Timpanogos Cave

Timpanogos Cave
National Monument
Utah

National Park Service
U.S. Department of the Interior

Official Map and Guide

High on the steep rocky slopes of American Fork Canyon in the shadow of mighty Mt. Timpanogos in Utah's Wasatch Range are three small limestone caves: Hansen Cave, Middle Cave, and Timpanogos Cave. These exquisitely beautiful caverns are decorated with a dazzling display of sparkling crystal cave formations in a variety of fantastic shapes. In the tradition of the National Park Service, Timpanogos Cave National Monument preserves these caves and all their fragile underground wonders for you, and for others in the years ahead, to enjoy.

Planning a Cave Trip

The caves of Timpanogos Cave National Monument are open daily usually from mid-May through September. The season may be extended or shortened, depending on the weather; the caves are closed when snow on the trail to the caves makes hiking difficult and dangerous. Tickets for all cave tours are sold at the visitor center from Memorial Day to Labor Day. Children under 6 are admitted free. Special cave tours are also available (see "Touring the Caves"); call for reservations.

Tours are run frequently throughout the day. Tickets go on sale at 8 a.m. from May through September; during the rest of the tour season sales begin at 9 a.m. Ticket sales end in the afternoon (or when all tours are full for the day); exact times vary. When you purchase a ticket you will be notified when your tour starts. You can begin walking up the trail to the caves 1½ hours before your scheduled tour. This should be plenty of time to walk the 1½ miles to the entrance to the caves, where tours begin. Usually you will have to wait no more than ½ hour before starting up to the caves. On busy days, however, your wait may be 2 or 3 hours. There are many ways to enjoy your time in the area; ask a ranger for suggestions (or see "Other Park Activities" and "Nearby Places to Visit"). Starting up the trail sooner would only mean a longer stay at the Grotto, a small, not particularly comfortable, waiting area outside the entrance to the caves.

The caves are extremely popular. The National Park Service wants as many visitors to enjoy the caves as possible, but it must limit the numbers of persons in the caves to protect their delicate, irreplaceable features. For this reason no more than 20 persons are allowed on each tour. Every year more people want to see the caves than can be accommodated. Weekends and holidays are busiest; tickets often are sold out by early afternoon, or before. Come early, or consider scheduling a weekday visit. Call the park if you have questions.

Touring the Caves

The opportunity to explore a fascinating underground world has lured visitors to the caves of Timpanogos Cave National Monument for decades. Today all cave tours are guided by a park ranger. The tour route through the caves is ½ mile long, hard-surfaced, well lighted, and fairly level; a tour lasts about an hour. Your tour begins at the natural entrance to Hansen Cave and continues through Hansen Cave, Middle Cave, and finally Timpanogos Cave. You pass from one cave to the next through manmade tunnels constructed in the 1930s.

Although the chambers and passageways of the caves are small they are packed full of extraordinary features. Ceilings, walls, and floors are covered with a variety of stalactites, stalagmites, draperies, flowstone, and the unusual cave formations for which these caves are renowned—helictites. The profusion of bizarre, brilliant white helictites in the Chimes Chamber, part of Timpanogos Cave, are a highlight of any tour, as is the Great Heart of Timpanogos, a giant cave formation made by the natural joining of several stalactites. Cave pools reflect some of the caves' decorations. Cave animals are rare, but you may see cave crickets, a bat, or some other creature of the darkness. If you have a question along the way, ask your guide.

The entrance to Hansen Cave

Several special cave tours are offered, including candlelight, historic, and flashlight tours. There are also guided nature and geology walks along the trail to the caves and of the cave itself. All special tours are given in early morning or late evening and are usually limited to fewer than 10 persons. Reservations are required; call the park.

While in the cave, look but don't touch. The temptation to reach out and touch something strikes everyone, but the delicate cave formations break easily and the oils in your skin will discolor them. It may take nature thousands of years to repair the damage or the loss could be forever: all those who come later deserve to enjoy the cave in all its splendor. Your guide will allow you to touch two stalagmites specially set aside for that purpose. Some parts of the cave can be wet and slippery: watch your step. To take pictures, bring high-speed film or a flash; tripods are not allowed.

The Trail to the Caves

The hike up the steep northern slope of Mt. Timpanogos on the trail to the caves is physically demanding, but rewarding. In your ascent you will climb 1,065 feet in 1½ miles on a zigzag, hard-surfaced trail from the bottom of American Fork Canyon to the entrance of the caves. Altogether the roundtrip to and through the caves and back down is 3½ miles; it takes about 3 hours. Pace yourself: there is much to enjoy along the way. Several benches give you a chance to rest, catch your breath, and enjoy outstanding views of American Fork Canyon, the Wasatch Range, and Utah Valley. Wildflowers grow on the wooded slopes of douglas-fir, white fir, maple, and oak. Chipmunks, golden-mantled ground squirrels, lizards, and many birds may be spotted. A self-guiding trail booklet is available at the visitor center. Just outside the entrance to the caves at the Grotto—where you will wait for your cave tour to begin—are restrooms and drinking water.

Frank Jensen

Walking the trail to the caves

For your comfort on the trail, bring along a snack and something to drink; please dispose of trash properly. Bring a jacket, sweater, or sweatshirt—the temperature in the caves is 45°F or so, about the temperature inside a refrigerator. Wear comfortable walking shoes. If you have difficulty walking or breathing, or have heart problems, consult a ranger before attempting the trail. Because of the trail's steepness and the caves' narrow passages, wheelchair access is impossible. Baby strollers and other wheeled vehicles, pets, and smoking are not permitted on the trail or in the caves.

Stephen Trimble

Firecracker penstemon

Warning! Rocks fall often in American Fork Canyon. Areas of greatest hazard on the trail are marked by blue stripes; avoid stopping in these places. Be alert for the sound of falling rocks. If a rock seems to be headed your way, take cover: move close to rock walls, stay low, and protect your head. Don't throw rocks yourself. Stay on the trail; shortcutting causes erosion and can start a landslide. Running—especially downhill—is dangerous. Children under 16 years of age must remain with their parents or adult supervisors, who are responsible for their conduct and safety.

The illustration that appears here is an artist's re-creation by Lloyd Kenneth Townsend of the park landscape.

Other Park Activities

There are other ways to spend a leisurely and pleasurable bit of time in the park besides visiting the caves. Located in American Fork Canyon, an extremely rugged V-shaped gorge, the park is a dramatic setting for whatever you choose to do. The visitor center and all other facilities and services described here are located near the bottom of the canyon.

The Visitor Center

A wealth of information about the caves, the history and natural history of American Fork Canyon, and what to see and do in the park and nearby is offered at the visitor center. Brochures, books, and exhibits are available. Rangers can answer questions and help plan your day. A 12-minute introductory slide program is shown several times daily; a 25-minute videotape is shown on request. The center and its restrooms are accessible to disabled persons. The center is open all year except on winter holidays. For more information write: Timpanogos Cave National Monument. R.R. 3, Box 200, American Fork, UT 84003; or call (801) 756-5238.

Snack Bar and Gift Shop

A snack bar and gift shop, located next to the visitor center, are open during the cave tour season. At the snack bar sandwiches, beverages, and other snacks are sold; film, sweatshirts, and other items are sold at the gift shop. Both are accessible to the disabled.

Picnic Areas

The park has two picnic areas—one across from the visitor center and a larger one called Swinging Bridge Picnic Area ¼ mile west. Both are located along the shady banks of American Fork Creek, the clear rocky stream that carved American Fork Canyon. Each has tables and drinking water. Swinging Bridge also has fire grills and restrooms. Both areas are accessible to the disabled; some assistance may be required at Swinging Bridge.

Canyon View Nature Trail

A short walk along the Canyon View Nature Trail offers an opportunity to take a leisurely stroll in American Fork Canyon. The gradually rising trail winds along the south-facing slope of gambel oak, juniper, and sage. From the trail there are views up and down the canyon and across to the opposite side of the canyon where the caves are located. Trailside signs highlight features along the way.

An Important Message

The National Park Service wants you to have a pleasant and safe visit and to assist in protecting the park's valuable resources. Please follow these regulations and tips. ●Come prepared for the season. In the summer, high temperatures are usually in the 70s and 80s°F; evening temperatures may drop to the 50s. If a sudden thunderstorm occurs, avoid open areas and tall trees prone to lightning strikes. In spring and fall, high temperatures average in the 60s and lows in the 40s. In the winter, high temperatures range from the 20s to the 40s, and several feet of snow may accumulate. ●Build fires only in picnic areas and only in grills provided or campstoves. ●Dispose of trash properly. ●Do not disturb any animals or plants. Hunting is illegal. ●Utah 92, the main road through the park, is narrow and has sharp curves: don't exceed posted speed limits, and watch for pedestrians crossing the road or walking alongside. ●Pets must always be leashed. ●See above for safety and regulation information concerning a trip to the caves.

TAKE PRIDE IN AMERICA

Nearby Places to Visit

Within a 15-mile radius of Timpanogos Cave National Monument are many places to take a scenic drive, hike, horseback ride, fish, boat, or just relax outdoors and enjoy the day. Park rangers can provide additional information to help you plan an outing for an hour or two or for the day.

Alpine Scenic Drive

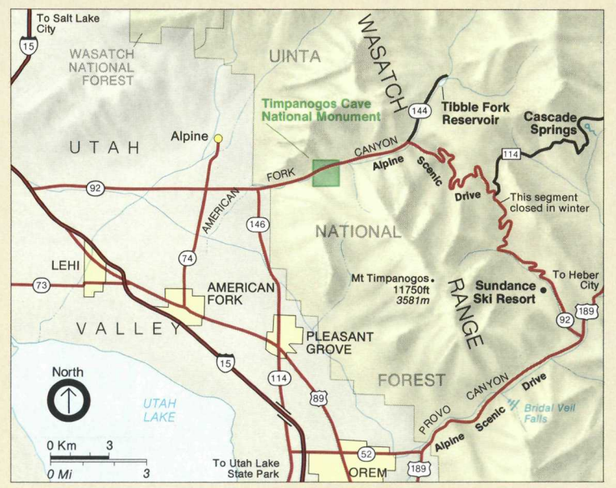
The 20-mile Alpine Scenic Drive winds through rugged canyons of the Wasatch Range offering stupendous views of Mt. Timpanogos and other glacier-carved peaks. The route follows Utah 92 up American Fork Canyon and then continues through Uinta National Forest into Provo Canyon on U.S. 189. Along the way is Bridal Veil Falls, a 607-foot- high waterfall. Entirely paved, the scenic drive is open from about late May to late October; snow closes part of the road the rest of the year. It is recommended that motorhomes and trailers more than 30 feet long not travel the narrow, winding drive.

Uinta National Forest

The nearly 1 million acres of Uinta National Forest that surround the park offer many ways to relax and enjoy the wild outdoors of the Wasatch mountains. In American Fork Canyon alone there are several national forest campgrounds and picnic areas. For hikers and horseback riders there are trails where panoramic vistas, natural lakes, and wildlife such as mountain goats, mule deer, and golden eagles are seen. Two hiking trails ascend to the summit of 11,750-foot Mt. Timpanogos. One special natural feature of the forest is Cascade Springs, where a ¼-mile-long boardwalk leads out over clear natural pools and cascading terraces of travertine deposited by spring waters. Tibble Fork Reservoir, other reservoirs, and mountain streams are popular places for fishing for rainbow and brown trout. In winter, conditions are ideal for crosscountry skiing and snowmobiling.

State Parks

Three nearby Utah state parks provide many opportunities for outdoor activities. At Wasatch Mountain State Park, located on forested slopes of the Wasatch Range, there are campgrounds; picnic areas; trails for hiking, crosscountry skiing, and snowmobiling; and a golf course. At Deer Creek State Park, also located in the Wasatch Range, boating, sailing, sailboarding, and fishing for trout, perch, and bass are popular pastimes. Deer Creek also has a campground and picnic areas.



Both Wasatch Mountain and Deer Creek parks are located east of Timpanogos Cave National Monument. Utah Lake State Park, located southwest of the park in Utah Valley, is one of the West's largest natural freshwater lakes. Activities include boating, sailing, and fishing for white bass, bluegill, and crappie.

Accommodations and Services

Within 10 miles of the park American Fork, Pleasant Grove, and Lehi provide services such as gasoline, restaurants, and groceries. Lodging and a wider range of services are available at the more distant cities of Orem, Provo, Heber City, and Salt Lake City. In addition to the public campgrounds in Uinta National Forest and state parks, there are private campgrounds in American Fork, Lehi, Orem, Provo, and elsewhere.

☆GPO: 1989—242-345/00002

The World of the Caves

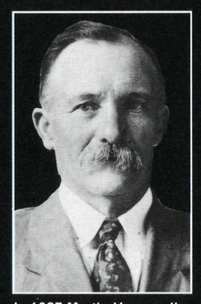
Timpanogos Cave
National Monument

For thousands and thousands of years, Hansen Cave, Middle Cave, and Timpanogos Cave, were dark . . . silent, except perhaps for the sound of water dripping . . . and unknown. Then the first light of a candle, a lantern, a flashlight flickered in these underground realms, and their secrets were revealed. Imagine the excitement and disbelief of the early explorers as light fell on the many colorful and delicate sculpted forms of the caves. There must have been a child-like delight in discovering and naming incredible features such as the Frozen Sunbeam, the Chocolate Fountain, and the Great Heart of Timpanogos. How did this fantasy world come to be? Speleologists—scientists devoted to exploring the mysteries of caves—search for answers to such questions. Of particular interest in the caves of Timpanogos Cave National Monument are the strange formations called helictites. In most caves helictites occur in only small numbers, or not at all; why do thousands of helictites occur here? What makes helictites twist and turn in their odd way? With research come answers to these and other questions . . . and always more questions.

Some cave formations are made up of crystals that are as fragile as the threads of a spider's web. Dennis Turville

Discovery!

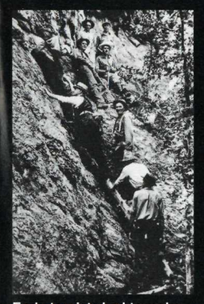
About 100 years ago no one knew that there were caves hidden in American Fork Canyon. Then on a fall day in 1887, 40-year-old Martin Hansen, a Mormon settler from American Fork, Utah, accidentally discovered the first cave. Hansen was cutting timber high on the canyon's south slopes when, according to one popular version of the story, he came across the tracks of a mountain lion. Following the tracks to a high ledge, he found an opening in the rock—the entrance to the small cave that would be named after him. Hansen did not enter the cave that day, but he returned later to explore. To allow others to get a firsthand look at the cave, Hansen and others hacked out a rough and hazardous trail straight up the mountainside. By all accounts, the first visitors found the cave exceptionally decorated with colorful deposits of flowstone and other formations. Within only a few years, however, souvenir hunters and miners had stripped the cave almost bare, selling much of their stolen treasures to museums and universities and to commercial enterprises who made decorative objects from the cave deposits.



In 1887 Martin Hansen discovered the cave later named for him. Hansen Cave was the first cave found in American Fork Canyon.

Not until 1915 was a second cave discovered. That summer a group of families from Lehi, Utah, came to American Fork Canyon for a day's outing. While the rest of the group explored Hansen Cave, teenagers James W. Gough and Frank Johnson climbed around the rocky slope outside. By chance, they stumbled across a hole not far from the entrance to Hansen Cave. It was the entrance to Timpanogos Cave. Many persons explored the cave, seeing its exquisite formations, including the Great Heart of Timpanogos, but for some reason knowledge of the cave and its whereabouts faded. Then on August 14, 1921, Timpanogos Cave was rediscovered. An outdoor club from Payson, Utah, had come to American Fork Canyon to see Hansen Cave and investigate rumors of a second cave. It was Vearl J. Manwill, a member of the club, who confirmed the rumors by rediscovering Timpanogos Cave. That very night, "... by the light of campfire, [we] discussed our find," Manwill wrote, "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." The people around that fire dedicated themselves to the cave's preservation.

The excitement of rediscovering the natural wonders of Timpanogos Cave had not yet died when a third cave—Middle Cave—was found that fall. George Heber Hansen and Wayne E. Hansen, son and grandson of Martin Hansen, were in American Fork Canyon hunting deer. As they looked through binoculars at the south slope of the canyon from the opposite side they spotted an opening near the other two cave entrances. Within days they returned to this new cave—Middle Cave—with a large exploring party equipped with ropes, flashlights, and candles. In the party was pioneer cave-finder Martin Hansen, by then 74 years old.

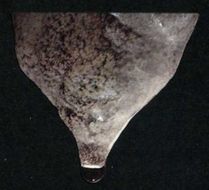


Early tourists had to make their way to the caves without the benefit of a paved trail. The trip was more of a climb than a walk.

The hopes of all those who sought to protect and preserve the caves of American Fork Canyon were realized a year after Timpanogos and Middle Caves were discovered. In 1922, at the urgings of Utah citizens, the U.S. Forest Service, and others, President Warren G. Harding issued a proclamation establishing Timpanogos Cave National Monument. Since that time the caves have been officially recognized as natural features of national significance and extraordinary scenic and scientific value.

Underground Delights

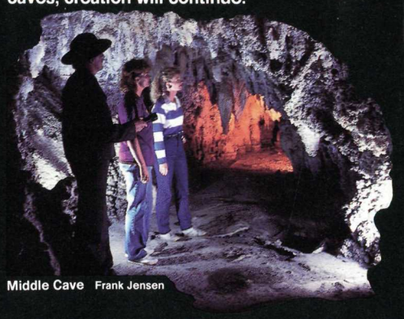
It took a combination of some of the most powerful forces of the Earth *and* some of the most delicate to create the wonders of Hansen Cave, Middle Cave, and Timpanogos Cave. The caves' beginnings can be traced back to the time of the building of the Wasatch Range about 65 million years ago. As layers of sedimentary rock were slowly uplifted, the tremendous mountain-building forces fractured the rocks. Along two vertical cracks, or faults, rainwater and water from melting snows seeped or flowed underground, according to one popular theory of how the caves were created. This water began dissolving the surrounding layer of limestone, today known as Deseret Limestone, and hollowing out a series of subterranean chambers.



Drop by drop, water created the wonders of the caves. Stephen Trimble

Then a change occurred. The water that filled, or partially filled, the caves drained. Water continued to seep down through the Earth, but instead of excavating, it began to decorate the caves with fantastic cave formations. Water trickling through the limestone overlying the caves dissolved calcite and other minerals from the rock. Then, upon entering an underground chamber, the water deposited its mineral load as a tiny crystal on a cave ceiling, wall, or floor. Over thousands of years, as countless crystals were deposited, a variety of cave formations took shape—stalactites, stalagmites, flowstone, helictites, and others. Each had its own individual shape and size, determined by how and where the water entered the cave, how long it continued to flow, and a multitude of other factors.

Today, the caves are still "alive" and changing: new formations are being created, and existing ones are growing where mineral-laden water continues to enter. In Timpanogos Cave, for example, a stalactite-stalagmite pair are growing closer together year by year; today they are only 3/4 of an inch apart, and if growth continues at the current rate, they probably will join in about 200 years. Change is occurring throughout much of the caves but slowly, often too slowly to be detected in a single person's lifetime. As long as water—the master architect and interior decorator—continues to trickle into the caves, creation will continue.



Middle Cave Frank Jensen

Helictites: Stars of the Underground Show

Helictite, a strange and exotic-sounding word, is the name for a strange and exotic type of cave formation found in these caves. It is the tremendous number of helictites—especially in Timpanogos Cave—that makes the caves of Timpanogos Cave National Monument so special. Uncommon in caves in other parts of the world and rarely found in such profusion, helictites are among the most puzzling of cave features. They twist and turn unpredictably in all directions, defying gravity. Usually less than a ¼ inch in diameter and only a few inches long, they are as delicate—and fragile—as hand-blown glass.

Stephen Trimble

Helictites come in all shapes and colors. A few varieties are shown above and in the pictures at right.

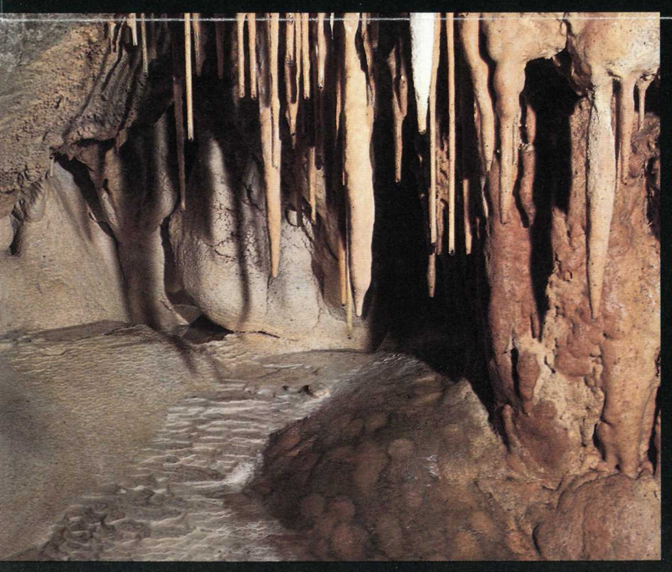
Smooth but spiraling helictites are made of calcite; branching helictites are made of aragonite, a mineral chemically identical to calcite but with a different crystal structure.

Cave explorers and speleologists have debated the origin of helictites since they were first discovered. From the beginning it was apparently understood that they were created in a much different way from such formations as stalactites, stalagmites, and other more common formations. Some early speculators believed helictites were created by mineral deposits on spider webs or fungi. Some thought their odd contortions were the result of the forces of electrical energy, cave winds, or earth tremors.

Dennis Turville

Today many speleologists believe that two forces peculiar to water guide the creation of helictites. Like crooked straws, most helictites appear to have a tiny central canal running up and down their length. Water is apparently pushed and pulled through this canal by capillary action under hydrostatic pressure. Together these two forces override the usually dominant force of gravity: controlled by these forces water slowly seeps through the canal to the tip of the helictite where it then deposits a crystal. Some scientists further believe that the crystals do not stack neatly, but arrange themselves haphazardly one on top of the other, adding to the apparently random nature of their growth. Future research may shed new light on these unusual cave creations. Kim Despain

Stalactites and Other Common Cave Formations



A chamber with stalactites hanging from the ceiling and flowstone covering the floor and walls. Kim Despain

Many different types of cave formations have been created by water simply dripping or flowing into the caves. Perhaps the most well known of these are stalactites and stalagmites, which can be seen throughout the caves. Stalactites, which hang like icicles from the ceiling, form as drop after drop of water slowly trickles down through the cave roof. The smallest stalactites may be hollow and as thin and straight as a soda straw, and so are called soda straw stalactites. Others may be massive: The Great Heart of Timpanogos in Timpanogos Cave—5½ feet long, 3 feet wide, 4,000 pounds—is composed of three, or possibly more, tremendous stalactites that have grown together. The many colors of stalactites—and indeed all of the formations in the caves of Timpanogos Cave National Monument—are caused by traces of iron, nickel, magnesium, and other minerals. Stalagmites are formed when mineral-laden water strikes the floor. The tallest stalagmite in these caves is one about 3½ feet high in Timpanogos Cave; most are smaller. Occasionally stalactites and stalagmites merge, and a floor-to-ceiling column is formed.

Another common formation—draperies—are created when water trickles down an inclined ceiling. A spectacular example of such a formation is the Frozen Sunbeam, a thin translucent sheet of orange-colored calcite in Timpanogos Cave. Draperies in these caves are seldom more than one inch thick.

The Cascade of Energy and the Chocolate Fountain, both in Timpanogos Cave, are examples of still a different type of formation—flowstone. As its name implies, the smooth coatings or sculpted terraces of flowstone are created when water flows down a wall or across a floor. A particularly impressive specimen decorates a wall in the Big Room of Middle Cave.

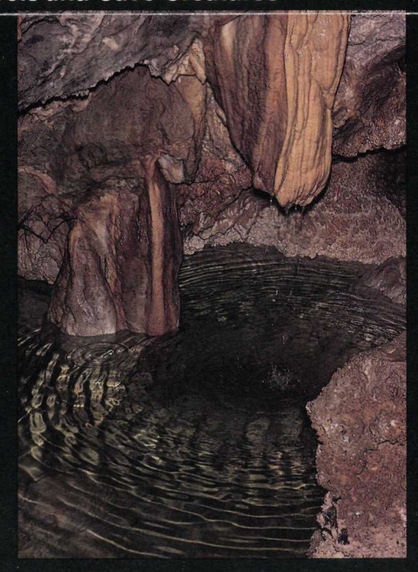
Still another, not quite so common, type of formation that occurs in the caves is cave popcorn. Popcorn occurs where water seeps slowly through walls or ceilings. These knobby lumps are particularly abundant in Timpanogos Cave, where they occur mixed with helictites.

The Great Heart of Timpanogos, located in Timpanogos Cave, is three or more massive stalactites that have grown together. John Telford

Underground Pools and Cave Creatures

In the natural world of the caves of Timpanogos Cave National Monument there are other "buried treasures" in addition to the many cave formations. Where water has collected, small clear cave pools occur. Mirror-like, they reflect their otherworldly surroundings. One such pool—Hidden Lake—can be seen in Timpanogos Cave. A lake in Hansen Cave not visible along the cave tour route supplies drinking water for the fountain at the Grotto. In some pools rimstone dams, small wall-like cave formations made of calcite, can be found.

Animals inhabit the caves, but they can be easy to overlook. Such barely noticeable creatures as cave spiders, centipedes, and crickets live here. An occasional bat roosts in the caves, but no large bat colony such as those found in Carlsbad Caverns or in many other caves exist here. Occasionally a pack rat, mouse, chipmunk, or lizard visits. Without an underground stream or other steady source of food, however, the caves are not well equipped to support a diversity of cave animals.



Hansen Cave Lake
Neal Bullington

Like other cave features, the pools and cave animals are protected by the National Park Service. Their survival depends on the Park Service *and* on you. Timpanogos Cave National Monument is just one of more than 340 parks in the National Park System. Preserving many of the most important natural and cultural sites of the United States, all our national parks deserve our respect and careful guardianship.