



* Inflows: the estimated amount of water flowing into the Highland Lakes from rivers and streams.

Data for 2017 and 2018 is preliminary and subject to change.

Period: July (acre-feet)	
Since 1942, July Average:	83,538
2008-2015, July Average:	40,402
July 2018:	1,726

Decreased Run-off from a Rancher's Perspective

Stanley Miller and Richard Golladay

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A 75-year-old rancher named Stanley Miller in Llano County knows exactly what has decreased run-off to the Highland Lakes in recent years. Below are his observations over a lifetime.

The biggest impact on run-off was return of the coyotes (following the ban of 1080 poison), because it ended the sheep and goat business forever in most of the Hill Country during the decade of the 1980's, except on small tracts of 50 acres or less. Coyotes also eliminated the over-population of rabbits. (Sheep, goats, and rabbits are short grass grazers, so they left the land bare and allowed a lot of run-off when it rained.) Ranchers were forced to switch to raising cattle, almost exclusively.

Also, during the predominantly sheep and goat raising economy (before 1980), ranchers planted small grains or hay grazer. Plowing and laying the fields bare between crops created more erosion (and run-off). "We were carrying rocks out of fields as they were uncovered from the erosion."

Following the shift to a cattle economy, two innovations drastically changed ranching: (1) planting and fertilizing improved perennial grasses in the fields, and (2) rotation grazing of cattle. Rotation grazing, in particular, enabled older native perennial grasses to be re-established on the range land not in fields. Both re-established native grasses on range lands, and improved grasses in fields, drastically reduced run-off and erosion, since it means more year-round ground cover. This transition began in the 1990's.

Another factor greatly affects run-off: Invasive species of trash brush, cedar, mesquite, and cactus were formerly somewhat controlled by sheep, goats and rabbits, because these short grass grazers eat these plants when they first sprout. But now these invasive plants have exploded in size and numbers, because cattle predominately eat only grass. These plants lowered the ground water table, even though the grass cover was holding it. All but the biggest springs are dry, and water levels in wells are noticeably deeper. It took a few years for the invading trees and brush to be noticeable, but now ranches are being overrun and they are not being controlled fast enough. Also, almost all land is now being bought for recreational use. Livestock ranching can't pay for land any longer. Brush cover enhances deer numbers and most owners see no need to control invaders. The Texas prairie is disappearing.

Although total rain may be the same, on average, there are fewer 3 and 4 inch rains. Also, many earthen dams were built as far back as the 1950's, which often were full and overflowed during the sheep/goat raising economy. Now, because of less upstream runoff (because of cover of perennial grasses), more and more of these dams are usually dry. If they have water, an inch a day can evaporate on hot summer days. (And summers are hotter). On his ranch there are 1200 acres that drain into two draws - each of which drain into an earthen dam which used to be permanent livestock water sources,

but are now usually dry. "I have probably seen my dams overflowing only 10 days in the last two years."

The increase in perennial grasses, rotational grazing, recreational ranching, brush out of control, more dams, a lower water table, and more wells being drilled for people moving to the Hill Country means less run-off, fewer springs, and less in-flow for the lakes. The downward trend will continue.

Mr. Miller sells ranch real-estate in the Hill Country, and the observations he makes about ranches in Llano County applies to ranches all over the Hill Country.

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