

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

THE LITTLE SOUTH FORK DITCH  
AND  
THE HISTORY OF THE WATER COMPANIES  
ON THE GEORGETOWN DIVIDE



PREPARED BY: BOB NILES

THE LITTLE SOUTH FORK DITCH  
AND  
THE HISTORY OF THE WATER COMPANIES  
ON THE GEORGETOWN DIVIDE

PENCIL NOTES IN MARGINS  
BY LINTON A. BROWN, 2002

## FORWARD

The following account of the development of the water companies on the Georgetown Divide has been briefed and assembled from various sources and information into one summary report.

The evolvement of the Little South Fork Ditch has been emphasized along with an overall view of the conditions of the times that brought the water supply companies into existence.

This information may be of help in determining the course of resource use and development in the vicinity of the Little South Fork Ditch.

Robert Niles  
U.S. Forest Service  
Eldorado National Forest  
May 1979

The unique geological formation of El Dorado County combined with a plentiful supply of mountain water makes possible one of the finest potential water supply systems to be found any place in the world. The terrain of the County is formed with three distinct east-west ridges that begin in the abundant watersheds and snow pack near the crest of the Sierra Nevadas and then slopes westerly to the foothills. Draining these ridges to the north is the Middle Fork of the American River with its Rubicon and Pilot Creek branches. In the middle is the South Fork of the American River with its tributaries, Black Rock, Greenwood, Silver, Weber, Plum, Mill and Alder Creeks. The south ridge is drained by the Cosumnes River and its various forks and tributaries.

These three westerly sloping ridges and drainage systems makes it possible to supply water through a network of ditches, canals and flumes to practically all areas of the County requiring water for mining, agricultural, industrial and domestic use.

Along each of these three ridges evolved one of the three principal water canal systems in the County. The ditch system on the Middle Fork of the American River was developed and major construction accomplished by the California Water Company. The El Dorado Water Company established the ditch system on the South Fork of the American River and the Park Canal and Mining Company (Limited) constructed the major facilities and locations on the Cosumnes River. In addition to these three main canals, numerous minor ditch distribution systems were constructed and represented a considerable length and importance to the County. This report will be limited to a discussion of the development of the water companies and canals that evolved over the years on the Georgetown Divide ridge in the eastern portion of the Middle Fork of the American River Drainage.

Following the discovery of gold at Coloma in 1848, the early miners soon realized the necessity of having a water supply from perennial streams to enable them to work their Placer gold claims during the dry summer months when local water sources became depleted.

The first water supply ditch in El Dorado County, three miles in length, was constructed in 1850-51 near Coloma to fulfill such a need. Soon many ditches were being constructed from the permanent streams and rivers to supply water to the drier mining areas. Water rights regulations began to evolve to protect the ditch builders and consumers alike. The law protected a ditch company from future encroachments once it had filed a notice indicating the amount of water it planned to divert from the stream and had constructed its ditches. The vague water rights act of April 22, 1850, was first utilized to secure these water use rights until it was replaced by the more explicit act of May 14, 1862. This act gave full power for anyone to take up unappropriated water to supply the mining interests or for irrigation purposes. Authority was also given to County supervisors to fix the toll rates for the supplied water.

By 1856 there was a great amount of ditch building activity and they began to tap the abundant water supplies of the mountains and deliver it to the flourishing mining industry.



Construction of the Pilot Creek ditch was accomplished in 1852-1853 by a group of investors headed by Dr. W. H. Stone, to bring water to Georgetown and the rich mining areas of that region. Water was sold at the rate of one dollar per miner inch.(1) Even with the high prices commanded by this early water company, costly construction and maintenance problems made a profitable business venture difficult to achieve. The company held on until 1872 when it sold out its water rights and facilities to a group of San Francisco capitalists who named it the California Water Company.(2) This was a typical occurrence of those times as numerous water companies were organized but eventually dissolved and sold out to the large investors.

The California Water Company was organized under State laws and had a capital stock of \$10,000,000 divided into 100,000 shares. The company immediately commenced work on the existing canal and distribution system by extending and enlarging it. The company secured water rights to lakes lying further up toward the crest of the Sierra Nevada for water reservoir storage to supplement the regular supply of water from Pilot Creek and the other tributaries of the Middle Fork of the American River.

Loon Lake was the principal lake acquired along with nearby Bixby and Pleasant Lakes. The company built dams across their outlets for a total of 800 feet in length thereby increasing the water holding capacity of Loon Lake by one-third. The damming also combined Pleasant and Bixby Lakes into a continuous surface with Loon. This was accomplished in 1882 and by this time the Little South Fork ditch was completed along with the Gerle Creek ditch to utilize the water from Loon Lake.

11,250 AF (?)

Loon Lake now had a surface area of 1,500 acres and could be drained down to 15 feet for an equivalent 490,000,000 cubic feet of water. Water rights were also taken up in the Rubicon Valley for the large amount of available water there. A work force of Chinese Coolies had by this time entered the labor market as a result of the completion in 1869 of the transcontinental railroad. E. B. Crocker had imported close to 15,000 Chinese workers during construction of the Central Pacific Railroad's portion of the route. A tremendous amount of hand labor was involved in digging and blasting out the ditches and tunnels of this water transportation system and the industrious Chinese played an important role in its construction.

NO MENTION  
OF SOUTH  
FORK  
DIVERSION!

Water was drained from the Loon Lake outlet down the Gerle Creek channel for about six miles, where it was diverted and enters three miles of ditch to the junction with the Little South Fork ditch. This eight mile long ditch then conveys the water down to one of the head branches of Pilot Creek which it enters via a tunnel under a mountain saddle near "Uncle Toms." The ditch system actually diverts the water from the Rubicon Drainage across the Georgetown Divide ridge and into the Pilot Creek drainage.

The demand for water for mining purposes continued to increase with the continued development of hydraulic mining. Hydraulicking required tremendous amounts of water under pressure to tear apart the old gold bearing river channels and wash the debris down through long sluice ways where the gold was separated out. The resulting destruction and mass of mud, rock, and debris that were deposited in the rivers and carried on down the drainages inundated and destroyed large areas of agricultural lands that were being developed. At its height in the 1880's hydraulic mining in the State was a

gargantuan industry involving hundreds of individual companies and eight thousand miles of flumes, ditches and pipelines, and more than one hundred million dollars of invested capital. It produced approximately \$270,000,000 in gold but was accompanied by massive havoc and destruction for the farmers and ranchers down stream.

In 1884 the U.S. District Court declared it illegal to discharge tailings and hydraulic debris into streams and rivers in order to protect the agricultural lands. In 1893 the State Legislature, under the mining interest's pressure, enacted legislation to ease the district courts action by allowing the use of holding basins and dams in conjunction with hydraulicking. Even so, the 1884 rulings spelled an end to the hydraulic mining industry and in turn the decline and collapse of the large, profitable water companies. The capitalist investors saw the "handwriting on the wall" and withdrew from the water supply business and sold their water rights and facilities to whomever they could. Such was the situation with the California Water Company who disposed of or abandoned their holdings to smaller companies who foresaw the feasibility of supplying water for agricultural and domestic use.

A succession of companies took over operation of the ditch system on the Georgetown Divide using the old California Water Company's ditches and distribution system. These included the Loon Lake Water and Power Company and the Truckee Light and Power Company who also were looking for water rights in connection with developing hydroelectric power projects. Eventually the old California Water Company's ditch system and water rights were obtained by a group of investors headed by George Devore and the Water Company Limited was formed.(3) The primary concern of this company was to furnish irrigation water for agricultural use in the foothills of the Mother Lode Country.

Maintenance and loss of water from the ditch system because of leakage had been of major concern over the years as this loss could reach as high as 50 percent. The major losses occurred through the rocky sections along the steep hill sides. Early attempts had been made to minimize this leakage by recapturing some of the water in a new parallel ditch constructed below the original. This method was used with some success and accounts for the network of parallel ditches that make up the Pilot Creek and El Dorado ditch sections of the system. In steep, rocky areas such as encountered along sections of the Little South Fork Ditch it became apparent that wood flumes would have to be built to carry the water over these sections. A certain amount of flume construction probably began in the later days of the California Water Company's operation. The flumes were made up of rough sawn boards supported in a cross framework of timbers. The joints of the boards were covered with 1 x 4 battens and when the running water swelled up the sugar pine boards, the flumes became almost completely water tight. The wood flumes proved to be very durable because they were just about always saturated and this relieved most of the decay problem.



Sawmill was there  
in 1879 - probably  
built same time as  
ditch (1872?)

A small water powered sawmill was constructed at the South Fork Ditch Camp to saw out flume lumber and posts from the surrounding stands of sugar pine timber. This flume lumber was placed into the ditch at South Fork Camp and floated down the ditch to be stockpiled or used for immediate construction or repairs to the flume. This mill utilized a Pelton wheel placed beneath the mill floor and was turned by a stream of water introduced through a long supply pipe. In later years a diesel engine powered the double circular head rig and log carriage and the Pelton wheel supplied power for the transfer and green chains. The mill operated until about 1960 cutting the remaining timber on the company-owned land surrounding the Ditch Camp Mill. This rough cut lumber was hauled to Ice House by "Bob Tail" trucks and sold to Blair Bros. Lumber Co. for finish manufacture and distribution.

As the rainy season began in November and the need for irrigation water ended, the Loon Lake water was diverted back into Gurley Creek and the ditches and flumes drained. The winter snows that followed were accompanied by frequent snow slides which played havoc with the flumes built along the steep slopes of the Little South Fork Ditch.

Every winter snow slides would take out whole sections of the flume. These all had to be rebuilt each spring and early summer to get the ditch ready to bring water down to the system from Loon Lake after the Pilot Creek Drainage started to run low. A camp was established near "Uncle Toms" and a barracks was constructed that could house up to 20 men. This barracks was known as "Bob's Cabin." A tent camp was also constructed to take care of additional men when needed. Another crew of maintenance workers and sawmill people lived at the mill and camp at South Fork. It was a tremendously expensive job to repair the flume after a severe winter and up to 140 men could be employed to rebuild the flumes and maintain the ditches. When labor was difficult to obtain, as in the war years, the large ranchers, such as the Lovejoys, Nagels, Ray Lawyer, Claire Steeves, would send some of their ranch workers up to Little South Fork to help repair the flume because they depended on obtaining the water for irrigation. The flume sections were of considerable length with one section being 1.10 miles long.

In 1950 the tunnel through the Hog Back Saddle near "Uncle Toms" that brought the water from the Rubicon side to Pilot Creek, caved in and an open excavation of 150 feet was bull dozed out to shorten the tunnel and relieve the unstable condition.

It became obvious over the years that a private water company was faced with too heavy an expense to provide and sell agricultural water. Besides their large operating and maintenance expenses, the company was also liable for tax payments on their sale of water. In 1946 the Georgetown Divide Public Utility District was formed to alleviate the tax burden and make it possible for the Water Company Limited to continue operation. The winter of 1951-52 was extremely severe and long sections of wood flumes on the Little South Fork Ditch were destroyed by snow slides. A large crew of men worked all summer rejoining the flumes and water was finally delivered late in the year with a near crises situation facing the foothill ranchers.

USGS SHOWS FLOW BEGAN  
(FROM SOUTH FORK DITCH) ON  
AUG 89.

MARIE DAVIS SAYS GDPUD  
BUILT THE DAM - SMUD JUST PLANNED  
TO PAY \$97,000/YR FOR 40 YRS

In 1952 the Georgetown Divide Public Utility District bought out the Water Company Limited's rights at Loon Lake. At this time the Sacramento Municipal Utility District was implementing its American River Power Project to expand its hydroelectric power production in the area. This plan called for diverting water from Loon Lake to the Union Valley reservoir and hydroelectric power plant facility. To obtain the water rights to Loon Lake, SMUD, in 1959, agreed to build a reservoir at Stumpy Meadows for the GDPUD to replace the loss of water from Loon. The Stumpy Meadows Reservoir (Lake Edson) was designed to hold back the flow of water from Pilot Creek for the late season water needs that had been supplied from Loon Lake. Various ditch improvements and realignment from Stumpy Meadows west were also constructed. The entire irrigation system from Stumpy Meadows is now operated by the GDPUD. They have also constructed water treatment facilities and distribution lines to increase revenue from the sale of their water resource. Construction of the Lake Edson Reservoir was completed and the reservoir filled in 1962. Up to this time the Little South Fork Ditch was kept in operation to supply water down to Pilot Creek. After Lake Edson was filled, thus assuring a late season water supply for GDPUD customers, the Little South Fork Ditch system was abandoned. SMUD then built a modern ditch system to transport the Loon Lake water down to Union Valley reservoir. This system utilizes gunited ditches, tunnels, and a small reservoir at Gerle Creek. It generally follows the same location from Loon Lake to Gerle Creek as did this section of the Gerle Creek Ditch that was laid out in the late 1870's.

It is evident that there have been many changes in useage and development of the water supply system of the Middle Fork of the American River over the past 150 years. The ditch system began and developed solely for the purpose of supplying water to the mining industry. The water supply system has evolved to its present day form of more efficient water use and modern treatment plants and supply systems delivering domestic water in addition to furnishing agricultural irrigation water. The Sacramento Municipal Utility District has also been able to make use of this water supply for generating hydroelectric power at their Union Valley facility.



## COMMENTS

The Little South Fork Ditch represents an excellent example of man's efforts to control and utilize the large water supply of the Sierras for his own use and benefit. This was accomplished in spite of difficult conditions, the remoteness of the area, the steep rocky side hill portions and the occurrence of severe winter storm damage. It exhibits man's resourcefulness and fortitude in his attempts to overcome the leakage problems only to be frustrated by the winter snow damage to his flumes. The ditch spans the times and was a part of the gold rush and world wide immigration, hydraulic mining, Chinese laborers and the maturing of the States agricultural industry. It played its small part in the formation of the States public utility districts to assure a supply of water and hydroelectric power at reasonable cost, which in turn has contributed to our abundant life style.

The question presents itself as to what importance and to what use should be directed toward the abandoned section of the Little South Fork Ditch below South Fork Camp. This ditch is located on the Eldorado National Forest and will be in direct conflict with proposed timber harvesting and access road building in the area. The eight mile section of ditch and flume construction should be regarded as an important historical cultural resource on the Eldorado. The ditch line itself is not too significant as there are many hundreds of miles of existing ditches through the Mother Lode Country, but its supplemental flume construction is what makes it unique. Although there have been many miles of similar flumes constructed throughout the mining country they are disappearing as their ditch systems are improved, abandoned or relocated. Once they are abandoned the winter elements take their toll along with the deterioration of the lumber construction and they eventually collapse and are destroyed. Such is the situation with the Little South Fork Ditch System.

The wooden flume construction existing along the ditch would have to be regarded as of recent fabrication, as extensive replacement work took place as late as the 1950's. The type of construction would be typical of early day methods however. The flume material is deteriorating annually, more so in some location than others, and would have to be regarded as a safety hazard.

The ditch location could eventually be utilized as an historic foot trail if it is feasible to tie it in to any of the existing trail systems in the area. The hazardous condition of the flume work would have to be considered, and trail improvement work would be necessary in several locations. Trail use would benefit only a limited number of people at the present time.

Reconstruction and preservation of a short section of the flume close to an available access road would be a reasonable approach to protecting the integrity and physically showing construction details of how the flumes once existed along the ditch system.

The value of the timber along the ditch and the cost of alternate road construction away from the ditch may out weigh the cultural resource value of the Little South Fork Ditch and negate its preservation. The message is clear, however, that once the ditch and flume structure are destroyed, they

are lost forever. It is a nonrenewable resource that is difficult to apply a monetary value to, but it is quite obvious that the Eldorado's historical sites and places will continue to appreciate in value in the years ahead.

Timber harvesting plans should consider alternate access routes away from the ditch, a scenic strip of undisturbed timber (except for hazard trees) and possibly use of designated crossing or skid roads across the ditch to skid logs.

## APPENDIX

### (1) Miners Inch:

A miners inch is used to determine the amount of water used by the miners from the supplying ditches. It is considered a rectangular notch one inch square, cut in a wooden weir and placed in the ditch line three inches below the surface of the water. It gives a flow of two cubic feet per minute or 11.74 gallons of water per minute. Additional water can be metered by cutting additional inch widths in the weir so a notch one inch high by two inches wide would be regarded as two miners inches. Widths up to 60 inches wide were commonly used. These would be referred to as 60 miners inches of water. By keeping track of the hours the water was flowing through the weirs the water companies were able to calculate and charge for the amount of water used. "Typical prices charged were, \$1.50 for first use, \$1.00 for the second and \$.75 for the third and each subsequent use; payment daily in advance or on demand."

From "The History of El Dorado County California" Paolo Sioli

Lawrence Coonrod, interview.

- (2) The largest shareholders of the California Water Company included: J. P. Pierce, John Center, E. Judson, D. O. Mills, and John O. Earl. The company officers were J. P. Pierce, President; George Thurston, Secretary; E. R. Pease, Superintendent; Hon. Thomas Findley, Managing Director. Their place of business was headquartered at 315 California Street, in San Francisco.
- (3) Principal owners of the Water Company Limited were: George Devore; P. L. Chamberlain; Dorothy Gravelle; Harry Gravelle; Alice Devore; Colone Devore; P. L. Chamberlain, Jr.; Freda Chamberlain.

Colene!  
(per Carolyn Beam)



# BIBLIOGRAPHY

"History of El Dorado County" - Paolo Sioli, 1883

"Report on the Properties and Domain of the California Water Company on the Georgetown Divide" - Amos Bowman, 1874

"California, an Illustrated History" - T. H. Walkins, 1973...

# ACKNOWLEDGEMENTS

Charles Gierau of the Georgetown Divide Public Utility District provided old maps, charts and valuable information along with genuine concern and interest in the project.

Lawrence Coonrod, Georgetown. Retired Maintenance Superintendent, GDPUD, provided taped oral interview with Jim Woodward, containing valuable information and data concerning the Little South Fork Ditch Camp, ditch and sawmill operation. This tape is on file at the Eldorado Forest Supervisor's Office, Cultural Resource Department in Placerville

Georgetown Library and Staff. Provided copy of Amos Bowman's report on the California Water Company. Only known original printing is on file at the Bancroft Library in Berkeley. A copy of Bowman's "Water Section of the California Water Company" includes a complete set of maps showing the entire ditch system as it existed in 1884 from Loon Lake to the lower elevations below Georgetown. A copy is attached as a part of the appendix to this report, on file in the Cultural Resources Department at the Supervisor's Office in Placerville.

From SSI death index:

DOB 10 Feb 17

Death Jul 1982

SSN: 524-07-0903

SSN issued in Colorado

Death: Zip 95667 (Placerville?)

There's a Larry Coonrod (one of 37 Calif. Coonrods)  
in Magalia 873-5237