

The Importance of Watershed Management

By Rick Garrity

Watershed management is one of the most important concepts to understand when seeking to improve the quality of our local surface waters. A watershed is a drainage basin in which all land and water areas drain or flow toward a central collector such as a river, stream, lake, or estuary. The flow is propelled simply by land or stream elevation. So, you might ask how large is the watershed for Tampa Bay? Interestingly enough, the boundary of the Tampa Bay watershed encompasses portions of six counties: Pinellas, Hillsborough, Pasco, Polk, Manatee, and even a tiny part of Sarasota.

Watershed management is important to Tampa Bay because any rainfall or discharge that occurs within the watershed boundary will impact the bay and its tributaries. Thus, what occurs in parts of Pasco or Polk counties can impact the Hillsborough or Alafia Rivers and eventually Tampa Bay. On an even wider scale, the watershed for Florida includes a large portion of western Georgia and eastern Alabama. Thus, planning and acting regionally to protect water bodies is a concept based in science and makes good public policy.

A regional approach is one reason why at the Environmental Protection Commission (EPC) we place a high priority on monitoring the water quality of Tampa Bay and many of its tributaries. Our monitoring data have been used many times to make planning and permitting decisions, and more recently to determine whether the Tampa Bay Water Desalination Facility near Apollo Beach was impacting the salt balance in nearby waters. Our data found that it was not. Our data have also been used by local governments, private industry, the state, and the federal government to evaluate the health of local waters and to measure the degree of improvement in those waters when restoration projects are initiated. This ensures that locally we are focusing our limited financial resources on improving waters where it is most needed and that we are using restoration techniques that have the greatest chance of success.

The Tampa Tribune recently highlighted an excellent example of a collaborative regional effort using local data when it cited the work of the Tampa Bay Estuary Program's Nitrogen Management Consortium, a group of over 30 public and private partners working to improve water quality in Tampa Bay. This group has worked for over ten years with the express purpose of cooperatively developing a plan of action to meet nitrogen reduction/management goals for the bay and has collaboratively defined pollutant load limits for each partner to support water quality goals. Their efforts have been so successful that state and federal regulatory agencies are considering their findings and proposals as new regulatory limits for bay protection. This will be the first time nationally that pollutant load limits have been developed by such a local cooperative effort.

The National Research Council has said that managing water resources at the watershed scale, while difficult, offers the potential of balancing the many sometimes competing demands we place on water resources. We are fortunate to not have to cross international lines with competing interests as we manage our local resources to protect water quality and ensure

sufficient water quantity. In many parts of the world, these are significant issues with huge economic and social impacts.

The Tampa area has changed greatly in the last 100 years from a community where central sewers in Tampa only first appeared in the 1890's and most of those just collected the wastewater to discharge it directly to the Hillsborough River and Hillsborough Bay. It was not until 1950 that the first primary sewage treatment plant was completed. In a period of only 60 years we have gone from no centralized wastewater treatment to state of the art treatment and recycling at Hillsborough County's Advanced Wastewater Treatment (AWT) facilities and the City of Tampa's Howard Curren AWT Plant.

Today's water quality issues are more subtle and complex than the old "end of pipe" easily identifiable sources of concentrated pollutants we faced in the past. Today's environmental management issues involve less visible pollutants such as high nutrients, low dissolved oxygen, bacteria, and heavy metals. We do however see the results of these pollutants since they may impact the growth of sea grass beds, and lead to fish kills, beach closings, and fish consumption warnings.

Although the Tampa Bay community has made good progress in meeting our target levels for nutrients, we still have much to do with respect to other pollutants. In fact, the state has already identified 177 segments of local waters that are impaired for a variety of pollutants. Restoring our local impaired waters will take a lot of effort and cooperation by all. Cleaning up these waters will be expensive and we must approach it in an economically prudent manner. It only makes sense to use a regional watershed based approach similar to that used by the Nitrogen Management Consortium so that we may focus our limited resources toward projects and solutions to enhance the water quality of these impaired waters. Thinking in terms of the watershed will help us get to the best solutions.