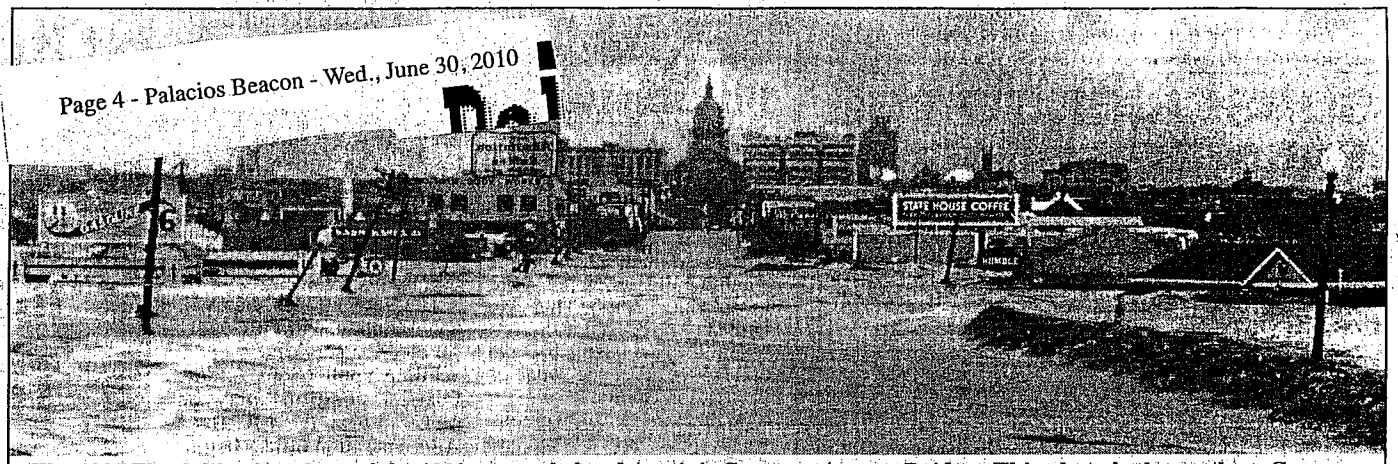
Massive 1930s flood ravaged Colorado River Basin

[In observance of its 75th anniversary, LCRA is publishing a series of features on the history of LCRA and the region it serves. This article looks at the effects of catastrophic floods in the 1930s.]



The 1935 Flood, like the others of the 1930s, overwhelmed Austin's Congress Avenue Bridge. This photo looks north on Congress Avenue toward the state capitol. ***(PICA 04147, Austin History Center, Austin Public Library)***

By JOHN WILLIAMS

In the mid-1930s, just as the newly created Lower Colorado River Authority was setting up shop, the Colorado River experienced the basin's three worst floods of the 20th century.

Photographs and news accounts of the floods that occurred in 1935, 1936 and 1938 are still powerful in their depiction of Colorado River floodwaters: farmlands swept clean of buildings, livestock and families; Austin citizens watching as the river splits their city in two.

In fact, one of Central Texas history's most iconic images – a houseboat washing over the old Austin Dam – occurred 75 years ago this summer.

While the lower Colorado River basin has experienced powerful floods in recent years (such as the one in summer 2007), those events pale in comparison to the catastrophic floods of the 1930s. Nothing like them has occurred since LCRA completed Mansfield Dam upstream of Austin in 1942 to store the Hill Country floodwaters that routinely ravaged Austin and other downstream communities.

According to some LCRA experts, it's not a question of if but when the basin will experience a flood like those of the 1930s.

"LCRA is doing everything we can to prepare for that event," said LCRA Chief Meteorologist Bob Rose. "But residents who live in or near a floodplain need to take steps to protect themselves."

A history of catastrophic floods

More than 80 major floods have been recorded in the lower Colorado River basin since the early 1800s, often with devastating results. A 1900 flood destroyed the Austin Dam, which was considered a technological marvel of the time, and floods destroyed a replacement dam in 1915. Flooding in 1913 merged the Colorado and adjacent Brazos rivers downstream of Columbus, forming a lake 65 miles wide.

The 1930s floods were comparable. All three floods of the 1930s were caused by rains totaling as much as 51 inches over periods of days or weeks in the western Hill Country over the Llano River watershed upstream of Austin. Much of the land in this region has thin soils that are easily saturated and, along with steep slopes, easily convert heavy rain into runoff.

1935 flood produced historic image

The 1935 flood was caused by almost 20 inches of rain that fell throughout the upper central basin and the Hill Country in early June. That was on top of 9-inch rains in late May that saturated the basin.

With no effective flood-management system (the months-old LCRA was securing federal funds to build its dams), the floodwaters swept into Austin, inundating the downtown district. On its June 16 front page, the Sunday Austin American-Statesman published a picture of a houseboat washing over the Austin Dam – an iconic image that even today illustrates the Colorado's unchecked power.

1936, 1938 floods devastated farms, communities

The 1936 flood was created by two major storms in summer and early fall totaling 51 inches over the watershed of the Concho River, a tributary of the Colorado. At San Angelo, the Concho floodwaters washed away 300 buildings.

After the flood runoff entered the Colorado, it inflicted most of its damage between Ballinger and Kingsland, where several bridges were destroyed, livestock drowned, farm houses flooded and fields swept clean. At Austin, the volume of floodwaters was more than double that in 1935, swelling the river for nearly a three-week period.

The July 1938 flood was caused by rains of up to 25 inches over a 10-day period at the storm's center near Brady, upstream of the newly completed Buchanan Dam. LCRA opened 22 of Buchanan's 37 floodgates (still a record) to pass through the floodwaters. Basinwide damages totaled roughly $39 million in today's dollars and left more than 4,000 homeless – far exceeding the damages caused by any previous flood, according to news stories of the day.

Recent floods not as severe

Even with the Highland Lakes dams in place, the risk of flooding continues today. The basin has experienced six severe floods since 1991, including the "Christmas Flood" of that year, which pushed Lake Travis (the reservoir created by Mansfield Dam) to its all-time high elevation of 710.4 feet above mean sea level, about 4 feet below the Mansfield Dam spillway.

Even so, the floods of the 1930s were worse. If they occurred today, based on studies by LCRA and the U.S. Army Corps of Engineers, they would have sent the level of Lake Travis over the spillway of Mansfield Dam – something that never has happened.

The lower Colorado basin has come close in recent years to experiencing floods that would have rivaled those of the 1930s. Massive floods, such as those that devastated communities along the Guadalupe River in October 1998, could just as easily have occurred in the Colorado River, had the storm's center shifted only 85 miles northwest, into the Hill Country.

A worse impact would have come from a storm like Tropical Storm Allison, which swamped Houston in 2001 with rains of up to 37 inches. An LCRA study estimated that a Hill Country storm like Allison would have forced LCRA to open all 24 of Mansfield Dam's floodgates – something that has never happened. (The most that have been opened at one time was six, during a 1957 flood.)

"The flood that occurred in summer 2007 was triggered by a 19-inch rain in the Marble Falls area," Rose noted. "If that heavy a rain had fallen over a much wider area of our watershed, it could have resulted in a catastrophic flood approaching those of the 1930s.

"One day, such a flood will occur, and its impact will be even more devastating to a basin that is much more heavily populated and urbanized than it was seven decades ago."

A matter of when, not if

Anticipating that day, LCRA has upgraded the Highland Lakes dams and expanded its Hydromet system of rain and streamflow gauges throughout the basin. LCRA transmitters broadcast local information from NOAA Weather Radio All Hazards throughout the basin. And LCRA is sharing data with basin communities that are updating local floodplain information.

Residents who live in or near a floodplain should prepare now to protect themselves against a flood. Those measures include building or retrofitting homes and offices to minimize flood damages (or choosing not to build in a floodplain); purchasing flood insurance; planning an escape route; and using a weather radio.

"We've been fortunate these past seven decades not to have suffered a flood like those of the 1930s," Rose said. "But we know it will occur, and everybody needs to be ready."