

## Water - A Valuable Resource Joseph Winn

Being based in South Florida, water is a regular part of our lives. On the west, we are bordered by the Gulf of Mexico, while the Atlantic Ocean graces our eastern shore. The southwest region of the state is entirely dominated by the Everglades, a region of enormous biodiversity and importance. This completely notwithstanding the Florida Keys, the only living barrier reef system in the continental United States. For us, water isn't just a drink or the recipe for a fun weekend; it is our livelihood. As the top tourist destination on the planet, we entertained over 76 million visitors in 2004, providing a \$57 billion effect on our economy(1). Much of this is due to our shores and underwater treasures. From airboat tours to SCUBA diving trips, our natural resources are invaluable economically and environmentally. So how can we balance their environmental preservation with our own social growth? The draining of the Everglades has been covered nationally as one of the most ambitious land reclamation projects ever conceived.

Looking back, was it a bad idea? Absolutely, it disrupted the natural flow of freshwater from the Lake Okeechobee region into the Everglades and subsequently, the Florida Bay. We're now spending billions of dollars and countless work hours in an attempt to return the system to some semblance of the original design. However, by drying up a large part of the historical Everglades in the early 20th century, it accomplished the original intent of the Army Corps of Engineers. Massive population centers in South Florida would not exist as we know them had the region not been dried and water flows redirected into canal systems. Permanent building was impossible due to the constant variation in water levels before the canals.

Much of the reclaimed wetlands was initially used for farming, a natural fit due to the rich swampy "muck". Our economy grew from those farmers, fast-forwarding to Flagler's Railroad and the first tourists. Some of those visitors constructed winter homes in the area, slowly converting the region from the next agricultural frontier (which it remains to this day in some regions) to the must-visit destination of the U.S.

Of course, even then, tourists came here not for the mosquitoes, humidity, or sunburns (well, maybe the tanning), but for the water. Since the water they craved was ocean, there was need for another source of water to drink.

Underneath the southern part of the state lies the Biscayne Aquifer, the primary source of our water supply. While other regions have large, well-filtered aquifers buried thousands of feet below the ground, the Biscayne Aquifer is essentially our water table. It fluctuates with rainfall and is directly accessible from the surface. While it makes extraction very simple, it presents a number of significant issues. Fertilizers and other toxins readily make their way into our water supply. Additionally, when over-pumping or periods of drought occur, saltwater intrusion becomes a serious problem. Ironical that the state which receives more rainfall than nearly anywhere else in the continental United States is among the highest at risk for water shortages.

"Thanks for the history lesson", the reader might say, "but what's it to us?" Especially here, where the environment is so closely linked with our economic well-being, the need to consider sustainability along with growth is essential. The advice for Floridians is valid anywhere. Nutrient overload is causing damage to our nearshore water quality, reef health, and wetland viability. This originates from agricultural facilities, yes, but also from the average family's green lawn. How can you make a difference? Take care to avoid fertilizers and pesticides unless necessary, then using only the natural varieties. Time-release formulas can positively affect our water supply as they only use what is needed at the moment, minimizing runoff. It may not be apparent, but no matter where you are, every chemical you pour into your soil eventually makes its way to a waterway. Native plants require fewer, if any, fertilizers. A growing trend nationally is xeriscaping, or planting native flora. My home county has a NatureScape Broward program which

highlights homes and businesses who have met a xeriscaping goal. These yards require less care and watering, thereby lowering their total cost of upkeep.

Reducing total water consumption also helps to preserve the natural environment. In a way, it is unfortunate that, for most users, water is so cheap as to render a financial savings extremely minimal. At a rate of ~\$2 per 1,000 gallons, even massive reductions will not result in significant savings. However, there is another reason to save water — it's a limited resource. Though we may not have a direct eye into our own supply, know that the less each of us use, the better off all of us will fare.

A number of technologies, both old and new, are available to help reduce our depletion of valuable aquifers. Low-flow toilets, shower-heads, and faucets can more than halve indoor usage. Atmospheric water generators allow drinking water to be produced straight from the humidity in the air, purified for instant enjoyment. For irrigation purposes, cisterns connected to building gutters can retain the water necessary to keep the plants green through the hot summer or dry spring seasons.

Whether it be flowing down a plain in the Everglades, surrounding a healthy coral reef, or sitting in an ice-filled glass, water is an essential resource. Please treat it as such.