

HOBBLE CREEK CANYON

I want to talk about the canyon and watershed we know as Hobble Creek. I want to talk about the land and the water. I want to talk about what we have done with the land and water and I want to talk about what I think is the meaning of what we do with these resources.

As a beginning let me describe what the land use was like before settlement by Mormons. Life for native Americans in the valley of Lake Timpinogatsiz was very good. Fish were abundant, hunting in the winter was seldom difficult and roots, rushes and other water plants were plentiful. Enemies from the north and east had little chance to surprise the encampments because travel in the canyons during the winter was dangerous.

In summer, the camp moved out through the same canyons to mountain hunting grounds. Game was plentiful and trading with other sojourners enjoyable. Young men sometimes left the summer camp and ranged beyond normal hunting trails to show their bravery. When they returned, their courage or foolishness was measured as part of rites of passage. The bravest became their leader or sometimes even chief like Wakara.

The canyons were supply routes for most needs. Of highest importance was water. During the fall and winter most of the water supply fell as snow in the mountains. Originally, the surface of these hills was covered by a layer of soil called a soil mantle, made up of dirt, mosses, algae and lichens that

constituted a storage place for water and a source to nourish plant growth, such as grass and forbs which in turn protected the hills from erosion. When the snow melted, it ran into the soil and flowed into the valley in the spring and early summer.

Food also came from the canyons. Fruit, berries and fish were there. Canyons were the inevitable access to the hunting ground. Animals that were hunted and killed for food and clothing found their own forage and prey in the mountains where moisture was most abundant.

Indians worshiped nature. They chose the "high places" for their worship rites, maybe for the "vision" such places afforded. Reverence for the "high places" was a reflection of their religion and their dependence on the mountains and canyons for water, food/clothing and passage, indeed for existence.

No records exist to indicate how many people lived in the valley before settlement by Mormons, but visitors in 1776 estimated the valley could support a large population.(1) In any case the record does not indicate how much the atmosphere was used. Certainly not so much as to make the air foul with smoke or fumes. But, the mountains again provided the resupply of oxygen from plantgrowth, an "air shed," so to speak. The land and it's resources were not subject to intensive use by native Americans comparable to the uses of today.

Settlers moved into the valley in 1850. They chose land close to creeks for drinking water and crop production. Before

the move west, government surveyors' reports warned them about the semi-arid climate. They knew crops had to mature by early July or be watered by irrigation.(2) Generally, these early settlers diverted streams and kept water on crops until harvest time, if stream flow was available. Unfortunately, Hobble Creek rarely carried enough water to divert in late summer.

Water has always been the controlling factor in land use. Hobble Creek drains a watershed of modest size (about 100,000 acres) and by the end of July, water flow is too low to be of much use for diversion. With no consistent stream flow and no retention reservoir to store excess spring runoff, farming was less than a subsistence endeavor. Therefore, many families had to find work other than agriculture to supplement their income. Some worked as freighters hauling goods to California and back. When the transcontinental railroad was nearing completion, station work (building railroad grade) was contracted, or after 1880, men worked for the railroad or in the mines in the 1890's. Springville was famous for the railroad and road construction business that grew out of freighting operations as an alternative income-producing endeavor to farming.

Drinking water also came from the mountains. Since Springville sits on the aluvial fan from Hobble and Spring Creek Canyons, it is easy to believe that most groundwater originates somewhere in the Hobble Creek drainage and follows its path through this aluvium to the valley floor and the

natural water table, Utah lake. Until after the turn of the century, drinking water was obtained from wells and ditches. Regretably, not far from the wells stood family outhouses helping to contaminate groundwater used for culinary purposes. And surface water was controlled by farmers who knew they didn't have enough water to adequately irrigate their crops.

In his report to the governor in 1908, the State Health Department secretary asserted how important clean water is to good health. He used as an example the experience of Springville and Spanish Fork, cities of comparable size and location. The report states that:

"several years ago the two cities submitted the question of pure water (an enclosed system) to the people for a vote. The vote was favorable in Spanish Fork and an excellent system was installed supplied by a pure mountain stream. Springville voted against and continues to use well and ditch water that is badly contaminated. Typhoid fever has practically disappeared from Spanish Fork, while in Springville the annual visitation continues unabated, During the past year, 3 cases of the disease were reported from Spanish Fork and 39 from Springville." (3)

Despite continued outbreaks of typhoid fever and pressure from the State Health Department, farmers were unwilling to give up their precious water rights. It was not until the early 1920s, after water from the Strawberry Project came into the valley that water was brought from springs along the upper east bench

between Spring Creek and Hobble Creek and fed into an enclosed system for culinary use.(4) Eventually, springs in upper Bartholomews Canyon, Hobble Creek were also developed for city culinary use in the 1930's.

Until recently, the next most important use of the Hobble Creek drainage was for livestock grazing. Stock has been driven into the mountains in the summer months, since settlers came here. In his History of Springville, Don Johnson has lyric descriptions of the herd boys who watched their cows and outwitted the "wily redman."(5) Few records exist to tell us how the stock raisers measured the number of cattle or sheep the land would feed, published complaints tell about the changing character of the land from a "grass land to a weed patch." (6)

In 1902, Albert Potter, a surveyor working for the National Forest Service, Department of Interior, rode horseback south from Logan Canyon, along the mountains to Panguitch, examining the range and timber conditions. Here is what he wrote in his diary about the Hobble Creek drainage area. Beginning in Wallsburg...

August 9, 1902 Met Don Herbert of Wallsburg who has 2,000 sheep, (he) is in favor of a reserve and keeping sheep off until the last of June, then limiting the number allowed on. Thirty-five miles. Went south from Wallsburg up the west prong of Round Valley Creek, passing the "Flat Top" Mountain. "Little" Valley is entered. This is a small

mountain basin covered with oak and sagebrush and is being grazed by sheep. Going along up the divide to the southeast, aspen and then some spruce and fir timber is found. It is scrubby and there are very few good sawlogs. Crossing the divide the side of the mountain is a brushy thicket which has all been grazed over by sheep until very little feed is left. At the foot of the south side slope is "Government" flat. A sheep dipping corral is located here which has been in use for twelve or fifteen years and the surrounding country is very badly tramped by sheep. There is no feed of any kind at the present time. On the ridges to the south and east there is a scattering growth of spruce and fir. A few sawlogs have been recently cut in this vicinity by settlers on Hobble Creek. Turning to the west the country is a series of ridges covered with oak and brush thickets. There is a pass through the high cross ridge leading to the Hobble Creek basin.

Sheep have grazed all of the country east of the pass until there is almost nothing left for them at present. Through the pass the range is held by the cattlemen and there is considerable summer feed to be found yet.

August 10, 1902 -- 18 miles. Went with Mr. Dougall (Hugh) for a trip over the "rincon" on the northwest corner of the Basin. Found the country covered with oakbrush to an

altitude of 7500 and then aspen thicket to the high mountain. Went up to 9500 and were still in the aspen thickets. The country is stocked with cattle which are all looking well and apparently getting plenty to eat. The soil is pretty badly tramped in some places, but on the whole this section of the range is in fairly good condition. There is no timber except a few small patches on the high ridges. Went on down the canyon and camped with Mr. Mower (Orson) who also runs a cattle ranch.

All of the settlers in this township have part of their ranches under cultivation. The principal crop is alfalfa, which is fed to their cattle in the wintertime. Most of these people own from 10 to 150 cattle and seem to be living comfortable. Sheep grazing should not be allowed in this basin as the settlers have enough cattle to utilize what feed there is. The sheepmen own no ranches in this vicinity and have no claim to the range which I know of. The settlers have a small (water power) sawmill located at Mr. Fullmer's. They have cut a limited amount of lumber for their own use and are intending to saw more this coming fall. (7)

I interrupt Potter's report here briefly to say a little more about community life on Left Hand Fork of Hobble Creek. Land was claimed by a number of timber cutters and cattle

raisers beginning in the 1870's. The timber did not last long and was logged off enough to stop natural regeneration. All we have left from the timber cutting era is some place names like, Granges Canyon, or Dry Canyon or Pole Haven. But the cattlemen endured.

Left Hand Fork attracted attention as a potential route for travel to the Uintah Basin. The United States Army wanted to use the canyon as a mail route into the Uintah Basin in 1863. Local people were hired to help build a road from Left Hand Fork to the Strawberry valley.(8) General Patrick Connor's men chose a trail heading east from Left Hand Fork at what was called Granges Canyon just above Barthalomew's. Although some time and effort was put into the project, other ways into the reservation and Fort Duchesne were found and the Hobble Creek route was developed no further.

The Oakland School was established in 1887 as an early attempt to teach canyon settler's children. Lucy Phillips wrote a history of the school in 1976.(9) She was writing from memory and from the information she could gather from others like herself who were students there. The location of the school changed three times. Part of the time, it was located on the Phillip's ranch at the mouth of Pole Haven canyon. That ranch belonged to William Gallup in 1902 when Albert Potter came through.

According to Miss Phillips, "There were five families who established homes as year-long residents: Oscar Anderson, John

T. Barker, Orson Mower, Erastus Z. Clark, and W.T. Curtis. Children of renters of property, or those who bought property mainly comprised the Oakland School enrollment". Other land owners were Edwin Whiting, Alfred and Henry Voyce, Arthur C. Whiting, Aaron Roylance and Lorenzo Whiting.

Lucy Phillips tells of the many things that go on in a country school and also about the homesteading efforts and the changes that encouraged the ranching community and residents to leave for town and close the Oakland School in 1917. Perhaps the most important factors bringing residents into town were increasing pressure from the Forest Service to reduce stock numbers and the Department of Health to enclose the water system and make the watershed free from unnecessary contamination.

Resuming Potter's diary

August 11, 1902 -- 10 miles. Leaving Mr. Mower's ranch I went up Pole Heaven Canyon to the top of the divide. This country is all covered with brush and is stocked with cattle. There is an aspen thicket on the mountain side to the south and many poles have been cut here. The spruce and fir area is very small and does not amount to much. Crossed the divide and came down Spring Creek Canyon. It is very steep and rough. The sides of the ridges are brushy and are used for cattle pasture. The mountain breaks off abruptly and rich farming lands come to its foot.

The head of Spring Creek is a dry canyon, but near the foot of the mountain a large spring breaks out which supplies a good size irrigating ditch. A stream also comes from Rock Creek.

August 12, 1902 -- 14 miles R.R. travel. Went to Provo. Met Mr. C. A. Glazier, county treasurer, who kindly gave me a list of cattle and sheep assessments of Utah Co.

August 13, 1902 -- 84 miles R.R. travel. Went to Salt Lake City. Saw Mr. Sower, special agent of Land Office. Had talk regarding timber cutting on withdrawn lands. He informed me that a special order had been issued to stop all cutting on these lands.

August 14, 1902 -- 25 miles. Started out with Mr. A.(Alma) Spafford, Mr. Dimmick (Huntington), Mr. Harmon And Mr. _____ for a trip up the Right Hand Fork of Hobble Creek. The first side canyon coming in from the south is known as Grindstone Canyon. It is a short "V" shape heading against the Maple Canyon divide and its slopes are all well covered with brush. No timber of any consequence. Used as cattle pasture by town people. Just beyond the canyon at the forks is Mr. Kelly's (George) summer resort. The valley bottom lands are seeded to alfalfa and produce good crops of hay. Entering the right

hand fork Mr. Cyrus Sanford ranch is the first one passed, is also partly cultivated. The canyon above this range in an even slope. Both sides are brush covered, sage on the south slope, maple and aspen on the north slope. There are no cultivated lands any farther east but a number of cattle ranch cabins. None are occupied at present. A sawmill has been operated at the upper end of Mr. Johnson's place but it has been moved on up the canyon about four miles and into T. 7 S., R. 5 E. on unsurveyed land. There are about 50 logs on the yard but the mill is not running, having been stopped by Col. Sowers. The next claim above Johnson's is that of Bowman of Pleasant Valley. The place is not being kept up and no one is living there. Just below Johnson's ranch the Day Canyon comes in from the south. This is a short canyon branching out in quite a large basin on its head. There is a little pine and fir timber and some sawlogs have been cut out of there. Just below Smith's place the Lawrence Canyon comes in from the north and Kirkland from the south. These are both short brushy canyons. Cedar Canyon is the next one coming in from the south, also a short brushy canyon. All of this country is used by the Springville cattlemen. Mr. Harmon has a cabin on the head of Cedar Creek. About two miles above Smith's the canyon forks and the main canyon from here on is known as Wadsworth (Woardworth) Canyon and the main south branch as Packard Canyon. From this point on

there is much evidence of sheep grazing. We went on up to pump house on old sawmill stand. Nothing there now. Country damaged by sheep grazing. Saw a herd of sheep grazing in the brush just east of Pump House. They were feeding principally upon leaves although there was a little green grass. The soil has been badly tramped, however, and is quite hard.

Went across the divide west and camped at the cabin of Mr. Spafford. Saw a few cattle in the brush on the north slope of the mountain. Feed is scarce, all of this range having been overstocked.

Just above (William) Smith's ranch there is quite a large canyon in from the north known as Dry Canyon; as its name indicates it has no water. The head of this canyon is back about even with the narrows in the left hand fork.

August 15, 1902 -- (Chicken Day) 30 miles. Went from pump house out along the divide south of Wadsworth Canyon. Saw two herds of sheep grazing on the brushy slopes. Turning down the south side of the ridge into the canyon the road leads on up to the old shingle mill. The pine timber just commences at this point and there is some scattering stuff left from there on east to the top of the divide. Turning south and cutting across the divides we struck the old

Indian trail and followed it south to Case Canyon and then on across to Hall's Canyon where there has been an old sawmill. The ridge south of Hall's Canyon has been well forested but it has been cut out by loggers and since burned over until at present there is not very much left. Stopped and eat(ate) lunch and then continued on south. The next divide is a wide rolling mesa-topped one. As we went off of this ridge into the basin of Sixth water, saw a few yellow pines. There has been a grove of large trees here but only one has been spared by the loggers. This tree is 5 ft. D.B.H. and 150 ft. hip. Following on down the canyon to the first forks, found another old sawmill and just above it a sheep dip which is being used by herds in the vicinity. There is a little scattering of timber on the ridge southeast of the corral; also on up in the head of the canyons. The divide on the west is a low brushy ridge with no timber. All of this country has been very much overgrazed with sheep.

August 16, 1902 -- (Deer Day) 35 miles. Went west from the Pump House through the timber to the old sawmill set on head of Packard Canyon. A few logs have been cut here for the sawmill on Hobble Creek. There is an area of a couple of sections which has a scattering stand of pine and fir and there are a few sawlog trees left yet.

Crossed the divide to the head of Wamhodie (Wanroads ?) basin and went on down the valley. Springville parties have about 1000 acres fenced and have plowed perhaps 100 acres to plant in grain. The entire basin is an oakbrush country and has been very heavily grazed.

There is an abandoned ranch below this pasture which belongs to Mr. Gallup (William).

Met Mr. Allen (Joseph) of Mapleton; said people would like to buy grazing land on the mountains.

Below this ranch the country looks pretty hard; the cattle are living entirely upon oak leaves. Went around to the head of Little Diamond Creek and went up that stream. There are a large number of cattle and very little feed, browsing mostly on the brush. From the top of the divide a good view of the entire country is had. There is a very small proportion of the country seen which has any pine and fir timber. It is all brushy and used principally for grazing.

August 17, 1902 -- 40 miles. Leaving the Pump House I went down the road to Diamond Creek and across to Sixth Water, then crossing the creek took the old Indian trail south. Met two sheepmen who are working for Mr. Jensen. Said they

were moving their sheep to Idaho (4 herds) on account of this range being overstocked and not being able to graze on the Indian Reservation as formally (formerly). Crossing the ridges found very little grass or feed, the country being badly tramped out. Some open places mostly oakbrush. Few aspen thickets on the high ridges. No timber except on the head of the streams.

The poor range and timber conditions on the land and a national conservation movement joined to establish the need for stronger use regulations of mountain resources. The U.S. Forest Service was organized in 1897, in part to "secure favorable condition of water flows." (10) The Forest Service was assigned management responsibility for area grazing land in 1903 and the Hobble Creek drainage was added to the Forest Reserve in 1910 after a campaign and petition drive by the Springville City Council. (11) Because the watershed was in such wretched condition, the Forest Service immediately reduced stock numbers on the range. No lambing was permitted on drainages going into the valley and sheep were excluded from these drainages entirely in 1911. An inspection by the Forest Service and the Springville City Council in 1915 found the range still badly used. The inspection report recommended further reduction in cattle numbers and limits on trails through canyons to the Strawberry summer range. (12) A permit system was instituted to keep track of the actual number of

animal unit months (AUM) on the range. The success of the federal management can be glimpsed in two extreme examples.

In 1952, after half a century of failing to convince users of the need for better management, severe spring floods scoured Hobbble Creek and damaged land and other property in the valley. Hobbble Creek crested May 4, 1952 at 1,250 cubic feet per second, about 15 times normal average runoff.(13) A 1955 inspection showed that plants were just beginning to grow in the scarred areas.(14) The ground would recover if given a chance. The Springville Livestock Association would not agree to a three year non-use program to aid recovery. As we learned from Albert Potter's diary, the users of the Hobbble Creek watershed were mostly very small operators. Apparently they could not afford to forego the income from their small cattle business for the time required to recondition the rangeland in the 1950s. Three or four years before, the Forest Service had convinced the Spanish Fork Livestock Association that a non-use program would pay out in the long run because of improved grazing and better yield in their stock.(15) In the case of the Spanish Fork Livestock Association, they had larger holdings and found alternative ways to do business while the range was being treated.

In 1958, an analysis of the Hobbble Creek range showed a reduction of 84% was necessary to establish the proper grazing capacity and an expenditure of \$200,000.00 for reconditioning. The program was initiated against the wishes of the

stockgrowers. In December the permittees appealed to the Regional Forester who sustained the Forest Supervisor's decision. The appeal was carried to the Secretary of Agriculture, who upheld the decision in December of 1960.

The second example is more current. In 1983-84, precipitation exceeded previous records, on top of two wet years. Mud slides threatened property all along the settled areas of the state. The infamous Thistle slide closed U.S. Highway 50/6 and the Rio Grande Railroad. But after twenty five years of better management practices, the excess water damage from Hobble Creek did not come close to the problems of 1952.(16)

The ranges have been treated in several ways to reverse the damage from overgrazing and over cutting. In 1935, range reseeding was tried after a test plot by the Civilian Conservation Corp (CCC) proved encouraging. The experiment was expanded to include the front range in 1942 and the seed was broadcast from horseback just before leaf fall in hopes that the seed would germinate before snow covered the ground.(17) In the late 1940s aerial seeding was tried. Later, a mechanical seeder broadcast a 14 foot swath behind a homemade spike tooth harrow used to prepare the ground. Also, terracing was tried, the surface evidence of which is still visible across the face of Provo Peak, north of Camel Pass.

In studies done on the reconditioned land outside Hobble Creek, the improved capacity indicated ten (10) acres were

required to feed one animal before treatment and 2.3 acres following treatment. These figures would not apply on all types of land but I cite them to indicate the efficacy of treatment in general. The objective was to begin reestablishing a soil mantle that would absorb moisture and grow plants for livestock feed.

Cattlemen were uncooperative at first: The records are full of horror stories about trespassers and cheaters. And, curtailing grazing numbers was only half the problem. The season stretched from May 1st, until October 31st. Eventually permittees grew accustomed to regulation and good range management practices advocated by the Forest Service. In the mid 1960s the season was reduced to begin June 16th and end September 25th. In 1972, the Forest Service reported that, "few stock raisers leave their animals on the range for even a full season recognizing the need for practices that will permit a sustained forage yield year after year."(18) Yet, in 1986 a report from the National Wildlife Federation stated that 71% of the rangeland from the continental divide to the Pacific was below standard. Federal agencies responding said that the situation is stable or improving.(19)

The canyons have always been used for recreation. Even the timber harvest, as mentened in Don Johnson's History of Springville, was viewed by young men as a game. Johnson recounts the winter work as being full of excitment and fun. When the freshly cut timber was stripped and the down slope end

sharpened, the log slid on the hard snow like a rocket. Sometimes the log hit a turn in the track and became a projectile shooting many feet into the air and burying itself in the earth. When these stray bullets hit other timber the air was filled with splinters.(20)

Referring to Potter's diary again, he mentioned the "resort" operated by Mr. Kelly at the forks of Hobble Creek. Joseph Kelly established his ranch in Hobble Creek to grow alfalfa. His patented land included some acres in Grindstone and up Left-hand Fork. By the time Albert Potter made his survey in 1902, the Kelly ranch was in the hands of George G. Kelly, eldest son of Joseph.(21) The ranch was still producing hay, but the use of "Kelly's Grove" for a summer resort was growing.

Margret Hadley Blackett went to live summers at the Kelly Ranch starting in 1918. She remembers the work of operating the ranch. She told me how the resort part of the operation was the grove of trees along the creek where campers pitched their tents and enjoyed mountain air and the music of Hobble Creek.(22) George G. Kelly built platforms for tent floors. Vacationeers came from as far away as Salt Lake. Whole families came and spent the summer. To transport them to the ranch, Mr. Kelly met the train with his White Top Buggy which carried about nine passengers.

Reta Roylance Kelly Swanson says "The children would spend most of the day gathering wood for the bonfire at night, where story telling and singing would take place. On Sundays they

would gather down at the barnyard and have a rodeo, roping calves and riding horses." Spring water, for drinking, was nearby. She said "The Ute Indians would come up the canyon and camp over on the south side of the ranch, up on the bench next to the mountain, They named it Indian Bench".(23)

During the time of the CCC several campgrounds were built to accomodate picnicking and overnight camping. The Cherry Guard Station was one of those and Cherry served as a CCC camp as well when the Pole Haven summer camp was moved. Other campgrounds built in the 30's are Birch, Sulphur and Balsam. In 1971 visitation was reported by the Forest Service: Cherry, 1,400; Birch, 1,100; Sulphur, 3,000; Balsam, 2,500.(24)

A 1972 Forest Service report lists the recreational uses to which the Spanish Fork Ranger district was put in 1971. The Ranger District included Spanish Fork Canyon, but Hobble Creek will be similar in proportion. The list indicates number of visitors-day use per activity.

Automobile, Touring	250,000
Hunting, Big Game	126,000
Camping (general)	75,000
Horseback Riding	60,700
Picnicking	47,200
Camping (tent)	47,100
Hiking	44,000
Fishing	42,400

The rest of the list drops off by half in numbers.

At one time skiing would rank high on the list. In 1949, Russell Blackett and Ted Martindale leased a hill from Ferris Holly at Pole Haven up Left Hand Fork. They operated their rope tow only one year when the snow was good.(25) They had customers from BYU (ski classes) and Provo, as well as Springville. Ferris Holly continued the effort for five or six years. Several years before, a small rope tow was set up some place in Right Hand Fork. Records are lacking on the unsuccessful venture.

Since about 1970, Springville City has operated the Springville Golf Course on the old Kelly Ranch. Funding came from the U.S. Land and Water Conservation Fund and is derived from off-shore oil leases.(26) Martindale and Blackett built the first nine holes for about \$125,261.00 and Thorn Construction Company completed the second nine in 1974 for about \$159,758.00. Visitation in 1985 was 70,000 nine hole rounds.(27) The same source of funding was used to develop the Jolly Ranch Park formerly the Cyrus Sanford Ranch with partial funding (\$185,000.00) from the Land and Water Conservation Fund. The Jolly Ranch is scheduled for completion in 1987. Kelly's Grove and Jolly's Park were visited by 38,550 last year (1985).(28)

From my own experience the most important recreational uses during the forties and fifties were picnicking and fishing, then deer hunting, hiking would be next. All of these uses,

except golf, imitate the patterns established in earlier times.

Another exception to traditional ways of land use is production of electrical power. Until recently use of water moving past the plant located below Kelly's ranch was dependent on the goodness of upstream neighbors for a power source. Reja Swanson says her husband Mel Kelly, could shut down the City Power Plant when he put irrigation water on his hay.(29) When Springville City bought the Kelly ranch, they were really buying water. Subsequent development of power generating sources has made the City less vulnerable to shutdown because they owned the water rights.

One way that Hobble Creek land has come into popular use is for residential lots. Despite the knowledge that Hobble Creek is the source of community culinary water, decision makers have failed to protect the water supply by ordinance or sympathetic use. Land owners in Left Hand Fork sell building lots in high canyon areas seeking to capitalize on the absence of prohibitive regulation and modern society's wish to get away from itself. The county keeps the road open in the winter to provide access. The new residents apparently enjoy the feeling of recreational living year around. In the absence of community sanctions about using the land to that extent, the watershed will be under pressure to support the additional load and the community will have to pay the extra cost to keep the water clean.

Summery

Before settlement, land use was low and the population spread their use over a large area. Living in the high country in the summer and in the valley during winter. The soil mantle was healthy enough to support a strong stand of grass. Oak brush was not a problem and invaded only after the ground became impoverished by over grazing and over cutting.

Early settlers consumed mountain resources without regard for continued use. Either the resources appeared to be inexhaustable or the settlers thought they were not going to stay long and they did not want to leave anything for their successors.(30) But they were vaguely aware that the uses to which they were putting the watershed were destroying the soil faster than the soil was being produced.

In 1910, after sixty years of land abuse, stronger management measures were necessary. Community leaders placed responsibility for the mountain resources in the hands of an objective authority which was removed from local influence. The U.S. Forest Service was to manage the land for multiple use, but especially to "secure conditions for favorable water flow." Apparently, community leaders mistakenly believed everyone recognized the prime importance of reserving the city watershed and that strong protective measures did not need to be imposed on land owners. It was not until more than half a century had passed that livestock owners were willing to adopt Forest Service rules and let the mountain rangeland recover

from a century of misuse.

Today, potential threat is from residential and recreational overuse. The results of residential use can only be tolerated if density is very low and regulation of sewage and garbage is strict. Depending on the property owners' good will to establish acceptable standards will not work. The community water supply is at stake.

Recreational use, if unregulated as to numbers and impacts, will create pollution problems worse than anything yet experienced.

The message is: protect the watershed. Like a living thing, it will carry a certain amount of use but no more without help. It can even heal itself after devastating overuse and/or floods, but time and wise use are required. The soil mantle once was like a great blanket of spongy humus that contained cryptogamic elements or soil stabilizers, according to Dr. Kimball Harper, BYU professor of Botany and Range Science. "When the cryptogamic soils are extensively trampled or scalped by removing the top inch of soil, the water runoff and soil erosion are greatly increased" he says.(31) When the soil mantle is healthy it can absorb snow melt and rain water and released it slowly into the aquifer and drainages.

In 1947, professor Walter Cottam asked the rhetorical question: Is Utah Sahara Bound?(32) His answer then was "yes" because misuse of the land had caused the soil mantle to erode and soil was being washed away faster than it was being

produced.

Now, more of the soil mantle is gone and we still use the land in ways that erode soil faster than it is being replaced. Somehow, we must exercise sufficient care to maintain watershed stability for a stable water supply.

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