

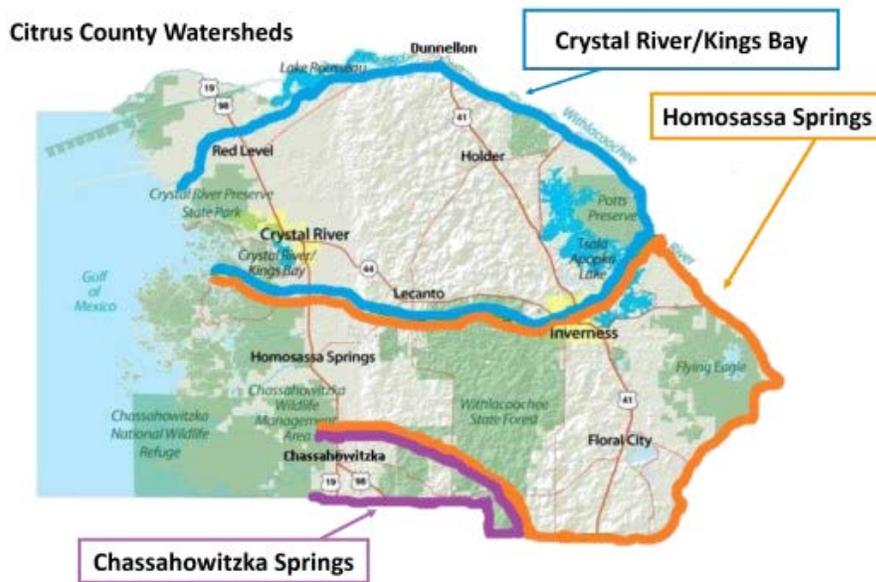
“We all live in a Watershed”

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A watershed is described as a divide, an area in which water drains under or water drains over the surface into a water body. Water is important and water quality is a critical issue. Non-point source pollutants are impurities which come from an undefinable source. Leaching and polluted storm water run-off are the channels through which nutrients or toxins enter water bodies. Often we point to what we consider the source of impurities or pollutants affecting water quality.

Through soil percolation, leaching is the removal of nutritive or harmful elements from the soil. Water moving through the soil profile carries soluble nutrients and toxins. When not captured and filtered by plant roots the nutrient escapes and is harmful to

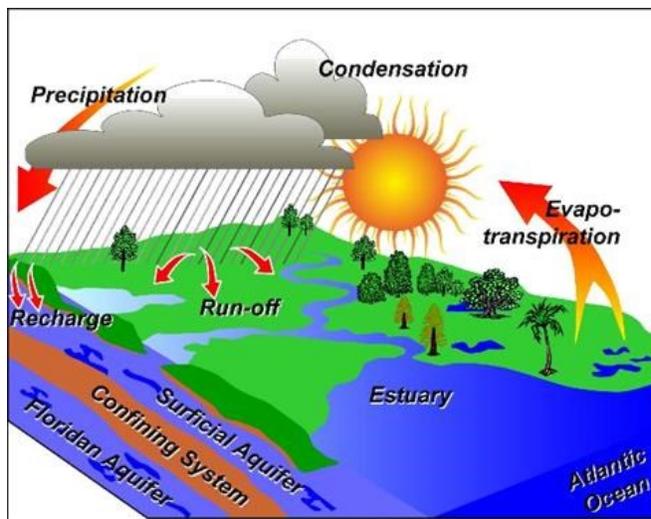


water resources.

Plant nutrients need to be in a soluble liquid form to be captured by plant roots. Clay and organic particles in the soil are able to hold these nutrients for a period allowing the transfer of the soluble nutrient to the plant roots, naturally filtering

the element. In sandy soils with few clay particles or limited organic material leaching is more problematic. The nutrient laden solution moves quickly through sandy soil which has no ability to capture and hold the nutrients in the soil system. Once the nutrient containing solution moves past the root zone a plants ability to capture it disappears and its eventual destination is groundwater.

The nutrients we choose to apply to our landscapes must be applied at appropriate rates, at the appropriate times depending on the hardiness or climatic zone in which we live. Nitrogen is required at appropriate rates when plants are actively growing. If a plant is not actively growing due to for instance, cooler weather then nitrogen is not required by the plant and if applied may not be captured by the plant and lost through the leaching process. Phosphorus is another element required by plants. It is a key component of chemical activity necessary for photosynthesis propelling a plants energy and vigor. Phosphorus has been removed from the label of turf or specialty fertilizers because, Florida soils typically have ample amounts of phosphorus. Phosphorus can be applied to a turf grass once a soil test has been performed and indicates a limited available P in the soil sample. Both nitrogen and phosphorus move quickly through our sandy soils and contribute to the decline in water quality.



Proper irrigation practices also play an important role in reducing potential nutrient loss through leaching. Application of supplemental water should be no more than 1/2"-3/4" of water which will infiltrate to a depth of 6-8" in sandy soil conditions. The root zone of all turf and most ornamental plants in Florida sandy soils is within this range. Shallow root zones are typical in sandy soil conditions. Green lawns are often the priority of many homeowners despite the requirements

of labor, material costs and replacement. Proper application rates and best management practices are also important to homeowners applying supplemental water and nutrients to their lawns.

Storm water or polluted runoff is another way nutrient or toxic materials migrate too surface water. Correct fertilizer application rates are again necessary, particularly when runoff is evident. The use of deflector shields when applying fertilizers near water bodies or impervious surfaces, recycling nutrient containing yard waste /grass clippings and prevention of yards waste from entering storm drains are all essential and best management practices homeowners should employ when maintaining residential lawns.

There are 7,000 acres of Citrus County watersheds we all share. How many lawns are in 7,000 acres of Citrus County watershed? Plenty, not all over fertilized, but still plenty. In 2014 commercial applicators of fertilizers to residential and commercial lawns are required by state statute to achieve a certification in Green Industry Best Management Practices for Protection of Water Resources. Basic training and a good start. The

University of Florida's, Florida-friendly Landscaping Program™ has created a program of 9 basic landscaping principles encouraging the selection of the right plant material for the right place, appropriate and responsible use of irrigation, fertilizers and pest control products to reduce the risk to water resources.

This information is directed to the homeowner, homeowner associations and builder/developers to encourage best management gardening and design practices. Utilizing the best lawn and garden management practices is essential to preserving and restoring water quality in our watershed. Navigating clean waters starts in our neighborhood, the watershed.