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## Sandstone Basin, A Cornucopia

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*First Upstream Flood-Control System in the World*

## *Sandstone Basin,*

By Richard Garrity



Historical marker on U.S. Highway 283 west of the Sandstone Creek basin.



Thriving crops thanks to the Sandstone Creek project.

In the "Dirty Thirties," Oklahoma had an exodus. Land, water, people, and finances were leaving a land plagued by floods, dust storms, and poverty. During the powder-dry dust-bowl era, Hammon, Oklahoma, experienced the worst flood in its history. When the water receded, dust returned. The often rampaging Sandstone Creek was a potential cornucopia, and the new government administration was determined to prove it.

Shelterbelts of selected trees were planted to stabilize a land recklessly turned by the ambitious plow. They thrived and are still deflecting the wind and dust. In later years some of them were uprooted to provide more cropland. Their worth has been proved to the extent that the plantings have been revived.

The Washita River was a constant threat. Usually a nearly dry watercourse, it often becomes a raging demon, spreading death and destruction on the 650 mile and often more-than-five-million acre drainage system. Farms, crops, roads, bridges, and homes are destroyed or covered with silt. In 1934, after eleven inches of rain fell in a short

time, seventeen people of Hammon lost their lives. The river had to be controlled.

Congress established a national policy of flood prevention under control of the Department of Agriculture in 1936. In 1944, Sandstone Creek, within the Washita River basin at Cheyenne, Oklahoma, was selected as a pilot program. This was the first upstream flood control system in the world.

Farmers in the basin accepted the program as they usually lost one crop in three. Acres of prime bottom land were often covered with mud or water. Scrub timber reclaimed the land, property values decreased, and many farms were abandoned.

Before flood-retention dams could be constructed, the land had to be prepared. Preparation consisted of engineered terraces, stream stabilization, ground cover, and dykes to stop the flow of silt into the future ponds. Much of the work was done by the landowners under the supervision of the Soil Conservation Service at Cheyenne. Land was donated for the structures, and the dams were built on tributaries of Sandstone Creek. As a result, the 5,000 acres of bottom land were left

intact.

When the preparation was completed, the dams were constructed. Impoundments were small, ranging from one to twenty acres. After a heavy rain, water was slowly released. Sandstone became a clear, ever-flowing stream. In 1954, rain in excess of six inches fell upon the watershed. The terraces and dams



L. L. (Red) Males, a prime mover of the Sandstone Creek project

# A Cornucopia



Jerry Swartwood at a retention dam on a tributary of Sandstone.



Lower Sandstone Creek near the entrance to the Washita River.

prevented excessive flooding.

The project was completed in 1953. Water which percolated into the ground raised the water table. As a result, irrigation was possible with additional wells and pumps. The land was reclaimed, property values increased, crops were no longer destroyed by flooding, and the farmers were reaping an abundant harvest. All these benefits were accomplished with a minimum dollar outlay. In addition to the agricultural benefits, fishing, recreation, and camping could be enjoyed on the larger ponds. Assets of the Security State Bank at Cheyenne advanced from \$100,000 in the Dirty Thirties to nearly \$5,000,000 in 1963. Sandstone Creek has an annual rainfall of twenty-four inches. Even during the dry years the creek continues to flow, and the water table is constant on the 68,000 acre, fifteen-by-six-mile drainage area.

On January 5, 1956, the U.S. Geological Survey made a reading of the stream gauge located five miles upstream from the confluence of the Sandstone and the Washita. It registered that the Sandstone was flowing 2,393,280 gallons of water daily. All of

this water was coming from the 65,000-acre watershed of Sandstone Creek. In contrast, the Washita River, with a watershed of 749,000 acres untreated, was "dry as powder."

On U.S. Highway 283, two miles west of the project, the Oklahoma Historical Society has erected a marker which explains the undertaking. From this overview, the observer can view most of the drainage system of Sandstone Creek. Ponds, fields, and watercourses are in sharp detail—visible proof of good soil stewardship.

In August 1981, Russell Salisbury of the Cheyenne Soil Conservation Service provided an in-depth tour of the basin. Sandstone Creek was flowing clear. Crops of head feed, alfalfa, and native grasses were thriving. Sprinkling systems were pumping water from the creek and wells. Pastures were lush and were supporting cattle. Homes were prosperous and well kept. Folks were friendly.

In September 1985, Jerry Swartwood of the Cheyenne SCS conducted a second visit. Crops were ready for harvest. Through good management, the pastures weren't overgrazed. The

runoff was stabilized by numerous impoundments on the tributaries of Sandstone Creek. Water was slowly released from the dams.

Foremost in the watershed project was L. L. (Red) Males, president of the Security State Bank of Cheyenne. Mr. Males has been supervisor of the Sandstone Creek drainage system since its inception. During this time it has received worldwide acclaim. Delegates from the entire United States and many visitors from abroad have viewed the installation. As Red says, "It is so simple they can't believe it until they see it." He is rightfully proud of the accomplishment.

During construction and after completion, Mr. Males traveled extensively to explain the stabilization of Sandstone Creek. His slide shows and talks supported the value of water control. For this work, on April 18, 1961, at the Eighth National Watershed Congress in Tucson, Mr. L. L. Males received the first Watershed Award as "Mr. Watershed of the Year."

As a banker, Red Males recognizes the value of conservation. He wants to keep soil, water, and money stable. ♡