

The pace of water: slower, the better

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Few people realize that although water covers about 75 percent of the Earth's surface, about 97 percent of that water is oceanic, about 2 percent is locked in ice caps and glaciers and less than 1 percent is available as fresh water. Of this small percentage the vast majority is in underground aquifers. So, although water may seem plentiful, the water that plays such a big role in our everyday lives needs to be carefully managed and protected.

Water is recycled continuously in nature through the hydrologic cycle. It leaves the earth's surface and enters the atmosphere through evaporation and then returns to the earth through rainfall. When it does one of two things happen. In a natural system, rainfall gently seeps through the soils and eventually finds its way to underground storage aquifers where it may stay for eons. This is where our well water comes from. The second natural path of water is to slowly gravity-flow across the land surface making its way to small streams and eventually to larger rivers and bays. Where this fresh water enters bays or estuaries we find some of the most productive habitats in nature. So in nature, we have pathways for natural replenishment of our aquifers and for the maintenance of our productive estuaries.

What happens if either of these natural pathways is altered or disrupted? Activities such as uncontrolled ditching or draining, paving, deforestation, wetlands destruction, and channelization all serve to take the water off the land and run it to the estuaries faster than in nature. What this does is decrease the amount of water allowed to slowly percolate into the aquifer, and dump water into the estuaries without its normal slow cleansing flow through local wetlands. Thus, through unwise development practices we can seriously negatively affect two important natural protections of our waters.

So the best way to look at the hydrologic cycle and the flow of water off the land and to rivers and estuaries is to think in terms of slow is better.

The more wetlands, either connected or isolated, large or small, that you have to allow floodwaters to flow through, the better and cleaner the water will be that eventually reaches the rivers, streams and bay. This also has the side benefit of decreasing the volume of early stage floodwaters because the flood flows have been captured by the wetlands systems.

All this is made even more significant when you consider that Florida and Hillsborough County have lost about 50 percent of their wetlands. State policy in the late 1800s and early 1900s was to ditch and drain, to dry up the wetlands for developable land. Back then it was not appreciated that these wetlands resources are hugely important in many ways; for floodwater storage, storm buffering, recharge to groundwater, pollutant filtering, and as habitat for fish and wildlife. In fact, Hillsborough wetlands contain the state's largest breeding colony of roseate spoonbills and 50 percent of Florida's white ibis nesting colonies. The colonial bird nesting sites in Hillsborough are considered to have the highest species diversity in the continental United States and the county's wetlands support at least nine species of special concern as well as two threatened and one endangered species.

Fortunately today in Florida there is a much better understanding and appreciation of the need to conserve our remaining natural resources. There are efforts under way through regulatory and cooperative restoration projects at the federal, state, and local levels. Florida is a large state encompassing numerous types of ecosystems. In Hillsborough, for instance, more than 20 percent of our wetlands by number are comprised of small isolated wetlands less than one half acre in size. This is partially because of the unique geologic formations resulting in numerous small isolated depressional wetlands.

All the more reason to have local protection.

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