

Winter Haven Water Resource Sustainability Plan:

The Water Resource Sustainability Plan (WRSP) takes a long-term approach to planning for water resource management, including water supply, water quality, flooding and natural systems, including lakes. The plan has been developed over the past 18 months and has already received significant input from the public. One of the primary considerations of the Water Resource Sustainability Plan is that the area has been subject to nearly a century of drainage practices which have allowed water resources to be discharged during times of need. Many of the lakes within the watershed have been below normal levels for a number of years. Because of changes in how water moves to the lakes, water quality has suffered. Recharge to the Floridan aquifer has declined. One of the founding principles behind the plan is that with proper planning, enough water is available for all uses, including people, industry, agriculture and the environment.

The plan is primarily focused on Winter Haven, but incorporates all of the Peace Creek Watershed, which also includes all or parts of Auburndale, Lake Alfred, Haines City, Lake Hamilton, Dundee, Lake Wales, Alturas, Wahneta, Bartow, Eagle Lake and unincorporated Polk County. The Peace Creek Watershed is approximately 150,000 acres and is at the headwaters of the Peace River which begins at the outflow of the Peace Creek near Bartow and travels to Charlotte Harbor before entering the Gulf of Mexico. Attached Figure shows Chain of Lakes (COL) and local impaired WBIDs, Figure 13 from the WRSP shows the watershed and reconnected hydrologic network.

A summary of the proposed restoration actions from the Fact Sheet follows:

In the upper portion of the watershed, which encompasses the downtown area of Winter Haven, rainwater will be directed to rain gardens, swales, and small isolated wetlands to recharge the surficial aquifer and provide water quality treatment. This will increase water levels in the surficial aquifer, increase groundwater flow into the lakes, and increase water levels and the water-holding capacity of the lakes.

The middle portion of the watershed, currently dominated by the Peace Creek Drainage Canal and the Wahneta Farms Drainage Canal, will be transformed into a series of sloughs and floodplains intended to slow the movement of water through the system and provide sediment control. During peak rainfall events, it will be designed to discharge floodwaters very quickly.

The lower, downstream portion of the watershed, encompassing the “southern loop” of the Peace Creek Drainage Canal and the downstream portions of the creek leading to the Peace River, will be transformed into large water storage areas and broad floodplains to manage very large hydraulic loads of water and provide flood attenuation

Process:

- 1) Increased storage and conveyance in the Middle and Lower Reaches/Polk Uplands Area
Complete these actions first so recharge and treatment actions done later in headwaters can infiltrate in lower portion of system.

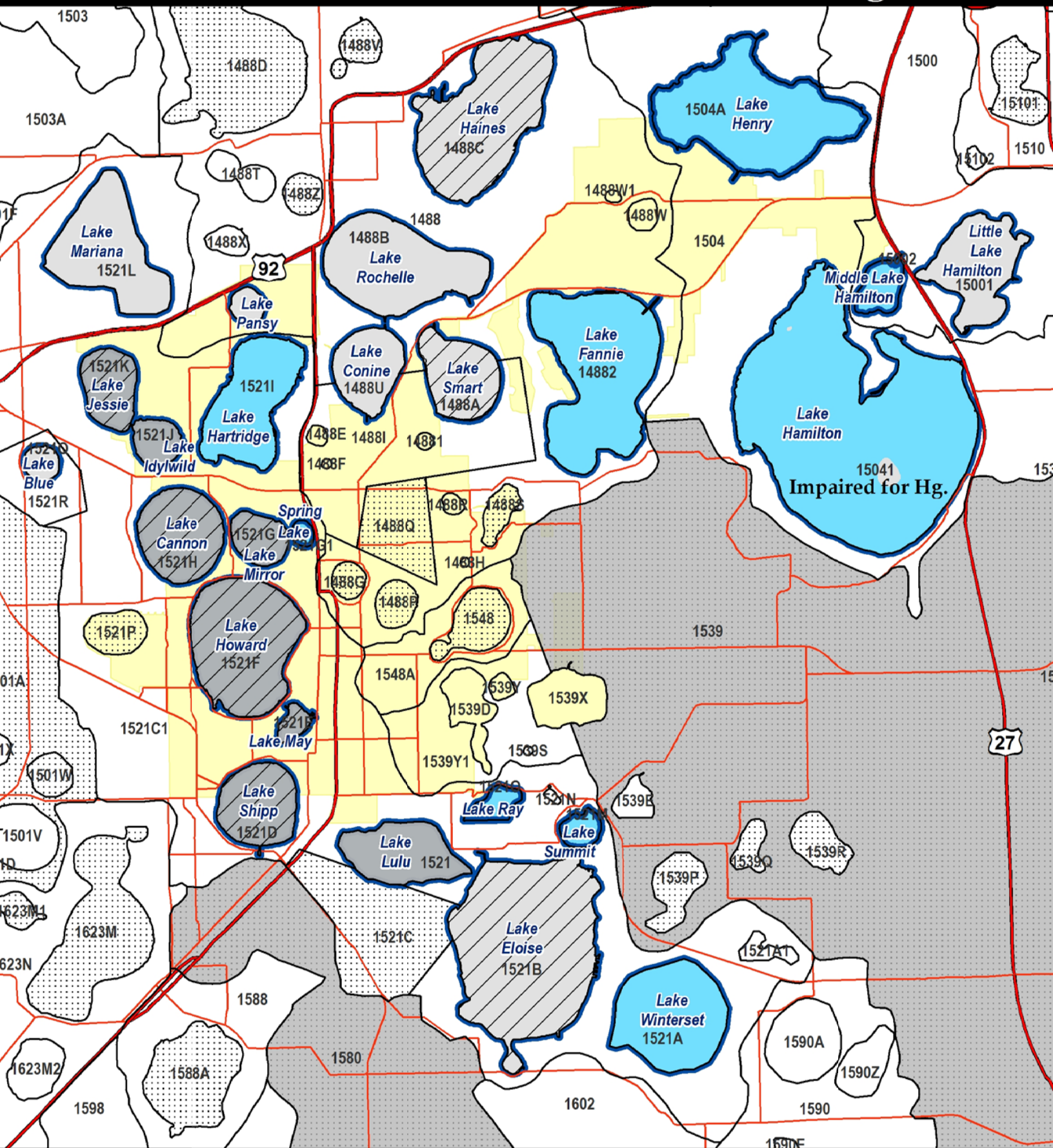
- a. Use comprehensive land use planning and land development codes to direct and guide development and restoration activities
 - b. Identify future storage and conveyance areas
 - c. Develop a water resource overlay district and ordinance
 - d. Use mitigation banking to direct the location and funding of restoration activities
 - e. Use SWIM restoration funding to mitigate impacts from FDOT activities
 - f. Manage the hydrologic network identified in this Plan (SWRMP) as a regional stormwater management system
- 2) Increased aquifer recharge and water quality treatment in the headwaters/ridge area (R/H) by :
- Redirect stormwater into the ground using features like rain gardens, pocket wetlands, roadside and parking lot swales.
- Use treated water for irrigation percolation or aquifer recharge on the land surface as high up in the headwater area as possible – additionally, evaluate the effects of these actions on aquifer and lake levels and on water quality through a surficial aquifer and lake monitoring program.
- a. Adopt an overlay ordinance for R/H area and city's edge
 - b. Redirect reuse water to augment aquifer and surface water recharge
 - c. Develop strategies for increasing and maintaining lake storage while also maintaining flood protection
 - d. Continue to use city's existing stormwater and public supply utilities for increasing and restoring water storage
 - e. Monitor lake and aquifer levels to guide restoration and measure results

BMAP Thoughts

- If the WRSP is adopted by SWFWMD as a part of the Regional Supply Plan the actions will affect the entire Peace Creek Watershed and as a result guide TMDL/BMAP development.
- A regional stormwater management system will likely need MS4 permit approval and a determination of how these areas may be combined and treated as a system.
- BMAP development for the Chain of Lakes will be guided by the implementation of the WRSP.
- Developing and implementing a restoration process for the lower reaches of the system first could prioritize BMAP development for the lower area and likely delay additional load reduction actions (\$) for the ridge lakes.
- Existing P TMDL implementation for Lakes Mirror, Idylwild, Cannon, Shipp, and Jessie could be delayed by plan implementation.
- Current and ongoing actions/projects in Lakes Howard, Lulu, and May have met TMDL P load reductions but not achieved water quality improvements required by TMDL(s).
- Figure 13 (attached) from the WRSP shows restoration features in the watershed. The WBIDs involved and potential impairments are being drafted by GIS.

WINTER HAVEN

Chain of Lakes Region



Map created October 12, 2011 Not intended for legal decision making purposes. For more information contact (BMAP) Terry Hansen at (850) 245-8561 or terry.hansen@dep.state.fl.us

303(d) Listed

WBIDs (run 43)

Verified Impaired WBIDs

WBIDs with Adopted TMDLs

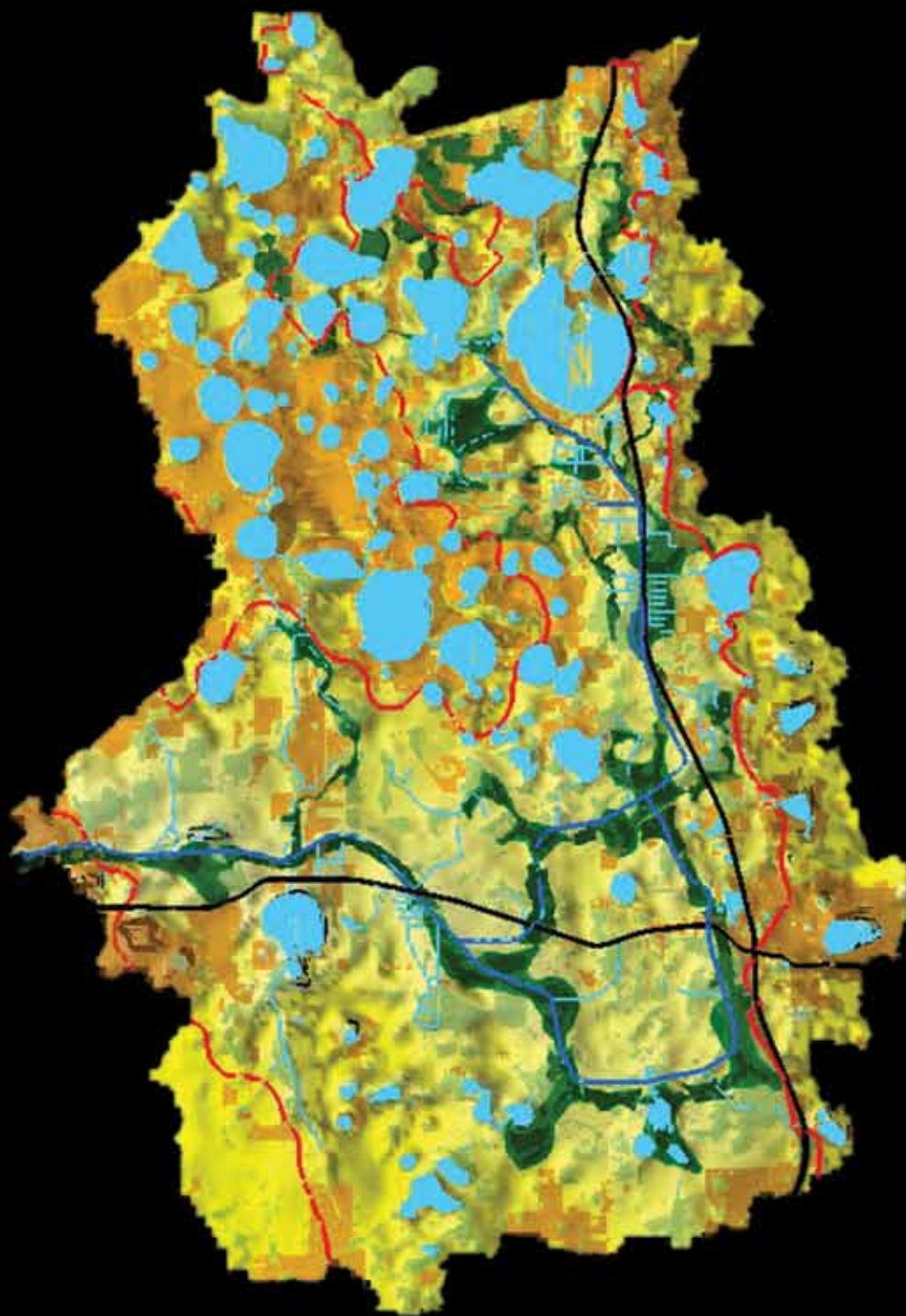
Chain of Lakes

Other Verified Impaired WBIDs

Winter Haven City Limits

0.5 0 1 Miles





■ **FIGURE 13.** A plan view of the reconnected hydrologic network in the Peace Creek watershed, with restoration features (shown in dark green) that provide treatment and infiltration in the headwaters/Ridge area of the watershed, and an interconnected series of wetlands that provide storage and conveyance in the middle and lower reaches/Polk Uplands area. Source: PBS&J