Thousand Springs State Park

Introduction: The phrase "Thousand Springs" really refers to a region in Idaho that is filled with water features that are astounding wonders not only to the region and the state but are wonders of national significance. The location of the wonders exist in the north side basalt canyon walls of the Snake River Canyon stretching from Shoshone Falls at the upstream end to the Malad River on the downstream side. While several of these wonders were discovered by early explorers, they were actually not all that noteworthy to the settlers on the Oregon trail who were only interested in crossing the sagebrush covered plains of Southern Idaho as quickly as possible on their way to Oregon. It is not certain if anyone bothered to count all the wonders to arrive at the number of "one thousand." "Thousand springs" was just a way to announce that there were perhaps more water features than could be counted. There were some historic efforts to make the region a national park. But early Idaho settlers in the region were forced to choose between developing and using the water for settlement efforts or setting it aside as scenic and natural wonders. Idahoan's chose irrigation and early historic choices would lead to dam building and development of irrigation canals which would alter and change the flows of the springs. Later development of the springs for hydro-power and aquiculture (fish farming) would take place. So a lot of the "thousand springs" were eventually lost to development and many were purchased for obtaining the rights to use their waters. What remains today are remnants of this once all encompassing wonder of the world. The remains are a patchwork of lakes, ponds, plunge pools, springs, waterfalls, rivers, and streams surrounded by steep rimrock cliffs and lush riparian vegetation. There may not be "thousands" left, but there is still a lot to see. The remaining wonders have been somewhat set aside by a variety of public agencies, entities, and organizations. The Thousand Springs State Park title is an administrative designation adopted by the Idaho Department of Parks and Recreation in 2005 as part of a master planning process. It is an all encompassing term that includes the following places or units: (1) Malad Gorge State Park; (2) Earl M. Hardy Box Canyon Springs Nature Preserve; (3) Billingsley Creek Property; (4) Niagara Springs State Park; and (5) the Ritter Island Property (formerly known as "Thousand Springs Nature Preserve" by the previous owners, The Nature Conservancy.) It is the practice of the Idaho State Legislature to list by name the state parks of the state in Title 67, Chapter 42, "State Parks." Currently reference to the units of "Thousand Springs State Park" can be found in Paragraph (17) as follows:

> (17) Malad Gorge State Park, located on the Malad River and south of Interstate Highway 84 in Gooding County, including the Crystal Springs, Niagara Springs, Earl M. Hardy Box Canyon Springs Nature Preserve, and Billingsley Creek state park lands.

There is no mention in the statute of the Ritter Island Property. Further, Crystal Springs and Niagara Springs have for years been collectively known as Niagara Springs State Park. The IDPR may wish to remedy this by proposing a statutory amendment to the legislature.

Getting There:

To get to Malad Gorge State Park: Use the Tuttle Exit (exit 147) from Interstate 84. Turn right on E 2350 S. Then make an immediate right on Ritchie Rd. Ritchie Rd. Leads directly to the park

entrance.

To get to Billingsley Creek: Use the Hagerman/ US 30 Exit (exit 141) from Interstate 84. Follow the signs that direct you to US 30 and Hagerman. Continue south on US 30 for about 8 miles. Watch for a bridge crossing over Billingsley Creek. The entrance to the park will be seen coming up on your right.

To get to Ritter Island: Use the Hagerman Highway/Wendell (E 2950 S) Exit (exit 155) from Interstate 84. Turn right on the Hagerman Highway (E 2950 S). Continue west on the Hagerman Highway for about 4 miles and then turn left on S 1500 E. Continue south on S 1500 E for about 3 miles and then turn right on E 3200 S. Continue west on E 3200 S until it intersects with S 1300 E. Turn left on S 1300 E and then after about 500 feet, turn right onto a gravel road known as Thousand Springs Grade. Follow Thousand Springs Grade to the park.

To get to Box Canyon: Use the Hagerman Highway/Wendell (E 2950 S) Exit (exit 155) from Interstate 84. Turn right on the Hagerman Highway (E 2950 S). Continue west on the Hagerman Highway for about 4 miles and then turn left on S 1500 E. Continue south on S 1500 E for about 6 miles. The parking lot and trailhead for Box Canyon will be on your right.

To get to Niagara Springs State Park: Use the Highway 46/Wendell (S 1950 E) Exit (exit 157) from Interstate 84. Turn right (south) on Highway 46 (S 1950 E). Continue south on highway 46 for about 5 miles until it makes a 90 degree turn to the right. At this point continue straight ahead on S 1950 E and follow the signs to Niagara Springs State Park. S 1950 E will lead into the Niagara Springs Grade and to the park entrance.

Major Features:

The Springs: The most prominent springs in the park are Niagara Springs, Crystal Springs, Minnie Miller Falls, the springs that create Lemon Falls, the Box Canyon Springs, and the numerous springs within Malad Gorge, known as Malad Springs. The are few places in Idaho or the United States that show evidence of spring water more clearly than in Thousand Springs State Park. Find a place in the park near the base of the basalt cliffs and you will find hundreds of minor springs. These springs flow from the vast Snake River Aquifer through porous pillow basalts. One spring in Malad Gorge has a flow rate measuring 600 cfs (cubic feet per second). This amounts to 300,000 gallons of water each minute that enters the Malad River. In all, the Malad Springs flow at approximately 1200 cfs equaling thirty-six million gallons of water each hour, making it one of the largest in the country. At the head of Box Canyon is the eleventh-largest spring in North America, gushing at 180,000 gallons per minute. Niagara Springs flows at 250 cfs and is a sight you won't soon forget. Several Springs gush from the base of the basalt cliffs above Crystal Lake in Niagara Springs State Park. Crystal Springs flows at about 170 cfs. Minnie Miller Falls (at the Ritter Island unit) flows at 150 cfs and emerges from the base of vertical rock at the top of the cliff above the falls. It runs down the slope. Hidden by vegetation until it bursts into view as it cascades over another vertical layer of rock. Flowing under the trees at the base of the cliff, the water joins the crystal clear current of Ritter Creek on its way to the Snake River. Another significant water feature in the Thousand Springs area is Blue Heart

Springs. It is located in a cove of the snake river surrounded by BLM land, but immediately adjacent to IDPR land in the Box Canyon unit. It is a "jewel" in the collection of significant and beautiful springs that is not within Thousand Springs State Park. The Blue Heart Springs cove is wrapped by a canyon wall and brush. Bubbles burst from the sand at the bottom as the springs rise from the earth. The water is at a constant 58 degrees. It is not reachable by land and access must be made by boat from the Snake River.

The Lakes/Ponds: There is a wildlife observation pond at Malad Gorge. It is filled by irrigation water and the depth may vary during the year. There are two slough like lakes in the Bonnieview section of the Ritter Island unit. There is also a smaller pond there. Because of their isolation, these water bodies offer excellent wildlife habitat. The Box Canyon stream has a small impounded reservoir of crystal clear water that can be viewed from the rim or along the Box Canyon Trail. Crystal Springs Lake is the only easily accessible lake in Thousand Springs State Park. It is found at the end of the Niagara Springs Grade road in the Niagara Springs unit. It is regualrly stock by IDFG with rainbow trout.

Waterfalls: Several significant waterfalls can be viewed in Thousand Springs State Park. Lemon Falls and Minnie Miller Falls can be viewed from the Ritter Island unit. A path from the Idaho Power parking lot near Ritter Island leads to the very base of Lemon Falls. Minnie Miller Falls must be viewed via a short trail on Ritter Island. There is a 20 foot waterfall in the Box Canyon stream. It can be viewed from afar from the southern rim of Box Canyon. A hike down the Box Canyon trail leads a viewing platform below the falls. The Devils' Washbowl is a 60 foot water fall in the Malad River deep into the Malad Gorge. It can be viewed by a short walk over the footbridge at Malad Gorge unit. A "seasonal" water fall can also be viewed coming off the southern rim of Malad Gorge. This happens in spring when excess irrigation water from the W canal is allowed to cascade down 250 feet , and the canal falls at Malad Gorge.

Rivers and Streams: The Malad River originates near Gooding, Idaho where the Big and Little Wood Rivers combine. The Malad River is 12.5 miles long and the Malad Gorge is 2.5 miles in length. The waters of the Malad River is still active in creating a much narrower and shallower gorge above the Devil's Washbowl. During spring snow melt the canyon roars with large amounts of water from the swollen river. An often missed water feature at Malad Gorge is in the Kelton Road section of the park where you can observe how the Malad River virtually disappears into a narrow crevice in the columnar basalt rock. The Box Canyon stream starts at the plunge pools and springs at the head of the canyon. Although it has a short length of almost 2 miles, the volume of water (180,000 gallons per minute) that it carries could indeed give it "river" status in some parts of the west. Another stream, Cedar Draw Creek also crosses through the Box Canyon unit. Sand Springs Creek flows into the Bonnieview section of the Ritter Island unit. Most of it is diverted for power generation by Idaho Power, but some finds its way into the two slough lakes in the Bonnieview section. Ritter Creek is derived from the water released by the Idaho Power Plant, Lemon Falls, and Minnie Miller Falls. It sort of flows two directions to Snake River around Ritter Island. Its crystal clear waters are very attractive and it is often crowded with swimmers and waders in the hot summer months. Billingsley Creek is an eight mile long spring-fed creek. It is considered a premier fish habitat by scientists and fishermen. Its 58-degree water and high oxygen content makes it an ideal home for trout. It is regularly stocked with brown

trout and rainbow trout. It should be noted that Billingsley Creek is located entirely within the Billingsley Creek Wildlife Management Area managed by the IDFG and not within Billingsley Creek State Park.

The Snake River: The Snake River has its headwaters in Yellowstone National Park. The Snake River is 1,078 miles long and is the thirteenth longest river in the United States. Before it ends at its confluence with the Columbia, it is joined by many of the great rivers of Idaho. A great deal of its waters in its upper basin are diverted into canals that irrigate hundreds of thousands of acres of farmland. While it is sometimes almost diminished near Twin Falls, it is quickly replenished by the spectacular phenomenon of the Thousand Springs. The Snake River flows at an average of about 7,000 cubic feet per second past Thousand Springs State Park.

It has been said the name of the Snake River came from the name that neighboring tribes called the native Shoshone Indians. The Plains Indians to the east referred to these nomadic bands as the "snake." In addition, the Idaho State Historical Society Reference Series indicates that the Blackfeet found Shoshone sticks with snake heads painted on them in 1784 which may have contributed to the term "snake."

The Niagara Springs unit has about 1 mile of river frontage and a small boat ramp on the river is available there. Otherwise, the river is difficult to access there. The Box Canyon unit has about 2,500 feet of river frontage that can only be accessed by hiking the Box Canyon trail. The most accessible shoreline on the Snake river in Thousand Springs State Park is at the Ritter Island unit. The Ritter Island unit has 3 miles of river frontage both at the island and along the Bonnieview section. The river is accessible along the outer edge of the island via the hiking trail around the island. The river is also accessible by hiking the river trail south from the Idaho Power parking lot. There is a small "hand-launch" ramp next to the bridge to Ritter Island.

The Park: The IDPR website lists the size of this state park as 1,892 acres. The park elevation is about 2,800. But most of the park units have some dramatic topography with steep canyon rimrock dropping off about 250 to 350 feet to rivers and streams below. About 18,983 visitors come to the park each year. This makes Thousand Springs the least visited state park in the Idaho State Park System, yet the park is full of natural and historic features and there are lots of recreation activities to partake in. But perhaps the lack of developments and an adequate transportation network discourage visitation to such a wonderful place.

Malad Gorge Unit: The Malad Gorge Unit is about 692 acres. This is the oldest and most well developed unit in Thousand Springs State Park. It has two day use areas with 13 picnic tables, 1 improved restroom, 1 group shelter, 1 playground, 8 paved parking lots, 1 gravel parking lot, a wildlife observation pond, and a paved trail that crosses over a footbridge above the Devil's Washbowl waterfall. Malad Gorge is open for hiking, picnicking and day outings. The Kelton Trail can be accessed on the east side of Interstate 84. Here on the Kelton Road you can see the abutments for the bridge that carried wagons traveling the Oregon Trail.

Billingsley Creek Unit: The Billingsley Creek Unit is about 286 acres. It was known as the Emerald Valley Ranch until 2001 when it was purchased by IDPR. Unfortunately, fo the most part, it is still an alfalfa farm as a significant portion is leased out for this use. The only recreational facilities currently available are an indoor horseback riding arena, a temporary

restroom, and a couple of picnic tables. Visitors are allowed to hike around the park, but the trails are not well defined. The adjacent Billingsley Creek Wildlife Management area provides 284 additional acres of habitat for waterfowl, upland game, mule deer and a variety of non-game species. Seven springs that originate from the base of the basalt rim near the eastern boundary of the property feed Billingsley creek as it meanders through the property. There is an old road "hiking trail" that traverses the property. The creek itself is entirely on the wildlife management area property. The IDFG maintains a small launching dock for small watercraft and float tubes at the upstream end. A poorly defined take-out place with gravel parking lot is at the downstream end of the property.

Ritter Island: The Ritter Island Unit is about 391 acres. The bridge to Ritter Island is at the Idaho Power parking lot at their Thousand Springs Park. The Thousand Springs park has a parking lot, landscaped lawns, 9 picnic tables, and an improved restroom, but it is operated by Idaho Power and not the IDPR. Currently, public facilities on the island are minimal. The public can walk onto the island and enjoy a trail that goes all the way around the island. The various buildings are under restoration and mot open, but exhibits can be viewed in the old milking barn. There are 7 picnic tables, one of which is located at the Minnie Miller Falls view point. The southern section of the Ritter Island Unit is called Bonnieview. It can be accessed by hiking on the river trail south from the Idaho Power parking lot. The first stop on the trail is the base of Lemon Falls. A side trail will take you to split rock with a great view of the Snake River Canyon and the Hagerman Valley .

The Ritter Island Unit remains a real haven for wildlife. Waterfowl use the wetland habitat, especially in the spring and fall. Herons nest on the island, and raptors like golden eagles and prairie falcons nest along the canyon walls. During annual Christmas bird counts, Ritter Island often has one of the highest counts of bird species in the state. The island includes the home and the historic barn, both still in excellent condition. Visitors can tour the dairy facilities installed by Minnie Miller as well as many of the historic farm implements and tools. Each September, Ritter Island has been the location of the popular Thousand Springs Festival.

Box Canyon: The Box Canyon Unit is about 344 acres. For the most part, this unit is almost entirely undeveloped. There is a gravel parking lot and trailhead located along road S 1500 E. A ½ mile walk past the trailhead gate will lead to an overlook at the head of Box Canyon. There is a temporary restroom here. The overlook provides views of the plunge pools at the start of the canyon and views down the canyon towards the 20 foot waterfall. The Box Canyon trail leads into the canyon to a viewing platform below the waterfall. The beautiful spring-fed waters appear blue and turquoise in the sunlight. The water bubbles up at the plunge pools before flowing down the mile-long canyon to the Snake River. The spring is the eleventh largest in the United States, is one of the most unique geological feature in Southern Idaho. The Box Canyon stream flows at a rate of 180,000 gallons per minute.

Niagara Springs: The Niagara Springs Unit is about 179 acres. The churning water is the icy blue of glaciers and the springs are a national natural landmark. The park unit provides a great opportunity to drive into the 350-deep Snake river canyon. There is a large day use area below Niagara Springs with gravel parking lots, 42 picnic tables, 1 improved restroom, and a group shelter. The adjacent Idaho Power park also has a gravel parking lot, 8 picnic tables, and a vault

toilet. At the end of the Niagara Springs Grade Road is beautiful Crystal Springs Lake. This area has 2 gravel parking lots, 2 vault toilets, and 5 picnic tables. There a 3 docks on the lake for accessible fishing. There is also a small launch ramp on the Snake River.

Geology: There is a great deal of evidence present in Thousand Springs State Park to indicate that its numerous scenic aspects were the results of sometimes rapid and cataclysmic geological events. The area of Thousand Springs State Park was not always so arid and lava strewn. A broad valley was formed by a continental rift between the Owyhee Mountains and the Boise Front around 12 million years ago. This valley began to fill with water and ancient Lake Idaho was formed. Lake Idaho was about 200 miles long and 35 miles wide and drained south into Nevada. The southern extent of this lake covered what is now the Hagerman Valley and Thousand Springs State Park. At that time it was a much wetter climate and the lake was surrounded by grasslands and flood plains. Over its 6.5 million years of existence, thousands of feet of sediment were deposited on the lake's bottom. The sediments layers preserved an exquisite world class assemblage of Pliocene fossils that indicate the ecosystem of the time included a rich variety of plants and animals. It is thought that about 2 to 4 million years ago, water from melting glaciers caused Lake Idaho to overflow to the west creating the Snake River drainage and the waters drained out in a massive flood that gouged out the Hells Canyon. The lake sediments left behind from Lake Idaho are known as the chalk hills and Glenns Ferry formations. It is in these sedimentary beds that the famous Hagerman horse fossils were found that have been dated around 3.5 million years ago.

Starting about 5.3 million years ago, the surrounding area's contours and drainage patterns were influenced by numerous local volcanoes which were active along the northern half of the Snake River Plain. McKinney Butte, Gooding Butte and Notch Butte were major active volcanoes at one time. These were all shield volcanoes where lava oozes from vents in the earth's crust. The major influence was exerted by the McKinney butte flow. At one time, the Snake River flowed north of Bliss and followed a well defined canyon. Lava flows from McKinney Butte filled this canyon and forced both the Snake River and the Wood Rivers to form a new channel at Malad Gorge. Subsequent volcanic action farther east progressively forced the Snake River into its present southern channel.

The type of lava rock found in Thousand Springs State Park is called basalt. Basaltic lavas are very hot (2,000 degrees) and fluid in nature and flow much like a river. Over many years, the depths of lava flows increased and gradually built up to more than two hundred feet in some places. The canyon walls in Thousand Springs State Park are composed of two distinct types of basalt rock. Pillow basalt, which is found in the lower 50 feet is created when molten lava flows into water. When the hot lava hits the water, steam erupts, and changes the usually solid basalt rock into rounded, more porous pillows. Pillow basalts, because of their less compacted nature, allow spring water from the vast Snake River Aquifer to pass through them. Columnar basalt, found in the upper 200 feet, usually forms into right-angled columns as the molten rock crystalizes and cools. These characteristic joints help to create the talus base of the canyon walls as weather conditions, time and gravity cause huge hunks of rock to break off and fall into the canyons. From 5.3 million years ago to about 11,500 years ago, numerous flows of basalt lava have covered the Snake River Plain to the north and east of here, forming layers as old flows were covered by new.

The landscape now consisted of basalt lava flows sitting on top of the sedimentary layers

of ancient Lake Idaho. Where the layer flows had hit the Snake River, the porous pillow basalts had formed near the base of the flows. Then came a period of time when this landscape was subject to rapidly occurring mega-floods. This would happen during the Pleistocene era that started about 1.8 million years ago and lasted until about 11,700 years ago. It ushered in the ice age. An immense ice sheet then extended from the north pole downward into the northern United States. This ice sheet did not extend into Idaho, but rather a huge area of glaciation was formed in central Idaho that engulfed the Sawtooth Mountains and the surrounding mountain ranges. The drainage area of this glaciated body to the south was via the Big Wood River, Little Wood River, Big Lost River and Little Lost River. Glacial action occasional created moraine fields that functioned as dams. Further, rapid melting sometimes created "ice dams." Huge lakes would build up behind these dams until the water would break free and a mega-flood would occur that would inundate the lava strewn landscape and the water would naturally seek the lowest and shortest path to the Snake River. It was in these cataclysmic events that some of the canyons of Thousand Springs State Park were formed.

The mega-floods occurred about 140,000 to 20,000 years ago. When the floods of water reached the canyon rim above the Snake River, they flowed over the edge in cataracts or large waterfalls. The large waterfalls would rapid erode backwards from the edge creating a canyon. These canyon formations are known as cataract canyons. Malad Gorge was formed by cataract retreat that followed a zig-zag course along zones of weakness in the rock. The zones of weakness were the result of intersecting fractures in the lava rock. The gorge consists of a "main" section that extends from the Snake River canyon and about one mile to a junction. At the junction, a "north" branch extends about one quarter mile east to the extinct "west" cataract. A "south" branch then extends from the junction east about one mile to the "east" cataract. The Devil's Washbowl waterfall is a much diminished remnant of the great waterfalls that carved the 2 ½ mile long, 250 deep canyon known as Malad Gorge. Woody's Cove is another example of a cataract canyon.

It was long believed that Box Canyon formed as a result of seepage erosion from the canyon wall or from water surfacing in the spring. But it was determined that the spring is not strong enough to have eroded such a steep 115 feet high headwall. Measurements of present day and historic water flow shows that it is not sufficient to move the canyon's boulders or transport great volumes of sediment. Further, the "plunge pools" at the base of the headwall giving evidence of ancient waterfalls. Abrasion marks on rocks above the canyon point to large volumes of water forced over the headwall. So the Box Canyon is another example of a cataract canyon. Box Canyon in an "amphitheater-headed" canyon, because its valley abruptly stops at its headwall. Amphitheater-headed canyons are found on Mars. Similar canyons on Mars may have an analogous violent history. The formation of Box Canyon has given scientists evidence of how torrential floods sculpted the surface of Mars.

The Lake Bonneville Flood occurred about 14,500 years ago. This huge lake, of which Salt Lake is the residue, once covered a great deal of what is now southern Idaho and most of northern Utah. At its maximum stage, Lake Bonneville covered nearly 20,000 square miles and was over 1,000 feet deep. During the Pleistocene, the ancient lake ruptured and flood waters, 200 to 600 feet deep, passed through this area cutting gorges and tumbling large rocks in its wake. The flood gorged out the Snake River Canyon as we know it today. Large hunks of columnar basalt were eroded off the cliff faces. As these rocks were tumbled down the river in the flood waters, there angular edges were smoothed off and the boulders became rounded until

they were shaped like oversized melons. These "melon rocks" were washed to their present location and are scattered throughout the Hagerman Valley. The flood lasted just a few data and drained northward through the Snake River to the Columbia River and the Pacific Ocean. The flood cave a small cove off of the snake River just north of box canyon. The whirlpool action of the flood waters brought the level of the cove down below the water table. This cove today is the Blue Heart Springs. The cove is wrapped by the canyon wall and brush. Bubbles burst from the sand at the bottom as the springs rise from the earth.

The Snake River Plain with its lava formations created a perfect condition for the storage of huge amounts of water underground. Water on the surface quickly percolates downward through the cracks between pillars of basalt. Rubble and sediments trapped between layers of basalt provide space for this water, as do lava tubes and deposits of highly fractured pillow lava. Water trickles through spaces between the rocks, flowing generally south-westward at the rate of about a mile per year. This Snake River Plain Aquifer is ten thousand square miles in extent and is estimated to hold as much water as Lake Erie. Some of the water emerging from the Thousand Springs today disappeared underground before the Civil War.

Melting snow and rainwater feed the aquifer from a large basin 35,000 square miles in size. Following permeable layers of basalt, water flows in a southwestern direction until it reaches the Snake River Canyon where it emerges as Springs. The water emerges from all the springs at a steady 58 degrees. The Thousand Springs area near Hagerman, Idaho contains 11 of the 65 largest cold springs found in the United States.

Most of the natural discharge of the aquifer is through springs on the north side of the Snake River between Twin Falls and Malad Springs. The amount of water discharged was about 5,000 cubic feet per second in 1910, prior to the beginning of large scale irrigation on the Snake River Plain. Due to increased irrigation methods, the discharge rate was about 6.500 CFS in 1956. This tremendous quantity of water makes the Snake River Plain Aquifer one of the largest ground water systems in the world. The sources of recharge are: (1) precipitation on the plain; (2) ground water underflow from tributary basins; (3) seepage from streams entering or crossing the plain (including the Snake River itself): (4) percolation from irrigation. The watersheds of the Big and Little Wood Rivers, the Big and Little Lost Rivers, and even the Henry's Fork of the Snake River all contribute to the recharge of the aquifer. But, by the time the water reaches Thousand Springs, it probably consists of a mixture of waters that entered the aquifer at various points and claims that any one spring is the outlet of any one river probably are not justified.

Malad Gorge has numerous springs issuing from the canyon wall. The main discharge from the Malad Springs can be seen from the footbridge spanning the gorge. Spring discharge can be seen down the gorge at water level, generally distinguished by the growth of bright green vegetation in the water. Underneath the footbridge at Devil's Washbowl, a spring can be seen issuing from the bottom of the north wall at the edge of the plunge pool. During droughts when the murky river subsides, the plunge pool on Devils' Washbowl will become crystal clear due to the bottom springs. As the Malad River flows toward the Snake River from the footbridge, the river will become crystal clear within a quarter mile due to the springs discharging into the river. About one million acre feet per year of ground water emerges as springs from beneath the steep walls of Malad Gorge. Malad Springs flow at approximately 1200 cfs (cubic feet per second) equaling thirty-six million gallons of water each hour, making it one of the largest in the country.

The Box Canyon spring is the eleventh largest in the United States. The Box Canyon stream flows at a rate of 180,000 gallons per minute. Niagara Springs flows at 250 cfs, Crystal

Springs flows at about 170 cfs, and Minnie Miller Falls at 150 cfs. Lemon Falls starts from springs in the canyon walls near the Thousand Springs Grade road to Ritter Island. This spring water flows through a fish farm before it is tumbled over the canyon wall into the Snake River. There are also virtually hundreds or maybe thousands of minor unnamed springs that emerge at the bottom of the canyon walls at Thousand Springs State Park.

Erosion is a continuing geologic force in the park. As the Malad Gorge is being cut, the waters are also undercutting the soft sediment layers under the basalt rock walls of the canyon. As these softer sediments erode, large sections of the heavy basalt canyon wall slowly slump towards the canyon floor over time. These large "slump blocks," are an outstanding example of an important geological process in action.

Ecosystems and Plant Communities:

The Rivers, Streams, Falls, and Ponds: The water features of Thousands Springs State Park provide a very unique ecosystem. The green vegetation growing in the clear water creeks and streams is water veronica. This plant only grows in very clean water that you won't find in the Snake River. As long as water veronica grows here, we know the creek or stream is healthy, even without laboratory testing of the water. Insects, fish and other creatures enjoy the lush tangles.

A unique stream dweller dependent on clean water is the Shoshone sculpin, a rare, bottom-dwelling fish about two inches long. Sculpins may be mottled black, sand-colored, or even bright green, depending on their background – just like chameleons. They spend most of their time perched on rocks, vegetation, ot the bottom of the streams, waiting for passing daphnia and other microscopic animals. The female sculpin glues her eggs to the underside of a rock; the male stands guard until they hatch, defending the nest pugnaciously against all comers. Development has eliminated Shoshone sculpins from many of the springs along this portion of the Snake River, and the river itself has become too dirty to allow them to travel between springs.

Riparian: The areas along the edges of the rivers and streams are covered with lush riparian vegetation. There are also large areas below the bases of the cliffs in the Bonnieview section that also exhibit riparian growth. These areas are characterized by the presence of willows, black cottonwood, grasses and water birch.

The plants that appear as shrubs and small trees growing along the banks of the creeks and streams is water birch. Water birch (Betula occidentalis) is the keynote species. Water Birch, also know as Red Birch, is a species of birch native to western North America. Its range goes as far east as western Ontario and western North Dakota. It extends to the south as far as northern Arizona and northern New Mexico. It typically occurs along streams in mountainous regions. But it also is present at lower elevations like along the streams and rivers in Thousand Springs State Park. It is a deciduous shrub or small tree growing to 33 feet high, usually with multiple trucks. The bark is dark red-brown to blackish, and smooth. The leaves are alternate, somewhat oval shaped with serrated edges and two to six pairs of veins. The flowers are wind-pollinated catkins of a white or creme color that result in the formation of tiny winged seeds. Water Birch is very prolific along the Box Canyon stream and forms somewhat of a canopy over the Box Canyon trail near the waterfall viewing platform.

Wetlands: The wetlands of the park are the ponds, sloughs, and marshes where the growth of bull rushes, sedges, and cattails dominant. Water flowing into the wetlands is carrying dirt particles, nutrients and other pollutants with it. The wetlands are divided into different sections and the water is gradually purified as it follows through each stage. First, the heaviest particles drop out as the water slows in the large sediment basin. Next, the fine particles are captured as the water follows in a thin layer through a dense stand of plants. In the shallow wetland the fast growing plants take up nutrients through their roots and bacteria in the soil break down other pollutants. The deep pond is too deep for plants to fill in completely. Here small animals that live in the open water filter out dissolved nutrients and they are in turn eaten by fish and birds. Before the water leaves the wetland, it passes through a lush stand of plants that catch any floating debris that might wash downstream. The final results is cleaner water flowing out of the wetland that what flows in. There is an abundance of wetland habitat in the Bonnieview section. The edges of Billingsley Creek also exhibit wetland habitat. There is a wetlands demonstration project located on road S 1300 E just south of the begging of the Ritter Island entrance road at Thousand Springs Grade.

The Land: Most of the land in Thousand Springs State Park that is above the canyon rims is in the Great Basin sagebrush steppe. This is characterized by the presence of sagebrush, bitter brush, rabbit brush, and grasses and is sometimes referred to as desert prairie. In moister areas are found: wild buckwheat, penstemon, globemallow, lupine, phlox, chokecherry, skunkbush, wild rose, poison ivy, stinging neetle, columbine, and golden current. There is a small grove of Utah Juniper on the side of the hillside above the river trail near rocky point in the Ritter Island unit. This ecosystem is common in southern Idaho and is connected to the vast expanses of the "sagebrush sea" that stretches across the great basin area of Nevada, Utah, and southeastern Oregon. There is also a number of imported domestic plants in the park that include: elm, Lombardi popular, Russian olive, lilac, blue spruce, and black locust.

At Malad Gorge, there is a moss-like plant growing along the canyon rim that is called Cow-Pie Buckwheat. It is listed as a rare plant in the state of Idaho. This plant is found in only four sites in our state, and flourishes in the poor soils found here along the canyons edge. The plant has adapted quite well to living in such a barren place. It is called a succulent because the small leaves are able to retain moisture year-round. The leaves contain a gel-like flesh much like cacti do. The outer part of the leaves are covered with fine silvery hairs which protect the plant from ultraviolet radiation of the sun. The cow-pie Buckwheat is wind-pollinated or if a species of insect accomplishes the task of pollination.

Wildlife:

Mammals: The mammals that are present in the park include: Columbia ground squirrels, canyon mouse, black-tailed jackrabbit, cottontail rabbit, kangaroo rat, yellow bellied marmots, wood rats, badgers, muskrat, beaver, spotted and striped skunks, coyote, weasels, red fox, bobcat, and mule deer.

The Yellow-Bellied Marmot (Marmota flaviventris) is the keynote species. You cannot go hiking along the rim-rock in any of the units of Thousand Springs State Park in the spring without seeing these animals moving about. The rocks and crevices of the basalt rocks is perfect habitat for them. The yellow-bellied marmot is also known as the rock chuck. It is a ground

squirrel in the marmot genus. It is native to the mountainous regions of the western United States in the Rocky Mountains, the Sierra Nevada and Mount Ranier. It typical lives above 6,500 feet in elevation, but here it is at 2,800 feet at Thousand Springs State Park. Their fur is mainly brown, with a dark bushy tail, yellow chest with a white patch between the eyes. They weigh up to about 11 pounds. They live in burrows in colonies of up to twenty individuals with a single dominant male. They are diurnal and feed on plant material, insects and bird eggs. They hibernate for about eight months from September till the weather warms up. At Thousands Springs State Park they often emerge from hibernation in mid-April and can be seen scurrying about with ease in the canyons and along the rim rock, eating grasses and tender vegetation. They nest and raise their young during the spring and early summer.

Birds: The birds that are present in the park include: ring-necked pheasant, gray partridge, chukar partridge, valley quail, mallards, coot, Canada geese, great blue heron, swans, egrets, black-crowned night-heron, white pelican, double crested cormorants, osprey, bald eagle, golden eagles, red-tailed hawks, prairie falcons, great horned owls, Swainson's hawk, Cooper's hawk, sharp-shinned hawks, American kestrel, northern harrier, meadow lark, red-wing blackbird, belted kingfisher, bufflehead, double-crested cormorant, northern shoveler, and song sparrow.

Fish: Fish that are present in the park inlcude: rainbow trout, largemouth bass, smallmouth bass, bluegill, steelhead trout, and catfish.

Cultural History: The earliest continual habitation of the Hagerman Valley is believed to have begun about 15,000 years ago. Paleo-Indian and Archaic period projectile points have been found in the region, as have stone tools, remnants or trace habitation structures and other artifacts. During the 15,000 years that man has occupied the Snake River Plain, there have been important environmental changes. The earliest occupation corresponds to the time of the glaciation in the northern Rocky Mountains. The close of the glaciation period, about 12,000 years ago, was represented by a series of physical changes in the landscape of the Snake River Plain and its flanking valleys. The reduced environmental fluctuations during the last 7,000 years, created a relatively stable environment in which large mammals and man could gradually increase in numbers as part of the succession which lead to the permanent occupancy of this area. Archeologically speaking, two Snake River Plain cultures can be dated back 8,000 years. Prior to that time, there was no clear record of regional cultures on the Snake River Plain. The regional cultures appear to have developed from the life way of earlier food collectors who first occupied the Snake River Plain. These first inhabitants were big game hunters, but may have fished and gathered wild plant food as well.

The South Hills culture occupied the western Snake River Plain and its flanking valleys which included this area, the Owyhee tablelands, and the Boise basin. The South Hills culture is the archeological expression for the Western Shoshone culture. Since density and prosperity of the native population depended upon the environment, the area between Shoshone Falls and American Falls was exceptional infertile thus forcing the natives to remain downstream west of Twin Falls. The inhabitants preferred to remain downstream near their stores of salmon and in proximity to one another for protection against raids from an unidentified Oregon tribe, The salmon, making three runs a year up the Snake River to this area, quickly became the staple food for the local inhabitants. The best fishing area was near Hagerman at Upper and Lower Salmon

Falls. The salmon were caught with nets, hooks, and especially with dams and weirs. There were three villages between Hagerman and Bliss. One village was four miles below Hagerman at a place the Indians called "Saihunupi" or tule canyon. This canyon could have been what is now known as Malad Gorge. The second village, called "Pazin-tumb," was eight miles below Hagerman. The third village called "Otoumb" was near Bliss. Between these villages and scattered on tributaries of the Snake River, several individual families made their camps. The Indians continued to use the salmon from the Snake River, between Salmon Falls and Bliss, even to the turn of the 20th Century. Shortly after 1900, all Indian activities in this area stopped due to lack of salmon runs caused by the construction of Swan Falls Dam on the Snake River south of Boise.

History:. Wilson Price Hunt and Ramsey Crooks were the first white men known to visit the area. They explored the valley in 1811. The Malad River received its name in 1824. Alexander Ross and a party of trappers, commissioned as the Snake Country Expedition, camped alongside what is today known as the Big Wood River in the fall of 1824, while hunting beaver. The second morning of their encampment, they feasted on boiled beaver for breakfast. Shortly afterwards, a number of the party became violently ill and from this the river was named "Riviere aux Malades," Translated into English it meant "river of sickness." But soon evolved to the title Malad River.

In 1843, Topographical Engineer Lt. John C. Fremont, known as the "Pathfinder," would be one of the first non-Native Americans to view some of the springs gushing from the basalt canyon walls. On September 30, 1843, he referred to what he saw as a "Subterranean River." Looking across the Snake River Canyon, he described what he saw as follows: "Immediately opposite to us, a subterranean river bursts out directly from the face of the escarpment, and falls in white foam to the river below. In the views annexed, you will find, with a sketch of this remarkable fall. A representation of the mural precipices which enclose the main river, and which form its characteristic feature along a great portion of its course. A melancholy and strange looking country – one of fracture, and violence, and fire."

The Oregon Trail traveled through the Hagerman Valley from the mid-1840s to late 1860s and brought with it many immigrants who marveled at the Thousand Springs cascading out of the canyon walls and re-supplied food stocks with salmon purchased from the Native Americans fishing at Salmon Falls. The designation "Thousand Springs" goes back to the days of the Oregon Trail. In 1852, a ferry crossing was completed on the Snake river near the Thousand Springs area establishing a northern alternative route for the Oregon Trail which the Kelton Road would soon follow. This alternate route became popular because it by-passed the treacherous Three Island Crossing. The early Oregon Trail emigrants, using the alternate route, forded the Malad River about one quarter mile upstream from the Malad Way Station prior to its construction.

After the Central Pacific and the Union Pacific were open for transcontinental railroad traffic on May 10, 1869, new stage and freight routes were established to connect southwestern Idaho with the Central Pacific Railroad. Started by John Hailey, the Kelton Road came into existence in 1869 connecting the railhead at Kelton, Utah with an earlier freight route that had been opened in 1863 from Salt Lake City, Utah to Boise, Idaho. Besides Kelton in Utah, Toano, Elko, and Winnemucca in Nevada served as stage and freight routes to Boise. Because of Hailey's activities, the Kelton Road maintained a priority over the other roads leading into

southwestern Idaho from the transcontinental railheads. By the summer of 1869, Hailey had 42 hour stage service between Kelton and Boise. With improvements and shortcuts in the road, freighters could make the trip in 19 days in 1871. The Kelton Road was 232 miles long with 19 way stations of which the Malad Station was the eighth way station from Boise. In the fall of 1879, rerouted the Utah, Idaho and Oregon Stage Line south of the Snake River to the newly opened ferry at Glenns Ferry, thus creating a new way station at Salmon Falls near Hagerman which replced the Malad Way Station. By 1883, all stage, express mail and freight traffic from Kelton had been transferred to the advancing Oregon Short Line Railroad connecting southern Idaho with Utah.

Placer mining for fine gold in Snake River bars became the area's earliest industry. During the latter half of the 1800s, the four-mile-wide Salmon Falls Mining District straddled the Snake River through the Hagerman Valley.

Early pioneer, Archie Billingsley, moved into the valley in the mid 1870s with his family and established a large hay operation along the creek that bears his name. Mr. Billingsley's extensive farming enterprise supplied hay to Wells Fargo & Co. Express. Billingsley Creek would be named for him.

Farming began in the Hagerman Valley around in 1879. Orville P. Johnson came to the Hagerman valley in about 1884 and would be the first to establish a farm where the Billingsley Creek unit is today. The Johnson Grade is named for him. Although he wouldn't receive patent to this land until around 1901. However, some of the neighboring properties were settled by William McCandless and Richard S. Tucker in 1889 and Joseph A. Ivie in 1897. So it can be said that the Billingsley Creek area has been under cultivation since about 1885. From 1880s to 2001, the Billingsley Creek Unit was working agricultural land, operated and owned by several individuals and companies, the last was known as the Emerald Valley Ranch.

The arrival of the Oregon Short Line of the Union Pacific Railroad in 1882-83 brought with it more farmers to the valley. The railroad grade that crosses Billingsley Creek and going up the Johnson Grade is the last remnant of the failed branch line off the Oregon Short Line Railroad that was to run from Hagerman to a point beyond Wendell. By 1883, all stage, express mail and freight traffic from Kelton had been transferred to the advancing Oregon Short Line Railroad connecting southern Idaho with Utah. With the completion of the Oregon Short Line to Shoshone, Idaho, the local segment of the Kelton road became the fright wagon route from the railroad stop at Bliss to the Hagerman Valley and the settlements on Three Creek near the Nevada border. The Malad Way Station was located on the north side of the gorge near the bridge which was built over the gorge at the first place deep enough to contain all the water from the spring run off. The gorge at the bridge site was about 35 feet deep and 23 feet wide. Present day evidence of the way station can be seen only as faint outlines of foundations, remnants of the bridge abutments, and wagon wheel ruts worn into the lava rock.

Both the town and valley were named after Stanley Hageman, a pharmacist from Ohio, who opened a drugstore in the valley in 1891. In 1892, Mr. Hageman was tasked with applying for a post office for the growing valley community.

Additional settlers began to enter homestead claims. In 1896, Guy C. Barnum received patent to the lands on Ritter Island. Also in 1896, Polina Lewis received patent to some land in the vicinity of Bonnieview. Joseph W. Costin and Asbury B. Crocheron received patents to land near Bonnieview in 1903 and 1912, respectively.

Wesley C. Randall and Lizzie Randall received patent to land on the rim of Box Canyon

in 1897 and 1900, respectively. A further Box Canyon parcel was patented to Allen B. Eaton and Andrew Knudsen in 1928.

Land on the rim of Malad Gorge was patented to Benjamin G. Mullins and Riley Thorp in 1894 and 1912, respectively. The land making up the portion of Malad Gorge State Park adjacent to Woody's Cove was patented to William W. Croco in 1907.

The first hydro generation power plant was built at Lower Salmon Falls in 1908, followed by one at Thousand Springs in 1910 and one on the Malad River in 1911. In 1916, Idaho Power Company was incorporated and bought out the smaller power companies in the Hagerman Valley.

The Ritter Island property was purchased in 1918 by Minnie Miller, a Salt Lake City businesswoman who wanted to make the property a demonstration farm. Miller was a big game hunter, traveler and entrepreneur who appreciated the unique setting of the island and its proximity to the springs. She set up what was then a state-of-the-art dairy with the intent to breed the world's finest herd of Guernsey cattle. The house on Ritter Island—known to this day as the Rock House—was built in 1920, as was the barn. The primary purpose of the farm was to produce breeding cattle rather than commercial milk production. Farm workers were able to take the cream produced on the farm home with them in the evenings.

In 1928, Elmer Cook, a local cattle rancher, revealed some fossilized bones that he'd found in the area of the present-day Hagerman Fossil Beds National Monument to Harold T.
Stearns of the U.S. Geological Survey. They sent three tons of fossils back to the Smithsonian Institution in Washington, D.C. and returned for additional excavations in 1930, 1931 and 1934. The most prolific specimens found on the site were fossils from the earliest-known genus of the modern horse.

Hagerman Fossil Beds National Monument

The Hagerman Fossil Beds National Monument, located west/southwest of Hagerman on the west side of the Snake River, is the location of the discovery of a large number of fossils from 3.5 million years ago (late Pliocene epoch). A number of fossilized species, including 16 fishes, 4 amphibians, 8 reptiles, 27 birds and 50 mammals have been located there. Several fossilized freshwater snails, clams, plant and plant pollen species have also been found. The site is significant for its diversity, quantity and quality of fossilized species. Nowhere else has a site been located with as rich and diverse a deposit of fossils from the Blancan age. Within a 6-square-mile area, more than 550 fossil sites have been documented in various sedimentary layers. The most famous of these fossils is the Hagerman Horse. The "horse quarry" at Hagerman Fossil Beds National Monument contains the largest single deposit of an extinct species of horse ever found.
The National Monument operates a visitor center in Hagerman.

In 1954, the Minnie Miller farm was sold to Federal Judge Willis W. Ritter, who used the island as a private hunting and fishing retreat. The Ritter family owned the island for 32 years.

In 1986, The Nature Conservancy purchased the property. Ritter did not allow public usage, but many local people thought the future of the property should allow access to the island and canyon. The Conservancy purchased the 385 acres, including Ritter Island, two miles of river

front, and many springs and spring creeks along the canyon.

Park History:

In 1935, The Twin Falls County Planning Board had recommend preserving such natural attractions as Box Canyon. The scenic grandeur of the Snake River Canyon began to be recognized in the late 1930s. In November 1939, the Twin Falls *Times* was questioning the zeal with which the middle reaches of the Snake River was being developed. In the editor's opinion, Idahoan's needed to come to their senses and evaluate their natural riches to protect against further plunder.

The first protest would come in January 1940, when the Idaho Power Company asked for permits to develop the hydroelectric potential of Box Canyon and Crystal and Niagara Springs. The Twin Falls Times editor asked, "Why should Magic Valley, already over-burdened with major power plants, be expected to give up its few remaining small springs and streams. On January 3, 1940, nine sportsmen's organizations weighed in against the Idaho Power proposal. By March 18, 1940, Idaho Power withdrew its proposal.

In 1941, hundreds of area residents signed petitions and supported a movement to preserve thirty-two miles of the Snake River canyon from Shoshone Falls to Thousand Springs. However, this proposal was not without its opponents. In the end, the argument over the scenic merits of Box Canyon and its neighboring springs turned out to be moot. The preservationists did succeed in persuading the legislature to create a recreation area, but the proposal was subject to public hearings to be held by the state reclamation commissioner, E.V. Berg.

Harold Harvey and other proponents tried to make the case that Box Canyon and Niagara and Crystal Springs had greater value as tourist attractions. Vardis Fisher joined in with a letter that said: "A beautiful park along the Snake River as proposed would return to Gooding County, and to all other counties adjacent, much more in tourist and other revenues than the handful of taxes which certain people are clamoring for."

On April 2, 1941, the preservationists formed the Snake River Recreation and Parks Association and were making plans for a proposed recreation area from Shoshone Falls to the Malad River. On April 22, 1941, Commissioner Berg issued his decision and Idaho Power received the permit needed to develop Box Canyon. However, the onset of World War II would avert Idaho Power's attention to other developments and Box Canyon would remain unharmed. However, the preservationists never realized their dream of a "state park" on the Snake River from Shoshone Falls to the Malad River.

The Billingsley Creek Wildlife Management Area was purchased in 1963 from the McCarter Cattle Company.

In 1970 a total of 451.13 acres was acquired for what would become Malad Gorge State Park.

In 1971 the IDPR acquired the 79.6-acre Crystal Springs property from Idaho Power Company for the price of $1.00.

In March 1974, The Idaho Department of Lands (IDL) lease for State endowment property at Malad Gorge was transferred from Hue and Anne Wolfe to IDPR through a lease assignment. IDPR has continuously renewed the 10-year lease with IDL.

In 1975, a Recreation and Public Purposes Patent was granted by the BLM to the IDPR for 200.44 acres along Malad Gorge and the Malad River. In that same year, A master

plan was completed for Malad Gorge State Park and approved by the Idaho Park Board on July 24, 1975. Construction began at Malad Gorge State Park in 1976.

In April 1977, through a Memorandum of Understanding with the IDFG, the IDPR took over management of the Niagara Springs (Pugmire Park) site.

Malad Gorge State Park opened to the public in the summer of 1979.

On April 1980, Niagara Springs was declared a National Natural Landmark. In 1994, Niagara Springs was given full park status by the Idaho Park Board and was officially listed in Idaho Code as Crystal Springs and Niagara Springs State Parks.

In 1999, the State of Idaho had negotiated a purchase of Box Canyon from the Hardy family. The state didn't have the funds to purchase the property, but assigned the contract to the Nature Conservancy. Under state terms, the Nature Conservancy purchase Box Canyon, and simultaneously ento into a purchase and sale agreement with the state.

In September 2001, The Billingsley Creek properties were purchased and added to the state park system. This purchase also included the upper part of Billingsley Creek known as the Vardis Fisher property.

In 2003, Billingsley Creek and Box Canyon were official added to the list of state park properties in the Idaho Code. Crystal Springs and Niagara Springs would no longer be listed as separate state parks, but rather were listed below Malad Gorge State Park with Billingsley Creek and Box Canyon.

In 2005 as part of a master planning process, it was decided to combine the 5 existing state parks under the "administrative" designation of Thousand Springs State Park. The Thousand Springs Master Plan was completed in August of 2006. The plan included recommendations for the Vardis Fisher property.

In December 2006, the Nature Conservancy completed its transfer of Box Canyon to the IDPR.

The Nature Conservancy purchased Ritter Island (they called it the Thousand Springs Nature Preserve), and donated it to IDPR in 2006.

IDPR sold the Vardis Fisher property in 2013.

Recreation Activities:

Sightseeing: One of the primary activities that can be enjoyed at this park is viewing the numerous water features and other wonders in the park. With the exception of Box Springs many of these are accessible by car. The Malad Gorge Unit includes a self-guided trail where you can drive to each of the stops and the brochure explains the sights and features. The Waterfalls at Devils Washbowl, Lemon Falls, Minnie Miller Falls, Niagara Springs, and Crystal Springs Lake are the must sees.

Boating: It is possible to canoe, stand-up paddle board or kayak around Ritter Island. There is a small hand launch boat ramp to the left of the bridge that crosses from the Idaho Power parking lot to Ritter Island. There is also a small boat ramp on the Snake River at the Niagara Springs Unit that it it possible to float down the Snake River past the Box Canyon Unit and take out at Ritter Island. The IDFG has provided a dock at the upstream end of Billingsley Creek where canoes, kayaks and float tubes can be launched for a float down the creek to a take out point

downstream at the Billingsley Creek Unit. Canoeing, kayaking ans stand-up paddle boarding could also be done on Crystal Springs Lake.

Horseback Riding: Horses can be used on the trails and roads of the Billingsley Creek Unit. There is also an indoor arena there that can be used by horseback riders. Horses are also allowed on the primitive road in the northern part of the Kelton Road section of Malad Gorge.

Picnicking: There are several opportunities for picnicking .Malad Gorge has a picnic area with 13 picnic tables, a group shelter, and numerous grills. Niagara Springs has a large picnic area with 42 picnic tables, a group shelter and numerous grills. For a more secluded spot, Crystal Springs lake offers 5 picnic tables along the edges of the lake. There are 7 picnic tables at Ritter Island, but these are all "walk-in." There are also a couple of walk-in tables at the wildlife pond at Malad Gorge. The Idaho Power parks adjacent to Ritter Island and Niagara Springs also have tables and grills.

Wildlife Viewing: The park has an abundance of wildlife both in numbers and diversity. The best wildlife possibilities are at Ritter Island, Bonnieview, Box Canyon, and Crystal Springs Lake. Waterfowl are abundant in the wetlands, lake, and stream areas. Birds of prey are often observed along the rim rock. During the annual Christmas bird counts, Ritter Island has one of the highest counts of bird species in the state.

History Study: The historic buildings at Ritter Island can be explored and there are exhibits here that provide information about the history of early dairy farming in Idaho. The Kelton Road section of the Malad Gorge has a trail that leads to the old abutments of the bridge over the Malad Gorge and the site of the Malad Way Station.

Fishing: Crystal Springs Lake is stocked regularly by IDFG with rainbow trout. Fishing is also available in Billingsley Creek where rainbow trout and brown trout can be caught. You can also launch small boats at the Niagara Springs Unit for fishing on the Snake river.

Swimming: although swimming and wading are extremely popular in Ritter Creek on hot summer days, swimming is not recommended and there are no designated swimming areas in the park.

Bicycling: The lack of paved access roads makes this park somewhat bicycle unfriendly. The only possibility of bicycling would be to ride the paved park road at Malad Gorge. Dirt trails available to bicycling include the .6 mile trail from the Box Canyon parking lot to the overlook; a 1 mile primitive dirt road in the northern Kelton Road section of Malad Gorge; and the 2.2 mile loop around the Billingsley Creek unit.

Trails: There are about 7 miles of trails in the park and to really see the park, you will have to get out of your car. At Box Canyon you can hike a .6 mile trail that leads to a viewing platform where you can view the Box Canyon spring and its head wall. You can look down the canyon and see the 20-foot waterfall. You can also hike into the canyon and stand on the viewing platform for a closer look. But this trail is rather primitive and trekking poles are recommended. This Canyon Trail is about 2 miles in length down the canyon and returning via the old service road.

Please Remember

- There is a $5.00 per vehicle per day fee required for access to the park. This is required even though there are no entrance stations operated by the park.
- There are no designated swimming areas, swim and wade at your own risk.
- Personal floatation devices are required for any water craft on the lake or streams.
- All watercraft must display a current invasive species decal.
- Dogs must be on a leash at all times, are not permitted in the buildings.
- Motor vehicles are to stay on established roadways unless directed otherwise.
- RV and vehicles pulling trailers must not attempt to drive down the Thousand Springs grade or beyond the Niagara Springs Picnic Area as space to turn around is limited this.
- Most rimrock cliff areas are not fenced or guarded. Stay significantly back for your own safety.

An easy hike would be the 1.4 mile trail goes around Ritter Island. It is level ground with great views of Lemon Falls, Minnie Miller Falls, Ritter Creek, the Snake River, and the historic buildings on the island. Up and back on the River Trail is about 1.5 miles. It is fairly flat and follows an old road route past the base of Lemon Falls, over some "historic" bridges, and into the Bonnieview section. The .3 mile Columbine Loop trail takes off from the River Trail and goes steeply up a hillside through a grove of Utah Junipers and a small spring where columbine flowers can be found. The .6 round trip Split Rock trail takes of from the Columbine Loop and leads to a fantastic viewpoint with great views of the entire Ritter Island unit. However, the Columbine Loop and Split Rock trails are primitive "traces" at best and are not recommended for the faint of heart and trekking poles should be used on these trails.

The 2.2 mile loop around the circumference of the Billingsley Creek unit is an easy hike on an old road. There is also an 1.2 mile "old road" trail in the Billinglsey Creek WMA that can be hiked as well.

Malad Gorge has a .5 mile (round trip) paved trail across the footbridge at the Devil's Washbowl. A lessor known hike is the .3 mile Kelton Road trail that not only leads you to some historic Kelton Road bridge abutments, but also to a point where the Malad River can be seen almost disappearing into the columnar basalt rocks.

Resource Management Issues: Thousand Springs State Park is classified as a natural park. Natural parks are established to maintain the ecological integrity of areas of Idaho possessing exceptional resource values that illustrate Idaho's natural history.

Contaminants: The water cascading down Minnie Miller Falls is some of the most pristine to be found, but is not immune to contamination. Recently, minute traces of a grass killer, Atrazine, have been detected here. The water in the aquifer provides drinking water to many thousands of people in Southern Idaho; what is good for the sculpins and the water veronica is good for humans too. Because the primary attraction of Thousand Springs State Park are its water features, perhaps a water quality monitoring program should be implemented to determine the degree of contamination and its sources.

Noxious and Invasive species: The control of non-native, invasive plants is an issue throughout the park. Noxious weed species in the park include Canada thistle, poison hemlock, puncturevine, field bindweed and purple loosestrife. Common invasive species in the park include houndstongue, water hemlock, Russian olive, cheatgrass, and mustard.

Native Plant Restoration: The Thousand Springs State Park Master Plan states:

> Upland habitat restoration projects are proposed throughout the park. The restoration process will follow the model set by the successful native plant restoration at Malad Gorge. Most uplands throughout the park were at one time subject to grazing which diminished the vigor of native grass communities and led to the introduction of non-native species such as cheatgrass and mustard.

Apparently, in the latter part of 1996, a 5-ace site at Malad Gorge was seeded in April 1997 with four grass species once native throughout the area. Bluebunch Wheatgrass, Thickspike Wheatgrass, Great Basin Wheatgrass, and Indian Ricegrass. Yet in this very same area, in the spring of 2016, fresh cow pies were found. It was obvious that some livestock grazing has been taking place. However, IDPR grazing policy states:

> Grazing is not encouraged in state park areas. However, when it is determined that grazing would be advantageous, with no expected detriment to the park environment or enjoyment of the people, and in conformance with the master plan, grazing leases may be let after public bid procedure has been held.

Livestock grazing in a state park that is classified as a natural park seems to contrary to such purposes and should be consider a detriment to the park environment. Further, the Thousand Springs State Park Master Plan does not specifically recommend livestock grazing, but rather identifies past livestock grazing as having diminished the vigor of native grass

communities. Perhaps, livestock grazing should be eliminated from Thousand Springs State Park.

Further, a part of the Malad Gorge unit has is being used as an informal off-highway vehicle training area. This seems like it should be a questionable activity in a "natural park."

Park Limitations: Thousand Springs State Park has the attractions and the scenery to give it the potential of being one of the Idaho State Park System most visited parks. But there are six factors that are keeping this from happening.

- **Thousand Springs State Park is relatively unknown**. Despite their central location in southern Idaho, very few Idahoans know of their existence and what attractions can be viewed there and what recreational activities can be enjoyed.
- **Road signage from the nearest interstate off-ramp to the units access roads are inadequate**. Only Malad Gorge State Park is well marked for directions from an interstate off-ramp. The other units are not well marked for getting to the specific park unit.
- **There are land tenure, custody, and control issues.** Not all of the scenic attractions, wonders, and recreation facilities are located on lands under the custody and control of IDPR. The day use picnic areas adjacent to Ritter Island is operated by Idaho Power as is the actually Niagara Springs and adjacent day use area. Blue Heart Springs is one of Idaho's greatest scenic wonders but it is located on BLM land that is surrounded by Box Canyon Springs Nature Preserve.
- **There are no State Park campgrounds available**. None of the units of Thousand Springs State Park have a campground. A state park campground can operate as an integral staging area where visitors can camp and then explore the surrounding features.
- **The transportation network of access roads is inadequate**. The access roads that lead to the wonders of Thousand Springs are mostly made up of narrow gravel roads with just a few gravel parking lots with inadequate space for vehicles with trailers or small buses. Further, some families probably get discouraged by these road conditions, if and when they find their way to the primary access road.
- **There is no visitor center.** Thousand Springs State Park does not have a visitor center that is readily available. For that matter, even finding the Thousand Springs State Park office is a challenge.

Suggestions for the Future:

The park does have a General Development Plan completed in August 2006 titled Thousand Springs State Park Master Plan. However, since completion of the plan the Vardis Fisher property has been sold and the Ritter Island Property has been added. Suggestions for the future marked with an * are those that were recommended fully or in part in the 2006 master but have not yet been completed. It should be noted that 47 proposed developments were listed in the plan. After ten years, only 3 of these proposed developments have been completed.

<u>Park-wide</u>

- Consider developing and implementing a comprehensive directional signing plan that will direct visitors from common interstate 84 off-ramps to the various units of the park. So far, this only exists for Malad Gorge State Park. This will encourage a great deal more spontaneous visitation. *
- Consider acquiring easements, rights-of-way, property use agreements etc. to implement a "greenbelt" style trail suitable for hiking, bicycling and horseback riding. In some cases this trail may be along the rimrock and in others it may be at the riverside. The trail should start at Malad Gorge and connect through Billingsley Creek, Hagerman Wildlife Management Area, Ritter Island Reserve, BLM's Blue Heart Springs property, Box Canyon, Niagara Springs Wildlife Management Area, and terminate at Niagara Springs State Park.

Malad Gorge State Park

- Consider a project for constructing an underpass trail that would go under the interstate and the adjacent old highway to provide walking path access from the existing Devil's Washbowl parking lot to the Kelton Road segment of the park. This would allow for access to the "wonder" location of where the Malad River disappears into the hexagonal basalt segments to later come out into the Devil's Washbowl. This improved trail would also allow for viewing of the remaining segments of the historic Kelton Road. Providing access to these features from the Devil's Washbowl parking lot would make certain that all visitors enter via the entrance station and pay their MVEF. Further, the underpass trail would be a spectacular engineering feature where visitors could view straight down into the sheer walled canyon under the interstate.
- Develop "national park" style paved walkways allow the rimrock edges of the canyon complete with sitting benches. Develop additional trails along irrigation canal ditch roads and around ponds. *
- Install a 10-12 site tent campground with restroom and water.*
- Install a group shelter for use as an outdoor classroom perhaps adjacent to the campground. *
- Restore the broken down docks and weed infestations around the pond. Consider working with IDFG to designate the pond as "family fishing waters."
- Re-surface all the paved roads in the park.

Billingsley Creek

- Develop agreements, MOU's, or a legislative resolution that places all the entire state owned lands (both Billingsley Creek State Park and Billingsley Wildlife Management Area) under the control and custody of IDPR rather than two competing agencies.
- Construct an entrance complex and parking lots with entry off of highway 30. Connect all park roads to this single entrance for access control and collection of the MVEF by all visitors to all of the state owned lands (SP and WMA). *
- Eliminate the "free-use" parking lot adjacent to S 1050 E and connect this parking lot through the park to the entrance complex.
- Develop the old "free-use" parking lot into an area for launching canoes, kayaks, tubes,

and float boats onto Billingsley Creek. Continue the current "boardwalk" into a boardwalk/bridge combination that would be usable for hiking, bicycling, and horseback riding and connect it by trail to the primitive trail that runs east to west across the current WMA property. *

- Develop a day use/picnic area at this launch/crossing site. *
- Develop a parking lot with a small concrete ramp at the west end of the park to be used as a take-out site. Connect this lot by road through the park to the entrance complex.
- Build a boardwalk/bridge combination similar to the above at the take out site and connect it to the east end of the primitive trail that runs east to west across the current WMA property. *
- Build an amphitheater with restroom that overlooks Billingsley Creek near the entrance complex. *
- Develop a day use/picnic area with a group shelter (outdoor classroom) adjacent to the amphitheater.*
- Build a boardwalk that extends from the amphitheater area to the edge of Billingsley Creek with fishing dock to provide ADA fishing access.
- Expand and improve the equestrian arena complex with a large parking lot that can accommodate vehicles with trailers attached.*
- Build a 50 site RV campground that overlooks Billingsley Creek in the east end near the launch site parking lot. *
- Build a regional visitor center and office complex for visitor orientation to all the units of Thousand Springs State Park and serve as the headquarters of Thousand Springs State Park. *
- Build an over-look on the rim rock along S 1050 E at the top of the WMA property for viewing of the entire park and Hagerman Valley
- Pave all the roads in the park.
- Cease all agricultural use (alfalfa farm) of the park lands. Begin land restoration projects by planting native plants.
- Immediately begin planting and propagation of desirable tree (shade) species in area that will become campgrounds and picnic areas.

<u>Box Canyon</u>

- Develop a paved entrance road and entrance complex. Extend an entrance road from S 1500 E to an area close to the canyon rim rock where the plunge pools are located. Include an entrance station where the MVEF can be collected.
- Construct a paved parking lot with spaces for buses and vehicles with trailers. *
- Construct a day use area and picnic area adjacent to the parking lot with a full service restroom. Include a group shelter fro use as an outdoor classroom. *
- Develop "national park" stye paved walkways with benches and overlooks for a short distance around the plunge pools rim rock.*
- Obtain a Recreation and Public Purposes Act lease or patent for the Blue Heart Springs property currently owned by the BLM.*
- Improve the box canyon trail system and bring it up to "forest service" style standards for trail width and grade determinations. This should include installation of bridges,

platforms, boardwalks, and stairways as necessary.

- Extend the Box Canyon trail system along all of the rim rock locations. Include a trail that connects to the Blue Heart Springs for a view of that feature from the rim rock and a foot trail access down to the river. Extend a riverside trail from Blue Heart Springs to the trails at the mouth of Box Canyon with a walking bridge over the mouth of the Box Canyon stream.
- Install a boat landing near the mouth of Box Canyon for access by boats and other floatables on the Snake River.*
- Remove all the old and decrepit parts from the pivot irrigation equipment near the entrance to the Box Canyon property.
- Do some land restoration work on the top of Box Canyon near the entrance by eradicating invasive species and propagating native plants.

Ritter Island

- Develop an agreement or some form of land conveyance that transfers custody and control over the Idaho Power Thousand Springs Park to the IDPR. Currently all the recreation service facilities located there such as restrooms, picnic tables, trash cans, and parking lots are provided by Idaho Power. Secure this property in such a way that it would become an integral part of the Ritter Island unit of Thousand Springs State Park and that IDPR could then begin to collect the MVEF. Install an entrance station to collect the MVEF. This "park" is an extremely popular feature for impromptu swimming and water play. That aspect is probably more popular than the historic features on Ritter Island.
- In conjunction with the above, develop an easement, right-of-way or agreement for entering into a partnership for the management and maintenance of the primary access road to the area (Thousand Springs Grade). Do this with the goal in mind of eventually paving the road and making it accessible to vehicles with trailers and/or small buses.
- Repair and restore the historical buildings on Ritter Island and consider making them into recreational rentals similar to Railroad Ranch at Harriman State Park.
- Consider redeveloping the bridge to Ritter Island for installation of additional parking space.
- Develop a walking bridge and trail from Ritter Island over to Minnie Miller falls to include stairways and platforms.
- Redevelop the "Split Rock" and "River" trails to "forest service" style standards for trail width and grade to include installation of bridges, stairways, viewing platforms, and boardwalks as necessary.
- Extent a short stub trail from the Split Rock trail to an overlook at the top of Lemon Falls.
- Extend a rim rock trail system from Lemon Falls south the Bonnieview area.
- Develop a day use area and boat landing area at the Bonnieview property.

Niagara Springs State Park

- Develop an agreement or some form of land conveyance that transfers custody and control over the Idaho Power Niagara Springs Park property that is on the eastside of

Niagara Springs Creek to the IDPR. Currently all the recreation service facilities located there such as vault toilets, picnic tables, trash cans, and parking lots provided by Idaho Power. Further the water feature known as Niagara Springs is also located on the Idaho Power property. It is odd that the primary attraction feature of the park and the park's namesake is not on property under the custody of IDPR. Secure this property in such a way that it would become an integral part of the Niagara Springs unit of Thousand Springs State Park and that IDPR could then begin to collect the MVEF for the "Niagara Springs Park" day use area.

- In conjunction with the above, develop an easement, right-of-way or agreement for entering into a partnership for the management and maintenance of the primary access road to the area (Niagara Springs Grade). Do this with the goal in mind of eventually paving all the roads in the unit, including a turn-a-round for vehicles with trailers.
- Once the Niagara Springs Park property has been secured, move the current entrance station about 100 yards to the west to ensure collection the MVEF. *
- Construct a riverside trail system that connects the Niagara Springs Area to the Crystal Springs area.*
- Develop a bird blind nature observation area with 2 benches at Crystal Springs.*
- Develop a small day use overlook picnic area on the rim rock overlooking Crystal Lake.*
- Develop a launch/take out site for small watercraft (kayaks, canoes) with a parking lot*