

# HOW MUCH WATER IS IN THE PEDERNALES?

SCIENTIFIC MEASUREMENTS, CONSERVATION PRIORITIES AND STRATEGIC ACTIONS FOR THE TEXAS HILL COUNTRY.

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## PROJECT SUMMARY

The Pedernales River flows over 100 miles from Kimble County until it merges with the Colorado River at Lake Travis. It supplies drinking water for thousands of people, including the City of Austin. It fosters a sensitive ecological system and feeds numerous watering holes and recreation areas.

This is just the beginning of the Pedernales River's story. Further scientific investigation within the Pedernales watershed will lead not only toward water quantification, but also toward a greater understanding of how water moves within its natural systems, how and why water quality can change over time, and what we can do to ensure that fresh water is available for the future.

## RESEARCH FINDINGS

The Meadows Center's research has delivered a greater understanding of the river's movement, overall quality, and its response to land use and activity over time. These research findings have direct management implications. Below are some key insights:

1. Approximately 23 percent of the annual inflow to Lake Travis is from the Pedernales River. Furthermore, approximately half of this inflow (12 percent) originates from groundwater.
2. Comparisons over the past 50 years indicate that the river is in good shape, with healthy and flowing waters.
3. Groundwater is significantly contributing North of the river, downstream from Johnson City.
4. The Pedernales River acts as a groundwater catchment area in the Southwest Travis County/North Hays County portion, causing very little groundwater recharge.
5. Groundwater significantly contributes to flows near Pedernales Falls State Park from approximately 2 miles upstream.
6. Preliminary findings indicate that there is significant nitrogen and phosphorous loading from Fredericksburg and upstream.

## QUICK FACTS



PROVIDES WATER FOR THOUSANDS OF PEOPLE



APPROX. 1,200 SPRINGS



4 AQUIFERS



819,200 ACRES OF DRAINAGE AREA



19+ RARE PLANTS AND ANIMALS



9,000 ACRES OF PARKLAND



## RESEARCH PROCESS

The Meadows Center's watershed science team began their investigation by designing a watershed-based measurement methodology that could be applied to the Pedernales watershed. Their process and goals were clearly defined:



## A CONSERVATION APPROACH

Now is a prime opportunity to consciously maintain a pristine watershed in the face of anticipated population growth, increased development, and changes in land use. Below are recommended strategies to protect the watershed:

- Conserve vulnerable places, with emphasis on recharge zones North of the river in Southwest Travis County/Northern Hays County
- Provide landowner incentives to improve land management practices that are compatible with maintaining a healthy river, particularly in the upper watershed
- Development of a Watershed Protection Plan (WPP)
- Provide education on Low Impact Development (LID)
- Promote a stewardship ethic for all who live, work and play in the basin

## BECOME INVOLVED

A solid, scientific understanding of complex and interconnected surface and groundwater systems is crucial for wise water use. Landowners are key to this effort. Landowners are the frontline stewards of our water resources and your insights and involvement are critical for this ongoing research.

If you have a creek, stream, river, or spring on your property and would like to learn more about these precious resources or are willing to support our work, please email Jenna Walker at [jjwalker@txstate.edu](mailto:jjwalker@txstate.edu).

**More information can be found online at [Pedernales.MeadowsWater.org](http://Pedernales.MeadowsWater.org).**