

## '83 flood-control work helps limit damage

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The flood-control measures implemented after the disastrous 1983 floods - combined with less rain along the upper reaches of the Santa Cruz River - limited the damage from the weekend's floods, Pima County officials say.

But county supervisors still plan to declare a disaster at today's meeting in order to be eligible for federal money.

Despite record flows in the Rillito River, widespread flooding on the far East Side and the evacuation of a riverside neighborhood in Marana, county officials said the damage could have been much worse.

Severe erosion during the 1983 flood widened the Rillito, leaving it with a larger channel that can handle more water. Bank stabilization between Craycroft Road and Interstate 10 prevents further erosion and protects bridges. And bridges are engineered to higher standards now.

Officials estimate the Rillito carried almost three times as much water Monday as it did in 1983.

If flood-control measures had been at 1983 levels, "we would have been annihilated," said Thomas Helfrich, division manager for water resources at Pima County Flood Control.

"If we didn't have the bank protection, we would see a lot more damage," said Suzanne Shields, the county's chief engineer and flood-control director.

Shields, Helfrich and more than a dozen other officials from county departments and local jurisdictions spent much of Monday in the county's emergency management office.

They watched live video feeds of the surging water and zoomed in to look for erosion along the banks. A major levee on the east side of the Santa Cruz in Marana held, even as farm berms on the west side failed. There was no significant erosion.

The 85 rain gauges and 30 stream gauges scattered throughout Pima County told them when and where rain started and stopped, how much rain fell, how fast washes were flowing and how much water was moving through them.

The rainfall pattern also was different than in 1983, when rain fell across all of Pima County, swelling not just the Rillito but the Santa Cruz River as well.

This time, the rain was concentrated in the Rincon and Catalina mountains. That caused flooding along Tanque Verde Creek and Pantano Wash, both of which feed the Rillito.

But the Santa Cruz isn't flooding, sparing Marana the combined force of both rivers.

"We'd be in much more of a fix if the Santa Cruz also was flowing," Helfrich said.

Shields said development, often blamed for increased run-off, likely was not a major factor in the flooding because much of the area draining into the Rillito is national forest.

Shields said the county may take additional steps after these floods, but it was too early to tell what might be necessary.

"We'll have to look after the storm to see whether it's more appropriate to do some flood-control measures or to purchase and move people," she said. "It's very hard to see when the water is still running."

Shields said in some places it is more appropriate to just let the water spread out. "If you channelize it too much, it moves faster and it could cause a lot of damage downstream," she said.

Shields said she doesn't think any flood-control measures failed, but inspectors will go out as soon as the waters recede.

With more rain predicted, county officials are taking a "wait-and-see" approach.

"Hopefully we'll have good news and not bad news by the end of the week - good news meaning we get out of this with no major property loss and no loss of life," said Supervisor Ray Carroll. His district includes the far East and Southeast Sides.

He praised the county response, as did Supervisor Sharon Bronson, who represents western Marana.

"Having lived through 1983 and the 92-93 events, we haven't had the catastrophe we've had before," Bronson said. "We certainly have had challenges, but we have made corrections and have the infrastructure in place."

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