly after Castleberry's arrival, he hired the first female ranger at Timpanogos Cave National Monument. In the spring of 1971, Connie Monson switched from working in the visitor center book sales for the Southwest Parks and Monuments Association to a seasonal cave guide position.

As Superintendent Castleberry became familiar with monument operations, he began to recognize crowding

in the caves with oversized tour groups and the lack of structure with tour ticket sales. As a result, he cut tour sizes from a maximum of 25 people down to 20 people. This change better enabled visitors to see and hear the guide in the confined spaces of the caves. In addition, beginning in 1972, he instituted the first reservations program facilitating large groups touring the monument. Staff allowed organized groups to reserve tour spots, while regular visitors were only able to purchase tour tickets at half hour intervals. Once staff sold out of individual tour tickets, employees issued a color card that enabled visitors to return at a designated time to purchase a ticket. In spite of the reduction in tour sizes and the changes in ticket sales, annual cave visitation increased by 14 percent.⁷

In May 1972, another event occurred that further enhanced and expanded interpretive programs at the monument. The National Park Service declared Timpanogos Cave National Monument an Environmental Study Area (ESA) as part of a federally-based program designed to give fifth and sixth grade students a greater understanding and awareness of nature reflecting the environmental movement that was

In July 1973, a local entrepreneur proposed the development of the White Canyon Ski resort. The proposal presented the development of a small ski area in American Fork Canyon at the current site of Tibble Fork Reservoir. The Forest Service feared that the people were over-using the canyon and they rejected the resort plan.¹²

occurring throughout the country. The program focused on this age group and designed lessons to coordinate with school curriculums covering ecology. To help promote this program, more than 5,600 students received cave tours tailored to the program's environmental ideals in the first year. To increase the success of this program, the monument partnered with Brigham Young University to offer an Environmental Education Seminar directed at teachers taking field trips to natural areas.⁸ To aid teachers with environmentally based lessons in their classrooms, monument staff developed an environmental lending library

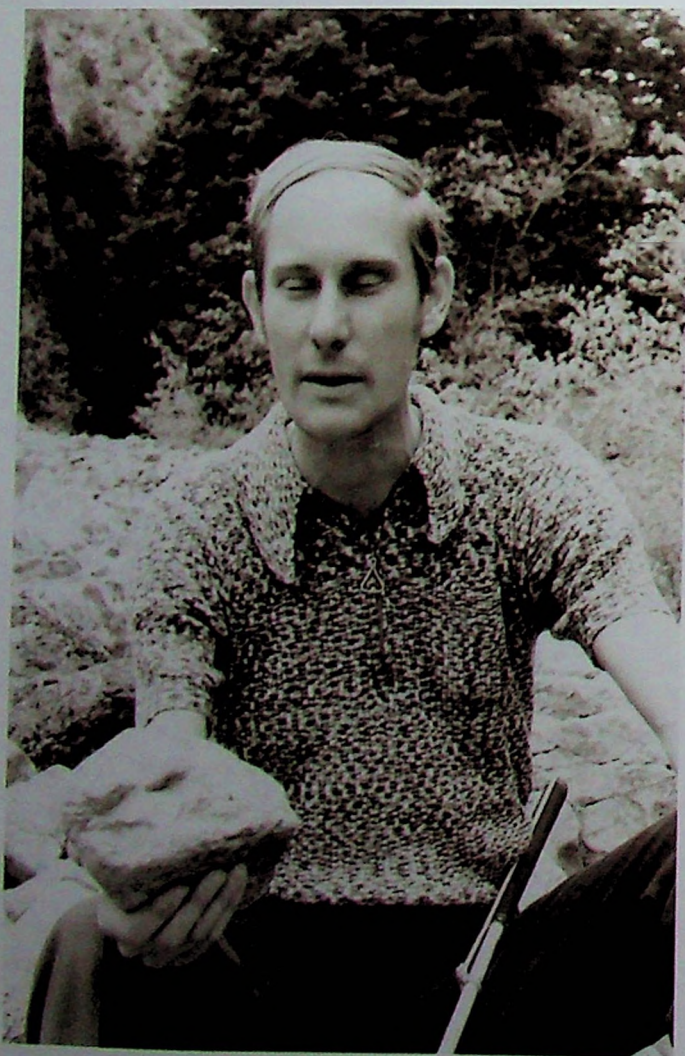
for teacher use. They also set up a reading corner with environment-oriented books in the visitor center for teacher and student use while visiting the monument.⁹

The National Park Service felt that the ESA program so successful that the following year the Service chose to expand it. Under ESA programming, the monument hosted a Student Toward Environmental Participation Conference. Employees trained the attending students in a variety of subjects and encouraged them to be environmental leaders to other youth.¹⁰

In addition to the activities related to the ESA program, the monument also participated in the Volunteer-In-Parks (VIP) program for the first time. Superintendent Castleberry issued a press release inviting people to apply for the volunteer program at the monument and assist staff in giving cave tours,¹¹ operating the visitor center information desk, and providing climbing demonstration programs. Of the 25 applicants to the program, he selected six to fill the VIP positions.

One of the selected VIPs, William B. White, used the volunteer program to study the mineral content of the cave speleothems.¹³ White sought to clarify not the origin of the Timpanogos Cave System but the mineral make-up of the various colors found in the speleothems. After several years, White completed his research. White examined the unusually colored formations in the caves using X-ray diffraction. He found that the element nickel in the calcite and aragonite speleothems caused the lemon-yellow and lime-green coloration in the formations. He also discounted Bullock's theory of a flowing stream having excavated the cave passages. White suggested that percolating water dissolved the limestone over time and ultimately creating the entire cave system. At the completion of his research, guides immediately began to relay this information to visitors on cave tours.¹⁴

In addition to the Volunteer-In-Parks and the Environmental Study Area programs, other interpretive changes occurred at the monument. One of these was the development of an interpretive feature utilizing an existing trail that ran from the visitor center to the Swinging Bridge Picnic Area. Park Naturalist Neal



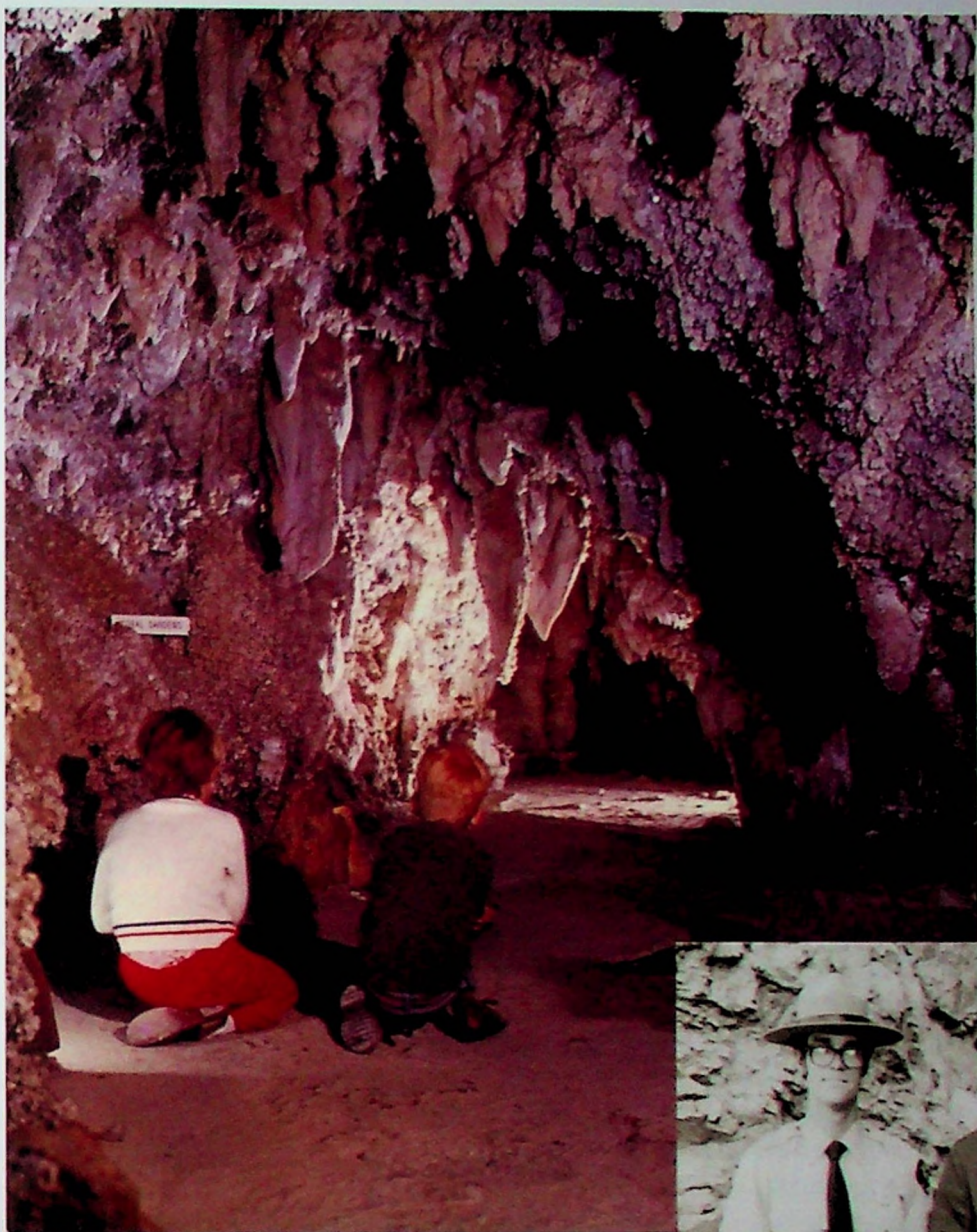
Lloyd Jacklin on the Four Senses Nature Trail

Bullington selected various stops on the trail, researched, wrote the text, and printed an accompanying guidebook entitled the "Five Senses Nature Trail." Each stop highlighted a nearby feature and encouraged visitors to use one of their five senses to understand some of the canyon's natural processes. A few years later, former ranger Lloyd Jacklin wrote an alternative guidebook for this trail entitled the "Four Senses Nature Trail." In his revision, Jacklin, who had recently lost his eyesight due to illness, interpreted the previously selected stops to help visually impaired visitors understand the dynamic natural forces of the canyon. Jacklin also developed a supplemental audiotape, which visitors could use in lieu of the booklet and checked out at the visitor center.¹⁵ The both guidebooks followed numbered trail markers highlighting features along the trail.¹⁶

Administration instituted another significant change for interpretation at the monument with a continued de-emphasis of "fairylanding" on cave tours. Up until that time, guides had given nicknames to many of the cave features and would often tell dramatized versions of E. L. Robert's Legend of Timpanogos. Monument administration theorized that local rangers perpetuated the folklore and attempted to dissipate it by hiring the monument's first non-local guide, Steve Nelson.¹⁷ Many guides opposed the change and one ranger resisted the change so much that he decided to quit rather than reform.¹⁸ To further diminish "fairylanding," Neal Bullington removed many of the fairyland name plaques placed throughout the caves.¹⁹ The only remaining sign at the Heart of Timpanogos remained in the cave until the early 1980s.

With this change, Ranger Royce Shelley became concerned that the fanciful names would become lost or forgotten. To document these names, Shelley wrote a paper in 1972 for an English class at Brigham Young University entitled "The Calcite Menagerie." Shelley documented each of the fairylanding names throughout the caves and tape recorded many guides. He also argued three specific values of fairylanding in his paper: to gain the attention of children; to use as a transition tool for tour topics; and to entertain guides, alleviating boredom at work.²⁰

In addition to interpretive changes, staff worked to provide a safer hiking environment for visitors. By 1972, the *Hulet vs. the United States of America* case involving the injuries that Bettie Hulet received while visiting the monument had come to a close. As a result of this case,



Children in Coral Gardens
Inset: Ranger Royce Shelley



and the *Heckathorn* trial several years earlier, the monument worked to decrease the rockfall danger on the cave access trail. Cave staff installed a massive chain-link fence that spanned the drainage above the Cave Restroom to catch any major rockfall. The twelve-foot fence protected visitors from major rockfall during the summer season. Then during the winter, when the monument closed the cave, they rolled back the fence to allow rock debris and avalanches to move through the chute.²¹

At the end of the 1972 season, the monument celebrated its official fiftieth anniversary on October 14. The monument staff hosted a large ceremony at the visitor center with remarks by Superintendent Castleberry followed by an awards program for the winners of a nature photo contest.²² At the conclusion of the ceremony, visitors could join a late night "torch light" tour through the caves, led by Ranger Roy McClusky and Naturalist Neal Bullington.²³

Late in 1972, the Forest Service proposed the reintroduction of bighorn sheep on the Wasatch Mountains. Bighorn sheep had been native to the area

but due to over-hunting and disease, populations had disappeared by the 1930s. An Environmental Analysis of American Fork Canyon indicated that the reintroducing sheep could fill the ecological niche that had long since been vacant. In the beginning, the herds struggled to survive and in 2000, the Forest Service introduced more numbers to their populations. Since that time, bighorn sheep live successfully in the lower canyon and often travel within the monument boundaries.²⁴

During the next few years, monument staff with the help of several VIPs continued to update and improve interpretive guidebooks as well as the scientific knowledge of the caves. This work included improving the cave access trail guidebook, producing a new and more detailed map of the caves, and the completion of research on algae growth in the caves.

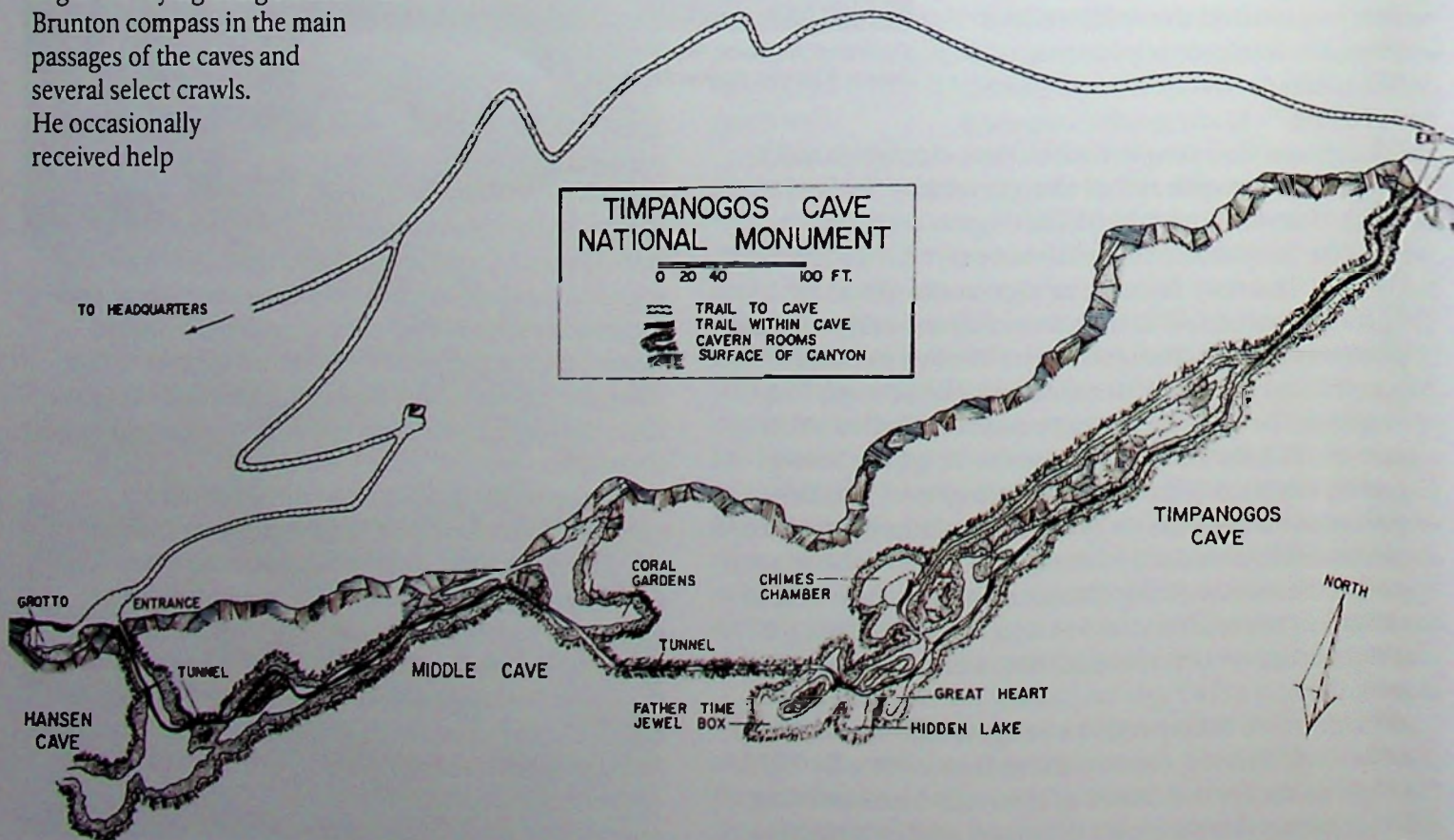
In 1973, Neal Bullington contributed to the enhancement of interpretive opportunities at the monument by revising the cave access trail guidebook. He rewrote the booklet using environmental themes emphasized in the Environmental Study Area program and included color photographs for the first time in a Timpanogos Cave National Monument publication. To distinguish this booklet from others, Bullington changed the name from the *Hillside Nature Trail* to the *Cliffside Nature Trail*.²⁵

While working on the pamphlet, Bullington also assisted VIP Dale J. Green in creating the first complete map of the caves. Staff found the previous map difficult to use as it consisted of a simple map with little detail of the cave passages. Green, a member of the Salt Lake Grotto of the National Speleological Society, began surveying using a hand-held Brunton compass in the main passages of the caves and several select crawls. He occasionally received help

from Bullington and several other grotto members.²⁶ Green's completed map had a one inch equals twenty feet scale and included a plan and profile view. Green's total mapped length totaled 2,950 feet for all three caves. Green's map was published with the accompanying Salt Lake Grotto Technical Note in December 1975.²⁷

Early in the season of 1974, as the maintenance crew hiked to the cave early in the season to prepare the cave to open for tours, Ralph Murdoch, Don Robison, and Leo Johnson descended some stairs in Timpanogos Cave noticing an eight-inch high cone of gray powder on the floor. The cone came to a perfect peak, directly below the exposed fault in the ceiling. Staff found no noticeable separation between the two sides of the fault but speculated that movement along the small fault fracture created the cone.²⁸

Staff and VIP's found the caves a continually busy and popular place to work. In addition to the geologic research conducted on the cave by William White, Professor Larry St. Clair from Brigham Young University became interested in the biological aspects of the caves. St. Clair began to study the algae growth, or diatoms, present in the caves. As a result of heat generated from bright feature lights inside the caves, large amounts of algae grew on many of the cave formations. After several years of research, St. Clair collected and identified several algal species in the caves, and published an article in *American Journal of Botany* about the diatoms found in the Timpanogos Cave System. He documented thirteen genera—including twenty species—of diatoms in the caves. At this time, St. Clair's collection contained the largest number of algal species identified



Timpanogos Cave Map by Dale Green



Superintendent Sherma Bierhaus

in any North American cave.²⁹

The work done by St. Clair aided monument staff in understanding the impact of lighting on the cave but did not provide Superintendent Castleberry's with information answering his concern over the impacts of increasing visitation at the monument. Castleberry encouraged Ranger Roy G. Ross to study the factors that affect visitor experience as part of his master's studies. Ross began to survey visitors and found that the majority reported to have had a positive experience during their visit to the monument. Interestingly, he also found that while 99 percent of those surveyed felt that the importance of the monument was to protect the cave and maintain the natural state of the area, 29.6 percent favored the installation of a chairlift.³⁰

At the end of the 1974 season, and after only four years at the monument, Donald Castleberry left Timpanogos Cave National Monument. Initially Sherma E. Bierhaus filled the superintendent position as part of the National Park Service Intake Program, a mid-level management training program. She accepted this as a temporary appointment while the regional office searched for someone to fill the position permanently. However, after a few months, Bierhaus permanently assumed position as superintendent.³¹

A year after Bierhaus's arrival, the monument became the site of several crimes and Bierhaus turned her focus on dealing with problems of safety and security at the monument. The first came in November 1975, when the body of a woman was found on the edge of the American Fork River near the east boundary of the monument. Authorities determined that the body belonged to Laura Aime, 17, of Salem, Utah. Following an autopsy, medical examiners concluded that she died as a result of strangulation and multiple blows to the head. The murder remained unsolved; however, law enforcement officers speculated that serial killer Ted Bundy was responsible for her death. For several

years after the death of Aime, FBI officers continued to question monument personnel in attempt to tie the death to Bundy. At the time of Bundy's death by electric chair, even under direct questioning, he had neither admitted nor denied involvement in the death of Aime.³²

That same year, Ranger Duane Collier stopped a vehicle speeding through the monument and issued a ticket to the driver, Rodney C. Carson. Three weeks later, Carson returned to the monument and stopped his car in front of the Wood House, where Collier lived with his wife. When Collier came out of the house, Carson turned the car around and shot at Collier before racing out of the canyon.³³ Fortunately, both Collier and his wife avoided the bullet. Authorities later arrested Carson and charged him with assaulting a Federal Officer with a deadly weapon with intent to commit murder. A judge convicted him and sentenced Carson to thirty days in jail and five years probation.³⁴

The final incident of the year was an act of vandalism that occurred in the cave. Ranger Arlo Shelley caught a visitor attempting to steal a cave formation, and the National Park Service tried to prosecute the visitor. A federal magistrate fined the individual \$5 for the infraction and several local newspapers published the story. Superintendent Bierhaus became upset with the results of the trial and expressed concern that such a minimal fine might invite further vandalism to the caves. She wrote a letter to the regional director arguing that federal magistrates need to take vandalism to natural resources more seriously, specifically in National Park areas, and such minimal punishments created an invitation to "rock hounds."³⁵

Another vandalism incident occurred the following year when three local university students broke into the caves and severely damaged several formations. The boys damaged several items with the most significant being the stalagmites known as the "Salt and Pepper Shakers," which the boys not only broke but removed from the cave. Bierhaus took this incident seriously and the FBI became involved in the investigation. Agents caught the boys, charged them with resource damage, and fined each of them \$200. Agents then returned the broken



Salt and Pepper Shaker Stalagmites



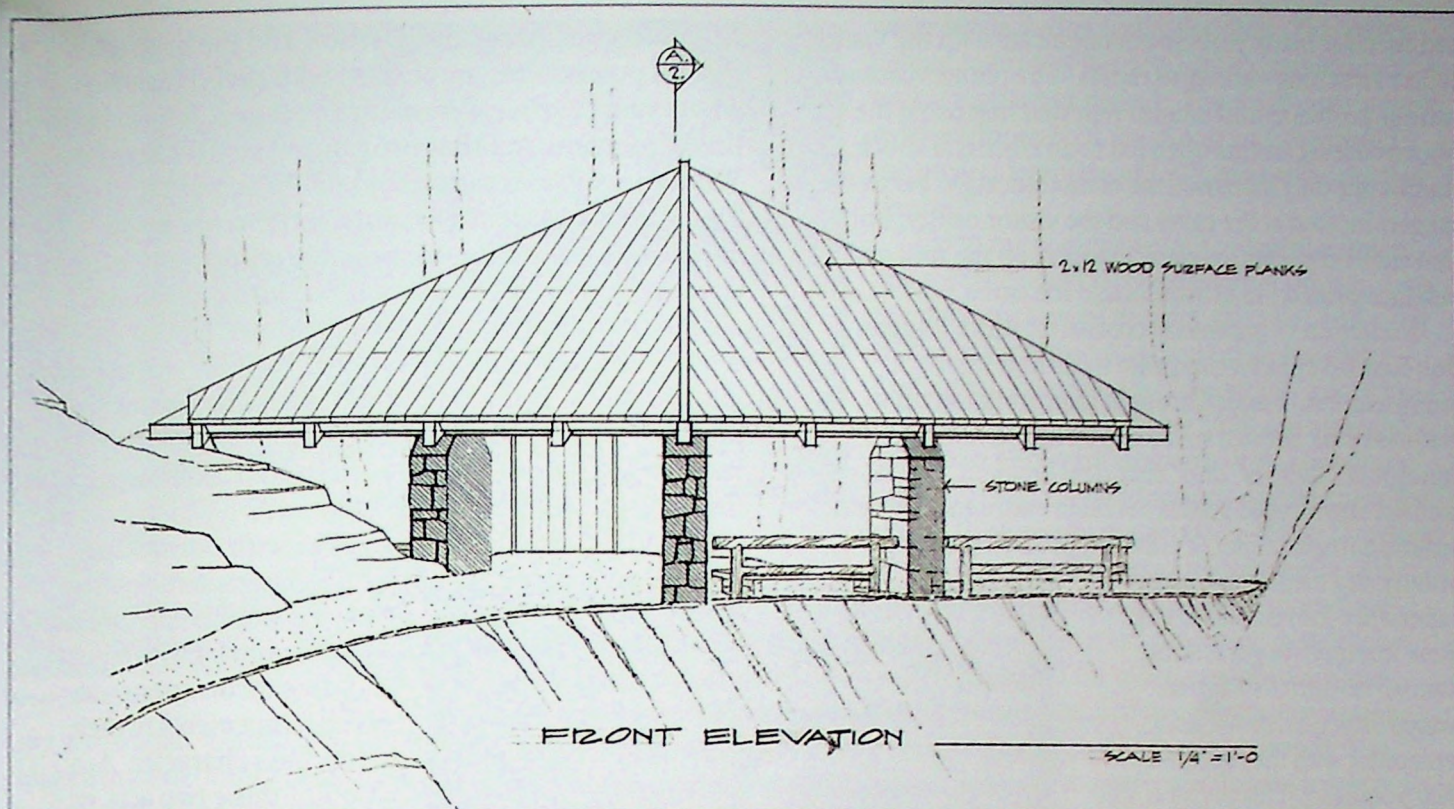
TIMPANOGOS CAVE NATIONAL MONUMENT

A CAVE BOOKLET
FOR CHILDREN

Drawings by:
Annette Robbins



STALACTITES grow down from the ceiling.
STALAGMITES grow up from the floor.
Remember, stalactites must cling tight to
keep from falling. If stalagmites try
really hard, they might reach up to the
stalactite. If they meet, they form a COLUMN.



Blueprint for Exit Shelter

formations to the monument where Ranger Bob Randall reattached the Salt and Pepper Shakers with epoxy.³⁶

Following these incidents, monument staff felt more confident in the cave's security and redirected their attention to enhancing programs. In 1976, the monument participated in the national events of the bicentennial of the United States of America. The National Park Service celebrated the bicentennial by granting funding for a "bicentennial ranger" to conduct special programs for school groups. At Timpanogos Cave National Monument, this ranger presented 185 programs to approximately fifteen thousand people. Furthermore, supervisors encouraged guides to present a bicentennial message in their cave tours. The most common of these stated that formations take 100 years to grow one inch, and two inches of growth since the creation of the United States of America. In actuality the growth of a formation is dependent on surface water and therefore fluctuates, regardless the geologic growth of a cave formation is typically slower. Despite the inaccuracy of this statement, visitors enjoyed the parallels. Also at this time, the United States was dealing with the conclusion of the Vietnam War. As many people found the U. S. involvement in the war controversial, supervisors asked guides to remind visitors to celebrate the creation of the United States during the bicentennial. In addition to the bicentennial message, supervisors once again instructed guides to abstain from "fairylanding."³⁷

In the following year, employees produced a cave booklet for children. They directed the development of this book for younger visitors, better enabling them to understand cave processes through pictures and activities.³⁸

Monument staff constantly worked to improve visitor enjoyment at the monument including a improving safety

measures. At the end of the 1976 season, administration contracted McCullough Construction to replace the rock fence above the cave restroom with a much taller and more protecting rock barrier. The location proved to be a challenging work environment, and McCullough used a helicopter to transport materials and pour cement for the concrete abutments. They installed doors between the abutments that could close during the tour season. Then they stretched a twenty to thirty-foot high wire mesh curtain across the chute to catch falling rock. The curtain would to cover the drainage during the summer when visitors hiked the cave access trail, yet employees could pull it back using a winch to allow rocks and debris to flow through during the winter months. The following spring, administration again commissioned McCullough to build a shelter at the cave exit to protect visitors from rockfall when departing from Timpanogos Cave. McCullough again flew materials up the mountain using helicopters.³⁹ Because of the complexity of these projects, the cave did not open for tours until the end of June to protect visitors from falling rock and construction debris.⁴⁰

Maintenance staff utilized the closure to work on their own projects and change the drinking water line at the cave entrance. They removed the drinking fountain originally placed in the first room of Hansen Cave. This location often caused congestion problems around the entrance with visitors accessing the water and guides trying to begin tours. The staff extended the waterline from that room and installed a drinking fountain in the Grotto.⁴¹

Another improvement occurred at the cave simultaneously to these projects that increased communication throughout the monument. Employees removed the hand-crank telephones at the cave that they

had used for many years to communicate with the visitor center switching entirely to radios. The phones caused various problems and rangers reported that using the phones during storms often led to an electrical shock. Radios not only increased the communication between rangers located at the caves and the visitor center, but also enabled guides to contact rangers on the trail and enhance protection of visitors and the caves.⁴²

In addition to improving communication, Ranger Bob Randall began a campaign to further improve interpretation. Randall brought interpretation up to National Park Service standards by introducing the concept of “themes” and “tour development.” This method encouraged guides to create entire tours based around a single theme or concept, providing a more orderly and memorable tour experience for visitors. Using these interpretive guidelines, Randall revised the *Cliffside Nature Trail* guidebook and replaced it with the *Along the Way* booklet.⁴³ This revision still followed the same numbered trail markers but made a fluid connection from one stop to the next.

While staff appreciated new interpretive programs, it did not change the need for better tour organization. Previously visitors purchased a tour ticket and hiked to the cave, and upon arrival, guides took them into the cave on a “first come, first serve” basis.⁴⁴ Guides found this method chaotic and on busy days, they often missed lunch to accommodate the arriving visitors, and the last guide occasionally stayed late to take all the remaining visitors into the cave. Consequently, Ranger Scott Squires recalled taking a tour of 66 people through the cave.⁴⁵ In 1978, visitor center employees began assigning specific tour times to visitors.

The following season, the guide staff experimented with ten-hour days to make a four-day work week. Although work days were longer, this allowed guides to have an extra “rest” day on the weekend and also one fewer day to hike up to the caves. This schedule also allowed for each ranger to give one additional tour daily, enabling more visitors to tour the caves.⁴⁶ While initially staff found this transition challenging, they appreciated the overall benefits.

Timpanogos Cave National Monument staff enjoyed the changes and in 1978 experienced another exciting change coming from the U. S. Forest Service. The monument received a different form of protection when the forest land bordering the northern boundary received

a “Wilderness Area” designation and the heightened federal protections associated with that designation. Many years earlier, President Lyndon B. Johnson signed the Wilderness Act that provided the initial base for the Wilderness Preservation System. When this occurred, then superintendent Donald Castleberry eagerly supported the maximum possible wilderness designation stating, “...a large, formally designated wilderness adjacent to Timpanogos Cave National Monument would complement the National Park Service objectives and would be a definite advantage to the visiting public.”⁴⁷ Despite the positive responses from this Act, it took an additional fourteen years for Congress passed the Endangered American Wilderness Act, which expounded on the first Act by protecting area with outstanding

natural characteristics from growing populations, industrial and economic growth, and uses inconsistent with the enhancements of their wilderness character. As a result of these two acts, on February 24, 1978, the Lone Peak Wilderness Area received the first Wilderness Area designation in Utah. Then a few years later Congress passed the Utah Wilderness Act, and with that, the Timpanogos Wilderness Area became protected in 1984. With both the Lone Peak and the Timpanogos Wilderness Areas, situated adjacent to the monument, provide a protective natural buffer for the monument ecosystems.⁴⁸

While Timpanogos Cave National Monument employees felt excited with the establishment of wilderness status near the boundaries, the monument became the

focus of some unwelcome publicity later that year. Superintendent Bierhaus received a permit application from the Schick Sunn Classics commercial film company to film a segment of the movie *Time Machine*, based on the book by H.G. Wells, inside the caves. While initially Bierhaus denied the permit, the film producers contacted a local senator for assistance in getting the needed approval, and shortly after, the National Park Service granted the required permission. The film crew found transporting film equipment to the caves difficult and hired a helicopter to airlift supplies to the top of the cave restroom. Initially Bierhaus denied the company use of federal equipment and vehicles for filming purposes; however, they again went to the Washington Office to get permission to use monument equipment, specifically the buggy, for transporting food and costumes up the

In 1981, the local Forest Service office began to study and seek reviews on a proposal to introduce Rocky Mountain goats to Mount Timpanogos.⁵⁶ Monument staff quickly opposed this, stating that mountain goats were not native to the area and that the project would ultimately affect the monument, as their winter range would include monument land, possibly causing damage to the resource, and potentially altering the balance of the ecosystem.⁵⁷ Despite monument opposition, the Forest Service relocated goats onto the mountain shortly after.





Wood House

cave access trail. Ultimately, the filming inside the caves resulted in a one-minute segment actually included in the final film. Superintendent Bierhaus claimed that this segment did not look any different from the rest of the movie, which the company filmed in a Park City mine.⁴⁹

By this time, the monument had experienced several years of repeated electrical problems that reiterated to monument staff the need for a new lighting system. Staff found that maintaining an electrical system inside the moist cave environment a perpetual problem. Rangers had begun to notice exposed wires throughout the caves and guides would often receive a small shock when using light switches. Other problems included aluminum light sockets that would often corrode within a year thus needing regular replacing.⁵⁰

In early October 1978, under the direction of Maintenance Foreman Ralph Murdoch, the maintenance crew began to remove and replace the entire lighting system. Murdoch contracted Journeyman Electrician Marv Teuscher to assist with the technical aspects of the project. Before beginning the lighting system, first maintenance employees removed the old lighting system, the crew then began to dig trenches to bury the wire for the new system. Teuscher used cast iron or stainless-steel switches with rubber connectors to better withstand the damp cave environment. The lighting design included the installation of low-sodium lights in the tunnels, which would operate on a lower voltage, but also emitted a yellowish glow. The system also included another change by moving the location of the "total darkness" experience from the Coral Gardens to Middle Cave Lake.⁵¹ Unfortunately, this change did not allow visitors to appreciate complete darkness at this site as they could see light from further down the passage reflecting off of the lake. Bierhaus instituted the most controversial change, she instructed crews to remove the red light from behind the Great Heart of Timpanogos stating the colored light had "outlived its usefulness."⁵² The final element of the cave lighting and electrical project was the installation of a pump at Middle Cave Lake to control the

water levels during spring flooding. This pump helped to protect the new lighting system and the trail at high water periods. The maintenance crew worked throughout the winter and completed the project by spring of 1979, in time for the tour season.⁵³

Upon the completion of the lighting project, maintenance then received another project. Over the previous several decades, the caves had often suffered from vandalism and break-ins. After finding the Timpanogos Cave entrance door open on several occasions during 1978 and again in the spring on 1979, staff determined that break-ins came through the small natural opening near the door. To eliminate this problem, Ralph Murdoch and maintenance worker Leo Johnson sealed both the Timpanogos Cave and Hansen Cave natural entrances with rock walls. A short time later, they found the mortar chiseled out and the entrance breached once again, this time they build a double wall, which solved the problem.⁵⁴

Thinking that they had prevented illegal entries to the caves, staff was surprised in 1980 when they again found a cave entrance door open. This time, intruders entered the cave through the Middle Cave Entrance. The perpetrators climbed the fence that covered the cave entrance and then entered the cave by sliding down the two-inch diameter electrical cable approximately one hundred feet to the cave tour trail. Following this incident, staff installed a new grate to replace the fencing covering the Middle Cave Entrance.

In conjunction with these cave entrance projects, maintenance also hardened several sections of the cave tour trail. At this time, guides began to notice that with each passing tour, clouds of dust rose in the tunnels settling on the nearby cave formations. To prevent this, they paved the trail surface in the Timpanogos Cave tunnel.⁵⁵ The following year, the maintenance staff expanded this project and built stairs in the Middle Cave Big Room becoming the last location in the cave to be cemented.

The maintenance staff concluded a busy season with a Regional Office inspection of the Wood House or Residence #1, labeling it an unstable structure. Originally built in 1922 by Ranger-In-Charge Mick Halliday, the house had gradually deteriorated since its construction. Early in 1981, staff finally leveled the house and restored the area.⁵⁸

Despite the various improvements over the years and the annual visitation rising to nearly 67,000, the monument began to face budget cuts in 1981. As a result, the monument visitor center, which typically remained open throughout the winter, closed on Sundays during the cold months. Furthermore, due to the tightened budget and despite their popularity, staff had to cancel summer evening programs.⁵⁹ Additionally, to increase visitor safety and resource protection, one guide diverted from tours to patrol the trail, thus cutting one tour each hour.⁶⁰

The previous twelve years saw changes at the monument not only with superintendents but also in dealing with and increasing demands for visitor services. Monument staff improved and expanded visitor opportunities as they never had before, working to keep pace of National Park Service standards. With these expanded opportunities, the monument staff realized that in the coming years, the caves would need even greater protection and that the interpretative programs would need to expand to meet the continual growing numbers of visitors.

Reference

- 1 "Appointee Takes Over at Timp Cave." *Salt Lake Tribune*. Salt Lake City, Utah. 1969.
- 2 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 3 Regional Office Memorandum. Cat #3106. Timpanogos Cave NM. American Fork, Utah. 1969.
- 4 Murdoch, Ralph. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 5 Walker, Thomas A. Letter to Regional Director. Cat #3106. Timpanogos Cave NM. American Fork, Utah. 1969.
- 6 "Don Castleberry Has Been Appointed as New Supt At Timpanogos Cave." *Provo Herald*. Provo, Utah. June 11, 1970.
- 7 Bullington, Neal. Letter to Rod Horrocks. Timpanogos Cave NM. American Fork, Utah. Feb 14, 1996.
- 8 "Timp Cave Seminar Announced." *Provo Herald*. Provo, Utah. Sept 3, 1972.
- 9 Castleberry, Donald. Annual Report - 1972. Timpanogos Cave NM. American Fork, Utah. 1972.
- 10 Castleberry, Donald. Annual Report - 1973. Timpanogos Cave NM. American Fork, Utah. 1973.
- 11 "Volunteers Sought for Timp Cave." *Deseret News*. Salt Lake City, Utah. July 26, 1972.
- 12 "Three Ski Resort Plans Rejected, Two Okayed American Fork-Provo." *Salt Lake Tribune*. Salt Lake City, Utah. July 8, 1973.
- 13 Castleberry, Donald. Annual Report - 1972. Timpanogos Cave NM. American Fork, Utah. 1972.
- 14 White, William B. & Van Gundy, James J. *Reconnaissance Geology of Timpanogos Cave, Wasatch County, Utah*. NSS Bulletin, 36(1):5-17. 1974.
- 15 Timpanogos Cave NM. Four Senses Nature Trail. Cat #934. Timpanogos Cave NM. American Fork, Utah. 1974.
- 16 "Nature Trail for Sightless Now Open at Timpanogos Cave." *Provo Herald*. Provo, Utah. July 27, 1975.
- 17 Nelson was provided with Park housing when maintenance staff converted the Cave Camp Shower House into living quarters.
- 18 Bullington, Neal. Letter to Rod Horrocks. Timpanogos Cave NM. American Fork, Utah. Feb 14, 1996.
- 19 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 20 Shelley, Royce. The Calcite Menagerie. Cat #3109. Brigham Young University. Provo, Utah. 1972.
- 21 Robinson, Don. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 22 "Timp Cave Sponsors Photograph Contest." *Provo Herald*. Provo, Utah. Aug 20, 1972.
- 23 Bullington, Neal. Letter to Rod Horrocks. Timpanogos Cave NM. American Fork, Utah. Feb 14, 1996.
- 24 Nelson, Shaun R. *History of Uinta National Forest: A Century of Stewardship*. Uinta National Forest. 1997.
- 25 Timpanogos Cave NM. Cliffside Nature Trail. Cat #789. Timpanogos Cave NM. American Fork, Utah. 1973.
- 26 Green, Dale J. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 27 Green, Dale J. Map of Timpanogos Cave. Cat #1253. Timpanogos Cave NM. American Fork, Utah. 1975.
- 28 Robinson, Don. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 29 St. Clair, Larry L. & Rushforth, Samuel R. *The Diatoms of Timpanogos Cave National Monument, Utah*. American Journal of Botany. Vol 63, No. 1, pp 49-59.
- 30 Ross, Roy Gene. *The Factors Affecting the Quality of Visitor Experience at Timpanogos Cave National Monument*. Brigham Young University. Provo, Utah. April 1974.
- 31 Bierhaus, Sherma E. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 32 Kelsey, Michael R. *Climbing and Exploring Utah's Mt Timpanogos*. Kelsey Publishing. Provo, Utah. 1989.
- 33 Bierhaus, Sherma E. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 34 "Probation Ordered for Beating Ranger." *Ogden Standard-Examiner*. Ogden, Utah. July 17, 1978.
- 35 Shelley, Arlo. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 36 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 37 Timpanogos Cave NM. Tour Guidelines. Cat #963. Timpanogos Cave NM. American Fork, Utah. 1976.
- 38 Bierhaus, Sherma E. Annual Report-1977. Timpanogos Cave NM. American Fork, Utah. 1977.
- 39 Robinson, Fred. Architectural Drawing. Cat #1033. Timpanogos Cave NM. American Fork, Utah. 1977.
- 40 Murdoch, Ralph A. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 41 Bierhaus, Sherma E. Annual Report-1975. Timpanogos Cave NM. American Fork, Utah. 1975.
- 42 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 43 Randall, Robert. Along the Way to the Cave. Cat #856. Southwest Parks and Monuments. New Mexico. 1978.
- 44 Bierhaus, Sherma E. Annual Report-1978. Timpanogos Cave NM. American Fork, Utah. 1978.
- 45 Squires, Scott. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1997.
- 46 Bierhaus, Sherma E. Annual Report-1979. Timpanogos Cave NM. American Fork, Utah. 1979.
- 47 Castleberry, Donald. Letter to G. Horton. Cat #931. Timpanogos Cave NM. American Fork, Utah. 1974.
- 48 Nelson, Shaun R. *History of Uinta National Forest: A Century of Stewardship*. Uinta National Forest. Provo, Utah. 1997.
- 49 Bierhaus, Sherma E. Annual Report-1978. Timpanogos Cave NM. American Fork, Utah. 1978.
- 50 Siglin, Roger. Memorandum to Regional Director. Cat #3106. Timpanogos Cave NM. American Fork, Utah. December 16, 1969.
- 51 Teuscher, Marvin. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1998.
- 52 Bierhaus, Sherma E. Report of Operation Evaluations and Consultation. Timpanogos Cave NM. American Fork, Utah. Dec 28, 1979.
- 53 "Timpanogos Cave Employees Honored." *American Fork Citizen*. American Fork, Utah. 1979.
- 54 Horrocks, Rodney. *The Story of Timpanogos Cave*. Unpublished draft. Timpanogos Cave NM. American Fork, Utah. 1998.
- 55 Bierhaus, Sherma E. Annual Report-1980. Timpanogos Cave NM. American Fork, Utah. 1980.
- 56 Nelson, Shaun R. *History of Uinta National Forest: A Century of Stewardship*. Uinta National Forest. Provo, Utah. 1997.
- 57 Bierhaus, Sherma E. Annual Report-1979. Timpanogos Cave NM. American Fork, Utah. 1979.
- 58 Ibid.
- 59 Bierhaus, Sherma E. Letter to Assistant Regional Director. Timpanogos Cave NM. American Fork, Utah. Feb 26, 1981.
- 60 Bierhaus, Sherma E. Timpanogos Cave National Monument: Current Fiscal Year Operations. Timpanogos Cave NM. American Fork, Utah. 1981.

CHAPTER VIII

Planning for the Future

In the forthcoming years, monument managers began to battle with balancing ever increasing visitation with the added strain of a tightening budget. As a result, programs would flex to reflect these strains and staff worked to accommodate visitors. Monument managers, wanting to meet National Park Service ideals, began to create planning documents to better prepare for the coming visitors, issues, and programs.

Early in 1982, Sherma Bierhaus left Timpanogos Cave National Monument for a position at Arches National Park. The Regional office quickly filled the superintendent position with William "Bill" Wellman, an area manager from Fort Union Trading Post.¹ Superintendent Wellman quickly began to identify the needs of the monument. He recognized that many problems were a direct result of budget constraints, so he initiated several methods—some innovative, some basic—for making up the difference.

In an attempt to alleviate financial concerns in 1982, Bill Wellman increased the ticket price from 50¢ to \$1, marking the first change in tour prices since 1922. Wellman reasoned that the monument was deficient in both the number of guides available to give cave tours and funding available for the basic operations of the monument. He anticipated that the increase in ticket price would result in a budget increase that could resolve these two problems. As a result of this change, the monument experienced an increase of \$15,827 over the previous season through fee collection. With the additional guides hired through the fee increase,

it enabled more people to tour the caves, resulting in primarily positive feedback from visitors.²

The following season, rangers offered several specialty tours that invited return-visits to the caves and gave visitors a new perspective of the Timpanogos Cave System and cave processes. These tours included: Flashlight Tours, Candlelight Tours, Historic Tours, Fantasy tours, and Photography Tours. Staff limited these specialty tours to ten people and offered them only as the last tour of the day. The Historic Tour followed the regular tour trail until it reached the Chimes Chamber where visitors would leave the main trail and climb down into the Lower Passage, using a trail that had been closed to visitor use since 1939.³ Ranger Royce Shelley, author of the document "Calcite Menagerie," led Fantasy Tours. Shelley designed this tour for children and highlighted the "fairylend" names of several cave formations on the tour route. For this tour, staff only admitted adults when they accompanied a child.⁴ Staff found the specialty tours very successful as they often sold out during the season. As a result of their popularity, these tours continued into the next season and throughout the 1980s; however, by the 1990s resource concerns and the increasing demand for regular tours caused administration to cancel the remaining specialty tours.⁵

In addition to improving the monument budget and increasing the number of tours, Wellman also wanted to increase the protection of the cave and historical resources of the monument. Near the end of Wellman's first season, the monument established a Cultural Resource Preservation Area when the Timpanogos Cave



Highway 92 following 1983 Flood

Historic District gained protection on the National Register of Historic Places. The historic district included several buildings such as the Rock House and Cave Camp's shower house, as well as the Cave Camp area, the historic cave access trail, the Timpanogos Cave Entrance, the Hansen Cave Entrance, and the Grotto.⁶ This designation supported the staff's desires to maintain the historic appearance of these buildings and areas and protecting them from potential future developments.

Shortly before Wellman's arrival, long-time guide Arlo Shelley approached staff members expressing concern over another aspect of the monument's cultural heritage: the red light for the Great Heart of Timpanogos. The light had been removed several years before with the installation of a new lighting system. Shelley reasoned that the colored light had existed behind the Heart for more than 55 years and therefore he claimed that it warranted historic protection. Wellman did not come to a final decision on the matter. Shortly after his departure and before a new superintendent began, Rangers Arlo Shelley, Jay Allen, and Jerry Thoreson reinstalled the light and the new superintendent did not remove it.⁷

Despite the minor successes, the staff experienced a major setback when another flood hit the monument. On May 31, 1983, a surprise rainstorm drenched American Fork Canyon causing a mudslide to come down nearby Tank Canyon. This temporarily blocked the river, creating a natural dam and closing off the canyon just above the monument's eastern boundary. When the river breached the dam, water came crashing down the canyon, washing away several sections of the road and the upper access bridge to the Five Senses Nature Trail. State law enforcement designated the canyon a "Disaster

Area." Utah Highway Patrolman Ed Scovil described driving up the road while the opposite lane fell away into the raging river.⁸ The canyon, as well as the monument, remained closed until June 14, when staff and others had completed enough repair work to safely allow visitors back into the area. Both Forest Service and Park Service employees used the remainder of that season and much of the next repairing flood damage.⁹ As a result of flood damage sustained by the Five Senses

Nature Trail, specifically its missing bridge, remained closed for several years past before staff could rehabilitate the trail entirely. It therefore received limited use until its complete restoration.

While staff worked to repair flood damage on the canyon

floor, they also made efforts to repair and improve the cave access trail and tour route. The power line that provided electricity to the caves had become "extremely hazardous" as a result of not only the storm but many years of weathering. To rectify this problem, Utah Power and Light installed three new poles raising the cable above the reach of visitors on the exit trail.¹⁰

In addition to the power line improvements, rangers also installed a radio repeater at the caves that vastly improved staff communication.¹¹ The repeater also enabled staff to install a cave alarm system with a radio link. The monument staff continually dealt with vandalism and break-in attempts. This alarm system alerted staff to illegal entries to the caves and provided greater protection to the cave resources. They later expanded this alarm system, attaching it to interior cave doors, further enhancing cave protection.¹²

Although staff and visitors enjoyed the improvements and repairs, the budget remained tight and Superintendent Wellman again sought to increase staff and program funding by increasing the tour ticket price in 1984. With this increase, adult admission became \$2 and junior admission (ages 12-16) became \$1.¹³ Wellman also wanted the monument to obtain funding for special projects that the monument staff neglected due to budget restraints. Therefore, in 1984, the monument participated



in the Hug-A-Park Program, designed to solicit donations and funding for specific projects. The National Park Service released a booklet that outlined several Utah, Arizona, and Colorado National Park areas and their specific funding needs. Timpanogos Cave National Monument used this format in an attempt to obtain donations. Visitors could specify that their donation be used for revegetating slopes along the cave access trail, purchasing environmental monitoring equipment for the caves, or replacing outdated museum exhibits.¹⁴

In addition to funding concerns, Superintendent Wellman directed the monument toward more future planning in anticipation for continual increasing visitation and incoming research projects. He wished to ensure long-term management objectives and establish conservation principles within these goals. This would also provide future management with direction during budget restraints and better prepare staff for unforeseen events. He achieved this with the completion and implementation of several management plans. Supervisory Ranger James Boll developed and wrote a Natural Resource Management Plan as well as a Development Concept Plan and an Interpretive Prospectus. These documents planned for the continual protection of the monument's natural resources, directed the maintenance staff in development projects, and provided structure to the monument's guide staff. The Natural Resource Management Plan included a preliminary Cave Management Plan. This plan recognized the need for a permanent Resource Management Specialist and also planned for an airlock door system on the cave tunnels and for potential monitoring of water quality, airflow, and CO₂ and radon levels.¹⁵ The following year, staff continued planning with the completion and implementation of a Cultural Resource Plan, Resource Management Plan, and a Statement for Interpretation and Visitor Services.¹⁶

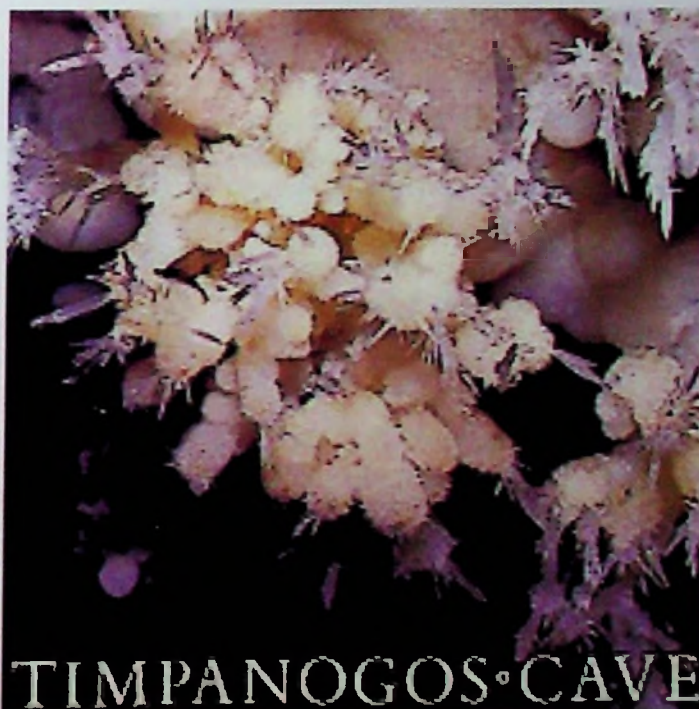
The first project following these plans was the development of a new interpretive trail, named the "Canyon View Trail." To begin this project, staff supervised the placement of a footbridge over the American Fork River opposite the visitor center. The bridge not only provided access to the new trail site, but also enabled monument staff to develop a new picnic area. Following the installation of the bridge, the Youth Conservation Corps began cutting the trail into the hillside.¹⁷ Original plans show a trail designed to ascend above the new picnic area, traverse the north slope of the canyon to Swinging Bridge Canyon, and then travel down the canyon, connecting to the Five Senses Nature Trail, possibly alleviating the need to replace the bridge that had washed away during the flood.

The Youth Conservation Corps continued working on this trail for the next several seasons. Staff anticipated that visitors could access this trail throughout most of the year and ultimately provide visitors with an alternative activity to cave tours.¹⁸ Unfortunately, before the project was completed, administration canceled the project as visitors had already begun to using the trail and following

a rock throwing incident that crashed down toward the residences, and staff found it necessary to terminate the project. Maintenance employees fenced off the trail and never completed it.¹⁹

As staff began to see problems with the Canyon View Trail, plans arose for the restoration of the Five Senses Nature Trail. The Utah National Guard assist monument staff in the installation of the replacement bridge at the upper portion of the Five Senses Trail. Immediately after, visitors began to utilize the self-guided interpretive trail once again.²⁰

The recently completed management plans not only provided direction for interpretive programs and developments but also provided direction for research projects. Utah State University student Laurence Sipprell studied rockfall hazards on the trail. His research



Window Into the Earth: Timpanogos Cave by Stephen Trimble

included the use of a slide program shown at the visitor center that would alert visitors to rockfall dangers while hiking the cave access trail. His report suggested that increasing a visitor's fear of rockfall danger would also increase his/her awareness of the pending hazard.²¹

To coincide with Sipprell's research, Superintendent Wellman directed staff to paint warning stripes on the cave access trail. Employees painted these stripes in several locations to alert visitors of areas with high rockfall danger and hopefully increase awareness and protect them from potential rockfall injuries.²²

Alan Willhite provided staff with additional resource guidance in 1985 when the article "Cave Management and Conservation Practices in National Park Service Caves," which included management practices at Timpanogos Cave National Monument as well as other National Park Service cave sites. In his research, Willhite identified several problems in the Timpanogos Cave System including historic mining, drinking

water pumped from natural cave lakes, algae growth, unnatural air circulation from artificial tunnels and expanded entrances, unstable rock, and lint and dust accumulation.²³

Following Willhite's research, Supervisory Ranger James Boll attempted to rectify the negative aspects in the report by outlining five resource management objectives for the monument. These objectives included: evaluate and mitigate the effects of human use and other factors on the cave environment; prevent cave formation discoloration and damage; develop methods of cleaning cave formations without damaging them; provide adequate protection of the caves during closures; and obtain baseline ecological information on the caves to meet National Park Service standards to preserve and manage natural areas.²⁴

Boll began to work towards meeting these objectives by measuring the light intensity levels in the caves.

Rangers found that the large amounts of algae growing inside the caves came as a direct result of the bright feature lights. To reduce this growth, staff then began to kill algae growing around the lights using 100% sodium hypochlorite bleach. This method proved successful and they continued this practice for the next several years whenever algae growth would return.²⁵ Later, supervisors terminated the use of bleach when they decided that it not only killed the algae but also cave-adapted microorganisms indigenous to the cave system.

Superintendent Wellman also expressed a concern about preserving the cave resources. The large quantities of airflow through the caves identified in Willhite's report, primarily wind generated by the tunnels, became an area of interest to the staff. In an attempt to slow the chimney-effect winds that would blow between the caves and to restore more natural air circulation in the cave system, Wellman had a heavy wooden door installed that the top of the Timpanogos Cave tunnel. After the installation of the door, staff noticed a dramatic decrease in airflow. In addition, rangers also reported that they no longer saw the large number of bats typically found in the caves—likely as a result of the decrease in temperature from climate stabilization. Prior to the installation of the door, observation reports recorded populations of sixty to seventy Townsend Big-eared Bats roosting along the Middle Cave Fault.²⁶

Throughout this period of planning, visitation continued to climb and the monument staff also required greater organization to deal with busy days with long waits and sold out tours. During that time, visitors regularly waited one-hour or more for tours on weekdays and a long line grew outside the visitor center by 8:00 a.m. on Saturdays.²⁷ One observer reported that Saturdays at Timpanogos Cave National Monument more resembled Disneyland than a National Park Service site.²⁸ In an

attempt to alleviate this problem and better prepare people for their visit to the monument, in 1986, Ranger Michael Creasey created two new brochures. The first, *Planning Your Visit*, helped visitors to understand plan ahead for their visit to the monument. The second, Creasey developed an education pre-visit packet with a booklet entitled *School Group Planner*. This assisted teachers with educational field trips to the caves by better preparing students to not only have an initial understanding of cave processes but alert them to the hike and the cool temperatures of the caves.²⁹ Monument staff also created a short film titled "Public Use and Impact" that they distributed to local television stations. Staff hoped that the film would encourage local visitors to plan their visit to the monument by avoiding peak visitation days.

Just as monument staff began to focus on other projects outlined in the various management plans,

On January 15, 1987, Thomas A. Walker died. Walker served at the monument for many years and as the longest serving superintendent at Timpanogos Cave National Monument. Even following his retirement, Walker remained conscientious of management changes and decisions, and stayed in contact with many of the employees.³⁰



in December 1987, Superintendent Bill Wellman left Timpanogos Cave National Monument for a position at Great Sand Dunes National Park.³¹ Four months later, Michael O. Hill filled the superintendent position. He was excited about his new station and described his initial impression: "... the first time I saw [the cave], it blew my mind. It's as well-decorated a cave as you are going to find."³²

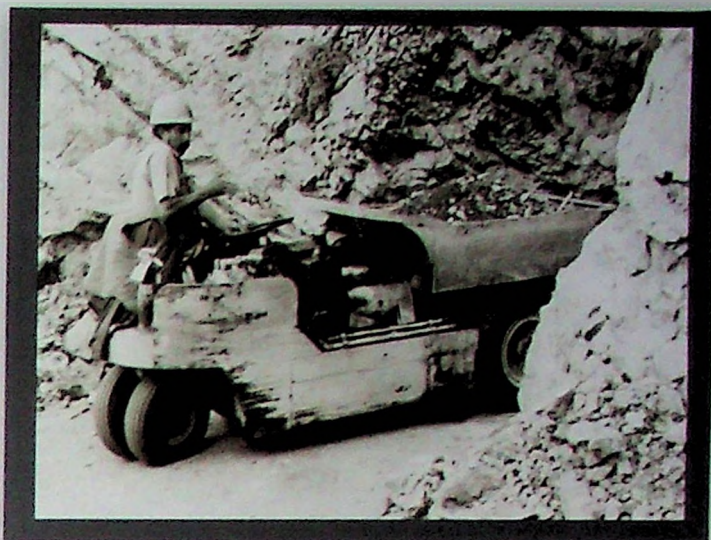
Superintendent Hill wanted to continue promoting management planning and resource protection. The 1987 season had shown that although staff had instituted the resource plans at the monument, these priorities and projects diminished as a result of increased visitation, budget constraints, and limited staffing. To correct this, Hill initiated the drafting of a Cave Management Plan. He then formed a cave management team consisting of staff from both the maintenance and interpretive divisions to perform basic resource management duties. These tasks, primarily algae and lint cleaning, became a collateral-duty responsibility of all seasonal staff and divisions.³³

Cave protection began to gain attention, not only for Timpanogos Cave National Monument, but also throughout the nation. A nation-wide push for the protection and preservation of cave resources throughout the United States came about by through the efforts of the National Speleological Society and many

other cave interested individuals and groups. Congress answered this call for nation-wide cave protection in 1988 with the Federal Cave Resources Protection Act. This act stated that significant caves were an invaluable and irreplaceable part of the nation's natural heritage. Through increasing recreational demand, the growth of urban communities in karst areas, and lack of legal protection, caves were becoming a threatened natural resource. This law granted protection to significant caves without requiring them to obtain additional National Park or other federal status.³⁴ Timpanogos Cave represented the nearest cave tour and education site for people living in Utah and on the Wasatch Front, and the monument worked to increase public understanding of the need for cave protection through cave tours and educational programming.

Monument staff worked to live up to the resource protection responsibilities, though they found these tasks difficult to accomplish during the 1988 season as the monument continued they were short-staffed most of the summer. Although budget constrains partially influenced this, the major cause that year came as a result of a busy wildfire season. During that summer, as many as twelve of the monument employees worked on five different wildfires, including the infamous Yellowstone Fire. Although staffing was tight during that season, the monument had a record 89,969 people tour the caves.³⁵

The high visitation numbers alarmed managers and



Don Robinson driving trail buggy

to help ease congestion at the visitor center, the staff began using a computerized ticket sales program in 1989. Staff installed a local area network to allow multiple computers to access tour times and ticket sales. This computerized ticket sales program made advanced ticket sales possible and reduced the wait for purchasing cave tour tickets. While initially staff announced the successes of this system, they encountered technical problems in the later years, and soon they abandoned the program.

Monument employees also enhanced visitor experiences the following year when they began designing, developing, and installing new trail wayside signs along the cave access trail. These waysides interpreted the mountain and Timpanogos Cave history to visitors, providing an education opportunity and while they hiked up the trail.³⁶ While installing these signs, rangers also decided to move the cave register from the Grotto to the cave tour exit at Timpanogos Cave Entrance. Though only a minor change, staff found positive results as visitors began to comment on the cave and tours rather than the difficulty of the hike.³⁷

The high visitor numbers also increased manager concerns about not only visitor experience but resource impacts and protection. New Chief Ranger Michael Tranel began to study visitor impacts through a comprehensive cave monitoring program. Tranel also worked to identify the cave watershed and hydrologic system and to determine the effects of tour developments on the cave system.³⁸

To aid in the direction of his research, Tranel invited prominent cave researchers Art and Peg Palmer of the State University of New York to visit Timpanogos Cave to provide direction for present and future research projects by theorizing on the cave system's origins. The Palmers offered a theory of the caves' development—that incorporated several components of other theories—describing the cave origin as a combination of three things: rising thermal waters; dissolution by water infiltrating from the surface; and back flooding from the river.³⁹

Before staff could use this information, the monument experienced a surprising and discouraging



Superintendent Michael Hill



Visitor Center remains following the fire

event on February 3, 1991 when the Mission 66 visitor center caught fire in the early hours of the morning. By the time the local fire departments could arrive, the fire had consumed most of the roof. The Fire Marshal determined that the fire had smoldered for several hours before triggering the fire alarm system at 2:55 am. The Alpine and Pleasant Grove Fire Departments arrived soon after and worked quickly to quench the flames, but much of the building was already lost.

Later investigations indicated that the fire had begun as a result of an overheated extension cord attached to heat-tape used to melt snow from the roof of the building.⁴⁰ After fire fighters extinguished the fire, staff attempted to salvage computer files, paper work, and museum items. Ultimately, the losses from the blaze included 90% of the building, all of the exhibits, the theatre and audio visual equipment, approximately half of the paper records, and several museum objects.⁴¹ Administration estimated the cost of the damage to range from 1 to 1.5 million dollars.⁴² The National Park Service advisors informed monument staff that a new building would be constructed in its place in approximately two years.⁴³ The monument staff awaited building replacement more than a decade later.

Unfortunately, during the incident Superintendent Hill was out of the monument and interviewing for a new position in Washington D. C. Shortly after the fire, he accepted the new position and he left the monument.⁴⁴ To sort through the damaged area and prepare for building reconstruction, Susan McGill received and accepted the offer of the superintendent position in April of 1991. McGill spent several years working at Bryce Canyon National Park as maintenance chief and with her background in maintenance and her ability to prioritize, staff anticipated that she could direct the monument's recovery from the loss of the visitor center.⁴⁵

Superintendent McGill and the monument staff quickly prepared to open for the summer season without a visitor center. The 1991 season started with a make-

shift ticket counter and a restroom facility that staff described as a "Kool-aid stand and six port-a-potties."⁴⁶ Following the clean-up of the building and fire debris, McGill obtained a temporary structure for the monument that contractors placed directly on the footings of the Mission 66 building. They brought a modular trailer up the canyon shortly before Memorial Day weekend and modified it to serve as a visitor center until they could build a permanent structure. Crews installed restrooms inside the building and mounted temporary exhibits to the walls.⁴⁷ McGill transferred the monument headquarters and administrative offices to a small, rented house down the canyon near the American Fork #2 Powerhouse owned by Utah Power and Light.

Despite the loss of the building, monument staff focused on the coming season and prepared for visitor operations. To further increase monument staff and funding, the 1991 season saw tour tickets rise to \$4 for adults and \$3 for juniors.⁴⁸ The visitor center also began to accept credit cards, speculating that Timpanogos Cave National Monument as the first in the National Park System to accept this form of payment.⁴⁹

Throughout the years, Timpanogos Cave National Monument staff experienced many negative incidents from trail damage from floods to the loss of the visitor center from fire. The monument also was tested as budgets tightened throughout the National Park System. Despite these incidents, monument managers and staff adapted to various problems and crises and continued to plan for the future. Staff also learned that despite changes and negative events, visitors continued to come to see the beautiful Timpanogos Cave System.

Reference

- 1 "Wellman New Timp Cave Superintendent." *Daily Herald*. Provo, Utah. 1982.
- 2 Wellman, Bill. Interview with the author. Timpanogos Cave NM. American Fork, Utah. July 13, 2005.
- 3 Lindstrom, Linda. "Timp Cave Tours Offer Scenic Hikes in Utah County." *Deseret News*. Salt Lake City, Utah. July 5, 1984.
- 4 Shelley, Arlo. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 5 Tranel, Michael. Interview with the author. Timpanogos Cave NM. American Fork, Utah. April 7, 2005.
- 6 National Register for Historic Places. Timpanogos Cave Historic District. National Park Service. Washington DC. October 13, 1982
- 7 Horrocks, Rodney. *The Story of Timpanogos Cave*. Unpublished draft. Timpanogos Cave NM. American Fork, Utah. 1998.
- 8 Christian, Pat. "American Fork Mudslide Seals Off Canyon." *Daily Herald*. Provo, Utah. June 3, 1983.
- 9 Wellman, William E. Annual Report-1983. Timpanogos Cave NM. American Fork, Utah. 1983.
- 10 Wellman, William E. Annual Report-1984. Timpanogos Cave NM. American Fork, Utah. 1984.
- 11 Murdock, Ralph. Radio Communication Completion Report.

- Timpanogos Cave NM. American Fork, Utah. 1984.
- 12 Murdock, Ralph. Cave Alarm Completion Report. Timpanogos Cave NM. American Fork, Utah. 1985.
- 13 Mateljak, Jason. Ticket Prices Over Time. Timpanogos Cave NM. American Fork, Utah. 2003.
- 14 Mintzmyer, Lorraine. Hug A Park. Cat # 3055. Rocky Mountain Region. Denver, Colorado. 1984.
- 15 Boll, James. Natural Resource Management Plan. Timpanogos Cave NM. American Fork, Utah. 1983.
- 16 Wellman, William E. Annual Report-1982. Timpanogos Cave NM. American Fork, Utah. 1982.
- 17 Wellman, William E. Annual Report-1984. Timpanogos Cave NM. American Fork, Utah. 1984.
- 18 Wellman, William E. Annual Report-1986. Timpanogos Cave NM. American Fork, Utah. 1986.
- 19 Hill, Michael O. Superintendent's Annual Report- 1989. Timpanogos Cave NM. American Fork, Utah. 1990.
- 20 Wellman, William E. Annual Report-1987. Timpanogos Cave NM. American Fork, Utah. 1987.
- 21 Sipprell, Lawrence E. Fear Arousal as a Means for Increasing Visitor Awareness in National Park Settings. Utah State University. Logan, Utah. Mar. 1985.
- 22 Wellman, Bill. Interview with the author. Timpanogos Cave NM. American Fork, Utah. July 13, 2005.
- 23 Willhite, Alan E. Lehman Cave and Timpanogos Cave National Monuments. "Cave Management and Conservation Practices." pp 24-29. 1985.
- 24 Horrocks, Rodney. *The Story of Timpanogos Cave*. Unpublished draft. Timpanogos Cave NM. American Fork, Utah. 1998.
- 25 Wellman, William E. Annual Report-1984. Timpanogos Cave NM. American Fork, Utah. 1984.
- 26 Shelley, Arlo. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1996.
- 27 Wellman, William E. Statement for Management 1986. Cat #956. Timpanogos Cave NM. American Fork, Utah. 1986.
- 28 Jensen, Julie. Observation Report for Timpanogos Cave National Monument. Unpublished manuscript. Cat #1417. Timpanogos Cave NM. American Fork, Utah. Nov. 3, 1987.
- 29 Creasey, Michael. Timpanogos Cave Education Pre-Visit Packet. Cat #5031. Timpanogos Cave NM. American Fork, Utah. 1986.
- 30 Obituaries: Thomas A. Walker. *Daily Herald*. Provo, Utah. 1987.
- 31 Wellman, William E. Annual Report-1987. Timpanogos Cave NM. American Fork, Utah. 1987.
- 32 Taylor, Scott. "The Biggest Little Cave in the West." *Deseret News*. Salt Lake City, Utah. Aug. 5, 1988.
- 33 Cave Management Plan. Timpanogos Cave NM. American Fork, Utah. 1993.
- 34 Federal Cave Resources Protection Act of 1988. 16 USC 4301. US Congress. Washington DC. 1988.
- 35 Hill, Michael O. Superintendent's Annual Report- 1988. Timpanogos Cave NM. American Fork, Utah. Feb. 17, 1989.
- 36 Hill, Michael O. Annual Report -1990. Timpanogos Cave NM. American Fork, Utah. 1990.
- 37 Tranel, Michael. Cave Columns. Timpanogos Cave NM. American Fork, Utah. Aug. 20, 1990.
- 38 Horrocks, Rodney. Project Statement: Hydrology Study. Timpanogos Cave NM. American Fork, Utah. Feb. 28, 1997.
- 39 Palmer, Art & Peg. Comments on Cave Origin and Mineral Stability in Timpanogos Cave. State University of New York. Oneota, NY. July 3, 1990.
- 40 Timpanogos Cave Visitor Center Fire. Timpanogos Cave NM. American Fork, Utah. February 1991.
- 41 Pugsley, Ray. Case Incident Report. Timpanogos Cave NM. American Fork, Utah. 1991.
- 42 "Fire Destroys Building at Timpanogos Cave." *American Fork Citizen*. American Fork, Utah. Feb. 6, 1991.
- 43 Timpanogos Cave NM. Memorandum: Timpanogos Cave Visitor Center Fire. Timpanogos Cave NM. American Fork, Utah. Feb. 1991.
- 44 Hill, Michael O. Interview with the author. Timpanogos Cave NM. American Fork, Utah. July 13, 2005.
- 45 "Timp Cave Gets New Boss." *Deseret News*. Salt Lake City, Utah. April 5, 1991.
- 46 Farnsworth, David. "Timpanogos Cave." *Deseret News*. Salt Lake City, Utah. May 1991.
- 47 Ibid.
- 48 Mateljak, Jason. Ticket Prices Over Time. Timpanogos Cave NM. American Fork, Utah. 2003.
- 49 McGill, Susan. Interview with the author. Timpanogos Cave NM. American Fork, Utah. June 2004.

CHAPTER IX

Program Progress



For many decades, the monument's popularity climbed steadily upward. With consistently high visitation, the next several superintendents were continually reminded of the need for an appropriate visitor center. And while each made efforts to rectify that need, managers also recognized that they needed to balance visitor services with increasing protection and understanding the Timpanogos Cave System.

To begin preparations for rebuilding the visitor center, Superintendent McGill started the process by creating a General Management Plan. McGill wanted this plan to give monument staff direction for development projects and improvements following the fire, as well as plan and design the replacement structure. She worked to gain regional and national support for the creation of a new building.¹

As an initial development project, McGill used her maintenance background to obtain funding to repair the cave access trail. Years of use left the trail badly damaged as it endured many winter avalanches, several years of storms, and consistent rockfall. Though maintenance staff patched the various holes in the previous years, the trail had become uneven and battered. The incoming funding facilitated a two-year project to resurface the entire trail. The maintenance staff worked through both seasons hauling heavy loads of asphalt and equipment up the mountain. Once completed, the trail received positive reviews and staff and visitors appreciated the new trail surface.²

Chief Ranger Michael Tranel also began to look closer at the high visitor traffic at the monument. He became interested in understanding visitor impacts on the cave environment and began to implement a variety of projects focusing on understanding the caves and then restoring the environment to more natural conditions.

Tranel started the first of these projects when he recognized that the caves still experienced unnatural airflow. He obtained a \$10,000 grant to install airlock doors in all of the tunnels. He contacted volunteer Larry Martin for assistance in the door installation. Tranel initially designed a system using revolving doors but he found a more affordable method using paired sets of doors on each end of the tunnels, with the intention of staff allowing only one door open at a time. They also planned to install a red and green light system that would indicate to guides when they could open and close the doors. Shortly after installation, rangers determined that this system could not endure the damp cave environment and they removed it. Martin leveled the floors in the tunnels and placed doors at a measured distance to enable rangers to close both doors and still fit a 20-person tour group between. Upon the completion of the project, monitoring equipment in the cave system recorded that the relative humidity in the caves rose from 77% to nearly 100%. Rangers also noticed that Middle Cave Lake no longer dried out during the season.³

With the completion of the doors, Tranel recognized that the rock-sealed natural cave entrances of Hansen and Timpanogos Caves also hindered natural airflow. He

again contacted Martin to assist in removing sections of the rock walls in the cave entrances and installing bat gates. Though they considered several gate designs, ultimately they welded two-inch angle iron into a square with a free rolling bar in the middle to prevent vandals from cutting the bars with a hacksaw. Then they fixed these bars into the walls with a distance of 4.5 inches between each bar. These gates would allow a more natural airflow into the caves from the surface, allow bats freedom to use the caves, but also prevent any illegal entries to the caves.

Constructing the gate on the Middle Cave Entrance posed greater challenges than the other two gates. The entrance location high above the trail and on an exposed cliff-face made transporting equipment difficult and created a dangerous work environment. Martin recruited members of the Utah Cave Search and Rescue to use the project as mock rescue training and transport materials and equipment up the cliffs from the Cave Restroom to the Middle Cave Entrance. Martin found this method successful and quickly completed the project. To attest to the project's success, immediately after completion, rangers again saw bats inside the caves.⁴

These projects influenced Tranel to continue to recruit volunteers for several other projects. Tranel invited volunteer cartographer Rod Horrocks to resurvey the cave system. While installing the doors and gates, Tranel determined that the 1974 map by Dale Green lacked several passages and only included the main passages along the tour trail. Horrocks in turn recruited several others from the Timpanogos Grotto caving club and the group surveyed every accessible passage.⁵ Horrocks published his completed map in 1993 and included 850 feet of previously unsurveyed passage as well as three other small caves located within monument boundaries.⁶

Tranel continued projects, with management support, by planning for a weather station that he placed at the top of the monument in the winter of 1991. Tranel and Martin built a tower with weather data collecting equipment and a helicopter flew it to the top of the monument. The crew placed the tower upright, installed the weather dataloggers, and stabilized the tower using

steel cables. They then attached a radio transmitter so they could receive data via modem and radio signals. With this system, rangers only needed to visit the station twice a year for basic maintenance. Shortly after its installation, an elk herd pulled stabilizing cables out of



Above: Volunteer Resurvey project in the cave. Rod Horrocks at center
Left: Weather Station

the ground with their antlers, requiring the men to visit the site again to repair the

damage and reinforce the station.⁷

As a result of the resource projects in the previous year, those projected for the next season, and the continual concern for offsetting the high visitation with resource protection, McGill created a new position through project funding in 1992. Administration hired Rod Horrocks, who worked as a volunteer during the cave resurvey project, as a seasonal Cave Specialist to work specifically on resource management projects at Timpanogos Cave National Monument.⁸ In addition to Horrocks, staff also rehired Lulu Chye; she worked at the monument in 1990 as a temporary museum technician. Chye returned to address the damage and disarray of the museum collection following the visitor center fire. In her previous appointment, she cataloged the growing collection to meet National Park Service museum standards. She also moved the collection from the environmentally unstable Cave Camp shower house to the visitor center. Following the fire, her expertise became vital as she reorganized and restored the damaged and scattered objects in the collection.⁹ Following conservation treatments, she moved the



Cordell Roy

collection to a designated and secured room in the maintenance building, as staff could not find sufficient space in the temporary visitor center.

In addition to these new positions, McGill also organized another increase in tour ticket prices. An adult tour ticket rose from \$4 to \$5. This enabled the monument to hire more employees and offer more tours.¹⁰

Shortly after Horrocks started working at the monument, he and Tranel worked to complete the Cave Resource Management Plan begun several years earlier by others. They hoped to increase staff awareness of the cave system, establish environmental monitoring guidelines, plan for cave restoration projects, and create guidelines for management decisions and divisional activities inside the caves. The plan also outlined the activities of future resource management employees and provided guidance for seeking funding to support the growing resource management program.

When he completed the plan in the fall of 1993, Horrocks launched into his first cave restoration project called the "Artificial Fill Removal Project." This project restored the floor of the Organ Pipe Room in Hansen Cave. As a result of historical mining operations and the creation of the tunnels, original crews used blasting and mining debris to level the floor, covering it with several feet of rock and dirt. Horrocks used staff from other

divisions and many volunteers to ultimately remove all the unnatural debris,¹¹ restoring not only the esthetics of the room's natural floor but the natural hydrologic flow paths through the room.¹²

The project continued into the next two years with grant funding from Southwest Parks and Monuments.¹³ Ultimately, 722 volunteers donated a total of 4,357 hours assisting Horrocks with the project. They removed 207 tons of debris from the Organ Pipe Room, the Introduction Room, the Big Room, and the Thirteen-Stitch area. Once they completed the project, the Utah Air National Guard flew a stainless-steel catwalk to the caves and a crew installed the bridge in Hansen Cave over the newly uncovered floor.¹⁴

The various projects gained publicity through a national cave publication. The National Speleological Society monthly magazine devoted an entire issue to Timpanogos Cave. It contained several articles including a brief history of Timpanogos Cave, an article on the 1991 cave resurvey, another covering the Artificial Fill Removal Project, and finally an article entitled "Changing to Prevent Change" by Mike Tranel and Rod Horrocks, outlining the methods they used to create a science and resource management program at the monument.¹⁵

While these projects progressed, Superintendent McGill remained focused on restoring the visitor center and visitor services through completing the General Management Plan for Timpanogos Cave National Monument in 1993. In her approved plan, McGill proposed that the monument would continue visitor services at their current level and quality, but would relocate facilities outside the monument boundaries and provide a shuttle system for transporting visitors to the trailhead. Moreover, the plan also introduced the possibility of combining visitor services with the nearby U. S. Forest Service District Ranger Office in a shared interagency facility.¹⁶

Shortly after she completed this document, Superintendent McGill left the monument. Cordell J. Roy from the Alaska Regional Office soon filled the vacancy.¹⁷

In addition to resource projects, the interpretive staff also worked to create more innovative programs during the 1994 and 1995 seasons. Early in 1994, seasonal rangers Jay Allen and Anita Pulham created a living history evening program they called "Reflections," which focused on the history of American Fork Canyon. Allen and Pulham researched and related a variety of stories pertaining to the mining operations in the canyon and to help enhance these stories, they portrayed two prominent historical characters of that period. During the program, Pulham played the role of Patience Loader, a woman who worked as a cook in a guesthouse in Forest City, and Allen played the role of George Tyng, a successful mining entrepreneur. Originally, they only intended to present the program for several small evening programs at the monument; however, it quickly became very popular and many local groups asked them to deliver the performance around the community as an

outreach program. During the next several years, Allen and Pulham presented "Reflections" for many civic, school, and church functions.¹⁸ It also became the basis for the class "The History of American Fork Canyon" taught through Utah Valley State College.

Ranger Pulham continued to develop living history programs and expanded historical presentations by creating a Living History cave tour. For the tour, Pulham dressed and delivered the tour as Elon Manwill, sister of Vearl Manwill. Manwill served as a member of the Payson Alpine Club and was present when her brother rediscovered Timpanogos Cave. Pulham delivered these tours occasionally for several seasons.

An unusual twist on visitor and resource protection occurred in the summer of 1995. While visitor Amy Clark toured the caves, she struck her head on a stalactite, cutting open her head. As a result of her injury, rangers assisted her out of the cave, down the trail, and to the hospital where she received thirteen stitches. Unfortunately, that particular stalactite injured many people in the previous years who also received several stitches and subsequently the stalactite assumed a name related to the number of stitches it caused, including the names "Ten Stitch" and "Twelve Stitch." The monument staff, concerned over visitor safety, began to look at measures to decrease encounters with Thirteen Stitch. After discussing several options, the maintenance staff ground the sharp point on the stalactite to a rounded tip and interpretive rangers emphasized safety messages regarding the stalactite.¹⁹

In addition to the two living history programs, in 1995, the interpretive staff worked to enhance interpretive tours by utilizing volunteers. Rangers completed many projects in the years previous using a vast volunteer staff and guides hoped to gain further volunteer assistance with tours and protecting the caves. This program became known as BATS or "Behind A Tour Specialists" where trained youth volunteers would assist rangers by trailing tours, closing airlock doors, and preventing vandalism. In its first season, rangers required the BATS volunteers to be a minimum of twelve years old and volunteer one to two days a week.²⁰ The following season they increased the age requirement to sixteen years old after logistical problems that required either parents or staff to escort the younger volunteers up and down the trail.²¹ This program continued to evolve during the next several seasons and rangers soon recognized the program results as incidents of vandalism and visitor problems decreased significantly.

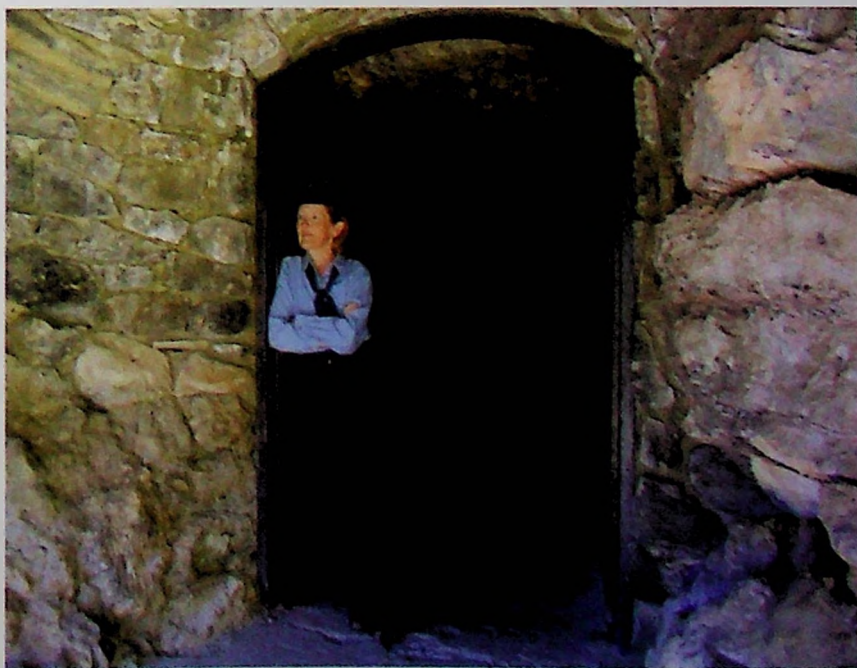
Historical programs and research inspired Cave Specialist Rod Horrocks to begin a new project in documenting the history of Timpanogos Cave National Monument. With the assistance of the Brigham Young University's Charles Redd Center,

Horrocks began an oral history project by selecting nineteen individuals for interviews who made significant contributions to the development of the monument, including former superintendents and employees. Following the interviews, the center transcribed the recordings and placed the resulting documents in the monument and university libraries. Rangers later used the transcripts for program and tour development.²²

Since his arrival, Superintendent Roy monitored many of the ongoing projects. In particular, he recognized the continual deterioration signs of the 1979 lighting system. Staff found the system to have a variety of problems: power leakages; safety issues with rangers climbing thirty feet or more to change light bulbs; preservation issues when rangers climbed around decorated areas when changing light bulbs; and the continual problems with high algae growth.²³ Additionally, the humid cave environment rusted and degraded the electrical wiring. To solve these problems, staff contracted Australian Cave Manager Neil Kell to design a lighting system that would better endure the wet cave environment, reduce safety concerns, and minimize impacts to the cave resources.

The Timpanogos Cave National Monument maintenance staff began the lighting system transition soon after plans began. While Kell developed the lighting plans, the primary electrical panel in the Big Room of Middle Cave caught fire. This panel became the first replacement for the new system and staff installed the remainder of the light system in 1996.

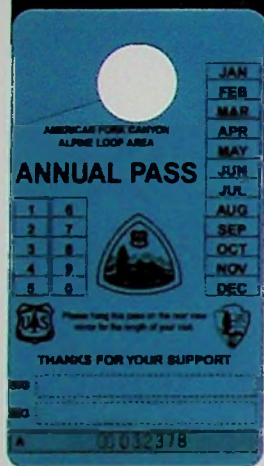
The initial phase of the project involved replacing the old lighting system with a 12-volt system that used primarily 20-watt quartz halogen feature lights and 8-watt trail lights. The crew carefully placed each light fixture and installed them within easy reach of the trail by hand or by ladder. They planned that each feature lights would



Ranger Anita Pulham as Elon Manwill



American Fork Canyon Fee Station
Inset: American Fork Canyon Annual Pass



light up specific areas while leaving other areas dark to add mystery for visitors. Then they moved the “total darkness” experience from Middle Cave Lake back to the Coral Gardens as in previous lighting schemes.²⁴ In addition to the new lights, the maintenance staff installed timer switches to reduce the amount of heat energy that cave formations would receive from lights, thus limiting algae growth. Finally, they installed a backup battery system that would automatically come on and power trail lights in the event of a power outage.²⁵

The maintenance staff continued working on the lighting system into the next season repairing minor problems. Several dark areas became safety concerns and the maintenance staff installed a few additional lights. At the conclusion of the project, Superintendent Roy and the staff were pleased with the new system as it greatly reduced algae growth and provided a new visitor experience.²⁶

The projects of the previous five years indicated that monument administrators needed to make the seasonal Cave Specialist position more permanent. Though the monument was unable to fund this position independently, Superintendent Roy pursued a partnership between the Timpanogos Cave National Monument and Great Basin National Park to create a shared position where the selected employee would spend two weeks per month at each park providing direction in a cave resources program. Seasonal employee Rod Horrocks competed for, and later received, the permanent position. By creating the position, Roy used additional funds to hire two resource management seasonal employees to assist

Horrocks in project work while attending to the other park.²⁷

Over the previous several decades, monument superintendents often struggled to obtain funding for staff positions and Superintendent Roy’s experienced the same problem. Roy recognized that with a continually tightening budget and an increasing cost of employees and supplies along with inflation, the monument was approaching a dire financial situation. Upon his arrival, staff only offered tours from Memorial Day to Labor Day with only twenty tours available each day. In an attempt to correct this, Roy approached Pleasant Grove District Ranger Bob Easton with the possibility of creating an entrance station that would not only increase funding at the monument but for Uinta National Forest as well. As plans for fee collection began to develop, a new venue for fee collection surprisingly came through Congress that solved many of the financial problems of the monument called the “Fee

Demonstration Authority.” Previously, funds collected would be sent to the U.S. Treasury then redistributed to parks. This new funding program would allow a few select federal land areas to collect fees that managers could use for positions, projects, and maintenance in addition to operational funds already allocated to the park. As Timpanogos Cave National Monument was already preparing for such an operation, they petitioned, and subsequently received permission to participate in the program.

Congress set up the Fee Demonstration Program to enable federal lands to collect fees while retaining 80% of the funds within the area. These lands sent the remaining 20% to Washington D. C. program administrators who then redistributed the funds to non-participating areas. Timpanogos Cave National Monument participated in this program through two different fee collecting operations. For the first, the monument expanded the existing fee collection through the sale of cave tour tickets increasing the ticket price by one dollar for both adults and juniors. In addition, they also charged for children under the age of six for the first time a fee of \$3. Through this supplementary funding, in 1997, the monument hired additional interpretive rangers, extend the tour season, open the visitor center during the winter, and fund a rehabilitation project in Swinging Bridge Picnic Area.²⁸

The second Fee Demonstration Program element that Timpanogos Cave National Monument participated in was the opening of a fee station at the mouth of American Fork Canyon and Aspen Grove in the fall of 1997. This element of the program involved a partnership between Timpanogos Cave National Monument, Uinta National Forest, Utah County, and the Utah Department of Transportation. Through this partnership, they charged a \$3 per vehicle use fee to visitors using the canyon. Both

U. S. Forest Service and National Park Service employees managed and staffed the two entrance stations and the participating agencies divided the collected fees to complete various projects in American Fork Canyon.

The additional staff funded through the Fee Demonstration Project kept managers busy. To improve leadership at the monument, Michael Gosse, who spent several years working at the monument as a Law Enforcement Officer, moved to the position of Chief Ranger. As Chief Ranger, Gosse accepted the additional responsibility of supervising both the interpretive and resource management divisions.

Superintendent Roy continued to make changes that year and attended a meeting that included PacifiCorp Power Company, U. S. Fish and Wildlife Service, and the State of Utah Division of Wildlife Resources to discuss the re-licensing of the American Fork Hydroelectric Powerplant. At its conclusion, Federal Energy Regulatory Commission required PacifiCorp to leave a minimum stream flow of four cubic feet per second in the American Fork River to support aquatic life. Researchers determined that this was the minimum amount of water necessary to support populations of exotic brown trout in the river, a recreationally desirable species. Up until this time, PacifiCorp could, if needed, remove all the water from the river to support the hydroelectric powerplant in the canyon.²⁹

To conclude the progressive year, on October 17, 1997, the monument hosted a celebration at the visitor center for Timpanogos Cave National Monument's 75th anniversary. Several special guests attended and spoke at the event including Congressman Chris Cannon, Regional Director John Cook, Uinta National Forest Supervisor Peter Karp, Superintendent Cordell Roy, and long-time ranger Arlo Shelley.³⁰

While the forest and monument celebrated and implemented the Fee Demonstration Program in the canyon, the monument also turned to several research projects that gave greater insight to the cave development and ecosystems. The first was the completion of a master's thesis on the origin of the Timpanogos Cave System. Brigham Young University student David Herron identified three different phases in the development of the system: dissolution as a result of thermal waters meeting the cave while below the water table; capture of the American Fork River as the cave rose above the water table; and the deposition of speleothems following the solution of the cave passages. This theory answered many questions that had arisen concerning the formation of the caves and addressed clues to the caves' origin featured in theories proposed in the past.³¹

While Herron conducted his research in the caves, Franklin Marshall College student Christian George studied the taxonomic remains found in the woodrat middens in the caves. George excavated in three woodrat nests at the monument and identified the bones and hair from more than fifty different animal species including black bear, marmot, and bighorn sheep. Through his research, George created a species list of extant species

living in the caves and American Fork Canyon.³²

The final research project of this time was the conclusion of a multi-year hydrology study. Resulting from this research, water samples studied from the caves determined that Hansen Cave Lake had an eight-hour recharge time and therefore not safe to use for drinking without the monument purchasing a costly filtration system. As a result, staff removed the drinking fountain and no longer offered drinking water in the Grotto. At the end of the 1997 season, rangers dismantled the two redwood storage tanks, chlorinator, and pipes located in Hansen Cave and carried each piece out of the cave by hand.³³

Shortly after these events, in March of 1998, Superintendent Cordell Roy left Timpanogos Cave National Monument for a position at Chamizal National Memorial in El Paso, Texas.³⁴ A few months later, Kit T. Mullen accepted the superintendent position. Mullen worked previously as the Management Assistant at Grand Teton National Park.

The removal of the cave drinking water system enabled monument staff to offer a new interpretive opportunity through an Introduction to Caving Tour. Staff opened Hansen Cave in 1998 for this new tour that enabled visitors to follow a trail that tourists had not used since Martin Hansen's tours in the 1890s. On the one and a half hour tour, rangers guided visitors through the full length of Hansen Cave while teaching *Leave-No-Trace* caving methods. To emphasize safe caving practices, visitors wore a helmet, headlamp, and gloves. The visitor center priced the tour at \$15 per person, given



Superintendent Kit Mullen



Introduction to Caving Tour in Hansen Cave

Brandon Kowallis

a limit of five people per tour, and a minimum age limit of sixteen years old which they lowered to fourteen the next season. This tour was immediately successful.³⁵

Another change occurred that season when the National Park Service Cave Coordinator Ronal Kerbo visited the monument and observed tour operations. Kerbo suggested that allowing visitors to touch the Salt and Pepper Shaker stalagmites conveyed a confusing message to visitors. At that time, rangers instructed visitors to not touch any of the cave formations while touring the caves with the exception of the Salt and Pepper Shakers. Monument staff accepted this suggestion and following Kerbo's visit, rangers prohibited visitors from touching any cave formations.³⁶

A few months after Kerbo's visit, Cave Specialist Rod Horrocks left Timpanogos Cave National Monument for a position at Wind Cave National Park.³⁷ Just as Horrocks left, Suzanne Flory came to the monument as a new permanent lead interpreter.³⁸ Flory began implementing the Interpretive Development Program that many people viewed as the new standard in interpretive programming throughout the National Park System. This program assisted rangers in developing professional interpretive skills using national level interpretive techniques.³⁹ The interpretive staff embraced this program and soon many employees received commendations for their tours and evening programs.

Flory also worked to complete a previously planned project of developing new wayside signs for the cave access trail. The old wayside signs had become outdated and Flory designed the signs utilizing the Interpretive Development Program techniques. Once completed, the maintenance staff replaced the old waysides with the new.⁴⁰ At this time, Flory also began to revise the Five Senses Nature Trail pamphlet using updated information and self-guided interpretive stops. She designed this new booklet for family use and directed it toward children while encouraging their interaction with adults. Once she completed this revision, staff then translated the pamphlet, making it available to visitors in Spanish as well as English.⁴¹

Although the staff members were eager to use new interpretive skills, the installation of a new rock barrier delayed opening the caves in the spring of 1999. The old barrier, built in 1976, showed major deterioration and the rock trap doors would no longer open and close. Monument administration contracted with McCullough Engineering, who built the previous gate, for \$45,000 to reconstruct the barrier. McCullough not only to rehabilitated the rock barrier, but also to built new trap doors that would better withstand the regular impact of rockfall, as an added challenge, monument required that they complete the entire project in one month. Constant spring rains slowed the construction and ultimately



Oakhill Fire above Swinging Bridge Canyon

C. Pulham

delayed opening by two weeks.⁴²

The delayed opening of the caves provided staff with the extra time needed to replace the four airlock doors in the cave tunnels. The existing redwood doors

deteriorated under the humid cave conditions in just a few years, becoming unsightly, ineffective, and a source of mold growth. Staff framed the replacement doors in stainless steel and used a plastic composite for the doors, and although the plastic doors did not create as tight of an air seal, they could better withstand the damp cave environment.⁴³

While these various projects progressed, the resource management staff worked to develop a photomonitoring program inside the caves. In the 1998 and 1999 seasons, using a grant funded by Canon, USA through the National Park Foundation, the staff installed permanent photomonitoring stations inside the caves. Previous employees attempted this project but they often could not duplicate the photos, making it difficult to observe changes in the caves. Jim Werker and Val Hildreth-Werker came to install their patented long-term photomonitoring system. To implement this program, the Werkers installed seventy camera-mount anchor points in the caves, providing locations for cameras that would enable staff to place a camera in the exact same location thus producing precise photographs with each successive image.⁴⁴ The photographs collected would monitor gradual natural and unnatural changes along the cave tour route and various point of interest in the caves. Jim Werker and Val Hildreth-Werker returned several years later to install an additional ten photomonitoring points in Hansen Cave along the Introduction to Caving tour route.⁴⁵

Although Rod Horrocks left the monument months earlier, Superintendent Mullen recognized the growing Resource Management division and programs. After discussion with the monument management team, Mullen decided to renovate the Rock House and convert it from employee housing into much needed office space, a library, and a conference room.⁴⁶ Until this time, the resource management employees worked in one small office in the basement of the administrative building. Mullen felt that this was an unsafe work environment. The maintenance staff prepared the Rock House for offices by covering the historic wood floors with new hardwood flooring and renovating the structure for office use. Maintenance worker Don Robinson, who often worked as a mentor for the National Park Service Preservation program, supervised the project to protect the historical integrity of the Rock House.⁴⁷

The following season, renovations continued at the monument. By 2000, monument staff began to recognize that the modular visitor center, installed in 1991, was becoming more than a temporary fix. Staff decided to renovate the building to make it more usable for both staff and visitors. Maintenance crews built offices to accommodate staff, created space for the Southwest Parks and Monuments Association book sales and a constructed a large shade structure on the deck for waiting visitors. In this season, Timpanogos Cave National Monument had its largest staff with 61 permanent and seasonal employees during peak the season.⁴⁸

In February 2002, Salt Lake City hosted the Winter Olympic Games, Paralympic Games, and Special Olympics. As the nearest National Park Service site, Timpanogos Cave National Monument represented the National Park Service at an American Public Lands Information Center designed to educate the many visitors of the value and importance of public lands. Several employees also represented the National Park Service at Soldier Hollow, the Olympic cross-country ski venue.⁶²

Left: Chief Ranger Michael Gosse at Soldier Hollow



This larger staff inadvertently enabled the monument to be more prepared for a busy fire season. On July 30, a human-caused wildfire named the Oakhill Fire began in Alpine City, just a few miles from the mouth of American Fork Canyon and Timpanogos Cave National Monument. The fire quickly became out of control, racing up the mountainside and dropping into American Fork Canyon in only a few hours. The Forest and Park Services closed the canyon and monument for visitor safety and by 3:00 a.m. the following morning, the fire moved within a half mile of the administrative offices. Superintendent Mullen organized a fire crew and set them to task of reducing fire fuels along the roadside in the canyon and creating fire-defensible space around monument structures.⁴⁹ The U. S. Forest Service added the Oakhill Fire to an existing fire incident command post. Monument staff joined the incident command team and as well as other fire crews focused on keeping the fire out of the monument and protect Alpine City. The fire continued to burn for more than a week, and the steep terrain made it difficult to control. More than nine hundred acres burned before officials declared the fire contained.⁵⁰

Following the fire, the monument experienced several position changes. Superintendent Mullen reorganized the staff and created a separate interpretive division and a Chief of Interpretation working directly under the supervision of the superintendent. She promoted Lead Interpreter Suzanne Flory to this position.⁵¹ Additionally, Jon Jasper came to the monument from Great Basin National Park to fill the Cave Specialist position for a four-year term.⁵² Jasper utilized his skills in Geographic Information Systems (GIS) and began to integrate GIS data into resource management projects.

Beginning in 2001, Jasper and Chief Ranger Gosse

began to compete for grant funding as Natural Resource Challenge funding became available. The two were successful and the awarded monies enabled them to support resource management programs at Timpanogos Cave National Monument with several seasonals. By 2002, they obtained approximately \$200,000 for resource projects enabling a rush of research and projects to occur at the monument.

The first of these projects was a Natural Resource Inventory and Monitoring Program (I&M) sponsored by the Intermountain Regional Office. With the support of local universities, Park Service personnel performed baseline biological inventories in parks throughout the region to establish vital signs and provide a foundation for effective, long-term management of natural resources.⁵³

Early results from the I&M Program vascular plant survey already began to show large populations of exotic plants throughout the monument. To combat this, the resource management staff began intensive work to eliminating exotic and invasive plants. In addition to removing exotic plants, staff also began collecting seeds from the monument's native plants to propagate new seedlings and revegetate areas with high exotic plant populations.⁵⁴

Staff expanded the I&M Program at the monument to incorporate three new studies. They formed a partnership with Brigham Young University to complete an invertebrate study and a cave microbial study. Dr. Riley Nelson, with the assistance of resource staff, began collecting cave insects. While his research continued, Dr. Megan Porter took various microbial samples throughout the caves to determine the microbial diversity of the caves and the difference in microbial populations in pristine and non-pristine areas of the caves.⁵⁵ Another



Entrance Shelter

study involved collecting water samples to identify water quality at various locations in the cave system. The resource management staff collected water samples to provide data that would identify the cave watershed and the effects of cave tours and surrounding land use on the Timpanogos Cave System.⁵⁶

In addition to the data collected from the Inventory and Monitoring Program, University of Denver student Brenden McNeil completed his graduate work by building GIS data in the monument. McNeil developed a two-foot contour topographic layer of the monument that would assist staff in analyzing the area topography. His research also identified potential rockfall danger areas along the cave access trail.⁵⁷

Shortly after McNeil began his project, the University of Denver assisted the monument on another project. Intermountain Regional office selected Timpanogos Cave National Monument as one of two parks in the region to receive assistance with Geologic Resources Interpretation, supported through the Geologist in Parks Program. This project created a web-based virtual hike up the mountain and tour through the caves.⁵⁸ The virtual tour quickly became popular and Timpanogos Cave National Monument spent several weeks as one of the top ten most visited National Park Service websites by both adults and children.

Staff wanted to enhance learning opportunities for children in the monument and in 2001, expanded both the Junior Ranger program and the BATS volunteer program. Chief of Interpretation Flory and Ranger Roberta Jacobsmeyer developed an educational booklet filled with activities and games designed for young visitors to learn about the caves and the monument and upon completion would become a "Junior Ranger." Children documented information learned during their visit to the monument and once completed, staff awarded them with a certificate and a Junior Ranger Badge. In addition

to the booklet, Jacobsmeyer offered Junior Ranger presentations and activities at the visitor center on Saturdays.⁵⁹ More than five hundred children participated in the Junior Ranger Program that season and it has continued to be highly popular since its development.⁶⁰

Also that season, the monument received a \$15,000 grant from the United Parcel Service through the National Park Foundation to expand the Behind-A-Tour-Specialist or BATS program to include a Senior Ranger Corps. Rangers recruited adults to serve as mentors and supervise the young BATS volunteers. Staff found this program highly successful and the following year the National Park Service hailed it as one of the most successful volunteer programs in the Service that year. Ranger Anita Pulham attended a National Park Foundation Conference in Washington D. C. to represent the monument and share

in the program's development. Pulham's presentation enabled other parks to imitate or create similar programs.⁶¹

Although in the middle of a busy season, and monument staff worked to utilize the enhanced programs and research, they put work on hold on August 7, 2002, when a visitor collapsed on the trail. While hiking to the caves with his family, visitor John Thorn dropped to the trail as a result of heart failure. The Thorn family, staff, and visitors quickly began administering C.P.R. Paramedics soon rushed up the trail, but despite all efforts, they could not save Thorn.⁶³

While the monument resumed regular activities, Superintendent Mullen began to focus her attentions



Senior Ranger Bud Astin



Hansen Cave Gate

Brandon Kowallis

on the hydroelectric pipeline that ran through American Fork Canyon and the monument. The facilities used to maintain the plant had become outdated and the pipeline broke repeatedly in the previous ten years, washing rock, soil, and debris down the mountain. Within monument boundaries, the pipeline sat above housing, picnic areas, and the Canyon Nature Trail, putting visitors, employees, and facilities at risk from potential flooding. In addition, the upstream diversion dam caused unknown effects on monument wildlife and riparian ecosystem. Mullen worked for more than five years to reach a settlement agreement for decommissioning the project and restoring the American Fork River. After several years of negotiations, Timpanogos Cave National Monument, PacifiCorp, the U.S. Forest Service, Utah Division of Wildlife, and several other partners finally reached an agreement to decommission the American Fork Hydroelectric Pipeline. Since the establishment of the monument, the pipeline diverted water from the American Fork River east of the monument boundaries and returned to the river below the monument. This agreement outlined the closure of the pipe and infrastructure in the canyon by August 2006 and infrastructure removal and restoration of the river by December 2007. This negotiation with PacifiCorp was the first of its kind in the federal land management system.⁶⁴

Although this agreement gave a deadline of August 2006 to decommission the pipeline, it ultimately closed a year early when in February 2005 several large boulders

fell from the cliffs across from the visitor center causing the 28-inch pipe to collapse. PacifiCorp determined that repairs were too costly and ultimately discontinued the American Fork Canyon Hydroelectric project.⁶⁵

In addition to the decommissioning of the pipeline, the monument also prepared for several construction projects in 2003. Administration again contracted McCullough Engineering to construct a large shelter to serve as a waiting area at the entrance to Hansen Cave. They engineered the structure to withstand heavy loads and fit into the historical character of the monument's buildings while protecting visitors from rockfall.⁶⁶ In addition to the shelter, McCullough also rehabilitated the Ranger Room and Lunch Bench, and built a cave exit restroom.⁶⁷

While McCullough worked on the shelter, staff worked to install new bat-friendly gates at the natural entrances of the caves. The gates, originally installed in 1991, provided inadequate wildlife passage and poor natural air circulation. Employees designed and installed the new cave gates to maintain the cave's security, restore a more natural air flow, create easier passage for bat entry, and eliminate the chances of bat predation. They built the gates for Hansen Cave and Timpanogos Cave during the 2003 construction and completed the Middle Cave Gate the following year.⁶⁸

In addition to building cave gates, staff also began a multi-year project to replace handrails inside the caves. Anodized aluminum handrails installed in 1984 showed heavy deterioration, and were unstable, pocked, and often covered with unusual oozes. Staff designed the new handrails using a low-luster stainless steel and placing them in areas of resource and visitor safety concern. They then curved handrails to maximize trail width and cemented the posts into the trail to minimize the impact on cave features.⁶⁹

Once they completed the larger construction projects, the cave opened for the season. As with previous years, staff recognized that the cave access trail had become continually more popular for visitors interested in hiking for exercise. In response to this popularity, rangers established the Timpanogos Hiking Club in 2003. The club allowed regular hikers to log miles hiked on the monument trail. The hikers not only participated in this new fitness program but they also assisted staff in monitoring the trail and often reported problems to monument staff.⁷⁰

The previous years of various successes and the constant visitor popularity encouraged staff to complete a new exhibit for the visitor center and release two new publications. Staff collaborated to design a new exhibit to replace the old, outdated exhibits, as staff installed them as a temporary measure to the modular visitor center in 1992.⁷¹ Chief Ranger Mike Gosse successfully presented a proposal to collaborate with Uinta National Forest to create the first canyon newspaper, titled *Reflections*. This annual newspaper provided updates and information about the area and employees distributed it at the Aspen Grove and American Fork Canyon Fee Stations.⁷²



Ranger Arlo Shelley

While designing the exhibits and canyon newspaper, Resource Management seasonal employee Brandon Kowallis also completed the first digital map of the Timpanogos Cave system. Staff easily integrated this map, based on Rod Horrocks's survey data from 1993, into monument projects and geographic information system.⁷³ Kowallis used such detail that the map, when printed at full size, it extended to over ten feet in length. To help display the map in full detail but a manageable format, he also created a cave atlas, separating the caves into sections in a viewable booklet form. Kowallis received honors from the National Speleological Society for these maps.⁷⁴

Monument managers found themselves constantly busy directing the various activities and projects but they remained conscience of activities outside monument boundaries that might damage the cave system. In March 2004, Park Service and the State of Utah signed a water rights agreement recognizing and protecting the water rights of Timpanogos Cave National Monument. The agreement required that the State of Utah establish a ground water protection zone, primarily on Forest Service lands, that would protect ground water and hydrologic features within the monument.⁷⁵

The following year, the Federal Lands Recreational Enhancement Program replaced the Fee Demonstration Program. The monument participated in this program from its inception and continued to use it at both the

fee stations and visitor center to fund operations, projects, and programs. After reviewing the results of a comparability study with nearby tour caves and other federally managed caves, Superintendent Mullen decided to raise adult tour ticket prices from \$6 to \$7. The monument received approval to raise ticket prices several years earlier but did not implement it until that time.⁷⁶

In the spring of 2004, Congress passed other legislation that influenced and will influence the future activities of the monument. The U. S. Forest Service completed the necessary steps to acquire land for the anticipated interagency visitor center. After several years of negotiations by the Forest Service District Rangers and both Superintendent Cordell Roy and Superintendent Kit Mullen, coupled with legislation made possible by Senator Robert Bennett, both groups selected and acquired a parcel of land for constructing the new visitor center and administrative offices. This land, located at the mouth of American Fork Canyon, followed the guidelines stated in the 1993 General Management Plan.⁷⁷ Following the enabling legislation, Superintendent Mullen proceeded to negotiate a design for the building.





National Park Service Director Fran Mainella in the Chimes Chamber

While Mullen worked with Forest Service partnerships, staff began building a partnership with the Utah Museum of Natural History. The museum designed two temporary exhibits, *Caves a Fragile Wilderness* and *The Dark Zone: Discovering Utah's Caves*. The museum designed the exhibit in collaboration with the Smithsonian Institute and Timpanogos Cave National Monument and opened May 2005. The monument staff contributed museum collections and advised on exhibit content and construction. In attempt to educate visitors in both settings, the museum and the monument distributed coupons for discounts on museum admission and cave tours.⁷⁸

In 2006, monument successes of the previous seasons warranted the first visit from a National Park Service director in the monument's history. During a visit to Salt Lake City, Director Fran Mainella came to Timpanogos Cave National Monument to meet the staff and visit the caves. Mainella stated during her visit, "[Timpanogos Cave National Monument] is a hidden jewel and we need to make sure people know about it."⁷⁹

Despite positive feedback and projects, a fatality at the monument soon darkened the events. The Filippova family visited the caves with of their several friends in the fall of 2006. Following their tour, the group began to descend the trail and when passing beneath the Exit Shelter, three-year-old Paulina Filippova stumbled and

fell over the edge. She tumbled down the steep slope and came to rest on a small ledge. Family friend, Vitaly Tsikoza, quickly followed to save her but could not stop himself on the loose rock and fell several hundred feet down the mountain. Ranger Marc Ellison and visitor Mickey Horak climbed down the steep cliff face and stabilized the girl until help arrived. Utah County Search and Rescue reached Paulina and transported her to the hospital where doctors treated her for minor injuries, but despite efforts, no one could save Tsikoza. The following year, Tsikoza, Ellison, and Horak received the Carnegie Hero award for their actions.⁸⁰

At the end of the busy season, Superintendent Kit Mullen accepted a position at Lassen National Forest. Mullen served eight years, becoming the second longest tenure as superintendent at Timpanogos Cave National Monument.

In addition to the departure of Superintendent Mullen, long time interpretive ranger Arlo Shelley also retired at the end of the 2006 season. Shelley began working in 1946 under the management of the Timpanogos Cave Committee, though leaving for a few years, served 57 seasons as an interpretive ranger. He was an influential member and leader to the staff. His lengthy tenure allowed him to work with every superintendent and to participate in decades of changes at the monument.

The popularity of Timpanogos Cave National Monument remained consistent for many decades. The various superintendents worked continually toward the creation of an appropriate visitor center to accommodate this popularity but regularly encountered a variety of challenges. While this continued and in addition of providing quality visitor programs, staff also worked to exceed National Park Service standards through research and resource protection of the Timpanogos Cave System.

Reference

- 1 McGill, Susan. Interview with the author. Timpanogos Cave NM. American Fork, Utah. June 2004.
- 2 Robinson, DonRoy. Interview with the author. Timpanogos Cave NM. American Fork, Utah. 2005.
- 3 Martin, Laurence K. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 4 Ibid.
- 5 Spangler, Jerry. "Timpanogos Cave: Preservation." *Deseret News*. Salt Lake City, Utah. Aug 16, 1991.
- 6 Tranel, Michael. Headlines and Deadlines. Rocky Mountain Region. American Fork, Utah. Aug 7, 1991.
- 7 Martin, Laurence K. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. 1995.
- 8 Tranel, Michael. Interview with the author. Timpanogos Cave NM. American Fork, Utah. April 7, 2005.
- 9 Bahr, Quincy F. TICA Museum Scope of Collections Statement. Timpanogos Cave NM. American Fork, Utah. Feb. 2002.
- 10 Tranel, Michael. Interview with the author. Timpanogos Cave NM. American Fork, Utah. April 7, 2005.
- 11 "Volunteers Help Clear Debris From Cave Floor." *Salt Lake Tribune*. Salt Lake City, Utah. Sept 29, 1995.
- 12 Horrocks, Rodney D. Completion Report-Phase II. Timpanogos Cave NM. American Fork, Utah. Sept 13-29, 1994.
- 13 Romboy, Dennis. "Utahns Excavate in a Quest for the Floor at

- Timp Cave." *Deseret News*. Salt Lake City, Utah. Sept 24, 1995.
- 144 Roy, Cordell J. Annual Report- 1997. Timpanogos Cave NM. American Fork, Utah. Feb 20, 1998.
- 115 NSS News. Timpanogos Cave. National Speleological Society, Inc. Huntsville, Alabama. Jan 1994.
- 146 McGill, Susan K. Press Release. Timpanogos Cave NM. American Fork, Utah. Mar 25, 1993.
- 117 Tranel, Michael. Interview with the author. Timpanogos Cave NM. American Fork, Utah. April 7, 2005.
- 118 Pulham, Anita and Allen, Jay. Reflections: A Living History of American Fork Canyon. Cat #3059. Timpanogos Cave NM. American Fork, Utah. 1994.
- 119 Roy, Cordell J. Thirteen Stitch Modification. Timpanogos Cave NM. American Fork, Utah. Oct. 6, 1995.
- 220 Scharman, Christopher. "B.A.T.S to Help Visitors See in the Dark." *Daily Herald*. Provo, Utah. 1995.
- 221 Gosse, Michael. Cave Columns. Timpanogos Cave NM. American Fork, Utah. Dec. 1996.
- 222 Bahr, Quincy F. Scope of Work: Oral History Transcripts. Timpanogos Cave NM. American Fork, Utah. Nov 20, 1999.
- 223 Horrocks, Rodney D. Cave Columns. Timpanogos Cave NM. American Fork, Utah. Dec 1996.
- 224 Horrocks, Rodney D. Coral Gardens Protection and Cave Darkness Lighting Experience. Timpanogos Cave NM. American Fork, Utah. July 8, 1998.
- 225 Horrocks, Rodney D. Project Statement: Replace Cave Lighting System. Timpanogos Cave NM. American Fork, Utah. Mar 8, 1996.
- 226 Roy, Cordell J. Annual Report- 1997. Timpanogos Cave NM. American Fork, Utah. Feb 20, 1998.
- 227 Roy, Cordell J. Cave Columns. Timpanogos Cave NM. American Fork, Utah. Winter 1996.
- 228 Roy, Cordell J. Oral History Collection. Timpanogos Cave NM. American Fork, Utah. July 2005.
- 229 Roy, Cordell J. Annual Report- 1997. Timpanogos Cave NM. American Fork, Utah. Feb 20, 1998.
- 30 Kleven, Dana. "Timpanogos Cave Celebrates 75 years." *Utah County Journal*. Provo, Utah. Oct 19, 1997.
- 31 Herron, David A. Origin and Geologic History of the Timpanogos Cave System, Timpanogos Cave NM. American Fork, Utah, Utah County, Utah. Cat #3085. Brigham Young University. Provo, Utah. 1997.
- 32 George, Christian O. A Systematic Study and Taphonomic of the Mammal Remains from the Packrat Middens of Timpanogos Cave National Monument, Utah. Franklin and Marshall College. Lancaster, Penn. 1997.
- 33 Roy, Cordell J. Annual Report- 1997. Timpanogos Cave NM. American Fork, Utah. Feb 20, 1998.
- 34 Roy, Cordell J. Interview with the author. Timpanogos Cave NM. American Fork, Utah. July 2005.
- 35 Moody, Dainon. "Inside Secrets." *Deseret News*. Salt Lake City, Utah. June 20, 1999.
- 36 Horrocks, Rodney. Letter to C. Pulham. Timpanogos Cave NM. American Fork, Utah. April 6, 2005.
- 37 Mullen, Kit T. Annual Report- 1999. Timpanogos Cave NM. American Fork, Utah. 2000.
- 38 Price, Camille. Squad Meeting Notes. Timpanogos Cave NM. American Fork, Utah. Oct 19, 1998.
- 39 Interpretive Development Program. Dec. 5, 2005. www.nps.gov/idp.gov/interp/index.htm.
- 40 Mullen, Kit T. Annual Report- 2002. Timpanogos Cave NM. American Fork, Utah. Nov 15, 2002.
- 41 Flory, Suzanne. Canyon Nature Trail Brochure. Timpanogos Cave NM. American Fork, Utah. 1999.
- 42 "New Rock Trap Helps Timp Cave Prepare for Coming Season." *American Fork Citizen*. American Fork, Utah. May 19, 1999.
- 43 Mullen, Kit T. Annual Report- 1999. Timpanogos Cave NM. American Fork, Utah. 2000.
- 44 Hersey, Eva. Expedition in to the Parks: Cave Photomonitoring Project. Annual Report. Timpanogos Cave NM. American Fork, Utah. 1999.
- 45 Hersey, Eva. Photomonitoring Points in Hansen Cave. Timpanogos Cave NM. Feb 11, 2000.
- 46 Price, Camille. Seasonal Staff Meeting Notes. Timpanogos Cave NM. American Fork, Utah. July 19, 1999.
- 47 Zimmerman, Josephine. "AF Resident Passing on His Knowledge." *Daily Herald*. Provo, Utah. Dec 12, 1999.
- 48 Mullen, Kit T. Annual Report- 2000. Timpanogos Cave NM. American Fork, Utah. 2000.
- 49 Ibid.
- 50 Gholdston, Havalah. Local Fire Outlook Improving by the Day. *Daily Herald*. Provo, Utah. Aug 7, 2000.
- 51 Mullen, Kit T. Annual Report- 2000. Timpanogos Cave NM. American Fork, Utah. 2000.
- 52 Price, Camille. Staff Meeting Notes. Timpanogos Cave NM. American Fork, Utah. Aug 7, 2000.
- 53 National Park Service. Inventory and Monitoring of Park Natural Resources. 2001. <http://www1.nature.nps.gov/protectingrestoring/im/inventoryandmonitoring.cfm>
- 54 Mullen, Kit T. Annual Report- 2003. Timpanogos Cave NM. American Fork, Utah. 2003.
- 55 Jasper, Jonathan D. Microbial Presentation. NSS Convention 2004. Timpanogos Cave NM. American Fork, Utah. 2004.
- 56 Jasper, Jonathan D. Monitoring Cave Water Quality. Grant Proposal. Timpanogos Cave NM. American Fork, Utah. Mar 10, 2002.
- 57 McNeil, Brenden. Implementation and Application of a 3-D Enterprise GIS at Timpanogos Cave National Monument, Utah. Cat #3427. University of Denver. Denver, CO. 2002.
- 58 Mullen, Kit T. Annual Report- 2001. Timpanogos Cave NM. American Fork, Utah. 2001.
- 59 Flory, Suzanne and Jacobsmeier, Roberta. Timpanogos Cave Junior Ranger. Timpanogos Cave NM. American Fork, Utah. 2001.
- 60 Mullen, Kit T. Annual Report- 2001. Timpanogos Cave NM. American Fork, Utah. 2001.
- 61 Mullen, Kit T. Annual Report- 2002. Timpanogos Cave NM. American Fork, Utah. Nov 15, 2002.
- 62 Ibid.
- 63 Mullen, Kit T. Memorandum: John Albert Thorn. Cat #3380. Timpanogos Cave NM. American Fork, Utah. Aug 13, 2000.
- 64 Mullen, Kit T. Annual Narrative Report- 2003. Timpanogos Cave NM. American Fork, Utah. Mar 23, 2004.
- 65 Mullen, Kit T. Letter to Joan Harn. Timpanogos Cave NM. American Fork, Utah. Mar. 11, 2005.
- 66 McCullough Engineering Co. Entrance Shelter Working Blueprint. Salt Lake City, Utah. 2002.
- 67 Mullen, Kit T. Annual Narrative Report- 2003. Timpanogos Cave NM. American Fork, Utah. Mar 23, 2004.
- 68 Jasper, Jonathan D. Project Report: Installing Cave Gates. Timpanogos Cave NM. American Fork, Utah. 2004.
- 69 Jasper, Jonathan. Install Cave Handrails. Grant Proposal. Timpanogos Cave NM. American Fork, Utah. Feb. 22, 2001.
- 70 Mullen, Kit T. Annual Narrative Report- 2003. Timpanogos Cave NM. American Fork, Utah. Mar 23, 2004.
- 71 Mullen, Kit T. Annual Narrative Report- 2004. Timpanogos Cave NM. American Fork, Utah. Feb 28, 2005.
- 72 Young, Norm E. and Kowallis, Brandon K. Reflections. Summer 2004 Edition. Timpanogos Cave NM. American Fork, Utah. May 2004.
- 73 Kowallis, Brandon K. Timpanogos Cave Map and Atlas. Timpanogos Cave NM. American Fork, Utah 2004.
- 74 Mullen, Kit T. Annual Narrative Report- 2004. Timpanogos Cave NM. American Fork, Utah. Feb 28, 2005.
- 75 Hansen, William R. Source Area and American River Protected at Timpanogos Cave National Monument. Water Resources Division: 2004 Annual Report. pp 39-40. 2004.
- 76 Mullen, Kit T. Annual Narrative Report- 2004. Timpanogos Cave NM. American Fork, Utah. Feb 28, 2005.
- 77 Timpanogos Land Exchange Act. 116 Stat. 2815. Pub L. 107-329, title 1. Washington DC. Dec 6, 2002
- 78 Mullen, Kit T. Annual Narrative Report- 2005. Timpanogos Cave NM. American Fork, Utah. Feb 2006.
- 79 Warnock, Caleb. "National Park Director Tours Timp Cave." *Daily Herald*. Provo, Utah. May 18, 2006
- 80 Stettler, Jeremiah. "Fatal Fall Tempered by 'Miracle' Rescue." *Salt Lake Tribune*. Salt Lake City, Utah October 1, 2006

CONCLUSION

In 1921, following the rediscovery of Timpanogos Cave, a community raised their voices for the preservation of a fragile and beautiful cave system. Their call was answered on October 14, 1922, when Warren G. Harding created Timpanogos Cave National Monument. Since that day, Timpanogos Cave has become much more than a beautiful cave. The Timpanogos Cave System has become known for its cave formations, color, geology, and unique history.

Timpanogos Cave National Monument has been visited by people from around the globe. With consistently high visitation, monument staff has taken upon themselves the responsibility to educate its visitors not only to the value and to importance of the

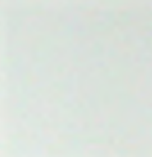
Timpanogos Cave System but also caves throughout the United States and around the world. Members of the staff carry a message of cave conservation and preservation through educational programs inside and outside of the monument.

Timpanogos Cave National Monument resources and history have been preserved through generations of managers, rangers, staff, volunteers, and community members who have worked to build, operate, and preserve the caves and the monument. The heart that beats at Timpanogos is greater than the Great Heart of Timpanogos; the true heart of Timpanogos-- is the people who work for the life and love of Timpanogos Cave National Monument.



The Great Heart of Timpanogos

CONCLUSION



APPENDIX

APPENDIX A

Budget and Annual Visitation100

APPENDIX B

Employee List102

APPENDIX C

James Gough Affidavit.104

APPENDIX D

Vearl Manwill Affidavit106

APPENDIX E

Wayne Hansen Affidavit108

APPENDIX F

Legislation110

APPENDIX G

Name and Organization Glossary111

APPENDIX A *Budget and Visitation*

Year	Park Budget	Visitation	Cave Visitation
1923			15,570
1924			14,877
1925			11,398
1926			12,201
1927	\$5,506		12,429
1928	\$3,257		10,584
1929			9,764
1930			8,544
1931			7,653
1932			5,000
1933			3,962
1934		5,074	5,107
1935		6,095	6,164
1936		9,766	9,713
1937		10,957	11,164
1938		12,808	12,467
1939		12,060	12,276
1940	\$5,053	12,021	11,995
1941		10,595	10,655
1942		7,967	7,967
1943		17,721	9,012
1944		19,565	7,813
1945		27,213	12,428
1946	\$5,500	56,919	22,712
1947	\$8,416	53,128	20,980
1948		60,575	22,269
1949		61,411	21,313
1950		65,355	23,691
1951		66,291	24,604
1952		68,532	27,078
1953		70,638	27,048
1954		72,043	27,157
1955		72,339	27,446
1956		76,771	31,349
1957		78,933	33,865
1958		89,439	40,671
1959		98,155	43,320
1960		110,119	48,696
1961		117,916	52,248
1962		133,518	55,546

Year	Park Budget	Visitation	Cave Visitation
1963		165,690	58,141
1964		165,204	54,857
1965		165,486	48,823
1966		193,645	67,633
1967		207,200	59,707
1968		221,400	65,748
1969		192,800	65,215
1970		166,500	76,884
1971		111,400	72,210
1972		194,525	76,784
1973		174,600	68,428
1974		226,600	75,000
1975		65,500	61,941
1976		76,500	74,303
1977		102,900	58,379
1978	\$223,400	118,644	71,335
1979	\$229,200	125,080	81,109
1980	\$231,000	107,041	65,420
1981	\$244,000	104,497	66,745
1982	\$252,000	104,630	65,420
1983	\$281,000	98,475	64,774
1984	\$298,000	119,688	78,639
1985	\$312,000	128,622	83,353
1986	\$302,000	124,410	79,750
1987	\$322,000	137,279	87,844
1988	\$331,000	138,694	89,969
1989	\$359,000	126,876	81,757
1990	\$408,000	114,247	72,463
1991	\$431,000	104,745	68,333
1992	\$455,000	120,036	79,111
1993	\$460,000	90,803	60,385
1994	\$458,000	76,317	50,568
1995	\$481,000	80,182	52,093
1996	\$482,000	97,250	63,707
1997	\$495,000	102,986	71,009
1998	\$524,000	112,015	73,333
1999	\$548,000	124,905	76,206
2000	\$582,000	116,835	69,166
2001	\$617,000	128,201	75,316
2002	\$647,000	116,829	68,795
2003	\$659,000	106,088	63,241
2004	\$703, 000	107,170	72,097
2005	\$744,000	105,012	65,662
2006	\$778,000	111,179	70,298

APPENDIX B *Employee List*

National Forest Service:

Forest Supervisors:

Dana Parkinson	1919-26
E. C. Shepherd	1926
A. G. Nord	1927-34

Forest Rangers of the South Fork Ranger Station:

Vivian N. West	1921-33
----------------	---------

Rangers-in-charge of the Cave Camp:

L. L. Hammer	1921-22
E. M. Halliday	1922-33
A. Russell Croft	06/33-09/33
Kenneth Maughn	08/33-03/34

Timpanogos Cave operated by funds from ticket sales: 1922-12/1/46

Timpanogos Cave Committee Members:

<u>Year</u>	<u>Name</u>	<u>City</u>
1922	S. L. Chipman, Chairman	Am. Fork
	J. L. Firmage	Am. Fork
	C. L. Warnick	PG
	Clifford E. Young	Am. Fork
	Vivian N. West	PG
	Errol Halliday	PG
1926	Leo G. Meredith, Sec/Treasurer	
1934	Thomas A. Walker, Acting Custodian	
1938	W. W. Warnick (Replaced C. L. Warnick)	
1944-46	Charles B. Walker (Replaced Tom Walker)	

National Park Service:

Superintendents at Zion National Park:

Preston P. Patraw	1/16/32-12/31/38
Paul R. Franke	1/1/39- 7/31/39
C. Marshall Finnan	8/ 1/39- 6/22/40
M. Davis (Acting)	7/ 5/40- 8/15/40
Paul R. Franke	8/16/40- 6/30/43
Charles J. Smith	7/1/43- 4/30/52
Paul R. Franke	6/1/52-12/31/59

Timpanogos Cave under Zion Administration: 7/34-6/53

Zion Accounting Office	7/34-6/55
------------------------	-----------

Custodian:

Thomas A. Walker	8/34-3/44
Charles B. Walker	7/44-11/46

Thomas A. Walker

11/46-11/48

Superintendent:

Thomas A. Walker	11/48-2/69
Paul A. Berger	4/69-4/71
Don H. Castleberry	5/70-8/74
Sherma E. Bierhaus	9/74-8/74
William E. Wellman	4/82-1/88
Michael O. Hill	4/88-3/91
Susan McGill	4/91-11/94
Cordell J. Roy	3/94-3/98
Kit T. Mullen	4/98-12/06
Denis Davis	4/07 -

Chief Ranger

James Boll	9/83-9/85
Scott Isaacson	1986-1989
Michael J. Tranel	10/89-8/93
Kathy Brown	10/93-5/96
Michael Gosse	1/97-

Park Naturalists:

David H. Huntzinger	1/63-4/66
J. Tom Ritter	4/66-9/69
Roger J. Siglin	10/69-8/70
Neal R. Bullington	1972-3/75

Resource Specialist:

Rodney Horrocks	1992-1/99
Jonathan D. Jasper	8/00-11/06

Chief of Resource Management

Cami Pulham Mckinney	07/08-
----------------------	--------

Administrative Assistants(Officer):

James W. Stringer	10/60- 6/61
Ralph M. Tipling	8/61-12/62
Ray C. Teter	12/62- 8/65
Richard W. Smith	9/65-10/65
Charles D. Wyatt	12/67-8/68
Yvonne Oaks	1/69-5/70
Thomas Speer	1972-11/75
Sharon L. Watterson	1975-1976
Stephen D. Hobbs	5/76-10/77
Cassy A. Black	11/77-07/80
Trudi Hielema	12/80-1982
Marcus Hathaway	1982-11/83

Evelyn Ringsby	3/84-5/87
Paula E. Dustin	8/87- 7/89
Jane Tranel	8/89- 9/89
Elizabeth Appling	9/89-10/91
Carolyn Barker	1993-1996
Helen Carson	2/94-1/06
Rodney Larsen	5/06-

Maintenance Foreman:

Harold A. Smith	9/52-9/55
Fred L. Robinson	3/56-7/65
Ralph A. Murdoch	7/65-4/88
David Arnold	9/88-1992
Dutch Scholten	1992-97
Kim Deuring	4/98-8/01
Christopher Miller	10/02-5/05
Gary Togstad	1/06-3/10
Craig Yow	8/10-

Interpretive Chief:

Suzanne Flory	1998-5/01
Lee Werst	9/03-05/06

Concessions Operations Lessees:

Basil Walker	1922-41
Arsena Robinson	1942 Season
Doretha Smith	1943 Season
Edna Walker	1944-53
Elisa Campbell	1955 Season
Arsena Robinson	1956-65
Betsy Wagner	1965-

APPENDIX C

James W. Gough Affidavit

The following account of the discovery of a cave now known as Timpanogos Cave was dictated by James W Gough, Jr. on December 13, 1960.

During the summer of 1914 or 1915, I, James W. Gough, Jr. went with my parents and a group of people from Lehi, Utah to visit the old Hansen Cave. This group consisted of the following named men and their wives: James W. Gough, Sr., Harmon Johnson, Lavon Fox, Wilma Johnson, Thomas A. Taylor. There were also two boys 14 or 15 years of age; Frank Johnson and myself.

While the adults of the party were visiting the cave, Frank Johnson and I, who had been to the cave at other times, took a hike. In going up over some steep ledges we found ourselves in a position in which we could not get back down the way we went up. After several hours of trying to find a way down, we finally discovered a notch in the canyon wall which would allow us to descend. To do this, I held on to the roots of a tree and dangled over the side while Frank, clinging to my body, slowly climbed down and then dropped to the ledge five feet below. I then dropped to the ledge and was only prevented from plunging over the edge of a vertical drop of about 300 feet by Frank who grasped me.

Proceeding around the ledge, we discovered a place that looked mineralized. I started digging into a fissure which showed some mineralization that looked similar to mineralized rock I had seen at the Scranton mine. While digging, it soon became apparent that I was breaking into an opening or hole in the mountain side. Pulling the rock and soil away from the opening, it was soon large enough for me to look into. Looking down into the hole, I could see another opening about ten feet below which admitted daylight. This aroused the curiosity of Frank and myself, and further investigation revealed that a large slab of rock had been placed in the entranceway to a cave. This slab was almost completely buried and covered with topsoil, and only the upper portion was sticking out. Grass growing in the soil showed that it had been sealed up for a good many years. By taking another rock and pounding the "key" that held the slab in place, I broke the "key" and the slab plunged down into the cave. My curiosity was aroused to the point where I had to go down into the cave and see what was in it. Lighting a piece of candle which I had been carrying in my pocket, I persuaded Frank to go with me down into the opening. While climbing down, something suddenly knocked my hat off. Thoughts of bears and mountain lions raced through my head and I decided to get out of the cave as fast as possible. Attempting to scramble back up the slope, my feet hit a slick, mossy spot; I slipped, lost my grip, and slid to the bottom of the slope about ten feet below. In falling, I had lost my light and my hat. Everything about me as I sat, was darkness and dust. At first I was very frightened, as I thought a bear would get me. Up above I could hear Frank laughing and laughing; then he called down and said that it had been a bat that had knocked my hat off and not a bear. It was not long before the dust cleared away and once my eyes had become accustomed to the change from broad daylight, I could see fairly well with the light that came through the opening above. Frank came down to where I was, and together we explored the cave until we came to a deep hole in the floor. We were blocked from exploring deeper in to the cave by the pit in the floor as we could see no way around it. We then left the newly found cave and returned to Hansen's Cave to tell our folks of the discovery. When we arrived there we found them just coming out of the cave. After we had told our folks of the find, we all rushed around to the entrance to explore it. The group entered the cave, but was also halted by the puit. Some of the men then went outside to get a log which was used to bridge the hole in the cave floor. After crossing the log bridge, the party explored the cave as deeply as what is now known as the "Heart of Timpanogos". Near the Heart the cavern branched into a number of passageways going in many directions. Fearing we would become lost if we went too far into the maze, it was decided to stop exploring at this point and return in about two weeks with better and more equipment than we had on hand. More rope, string for marking the trail, carbide lanterns were needed, or so we thought.

Two weeks later a party consisting of my father James C. Gough Sr., myself, and perhaps two or three other people, the names now forgotten, returned and fully explored the cave. In the bottom of the cave we found a beautiful lake, ice cold and crystal clear. The many openings of side passageways, which we had at first feared would lead into a bewildering maze, were actually only short passageways, and there were no real danger of

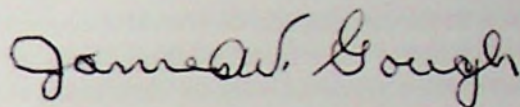
getting lost. When we returned to the entrance way we noticed some bones at the bottom of the slope; these had been broken by the slab of rock which had covered the entranceway when it fell.

About one month later, after we had explored the entire cave system, Thomas A. Taylor took a Mutual Group of about 15-20 boys and girls through the cave. After the Mutual Groups's trip the cave was commonly known. And many other groups went through the cave.

Approximately one year later, because of the fracture that looked mineralized, my father and I staked the cave ground for a mineral claim. I sent a sample of the rock to John Hutchings, who lived in Scranton at the time, to have it analyzed. Hutchings found the sample contained 3% zinc. About six months later John Hutchings moved to Lehi, Utah, and being so interested in the cave, he was taken in as a third partner, each holding a one-third interest in the claim.

Over the period of years that we hold the claim to the cave ground, I went to the cave twenty-one times. On the last trip to the cave before I left to work in Shelley, Idaho, I took a powder box to the cave. This box contained powder caps, fuses, and carbide. It had been given to me by John Hutchings in Scranton, and was left in the cave for future use.

James W. Gough

A handwritten signature in cursive script that reads "James W. Gough". The ink is dark and the handwriting is fluid, with the first letters of each word being capitalized and prominent.

APPENDIX D

Vearl Manwill Affidavit

I was born in Payson, Utah, November 15, 1900 to John V and Elizabeth Keele Manwill. Father was a farmer of moderate means, but about 1908, he went to work for the Forest Service as a ranger. For about a year he was stationed at Vernon, in Tooele County, then he got transferred to American Fork Canyon in 1909. At that time he had five children, three boys and two girls.

We lived at the South Fork Ranger Station in the summer and in American Fork in the winter where we went to school. The summers were very interesting, but we saw very few people. Mostly miners, ore haulers, prospectors, sheep herders, and on holidays, covered wagons of campers would sometimes come up from the valley to picnic. Occasionally an artist or explorer would stay over at our house for a night. On these occasions, as a boy, I was fascinated by some of their stories of legends about Indian gold mines, exploring, and prospecting.

I later learned that there was a cave about a mile down the canyon called Hansen's Cave, and my mother told me of going through it with some University of Utah students in 1898, and described its beauty. I later got a chance to go through it, and it was very beautiful.

We spent nine summers in the canyon, and on several occasions, I took school chums through the cave using candles for light. In 1918, father was transferred from American Fork to the Strawberry Valley ranger station, so he moved back to Payson so the boys could work the farm in the summer time.

We missed the canyon very much so we organized a small hiking club and every other weekend we would go camping, mountain climbing or exploring.

In the summer of 1921, we went on the annual Timpanogos Mountain Climb, then in camp that evening we planned our next trip.

I remembered reading an article in the American Fork Citizen that was entitled "Rumors of Mysterious Cave in American Fork Canyon." We assumed that someone knew where it was, so we decided to go up to the canyon on August 14, 1921 and go through it. We went to see Martin Hansen (discoverer of Hansen's Cave) and he said he had heard rumors, but knew nothing about its whereabouts, but if we were going to look for it, to look for it in the general area and level as Hansen Cave, as it was formed on a fault and if the fault extended through the rocks that would be the logical place to look.

We then proceeded up the canyon and went through Hansen's Cave. We had carbide miner's lamps, candles and also a couple of cameras and a flash gun for taking pictures. At this time we were very disappointed, as the onyx and beauty of the cave had been practically all stripped off. We didn't take any pictures, but proceeded to the entrance where we decided to separate and do exploring. I went alone and went to the west, then climbed up over the ledges to the top and then turned back east and down at the east side of the big ledges. I stopped to rest at the point about the same level as Hansen's Cave, but about $\frac{3}{4}$ mile east and as my eyes scanned the mountain side, I noticed next to the ledge, an artificial appearance like masonry with vegetation partially growing over it about thirty feet west of where I sat. I walked over to it and kicked at it and one of the rocks came loose, rolling down an incline inside of the mountain. I opened it up and the whole was about two feet in diameter. I immediately called the rest of the group and we proceeded to explore it. At the foot of the first incline, about 30 feet down, was a room of rather spacious dimensions and on the floor was part of an old dynamite box (all soggy and moldy). This indicated that someone had been in before and then sealed up the entrance and had either lost the location or was keeping it secret.

We then proceeded to explore it. It was a thrilling experience as there were no trails or tracks to follow. In places we had to lay on our stomachs and squeeze through. Other places we had to make ourselves into human bridges or ladders to help the ladies along. About half-way through, half of the party became frightened and turned back.

However, three of the men and two ladies proceeded all the way and we took a picture of what is now called "Father Times Jewel Box."

We then went back out and joined the rest of the party and closed up the entrance, much as the way we found it and went back down to the canyon bottom where we were camped and that night by the light of campfire, discussed our find and talked about ways and means to preserve its beauty for posterity instead of allowing it to be vandalized as Hansen's Cave had been. We decided to start by organizing an outdoor club dedicated to the objective of preserving the cave, which we did.

We called it the Payson Alpine Club and I was elected president and my sister Elon Manwill, secretary. We decided to return in about two weeks and measure, map, and photograph the cave then turn our information over to the proper authorities for their assistance.

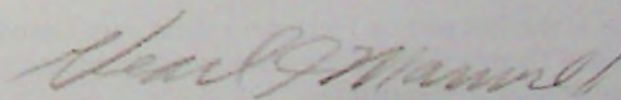
We returned two weeks later with a party of twenty-two, but so much time was spent showing it to the other group that we did no measuring, but did take a few pictures. When we left the cave, we were met near the mouth by Deputy Supervisor Mann and Ranger West of the Forest Service who demanded to know what we were doing there. When we explained they did not believe us. They seemed to think that we were the persons who were keeping the whereabouts of the cave a secret and were attempting to commercialize on it. So they, at that time, nailed up a sign on the nearby tree declaring the location a public service site, and then told us to vacate at once and they would investigate our story.

A day later an article appeared in a Salt Lake Newspaper titled, "Forest Rangers Discover Mysterious Cave". We were not mentioned in the article. From this point on it was taken over by the Forest Service, the Wasatch Mountain Club, and a Dr Hopkins (dentist) of Salt Lake City who made valuable contributions by picture and other assistance in preserving the cave.

It was declared a National Monument in the fall of 1922 by President Harding and later turned over to the National Park Service.

I did not go near it again for several years, and it was not until about November 1926, when I read an article in the Improvement Era Magazine that stated that the US Geological Survey gave me official recognition for the discovery, that my name was linked with the discovery. I later learned that considerable investigation, lawsuits, claims, and counter claims have brought to light the truth about it. But I am glad that I have contributed in part toward its preservation.

Vearl J. Manwill



APPENDIX E

Wayne Hansen Affidavit

DISCOVERY OF THE MIDDLE CAVE OF TIMPANOGOS CAVE NATIONAL MONUMENT

By
Wayne E Hansen

On or about October 20, 1921, my Uncle, George Heber Hansen and myself, then a young man of 18 yrs, journeyed to American Fork Canyon to hunt deer. We made the journey by Horse & Buggy.

We traveled up the canyon to the location now known as Timpanogos Cave Camp, left the horse & buggy there and made our way on foot up the canyon to Tank Canyon, just below the old Hanging Rock. We traveled up Tank Canyon climbing to the top or ridge. Then we proceeded to hunt in the ledges and Pines back down the canyon to a point across from the Old Hansen Cave and New Timpanogos Cave. It was about mid-day and we sat down here to eat our lunch.

While eating and resting, we were looking across the canyon with a pair of Field Glasses which Uncle Heber had brought along. First we located the entrance of Grandfathers old cave and then the New Timpanogos Cave.

Because of a story told by Grandfather Hansen, about another opening in the immediate vicinity of his cave, we were trying to find this opening with the glasses and thus found another opening about midway between Timpanogos and Hansen Caves, on about the same level. To us, across the canyon it appeared to be 2 to 3 ft in diameter. We talked about it and decided as we had not sighted any deer we would go across and try to locate this new opening.

From where we were we came down to the canyon bottom where we had left the buggy, over what we then called "Rattlesnake Slide" a very rugged and rocky trail as I remember it. Leaving everything we were carrying except our rifles, we climbed the trail to the Hansen Cave. Then taking a course around and up the canyon, on about the same level, we worked our way through brush, timber, and ledges until we found this new opening.

We found it to be an opening of about 4 to 5 ft in height and 3 ft. wide. It was bigger than it had appeared to be from across the canyon. It seemed to be the opening of a huge crack in the canyon wall. We ventured in to the opening as far as we dared, using what matches we had and found it slanted downward. The floor of the opening ending abruptly going straight down,

It was decided to tell Grandfather about it and get a party together and come back. When we arrived back at American Fork that evening, (with no deer) we told Grandfather and others of the family, about it. Everyone was excited about what we had found, so a party was formed and a date to go back and explore this new cave.

Members of this first party as I remember them were. Grandfather, Martin Hansen, my two Uncles, George Heber Hansen, and Thomas Hansen, one of my two elder brothers, Edmund R Hansen or Leo T Hansen and myself. And my father Richard H. Hansen.

We took along with us, about 60 ft. of hay Derrick rope, other small ropes, flashlights, candles, hand picks and other things we thought we would need. We arrived at the new cave the morning of October 24, or 25, 1921, secured the derrick rope at the top of the opening, letting the end fall down over the edge of the ledge inside.

As I remember, Uncle Heber was the first man to attempt to go down into the cave. We did not know how far down it would be or if we had enough rope. So we had dropped rocks down and they did not seem to fall too far before we heard them strike bottom. Soon Uncle Heber shouted, that he was on bottom and we all followed him down into the cave.

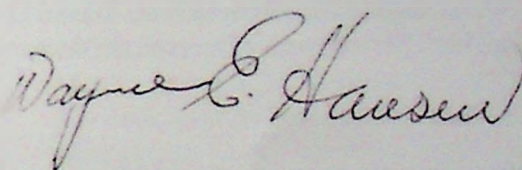
We spent about 2 or 3 hrs. exploring this new cave that day, but later another party went up and made the second trip through.

This second party was a bigger bunch. Included, were my two brothers-in-law, Leo Thorne and Junius Adams, my father Richard H Hansen, my younger brother Martin E Hansen, both of my elder brothers, Uncle Heber and myself. Grandfather did not make this trip because of his age and because the other trip had been quite hard on him.

It was during this second exploration that an incident occurred which will not be forgotten by the members. In order to get out of the cave, one must climb hand over hand up about 60 ft. of rope. Pulling yourself over the ledge at the top. In a few places on the way up, you could brace yourself against the walls of the huge crack, but most of the climb was hang on to the rope and pull.

We spent another hour or two climbing around and exploring and were on our way out of the cave when Leo Thorne who, was climbing out and had reached the top at the ledge, fainted and fell to the bottom. Landing in an upright position feet first. Because of working the midnight shift at the Lehi Sugar Factory, then riding a bicycle from American Fork and climbing the trail to the cave, Leo must have been exhausted, this causing him to faint and fall. I was sent down the canyon to the #2 Utah Power & Light Plant to Phone for Dr. Kelly and help. While I was gone the others in the party tied Leo to the derrick rope in an upright position and in this manner hoisted him up and out of the cave. Fortunately Leo was not injured seriously, but still carries the scars of this fall. There could be other details and people, who may be involved in this account. I do not mean to leave anyone out, of this account. This is as I remember it this October of 1956.

Wayne Hansen

A handwritten signature in cursive script that reads "Wayne E. Hansen". The signature is written in dark ink and is positioned to the right of the typed name "Wayne Hansen".

APPENDIX F *Legislation*

Timpanogos Cave National Monument Key Legislation

- *Forest Reserve Act of 1891*. Allowed president to establish forest reserves. Uinta Forest Reserve was created by Grover Cleveland.
-
- *Transfer Act of 1905*. Forest Reserves were transferred from the Department of the Interior to the Department of Agriculture, creating the Forest Service.
-
- *Antiquities Act of 1906*, entitled “An Act for the Preservation of American Antiquities.” Section 2 of the Act gave the authority to the executive branch to establish Timpanogos Cave National Monument.
-
- *Organic Act of August 25, 1916*, 39 Stat. 535; 16 U. S. C. 1. Established the National Park Service. Later, the National Park Service would become the managing agency for Timpanogos Cave National Monument.
-
- *Presidential Proclamation Number 1640* of October 14, 1922. With this proclamation, President Warren G. Harding established Timpanogos Cave National Monument.
-
- *Executive Order 6166* of December 10, 1933. The reorganization of the Executive Branch, transferring Timpanogos Cave NM from the US Forest Service to the National Park Service.
-
- *Presidential Proclamation Number 3457* of March 27, 1964. President John F. Kennedy Redefined the External Boundaries of the Timpanogos Cave National Monument.
-
- *Timpanogos Land Exchange Act* of December 6, 2002. The Uinta National Forest acquired land for the Interagency visitor center.

APPENDIX G

Name & Organizations

- American Fork Commercial Club:* Club based in American Fork City comprised of various local businessmen. Oversaw development of Timpanogos Cave in 1921. Organized the Timpanogos Outdoor Committee.
- Beeson, J.J.:* Proposed sulfuric acid origin of the caves in 1921.
- Berger, Paul A.:* Superintendent from 1969-1970.
- Bierhaus, Sherma E.:* Superintendent from 1974-1982.
- Bullock, Kenneth:* Wrote thesis in 1942 theorizing that the caves excavation as a result of a flowing stream.
- Bullington, Neal:* Park Naturalist from 1972 to 1975
- Castleberry, Donald H.:* Superintendent from 1970-1974.
- Center Cave:* Alternate name for Middle Cave occasionally used in 1920-1930s.
- Chipman, Stephen L.:* Timpanogos Cave Committee President.
- Croft, A. Russell:* Ranger in Charge from June to September 1933.
- Firmage, John (Jack) L.:* Member of the Timpanogos Cave Committee.
- Franke, Paul R.:* Zion National Park Superintendent in 1939, 1940-1943, and 1952-1959.
- Gerry, R.E.:* District Forest Supervisor during early 1920s.
- Gosse, Michael:* Law enforcement officer from 1994-1997. Chief Ranger from 1997-.
- Gough, James C:* Father of James W. Gough. Signer of the Lone Star Lode Mine Claim.
- Gough, James W:* Discovered Timpanogos Cave in 1913 with Frank Johnson. Signer of the Lone Star Lode Mine Claim.
- Halliday, Errol (Mick):* Ranger in Charge from 1922-1933.
- Hammer, L.L.:* First ranger at Timpanogos Cave NM. Stationed at Cave Camp for the Summer 1922 season.
- Hansen Cave:* Discovered in 1887 by Martin Hansen.
- Hansen, G. Heber:* Discovered Middle Cave with Wayne Hansen in 1921. Son of Martin Hansen.
- Hansen, Martin:* Discovered Hansen Cave in 1887.
- Hansen, Wayne:* Discovered Middle Cave with Heber Hansen in 1921. Grandson of Martin Hansen.
- Heckathorn, Betty:* Girl hit by rock fall in 1965 and lost an eye. Lawsuit concluded in 1967.
- Hill, Michael O:* Superintendent from 1988-1991.
- Horrocks, Rodney:* Cave specialist from 1992-1999
- Hulet, Betty:* Woman hit by rock fall in 1968 and breaking several bones. Lawsuit concluded in 1972.
- Huntzinger, David:* Park Naturalist from 1963-1966.
- Hutchings, John:* Self-proclaimed Naturalist from Lehi, Utah. Signer of the Lone Star Lode Mine Claim.
- Iorio, Ralph:* Employee from 1959-1961. Wrote the historical document titled: Timpanogos Cave National Monument.
- Jacklin, Lloyd:* Ranger from 1967 to 1971. Developed Four Senses Nature Trail.
- Jasper, Jonathan:* Resource Specialist beginning in 2000.
- Joy Group:* Mine claimants Ed Culmer, S.F. Snyder, Don Markman, and David Andrew, owners of the "Bet Your Boots," "Joy," and "Golden Arrow" mines located on the monument.
- Manwill, Vearl:* Re-discoverer of Timpanogos Cave in 1921 with the Payson Alpine Club.
- Maughn, Kenneth:* Ranger-in-Charge from 1933 to 1934.
- McCullough Engineering:* Company contracted to build the entrance and exit shelters, rock trap, and 2003 exit restroom.
- McGill, Susan:* Superintendent from 1991-1994.
- Meredith, Leo:* Secretary and treasurer for the Timpanogos Cave Committee beginning in 1926.
- Middle Cave:* Cave found by G. Heber Hansen and Wayne Hansen in 1921. Also called Center Cave in 1920-1930s.
- Mullen, Kit T.:* Superintendent from 1998-2006.
- Nord, Arthur G.:* Forest Service Supervisor from 1927-1934.
- Parkinson, Dana:* Forest Supervisor from 1919-1926.
- Patraw, Preston P:* Zion National Park Superintendent from 1932-1938.
- Payson Alpine Club:* Group organized to protect Timpanogos Cave in 1921. President *Vearl Manwill*: Re-discovered Timpanogos Cave in 1921 with the Payson Alpine Club.
- Poulsen, Edwin:* Photographer for the U-Need-A-Photo-Art Company and Secretary for the American Fork Commercial Club.
- Ritter, Tom:* Park Naturalist from 1966-1969.
- Roberts, Eugene "Timp":* Brigham Young University professor and author of the Legend of Timpanogos. Founder of the Annual Timpanogos Hike.
- Rock House:* Superintendents residence or the Stone House located in Cave Camp area. Constructed in 1940.
- Roy, Cordell:* Superintendent from 1994-1997.
- Rutledge, R.H.:* District Supervisor for the Forest Service in 1921.
- Shelley, Arlo:* Seasonal ranger from 1946-present.

Shepherd, E.C.: Forest Service Supervisor in 1926.

Smith, Charles J.: Zion National Park Superintendent from 1943-1952.

Smith, Harold: Maintenance Supervisor from 1952-1955

Southwest Parks & Monuments Association: Non-profit cooperating association for many National Park Sites, including Timpanogos Cave NM. Founded in 1938 in Tucson, Arizona. Administered book sales operation at Timpanogos Cave NM.

Stone House: See Rock House.

Thorn, Leo: Brother-in-Law to Wayne Hansen. Fell into Middle Cave 1921.

Timpanogos Cave: Cave found by James W. Gough and Frank Johnson in 1913 and rediscovered in 1921 by Vearl Manwill.

Timpanogos Cave Committee: Originally the Timpanogos Outdoor Committee.

Timpanogos Outdoor Committee: Original name of the Timpanogos Cave Committee. Name change occurred approximately 1926.

Tranel, Michael: Chief Ranger from 1989 to 1993.

Walker, Basil: Had concessions permit from 1921 to 1941.

Walker, Charles: Acting-Custodian from 1944-1946.

Walker, Florence: Wife of Concessionaire Basil Walker.

Walker, Lucile: Wife of Superintendent Thomas Walker.

Walker, Thomas: Seasonal ranger starting in 1925. Later Ranger-in-Charge and Custodian. Superintendent from 1946-1969.

Walton, Joe: Secretary and treasurer for the Timpanogos

Outdoor Committee until 1926.

Warnick, Charles L.: Timpanogos Cave Committee Member until 1939.

Warnick, Reed: Volunteer guide and Publicist for Timpanogos Cave in 1926-27.

Warnick, Wilford W.: Timpanogos Cave Committee Member after 1939.

Wasatch Mountain Club: Outdoor club located in Salt Lake City, Utah. The American Fork Commercial Club organized partnership to obtain Special Use Permit in 1922.

Wellman, William: Superintendent from 1982-1988.

West, Vivian: Forest Ranger at Southfork Ranger Station from 1921-1933. Member of the Timpanogos Cave Committee until 1933.

Western National Parks Association: Expansion of Southwest Parks and Monuments Association. See SPMA.

Young, Clifford E.: Timpanogos Cave Committee member.

