

Florida Department of Environmental Protection



Division of Environmental Assessment
and Restoration

Updates to Nitrogen Loading to the Upper Floridan Aquifer:

Nitrogen Source Inventory and Loading Tool for Weeki Wachee and Kings Bay BMAP areas

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Groundwater Management Section

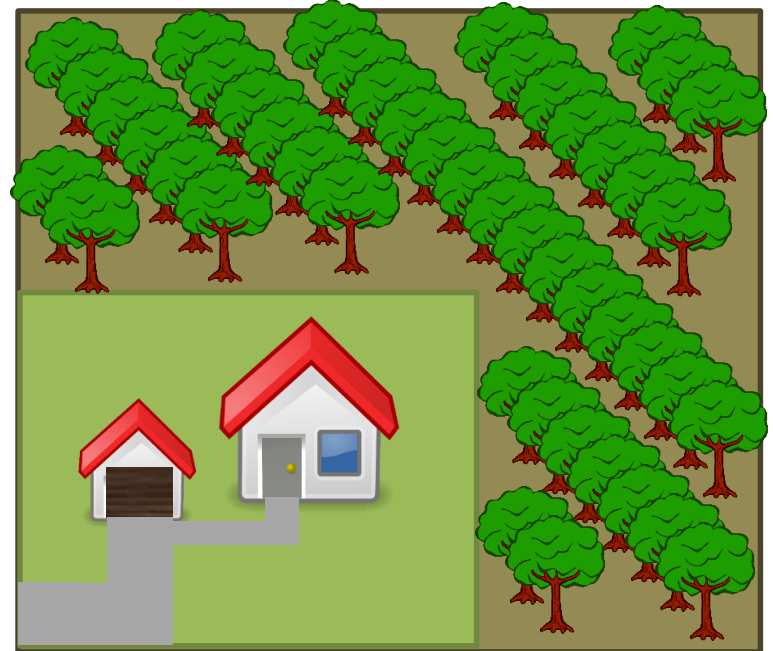
October 19, 2016

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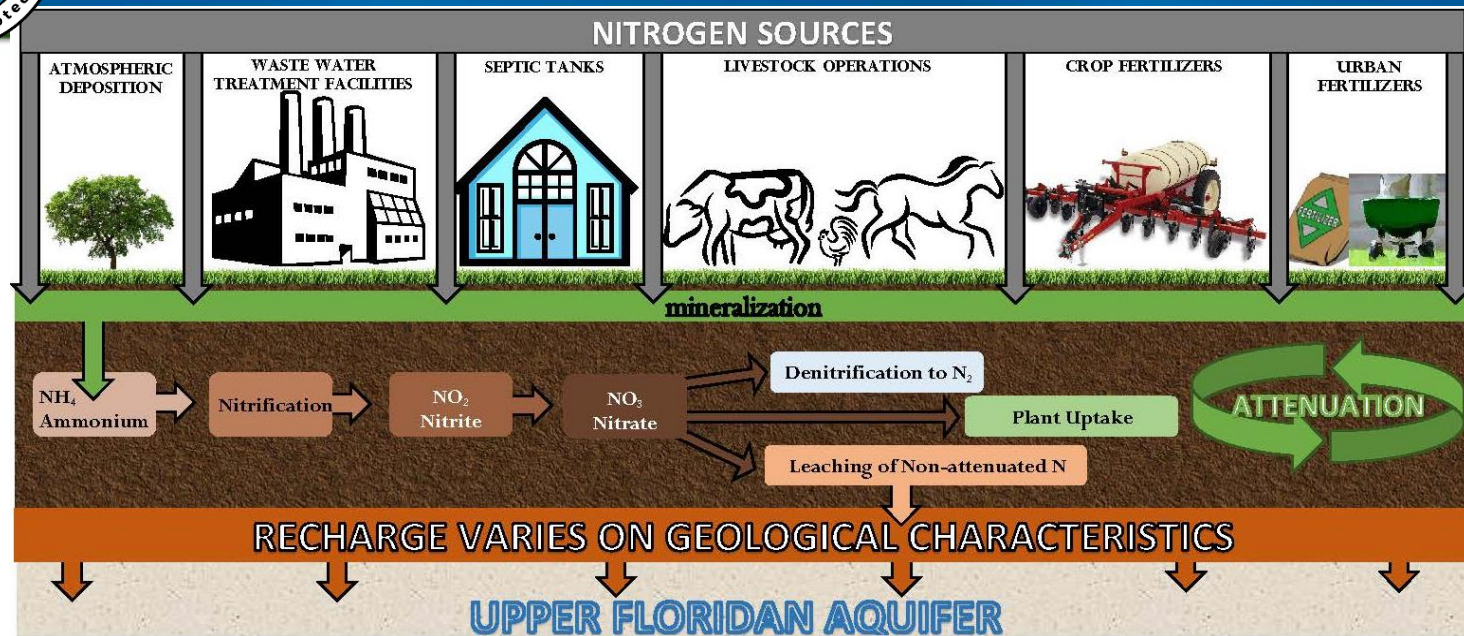
Urban Turfgrass Fertilizers

- ◇ Acreage likely to receive fertilizer estimated from PA data and property values
 - ◇ Residential
 - ◇ Single and Multi Family Homes
 - ◇ Condos
 - ◇ Non-residential
 - ◇ Schools and Colleges
 - ◇ Churches
 - ◇ Outdoor Recreational Areas
- ◇ Impervious surfaces estimated based on zoning laws
- ◇ **Maximum fertilizable acreage was capped at 1 acre**
- ◇ Property values used to assess probability of fertilization





Biochemical Attenuation Factors



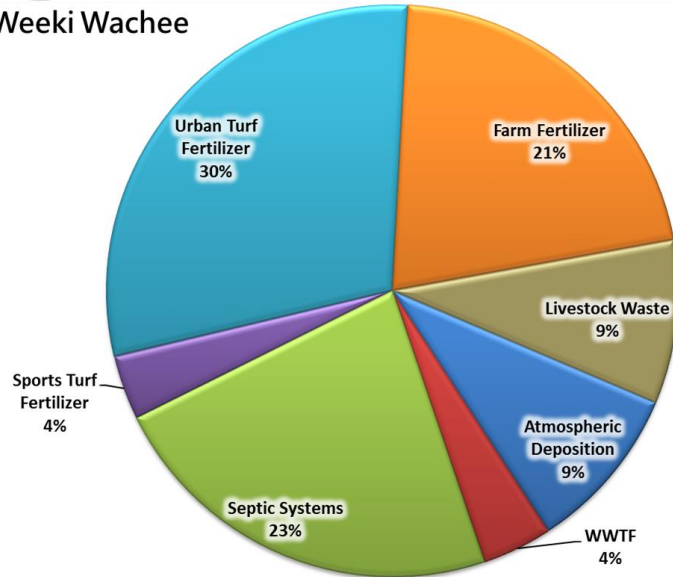
Loading Category	N Attenuation Factor
Atmospheric Deposition	90%
Septic Systems	50%
WWTF-RIB	25%
WWTF-Sprayfield	60%
WWTF-Reuse	75%
Urban Turfgrass Fertilizers	70%
Sports Turfgrass Fertilizers	70%
Farm Fertilizers	80%
Livestock	90%

- ◇ Represent the percentage of N removed and therefore not available for leaching to groundwater
- ◇ Based on factors used in similar past studies and found in relevant literature



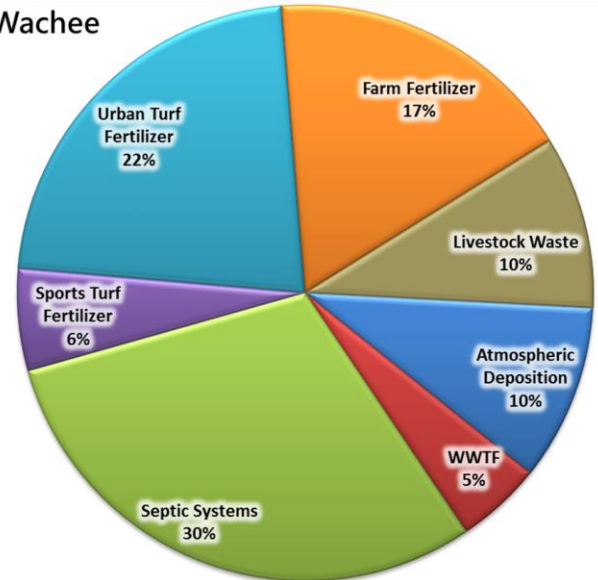
Weeki Wachee N Loading to Groundwater

Weeki Wachee

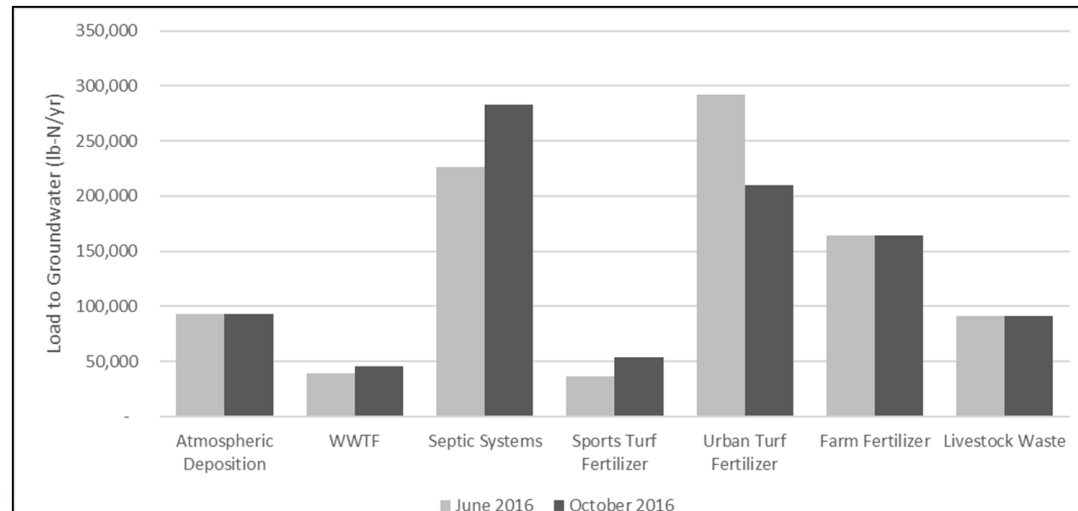


June 2016

Weeki Wachee



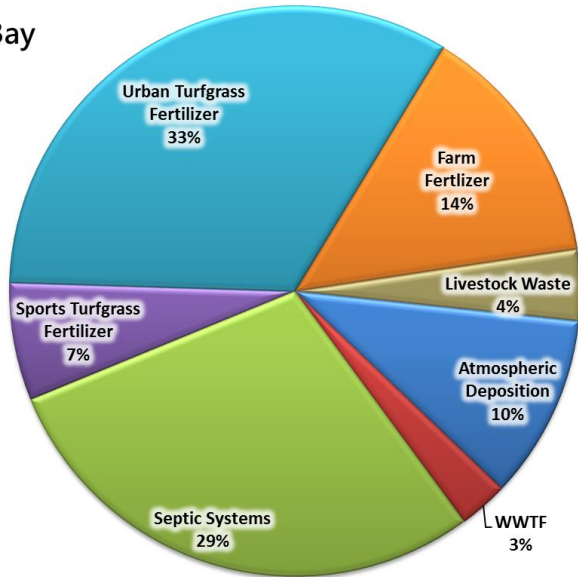
October 2016





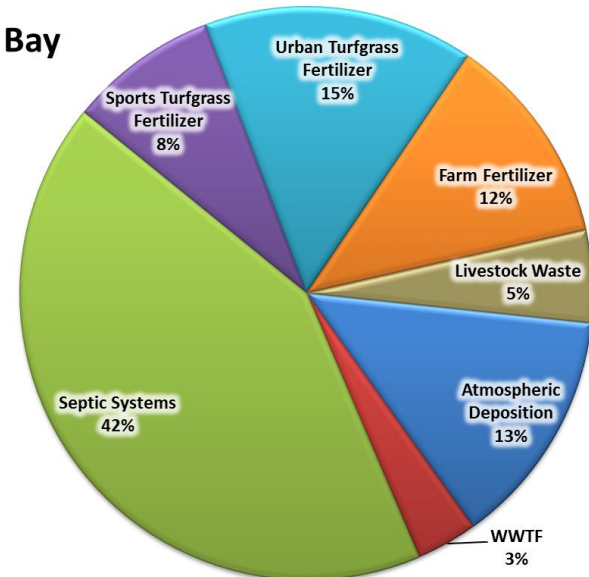
Kings Bay N Loading to Groundwater

Kings Bay

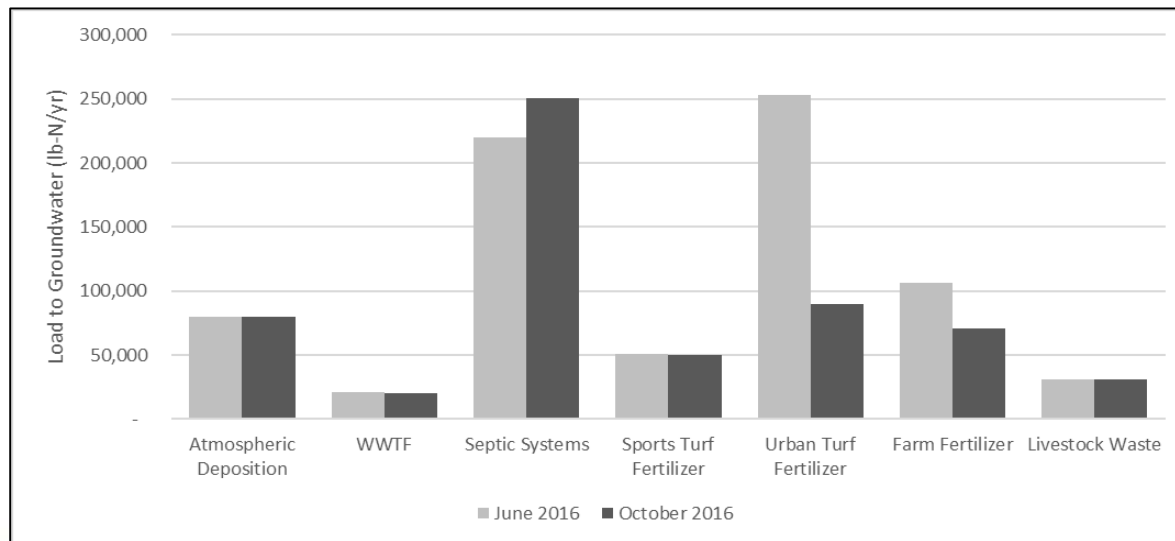


June 2016

Kings Bay



October 2016





Further Information

<http://arcg.is/29lCqfQ>

Florida DEP



Nitrogen Source Inventory and Loading Tool (NSILT)

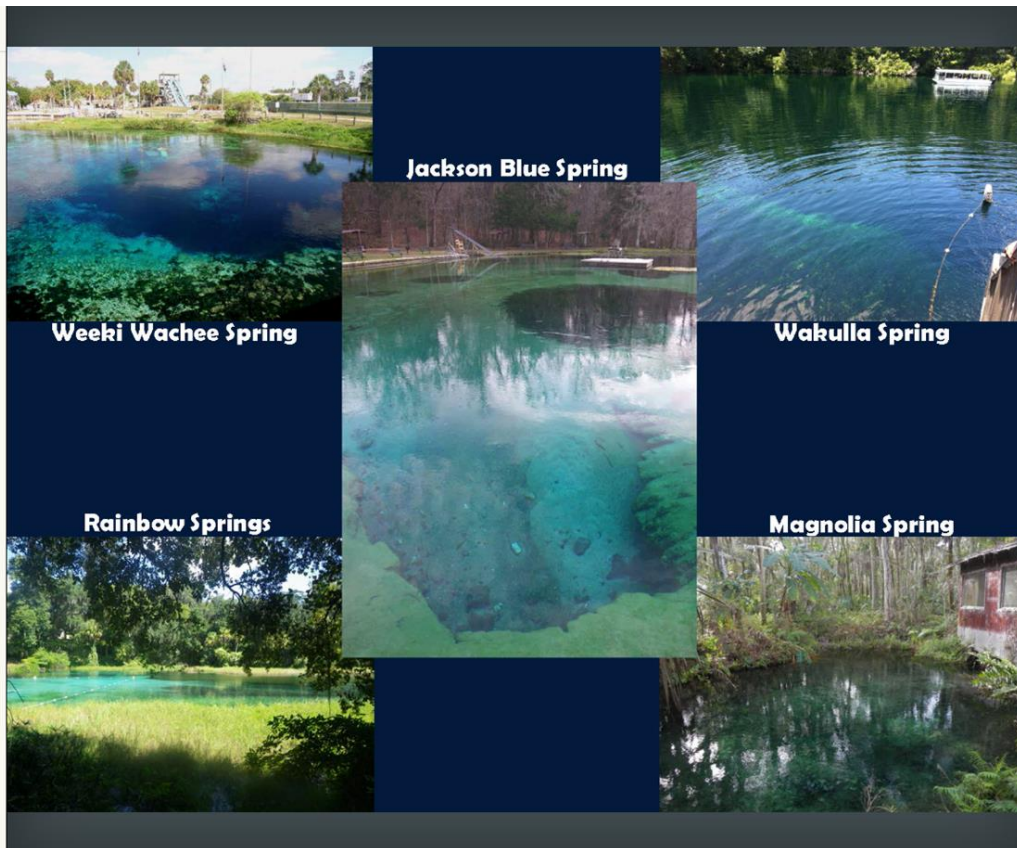
Nitrogen (N) concentrations in Florida springs have been increasing over the past several decades as a result of anthropogenic inputs. This has led to water quality and ecosystem degradation.

The Groundwater Management Section has developed the Nitrogen Source Inventory and Loading Tool (NSILT) to provide quantitative information on the significant sources of nitrogen in the groundwater contribution areas for nutrient impaired springs. This tool also is being used to estimate nitrogen loads to groundwater in spring areas covered by Basin Management Action Plans (BMAP).

Each BMAP area is evaluated individually and customized based on local practices, land use information, and available data.

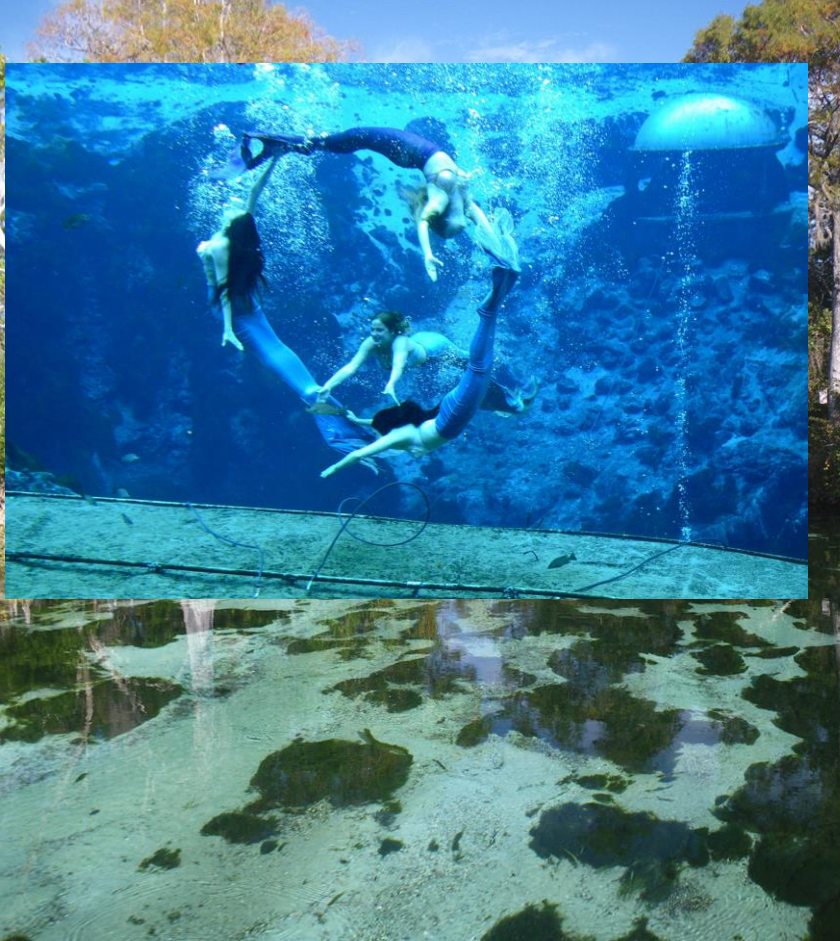


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QUESTIONS??



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