

Who Owns the Water? Pt. 1, Groundwater

This is the way the question often comes to me--who owns it?--as a way of asking either **who controls water in NC (for beneficial purposes)** or **who is responsible for it when it does harm (e.g., flooding)**. Framing the question this way is an unsurprising reflection of the importance of property rights in American law. And property rights do matter for water law. But water, the great solvent, has a way of dissolving preconceptions about ownership of property and forcing anyone who really cares to reexamine their understanding of ownership itself. Things, like water, that are always moving, often in mysterious ways, and that are so vital to us that we can't imagine life without them, just don't fit well in simple definitions of "property." To make matters especially complicated for water, the law has come to treat its ownership very differently as it moves through the eternal cycle in which it always moves: from ocean to sky, back to earth as rain ("stormwater") or snow, then either infiltrating into the ground (groundwater) or into streams and lakes (surface water), and then passing through myriad human channels, including our own bodies, on its way back to the sea. In this post, I will outline **the way NC law treats ownership of groundwater**--probably our biggest and ultimately most important store of freshwater.

NC shares with most of the eastern United States a lot of water law principles that originated (so far as we know) back in the Roman empire. Laid on those ancient principles are many modern statutes and a host of cases, especially from the early industrial era when water power was the predominant form of power. The problem of mill dams and ponds was just as big a legal challenge in NC as elsewhere in 19th century, and [as I've discussed elsewhere, the colonial legislature in NC was deeply concerned with drainage of water in ways that directly challenge modern assumptions about property law](#). It's not terribly surprising that these ancient and unintegrated legal ideas don't always mesh well with contemporary scientific understanding of water.

This is probably nowhere clearer than with groundwater; the **legal principles one gets from reading the old cases (and, sadly, many of the current statutes) just don't match the reality one learns in the first two weeks of a college-level hydrogeology or hydrology class**. To begin with the biggest misunderstanding ensconced in NC groundwater law in 2015, there really is no clear separation between groundwater and surface water. The base flow in most streams in NC, at least perennial and intermittent streams, and especially in low flow times (usually the times of maximum legal interest for those who want to extract water) is actually groundwater. So instead of thinking about groundwater as something way down there under the ground versus streams as things up on the surface, it's usually more accurate to think of streams in NC as the places where the surface of the land dips down into the saturated zone that we call groundwater.

Now it's true that **in eastern NC**, roughly from the fall line to the coast, where the basic subsurface geology is made up of old ocean floors and unconsolidated sediments eroded from ancient mountains, there are **a series of aquifers that lie somewhat like a tilted layer cake**, one on top of another. These aquifers do act more or less like underground reservoirs in the way people

commonly think of groundwater. In fact, historically they produced artesian wells and high quality water easily accessible from the surface, even in shallow, dug (as opposed to drilled) wells.

To the west of this line, though, where the diagram shows "basement rock," there still is groundwater. But it is generally contained in the pore spaces and cracks of the subsurface, crystalline rock. There may be vast quantities in the ground at a given place, but the yields from wells are generally smaller and more variable.

NC's law of water doesn't acknowledge any of this basic hydrogeology. Instead, the old cases on groundwater try to distinguish between "underground streams" versus more slowly "percolating" groundwater (see, e.g., *Jones v. Home Building & Loan Association*, 252 N.C. 626). Judges made this distinction thinking that the rules for surface water ownership could be transferred to "underground streams" and thus avoid the legally perplexing problem of water slowly sloshing around beneath us in unpredictable ways. In reality, it was and is difficult or impossible to prove the existence of an underground stream. And so **the simple starting point for discussion of groundwater ownership in NC is that owners of land have the right to make "reasonable use" of the groundwater beneath their property.** In other words, like the riparian rights that come with ownership of land alongside surface water, the right to extract and use groundwater is one of the bundle of rights that come with real estate ownership.

This just raises more questions, chief among them being: if I pump a well on my land so that the water in your well on adjacent property drops, perhaps below the level where you can still pump it without drilling deeper, can you sue me to stop that infringement? Or similarly, if my pumping causes bad (contaminated or saline) water to enter your well, can you get a court or an agency to stop me from pumping? Leaving aside the (huge) proof problems this scenario raises, especially in the piedmont and west where groundwater moves through preferential pathways in rock that are not always easy to figure out, the answer in NC is as follows:

if I am making economically beneficial use of the pumped groundwater on the land from which it was pumped, as opposed to distributing that water to others elsewhere, then you can't stop me, although you might be able to win some monetary damages for your extra costs in drilling deeper. However, if your intended use is to distribute that water elsewhere, you

might not even win damages for my pumping.

In other words, NC law has treated groundwater rights much like riparian rights for surface water. The seminal cases are *Rouse v. Kinston*, 188 N.C. 1 (1924) (city system using water offsite versus farmer) and *Bayer v. Nello Teer*, 256 N.C. 509 (1962) (mine dewatering harms neighboring landowner's well, but mine considered to be reasonable use, thus *damnum absque injuria*).

This basic NC water law obviously causes concern for public water systems that rely on groundwater for source water to serve many customers and businesses. So far, though, except in an area of the central coastal plain (about which more shortly), the usually plentiful water resources in the state have kept the conflicts to a minimum. However, in another context--drought--this basic water law has presented major challenges to public water systems. In short, during the extreme droughts of the early 2000s, many public systems in the state wanted to restrict the use of groundwater in their jurisdictions, to match the restrictions they were imposing on centrally supplied water. However, neither I nor my predecessor in water law at the School of Government, Milton Heath, who plowed these fields starting in the 1950s in a more comprehensive way than anyone before or after, believe that local governments in NC have the power to prevent land owners from making reasonable use of the groundwater beneath their property--it's an incident of land ownership. Cities and counties and some other special purpose local units of government can require connections to their central systems, or in lieu of connections can charge landowners in close proximity to the central system lines a fee for the availability of public water; they can also (must also) prohibit cross-connections between public systems and private wells. But until and unless the legislature changes things, **I don't think the local governments have authority to prohibit use of groundwater.**

Milton authored an important set of statutes, the Water Use Act of 1967 (partly in response to the *Bayer v. Nello Teer* case) that let the State impose restrictions on groundwater pumping (or, for that matter, on surface water extraction, although they have not been used for that purpose to date). See GS 143-215.11 - 215.22. This law was based on a similar law in New Jersey, and it has now been largely duplicated throughout the Southeast. In North Carolina, it was used to regulate an area around the phosphate mine in Aurora when the dewatering operation there created a cone of depression in the phreatic surface (water table) that caused regional problems for groundwater users. That original Capacity Use Area #1 has now been extended into the [Central Coastal Plain Capacity Use Area](#), a **fifteen-county area where one must get a permit for extraction of more than 100,000 gallons per day of groundwater**, and where existing users have been forced to significantly reduce their use of groundwater. This regulation has already resulted in very promising water level recoveries in places that had seen the water table drop substantially in the 1990s and 2000s. It is the exception (by statute) to the general, common law of groundwater ownership in NC.

Many thoughtful people these days resist the idea that water can't be treated as private property more or less the way that houses or fiddles (my favorite form of personal property) are treated. It may make for interesting academic or thinktank conversation to try to imagine a world of fully

privatized water rights. But it's not the world we live in, and I personally don't think it ever will be. It would take a shockingly huge increase in the size of government just to monitor and adjudicate any system in which water rights were fully privatized, and the attempt to allocate all water rights to present and future persons would be worthy of a Hollywood dystopian horror movie (say, *Mad Max* meets *Chinatown*). Water ownership has more in common with ownership of wild animals than with ownership of houses or fiddles. As generations of first year law students learned from the case of *Pierson v. Post* (N.Y. 1805), for wild animals, you don't "own" it for beneficial purposes, in the simple sense, until you have fully captured it. Like Pierson's fox, water keeps moving underground, albeit slowly compared to the surface. Nevertheless, it moves, in the immortal words of Galileo. And so ownership of groundwater seems to me never to be exactly like ownership of a bank account, unless and until the State somehow guarantees a certain quantity to a certain person. Ironically, for those of a libertarian bent, this would require much more extensive government regulation than we have today over groundwater in NC.