

## **Environmental Advisory Committee**

MEETING DATE – JANUARY 12, 2021

LIAISON REPORT – JOHN MITTEN

### **Results of Northern Tampa Bay Recovery Assessment**

Mr. Warren Hogg, Tampa Bay Water, provided a presentation on the final results of the recovery assessment plan for the Northern Tampa Bay wellfields. Mr. Hogg explained the Tampa Bay area's rapid increase in water demand and supply (Tampa Bay Water and its member governments currently supply potable water to 2.5 million people each day) since World War II, which led to high levels of concentrated groundwater withdrawals and environmental impacts. Tampa Bay Water (TBW) significantly reduced the withdrawal rate from the wellfields and the current Consolidated Water Use Permit requires the completion of an assessment of environmental recovery due to the reduction in pumping rate. TBW worked closely with the District to complete a recovery assessment plan, which is required for their Consolidated Permit renewal in January 2021.

Mr. Hogg explained the recovery assessment plan included a total of 1,360 lakes and wetlands and used lake and wetland health metrics already established by the District as well as new wetland health metrics for other wetland types. The process began in 2011 and a report of preliminary findings was submitted to the District in December 2018. The evaluation of recovery ended September 2020 with the final report. TBW's final analyses of 515 monitored sites showed 437 fully recovered, 70 improved but not quite meeting the recovery metrics, and eight wetlands that showed signs of continued impact and were assessed for mitigation (only one site requires mitigation). The recovery assessment report was included with TBW's Consolidated Permit renewal application, in which they are requesting to continue withdrawing 90 million gallons per day (mgpd) from the ten wellfields for a ten-year period.

Ms. Becky Ayech asked what is causing the eight sites to continue to be impacted. Mr. Hogg explained five sites at the Cypress Creek Wellfield are most likely related to the continued level of groundwater pumping. One of the sites will be provided mitigation. Two of the Cypress Bridge Wellfield wetlands are still under study, and the site at Morris Bridge is experiencing more of a structural impact rather than a wellfield impact.

Ms. Ayech asked whether deepening the casings in the production wells would help with impacts at the surface level. Mr. Hogg replied in the affirmative, suggesting that for some wellfields with shallow well casings, deeper well casings can lessen the drawdown in local lakes and wetlands.

Mr. Sid Flannery complimented TBW and District staff for their unprecedented success. He confirmed 90 mgd is a yearly moving average. Mr. Hogg identified TBW's continuous monitoring and optimization routine that minimizes drawdown at all the selected environmental points.

Mr. Flannery asked how much of the recovery is due to change in hydrologic conditions. Mr. Hogg explained that a return to normal rainfall conditions has greatly aided the recovery of the environment, but the data in the report identified pumping as the primary variable in determining impact and recovery at the monitored lakes and wetlands. Mr. Hogg explained TBW limited their renewal request to 10 years to ensure that recovery continues to be achieved before requesting a 20-year renewal.

Mr. Alan Bailey asked about the long-term health of the Cypress trees due to pumping. Mr. Hogg said that wellfield studies have shown some tree loss due to soil subsidence when pumping rates were high; however, new seedlings are coming up in the wetland areas and he explained this new growth will continue to be monitored.

Mr. Tomasko applauded TBW and the District.

### **Hydrologic Evaluation of the Northern Tampa Bay Recovery**

Mr. Ron Basso, chief hydrogeologist, provided a presentation on the hydrologic evaluation of the Northern Tampa Bay recovery, which was independent of TBW's recovery assessment. Mr. Basso explained the range of data in this evaluation include wetland and lake stage history, rainfall, groundwater withdrawal history, aquifer water level changes, ecological health, and flooding issues. The results indicate minimum flow levels in lakes, and all but one wetland, are meeting their 10-year status, rainfall has been slightly above average, aquifer levels are at or near their long-term maximums, groundwater withdrawals are significantly reduced since the 1990s, ecologic conditions show continuing improvement, and improved hydrologic conditions in the wellfields has contributed to increased flooding risk. Mr. Basso explained the District will continue to work with TBW under their Consolidated Annual Permit to minimize impacts and will be seeking additional stakeholder outreach.

Ms. Ayech asked whether the District provides information on recovering water levels to a county or city whenever there is a new developing going in. Dave Kramer, Environmental Resource Permit Bureau chief, explained the District does coordinate with permittees through the Environment Resource Permitting program. Mr. JP Marchand, Water Resources Bureau chief, identified the watershed management program which coordinates with local governments to mitigate some of the flooding problems. Mr. Marchand explained the majority of the flooding problems are with the older developments more so than the new ones. Mr. Hogg added that Tampa Bay Water shares information with local governments on changing water levels.

Mr. Flannery suggested hydrological conditions have played a role in recovery and drier years over the next 10 years should be considered in future analyses. Mr. Basso agrees the last five to six has been wetter than average, which is why the District evaluated the data on a 10 or 12-year period since wellfield withdrawals were consistently reduced below 90 mgd in 2008.

### **Update on Recharge Test Wells for SWIMAL at Flatford Swamp**

Ms. Lisann Morris, Water Supply project manager, and Mr. Don Ellison, senior hydrogeologist, provided an update on aquifer recharge at Flatford Swamp for the Saltwater Intrusion Minimum Aquifer Level (SWIMAL) recovery and natural system enhancements. Ms. Morris explained this project will help the hydro periods and slow down saltwater intrusion inland, and she identified the project's recharge and monitoring wells. Ms. Morris said the District hopes to start recharge testing in late summer of 2021.

Mr. Ellison discussed a testing program and identified a voluntary well, known as the RZMW2, where staff are evaluating water quality and the velocity of travel time. Mr. Ellison also discussed the timeline for this study and requests to the Department of Environmental Protection for permit renewal.

Mr. Flannery requested a later update on recent excess water flowing into Flatford Swamp and the current model being used to evaluate it. Mr. Morris explained the last model update was 2017 and staff want to see the test program results before updating the model.

Ms. Ayech expressed her concern about old agricultural wells that were drilled deep but cased shallow, being in the same area as the injection wells. Could there be migration of the water up and into the intermediate aquifer. Ms. Ayech requested staff provide a response to this.

Ms. Ayech suggested that it makes more sense for farmers to change the way they irrigate than for the District doing a recharge project.

**Remote Meeting Discussion**

Mr. Michael Molligan, Employee and External Relations division director, asked the committee to consider the options for future meetings to be held in person, virtually, or a combination of both. Mr. Molligan requested the committee provide feedback to Virginia Singer following today's discussion.

Mr. Bailey, Ms. Ayech, and Mr. Flannery expressed their interest in continuing to hold virtual meetings. Mr. Sherwood also suggested to continue remote meetings through the year.