Riparian Notes

Note Number 27, November, 2012 ***Steve Nelle, San Angelo, Texas***

It's Not Rocket Science

At a riparian workshop in New Mexico, one of the instructors repeated a quote he had heard:

"This riparian stuff is not rocket science . . . it's much more complex than that".

This statement made me feel much better about my seemingly slow rate of understanding riparian dynamics. Up to that time, I had attended and even helped to teach a number of basic riparian workshops, but I knew that I did not understand it very well. I was especially confused about the interaction of the hydrology and geomorphology and the forces of sediment transport, channel evolution and other physical aspects of creeks and rivers.

Hans Einstein, son of Albert Einstein was a hydraulic engineer who studied sediment transport processes in rivers. It is reported that his father once asked Hans "why is it that you wish to study something so complicated?"

If Albert Einstein thought it was complicated, how could any regular person ever hope to understand the complexities of creeks and rivers? These complexities continue to intrigue and challenge me. Until ordinary people can understand the basics of how creeks and rivers work, there will continue to be slow adoption of good riparian practice. If people do not understand <u>why</u> something is important, they are not likely to adopt it.

With this in mind, the author, a simple wildlife biologist, has sought to understand the fundamental aspects of hydrology and geomorphology that influence how creeks function and work in the landscape. The good news is that this stuff is understandable – even to common people. Very few of us have a degree in hydrology, physics, fluvial geology, or other related disciplines; and fortunately, degrees are not needed to appreciate and understand the basics well enough to put them into practice.

As with most other educational efforts, repetition is the key to understanding difficult concepts. A single exposure to a complex subject is usually not enough, but hopefully, it will stimulate curiosity and the desire to continue and deepen the learning process.

There is no greater issue in Texas, than water. Texas has over 190,000 miles of creeks and rivers. These are the main arteries of our water supplies. The water supplies of Texas depend on functional creeks and rivers. When creekside and riverside landowners understand how creeks and rivers work, they will be more likely to practice good riparian and streamside management. This benefits all Texans.

The water challenges of Texas will never be resolved until more people understand how creeks and rivers work, including the vital role of voluntary land stewardship, which helps sustain flows and maintain water quality. Landowners, policy makers, agencies, conservation and agricultural organizations all need to work together with greater cooperation to help sustain, maintain and restore the most precious and valuable natural resources that we have. The quote should have read:

"This riparian stuff is not rocket science . . . it is much more <u>important</u> than that."

A note from the author: *Riparian Notes* began in 2003 as a way to disseminate basic information about creeks, rivers and riparian areas. Note Number 25 in 2007 got me into a lot of trouble with my employer, so the notes were suspended. Sometimes speaking the truth will get you in trouble. Now that I am retired, I plan to continue writing these notes once again. Previous notes are available here:
http://www.blm.gov/or/programs/nrst/riparian_notes.php