It’s Raining, It’s Pouring

It’s raining, it’s pouring… Isn’t it fantastic to see so much rain after such a long period of drought in southwest Florida? There are definite positives: green, healthy plants, beautiful yards in bloom and, most importantly, the recharging of the aquifers to better compensate for the upcoming dry months.

On the downside, there is more lawn mowing, shrub trimming and possible more opportunities for mosquitos! Also, with large amounts of rainfall in short periods of time, like the typical storms seen in the past weeks, the ground gets saturated, causing water to flow quickly across impervious surfaces. Moving quickly, not having a chance to percolate into the soil, the water picks up pollutants as it travels to the swales and storm drains. The pollutants in the stormwater runoff come from roadways, driveways, sidewalks, roofs, and residues on vegetation, mostly consisting of organic particles, pesticides, fertilizers, gas, oils and larger debris. Just recently, two communities north of us had to close their public beaches for days due to high levels of bacteria that could be harmful to beach goers and swimmers. The Florida Department of Health stated the high bacteria concentrations at these beaches came from stormwater runoff. Fortunately, the Marco Island beaches have not had high levels of bacteria in the past few years. Our beach waters are healthy!

Like the scenario at the closed beaches, if the stormwater is not treated or “cleaned” before it flows into the stormwater outfalls and into the canals and lakes of Marco Island, the pollutants are loaded/into the surface waters that surround us and that we depend on for aesthetics, recreation and even a good fish dinner. One hundred miles of canals equates to over one hundred miles of roadways and, of course, adding in roof tops, driveways, sidewalks, bricked features in yards, docks and pool decks means this small island has a large area of impervious surfaces which in turn creates high flows of stormwater runoff to the lakes, canals, Marco River and Gulf of Mexico. Stormwater runoff treatment is extremely important to protect and maintain the quality of the surface waters.

Over the past few years, Marco Island has improved the over 1,500 stormwater outfalls through out the island by installing treatment systems referred to as “storm inlet skimmer boxes”. The skimmer boxes have two steps to treat or “clean” stormwater runoff before the water flows into the canal system. Within the skimmer box, encircling the grate like a boom, is a hydrocarbon filter. The boom-like filter catches larger debris, grass clippings, leaves, twigs, and trash of all types, that is carried by stormwater runoff as well as absorbing fertilizer, pesticide and organic particles. When a small rain shower or slow moving storm occurs, the stormwater run off has low to medium in flow; the water has to travel through the boom-like filter before entering the drain. If a deluge occurs, the stormwater flow is high, the water will travel through and cascade over the boom prior to entering the drain. Once in the drain, the second step to treating or “cleaning” the runoff water is the graduated sieve which is a series of screening

that progressively sieves or filters the water through smaller grates or filters, collecting nutrients and silt that still remains in the runoff water. Water may sit in the graduated sieve system until the stormwater flow is high enough to move the water through the progressive screening system then to the out fall to surface waters.

Now that septic systems with the accompanying drainfield areas are being eliminated on the island, there is opportunity for individual property owners to reduce storm runoff flows and reduce the impact of the pollutants found in stormwater that enters local storm runoff systems. Many properties have large expanses of lawn, or turf grass, that covered the septic system and drainfield area. To reduce lawn care maintenance and the use of fewer chemicals to treat weeds and pests, consider creating a beautiful spot or oasis in your yard. Consider a rain garden.

A rain garden will slow down the rush of water from stormwater runoff; hold the water for a short period of time which allows it to naturally percolate into the ground, not just rushing to an outfall. A rain garden is a place where water-tolerant plants provide a pretty, three-dimensional area that allows runoff from a roof's downspout or driveway to re-enter the soil. Easy to design, this type of garden is a shallow depression that is planted with deep-rooted, water tolerant plants and grasses. It can be large, small, and any shape. Typically, the rain

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