The Venetian Golf & River Club Stormwater Control System

Many Venetian residents have asked, "Why was my pond rising when some others in the Venetian were going down" after Debby or in 2022, after Ian passed us? The simple answer is "That's the way our stormwater system is designed." Such occurrences should not be a cause for concern. To fully understand "why" would take more space than allowed for this article, but we can hit some of the basics.

The VG&RC stormwater control system consists of 69 interconnected retention ponds and 29 wetlands, equipped with overflow weirs and connected by means of underground drains. The ponds and wetlands in the west sector of the Venetian drain to Dona Bay, and those in the east flow to the Myakka River. The control water level (CWL), which is the height of the overflow for each pond or wetland, varies from 14.6 ft. to 10.7 ft. for the Myakka River watershed and 13.9 ft. to 12.9 ft. for the Dona Bay watershed.

The two watersheds react quite differently to a rain or storm event. The Dona Bay watershed sector is quite straight forward, and the total drop through the ponds and wetlands is minimal. The only outside effect is a Gulf of Mexico surge, and any effect it might have goes away shortly after a wind event passes. Quite simply, the stormwater flows from the highest to lowest CWL ponds and wetlands and eventually ends up in Dona Bay after passing though several wetlands.

With the Myakka River side, the river level is the major controller. It is not uncommon for the elevation of the Myakka to be higher than the 10.7 ft. CWL at our lowest ponds. Using Debby as an example, the heavy rains were on August 4 and 5. The River elevation reached 10.7 ft. on the morning of August 5, meaning the river was now starting to flow back into our lowest ponds. The Myakka, however, did not crest at about 15.2 ft. until early on Aug 10. At that point, the river was controlling the water level of all the ponds and wetlands on the Myakka River watershed side of our community. This "worst condition" occurred four days after the rains stopped. Our home elevations were still at minimum of 3-4 feet above the crest level, and pond water level was just a few inches above the CWL of the highest elevation ponds. The higher CWL ponds and wetlands were at a lower level when the river crested than immediately following the rain event. During the rain period and shortly thereafter, the elevations of the higher CWL ponds were controlled by rainfall and runoff, not by the elevation of the Myakka.

In summary, the stormwater control system on the Dona Bay side of our community is a basic drainage system relying on the fact that water runs downhill. The Myakka River side is much more complex. During a storm event, the water can first flow from the higher to lower ponds like the Dona Bay side but then, as the Myakka rises, the flow reverses affecting some, or in the case of Debby, all the ponds and wetlands on the Myakka River side. Then, as the crest passes, the Myakka River watershed stormwater control system again operates, slowly but surely, on the simple premise that water runs downhill, contrary to the earlier period where it appeared to run uphill.

Our stormwater control system responds differently to each storm event, and it's designed to do just that. With Ian, a 500-year storm event, the Myakka crested 2.6 ft. higher than with Debby. With Ian, however, the river was 4.2 ft higher at the beginning of the event than it was with Debby. That is, water from the Myakka had already flowed back into our lowest ponds from earlier recent rain events at the time the rainfall from Ian started to take effect.

We are fortunate to have a stormwater control system that was designed well above minimum government requirements. It continues to operate as designed, which should provide our residents with great comfort as they read about other areas near us that are not as fortunate.