WATERSHED WEEK IN REVIEW



Riparian Boundaries in Texas

This and last week's newsletter discuss the complicated topic of the Gradient Boundary.

Michael V. Powell, an attorney with Locke, & Lord in Dallas presented a paper in 2006 on "Riparian Boundaries in Texas".

<u>This document</u> provides the source for much of this week's newsletter.

Gradient Boundary Exceptions

The gradient boundary is what the State of Texas uses to define the boundary between private ownership of the uplands and public ownership of the stream bed.



Very straight forward, right? Left is a depiction of the author researching and writing about the topic.

Unfortunately, as we learned in last week's newsletter,, while the law may be explicit about the boundary, Mother Nature is not so easily described. Locating the Gradient Boundary requires surveyors specifically licensed by the State to locate the Boundary.

On top of that, there are exceptions:. Erosion & Accretion, Waterfalls and the discordant, "Avulsion".

Gradient Boundary Exceptions

Recap

But first a recap of what we learned last week. Oh yes, and the friendly reminder:

...please note that the information provided here does not, and is not intended to, constitute legal advice. Readers should contact an attorney for advice with respect to any particular legal matter.

- The gradient of the flowing water in the river is what determines the datum or starting point for determining gradient boundary.
- However, the height and position of the gradient boundary are determined by the bank of the river. This seems contradictory to the first bullet point, but the theory of gradient boundary is that the bank of the river tells us about the flow of the river. Think of the gradient boundary in the same sense as debris deposited along a bank after a flood. The debris line on the bank follows the gradient of the stream.
- The gradient boundary is found along the bank which separates the bed of the river from the adjacent land, confining the waters within the bed and preserving the course of the river. The photo below shows the bank, whose top is about 2-3 feet above the surface of the water. The gradient boundary bank is not the bank which defines the floodplain.



Erosion & Accretion

So what happens when the river bank erodes and accretes (grows by deposition)? The key to this answer is whether the erosion or accretion in gradual. If it is gradual or imperceptible, the gradient boundary will also officially change. The legal idea behind the change is to preserve the riparian quality of privately-owned upland so that it will continue "to abut, and have access in all places to, the water, which is what gives the land its valuable riparian character". Landowners may lose land if it erodes and gain land if it accretes.

Avulsion (or when is an island not an island?)

Avulsion on the other hand is not a gradual process, and so, the rules are different. This awful-sounding word is defined as the sudden and perceptible change in a river's course, or a sudden removal or deposit of riparian land. Avulsion primarily results from floodwaters cutting a new channel across a meander and leaving the old channel. The old channel becomes what is known as an oxbow.

There are a few examples of this on the Llano. One example is at the Texas Tech University Llano River Field Station near Junction. At one time the South Llano River meandered further to northwest towards US Highway 377 (see diagram). Today it cuts (avulses) across that meander, but Tech still owns both sides of the river. Another example is located just upstream of Grobe Crossing in Kimble County (KC 314), where the river has cut through an old meander, but the landowner still maintains ownership of the land.



So while, it is generally recommended to play it safe and camp on islands in the river (which would be state owned), there are a few instances when this would not hold true. One method for identifying avulsed lands is that they tend to have more mature vegetation located on them as the scouring energy of floods is now concentrated in a different location along the new channel.

James River Island

The large island at the crossing of the Llano just below the confluence with the

James is a very popular recreational area in Mason County; it was featured in <u>Texas Highways in 2018</u>. The island also is an exception, although not to the gradient boundary.

In 2004, Texas passed a law making it illegal to operate a motor vehicle in or on a protected freshwater area. (The creation of this law



stemmed from vehicles driving in the Llano River at Kingsland Slab.) By definition therefore, because James River Island is property of the state in a protected freshwater area, it would be illegal for folks to operate motor vehicles on the island. However, the law provides for communities to adopt Local River Access Plans, permitting access as long as the Plan still protects natural resources. <u>Mason</u> <u>County - James River Crossing Local River Access Plan</u> permits driving on the gravel of the island, but not in the river, prohibits ATVs, prohibits glass containers, and prohibits motor vehicle travel between 10:00pm and 4:00am. By exclusion, it does not prohibit camping.

Navigation

Another exception to gradient boundary law involves portaging or scouting a navigation hazard. As noted in Texas Parks and Wildlife's information on <u>Use of a Stream Bank to Scout and Portage Hazards</u>, "several aspects of Texas law seem to support the proposition that a portage right is a necessary corollary to the fundamental right of navigation." So while there are still apparent gray areas, it seems that a "when person floating a navigable stream encounters an obstruction like a log jam or a dam, or some other potential safety hazard, the navigator has a limited privilege to go onto adjoining private land to scout and if necessary make a safe, reasonable portage. The intrusion on private land should be minimized."

It appears therefore that exceptions are provided for getting around logjams or waterfalls, such as Dolan Falls on the Devils River.

Devils River

Speak of the Devils. In last week's newsletter, we discussed the complexities of determining the gradient boundary in the field - you need a team of licensed surveyors. We noted that many in the boater community use "staying below the vegetation line" as a rule of thumb to avoid trespassing, and suggested that while this is not official state policy or legal advice, it does provide a guideline in the field to help avoid conflicts.

Randy Nunns, President of the <u>Devils River Conservancy</u>, correctly noted this approach does not work in the Devils. While the Devils and Llano share a common watershed border, the two rivers are quite different. The Devils has cut a much deeper canyon into the heart of the limestone of the Edwards Plateau and consequently has much steeper and rockier banks than those of the Llano. Consequently, the vegetation line along the Devils is often quite a distance away from the river, far above the gradient boundary. The Devils also has a long history of conflict between landowners and boaters, owing partly to the fact that private property lines run to the middle of the river creating confusion regarding public access. <u>See Watershed Week from two weeks ago</u>.

The Llano River does have rocky shelfs in some locations, inhibiting the growth of vegetation and certainly negating the application of a rule of thumb using the vegetation line. But for the most part, the banks of the Llano do have alluvial banks that mimic the gradient boundary banks described in the literature.

Rule of Thumb?

The Llano River Watershed Alliance is composed of landowners and members of the recreational community, all with a concern for the welfare of the Llano. Over our 11-years of existence, the Alliance has diligently worked to bring both groups together and work to avoid the conflicts that have plagued our neighboring rivers.

Unfortunately, the issue of the Gradient Boundary is impossible to exactly determine in the field. A general rule of thumb that could be used to avoid conflict might be available in the literature. <u>Colonel Stiles in his report</u> cites examples of gradient boundary heights found in other Texas rivers, including the Colorado. In the eight examples given, the gradient boundary is found to be between 1.1 and 1.6 feet above the surface of the water. For the Llano, given the difficult to impossible task of the finding that exact boundary, perhaps we might suggest that somewhere between 1 and 1.5 feet might be something we could all accept. Thoughts?