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New research reveals concerns about the health of the Floridan Aquifer

July 6, 2015

New studies led by the University of California, Irvine (UCI), reveal that “About one third of Earth's largest groundwater basins are being rapidly depleted by human consumption, despite having little accurate data about how much water remains in them...This means that significant segments of Earth's population are consuming groundwater quickly without knowing when it might run out.” One of the 21 depleted aquifers that the study cites is the combined Atlantic and Gulf Coastal Plains Aquifer, which includes the Floridan Aquifer.¹

These studies, which used information provided by NASA's Gravity Recovery and Climate Experiment (GRACE) satellites, highlight a concern that all Floridians—especially state water managers, elected officials and representatives—should take seriously.

NASA has confirmed what Florida's water advocates already know, that we are using too much water and are damaging our aquifer in the process. This is the same aquifer that provides drinking water for millions of Floridians and feeds the state's 1000 freshwater springs, the largest concentration of such springs in the world. And because we do not know when we might deplete the aquifer, we need to employ the Precautionary Principle; we need to make conservative decisions in the face of uncertain science.

Water advocates have long argued that Florida's springs are “canaries in a coal mine” because they serve as windows into the Floridan Aquifer, providing the first warnings of problems. At a 2013 Springs Conservation Summit, 13 panelists agreed that threats to the Floridan Aquifer are real. The panelists included Ann Shortelle, then executive director of the Suwannee River Water Management District (SRWMD); Erich Marzolf, also of SRWMD; Anthony Cunningham of Gainesville Regional Utilities; and Lisa Gordon of the U.S. Environmental Protection Agency.²

Most of Florida's water management districts have already identified areas within which water sources are projected to be inadequate to meet demands through 2020.³ Long-term trends reveal that aquifer levels are declining throughout the state. For every foot that the aquifer drops, the level of saltwater underneath rises 40 feet. Saltwater intrusion into wells can damage crops and

¹ Study—Third of Big Groundwater Basins in Distress
<http://www.jpl.nasa.gov/news/news.php?feature=4626>

² “We agree—threats to our aquifer are real”
<http://www.gainesville.com/article/20130318/OPINION03/130319676>

³ Southern Regional Water Program, A Partnership of USDA NIFA & Land Grant Colleges and Universities, “Water Quantity and Policy in Florida” <http://srwgis.tamu.edu/florida/program-information/florida-target-themes/water-quantity-policy/>

render water undrinkable, leading to severe economic problems for farms, households, businesses and industries.

It appears that Florida is on a crash course toward a water disaster, but it is possible to change direction.

A close examination of Florida's environmental history—and, in particular, the history of the Everglades—reveals that the costs of bad water use decisions far outweigh the costs of preventing damage to our waters.

Florida's water problems have a science dimension and a public policy dimension. Science was never intended, however, to make our decisions for us or to tell us what we *should* do in any situation. Construction of the bridge between science and public policy—between what we know about the world and how we choose to use that knowledge—is guided not only by law but also by ethics. Our water managers and elected officials build that bridge between science and public policy when they either make or ignore ethical choices about water use.

Continuing to overuse the Floridan Aquifer is not an ethical choice because it ignores not only the aquifer damage that is occurring now but also the damage to the aquifer and our drinking water that we will bequeath to our children.

The Council urges our water managers and elected officials to take a much stronger ethical stand than they have demonstrated until now. We urge these groups to show leadership on water issues by adopting a policy of statewide mandatory water conservation that applies to all water users. Such a policy ensures fairness because everyone is called upon to make sacrifices. Such a policy also helps to avoid the problems of continuing overuse that will occur if Florida begins to tap into alternative water supply sources without first instilling a water conservation ethic throughout the state.

In summary: The time has come to change the ways in which Floridians are using water. To delay or to resist change will only make our aquifer problems worse and lead to human suffering.