

other locally implemented projects to meet the LSFIR MFLs (CDM Smith 2025). Each participant shared equally in the cost of the study. The evaluation considered more than 800 alternatives of varying water sources and recharge methods. Water First North Florida, which is discussed in more detail below, was identified as a project of sufficient scale to mitigate the impacts to the LSFIR MFLs. Other regional project options considered include the following:

- North Fork Black Creek: Periodic surface water withdrawals of 5.2 million gallons per day (mgd) average from the North Fork of Black Creek would be used to beneficially recharge the aquifer (\$210 million). More detailed hydrological analysis would be required to ensure source water availability. This project could be implemented, but the Water First North Florida project is expected to be more cost-effective and sufficient at this time.
- Lower Suwannee River: Periodic surface water withdrawals of 8.9 mgd average withdrawn downstream of the Branford gage would be used to beneficially recharge the aquifer (\$340 million). More detailed analysis would be required to ensure compliance with Suwannee River MFLs and confirmation of no other adverse environmental impacts would be required. This project is currently not being considered for implementation.
- Desalination: Three desalination project alternatives were considered. Two conceptual desalination projects, one on the east coast and one on the west coast, would desalinate ocean water and pump it to strategic recharge areas in the region (\$2.8 to \$3.0 billion). Additionally, a conceptual Pumping Replacement project was considered that would desalinate ocean water in the Jacksonville area and use it to replace groundwater as a water supply for all four utilities (\$12.0 billion). These projects are currently not being considered for implementation due to the high capital and operation/maintenance costs, brine disposal and the benefits of the Pumping Replacement desalination project would not offset the full LSFIR MFL deficits.

Water First North Florida

Water First North Florida is a 40 mgd project that is currently in the planning phase. Reclaimed water from the JEA Buckman and Southwest Water Reclamation Facilities (WRFs) will be passed through a wetland treatment system to further reduce nutrients before being pumped to strategically located aquifer recharge site(s) in the region. A treatment wetland and recharge facility siting investigation are underway. Water First North Florida will provide regional recharge to the Floridan aquifer. In addition to these regional benefits, when fully implemented, this project has the potential to increase flows at Lower Santa Fe River at Hwy 441 near High Springs and the Ichetucknee River at Hwy 27 near Hildreth by up to 17 cfs and 14 cfs, respectively. The estimated construction cost for the project is \$1.1 billion, not including land acquisition, easements, permitting or operation/maintenance costs. The project will provide sufficient benefits to the LSFIR MFLs to offset the impacts from current and projected 2045 water use.