

Preliminary Results from the Upper Floridan Aquifer Nutrient Monitoring Network, Southwest Florida Water Management District

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A groundwater nutrient monitoring network has been established in five first-magnitude spring basins to evaluate nitrate concentrations in the Upper Floridan aquifer across the northern region of the Southwest Florida Water Management District (SWFWMD). Sampling for the Upper Floridan Aquifer Nutrient Monitoring Network (UFANMN) was initiated in 2006. A total of 84 wells out of the 120 proposed wells, covering a 1200 square mile network area, have been confirmed and sampled at least once over a one year period. Historical water quality data for 71 of the wells were used to indicate if overall increasing or decreasing trends in nitrate concentrations were evident in each spring basin and across the overall network area. A cursory review of land-use patterns was used to assess possible relations to the well data. Since the flow of groundwater and gross changes in land-use are both slow processes, the UFANMN is intended to be a long-term sampling effort. It will likely take years to determine the effects of changing land-uses on groundwater quality, or if the use of Best Management Practices (BMP) are having a positive impact on groundwater nitrate levels in the spring basins.

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