

Loxahatchee River Restoration Local Initiative and Mecca Site Evaluation



Agenda

- Overview of Palm Beach County Board of County Commissioners Direction
- Overview of Local Initiative and Mecca Site Evaluation
- Overview of Local Initiative Elements
- Summary of Technical Workshop
- Alternative Screening Preliminary Results
- Next Steps

Palm Beach County Board of County Commissioners (BCC) Direction

- April 30, 2019 – BCC approved the following motion:
 - Continue to support state and federal efforts to restore the Loxahatchee River Watershed
 - Communicate key concerns with the proposed project
 - Express interest in collaborating with the U.S. Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD) to reconsider the Mecca Reservoir to be more compatible with adjacent lands
- July 2, 2019 – BCC approved a Consultant Services Agreement with Kimley-Horn to conduct a Loxahatchee River Restoration Local Initiative and Mecca Site Evaluation

Overview of Loxahatchee River Restoration Local Initiative and Mecca Site Evaluation

- Objectives:
 - provide technical information necessary to enable continued collaboration with USACE and SFWMD
 - optimize or improve the Loxahatchee Project by assessing additional alternatives and local initiative elements
 - provide tools that can be used for future County water resources planning and management.

- Major Tasks
 - Alternative Development and Screening (max. of 8 alternatives)
 - Alternative Simulation and Evaluation (max. of 3 alternatives)

- Expected Completion Date
 - October 2019

Overview of Local Initiative Elements

Local Initiative Element	Modeled by USACE/SFWMD?	Include in Local Initiative?
Eliminate flow from Lake Okeechobee to Grassy Waters/C-51 Reservoir (except during emergencies or drought)	Yes	Yes
Use C-51 Reservoir for flood control	Yes	Yes
Send C-51 Reservoir water south to Lake Worth Drainage District	No	No
Connect ITID Reservoir to Moss Property; new discharge structure from Moss Property to L-8 Canal	No	No
GL Reservoir/Flow-way to capture excess ITID water and convey north to M-O Canal	Yes	Yes
Pump station/conveyance improvements to recharge Jupiter/Seacoast wellfields	No	No
Relocate C-18 Weir or add structure south of SR-710 and FEC railroad	<u>Yes</u>	<u>Yes</u>
Clean out ditch northeast of train trestle on SR-710 (Beeline Hwy)	?	?
Fill Pratt-Whitney canal	Yes	Yes

Potential Concepts/Features to be Considered for Further Evaluation

- Capture excess L-8 Basin stormwater runoff that would otherwise be sent to C-51 Canal/Lake Worth Lagoon
- Re-evaluate C-51 Reservoir in increments (< 44,000 acre-feet evaluated in Alt. 10)
- Alt. 12 (C-51 Reservoir, L-8 Shallow Reservoir, Mecca/Avenir natural storage) + G-160/G-161
- Mecca as a shallow impoundment (2.5 – 4 feet max water depth)
- Mecca Reservoir (excavated to lower embankment heights)
- Additional ASR wells (at other locations?)
- ASR wells with reduced recovery efficiencies (and/or No ASR wells)
- Additional pump stations to capture/convey water from ITID to Mecca/Avenir/Loxahatchee River
- GL Reservoir integrated with ITID reservoir(s)

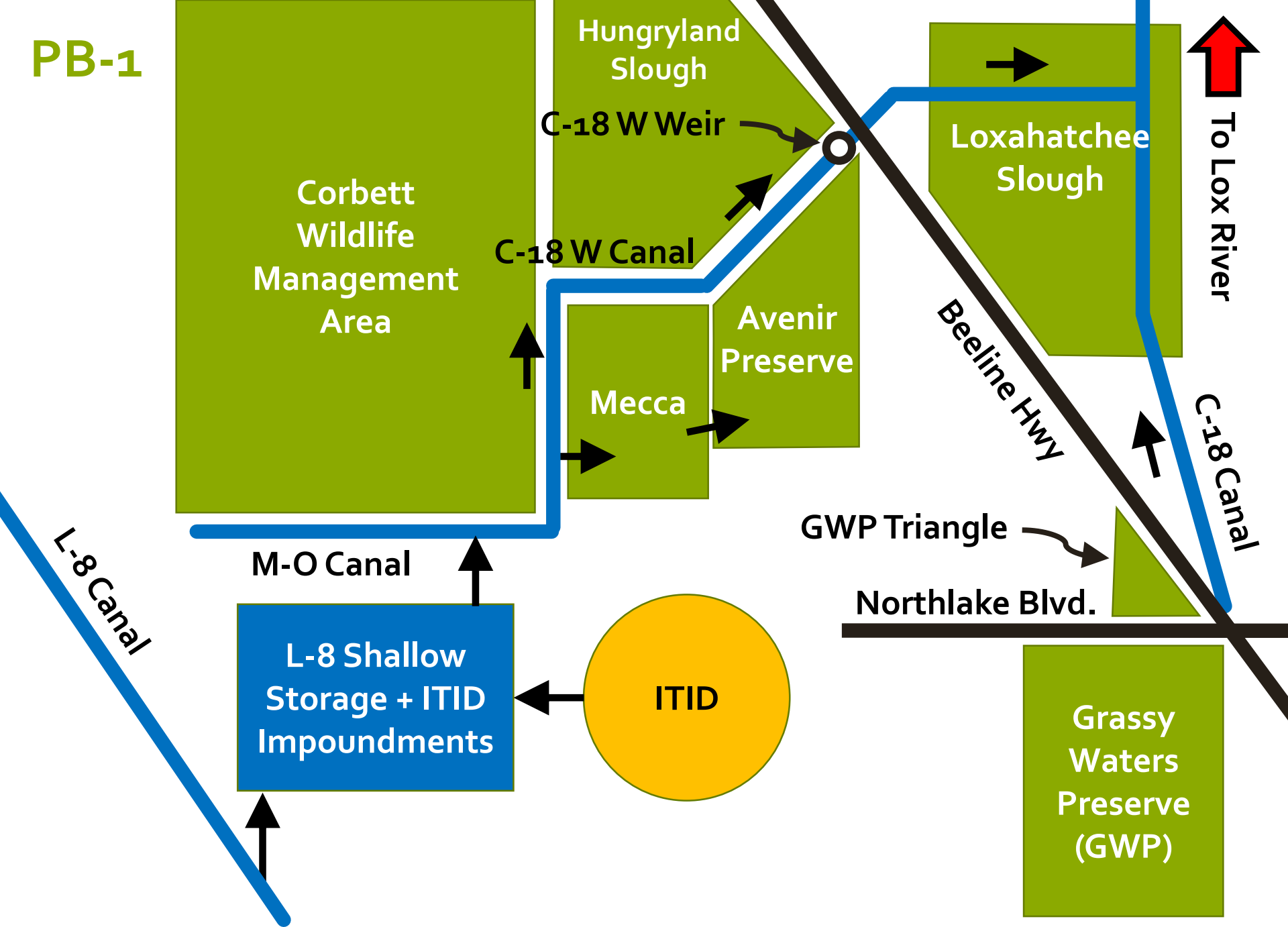
Summary of Aug. 16, 2019 Technical Workshop Organized by Kimley-Horn

- Relocating and raising the C-18 West Weir should be evaluated
- Integrating L-8 Shallow Storage and ITID impoundments should be explored
- If Mecca is not a reservoir, additional storage is needed to achieve River restoration
- ASR well utility is limited without co-located surface water storage
- If ASR is included, performance assumptions need to be supported by technical information
- Restoring the hydrology of FWC's Moss Property is not the focus of this effort

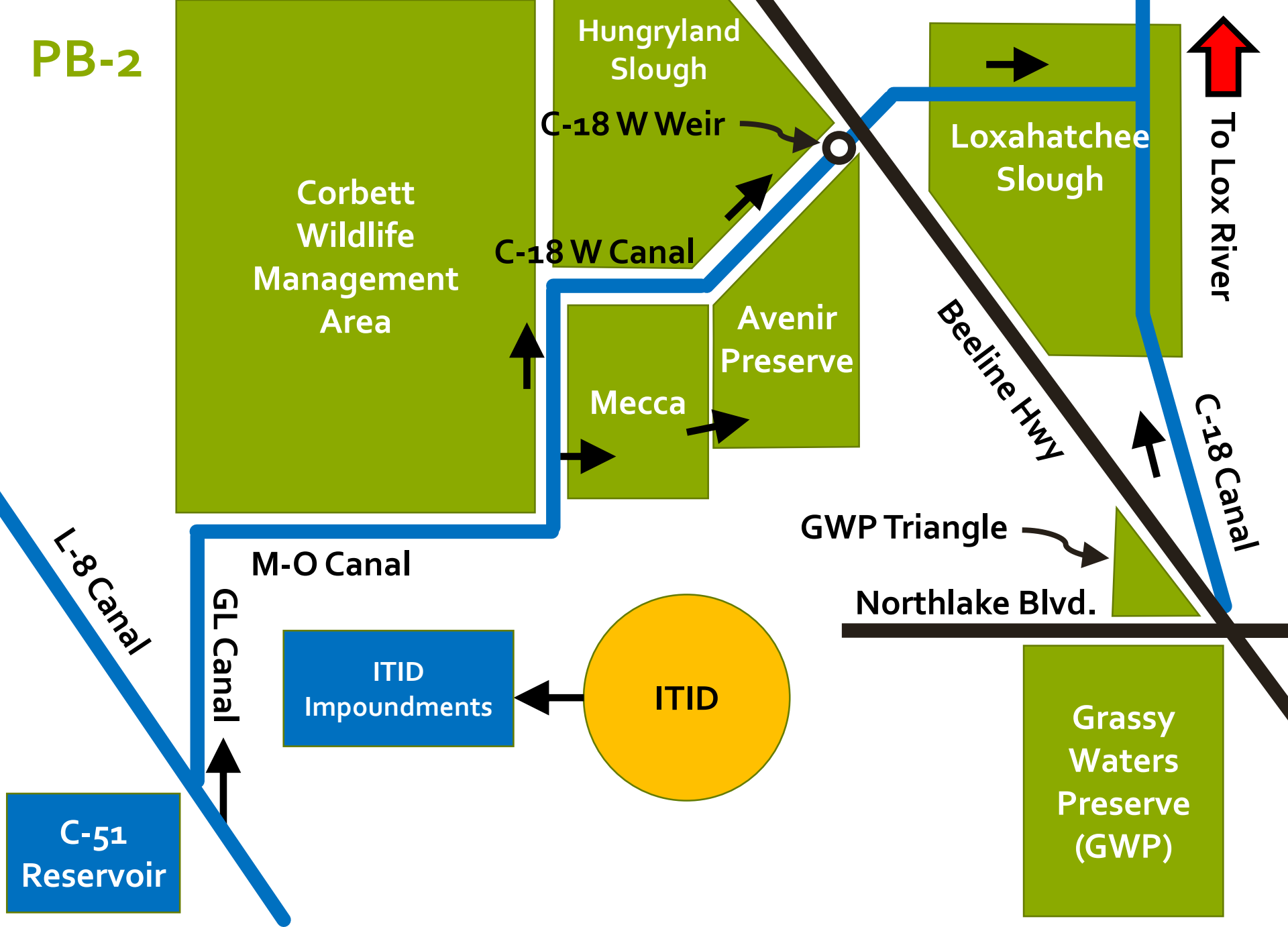
Alternative Screening Preliminary Results

Alt.	Mecca/ Avenir	Storage	C-18 West Weir	G-160/G-161 and Rehydrate Grassy Waters Triangle	Aquifer Storage and Recovery Wells
PB-1	Natural	L-8 Shallow Storage integrated with existing and proposed ITID impoundments	Relocate and Raise	Yes	No
PB-2	Natural	C-51 Reservoir	Relocate and Raise	Yes	No
PC-3	Natural	C-51 Reservoir and L-8 Shallow Storage	Relocate and Raise	Yes	No

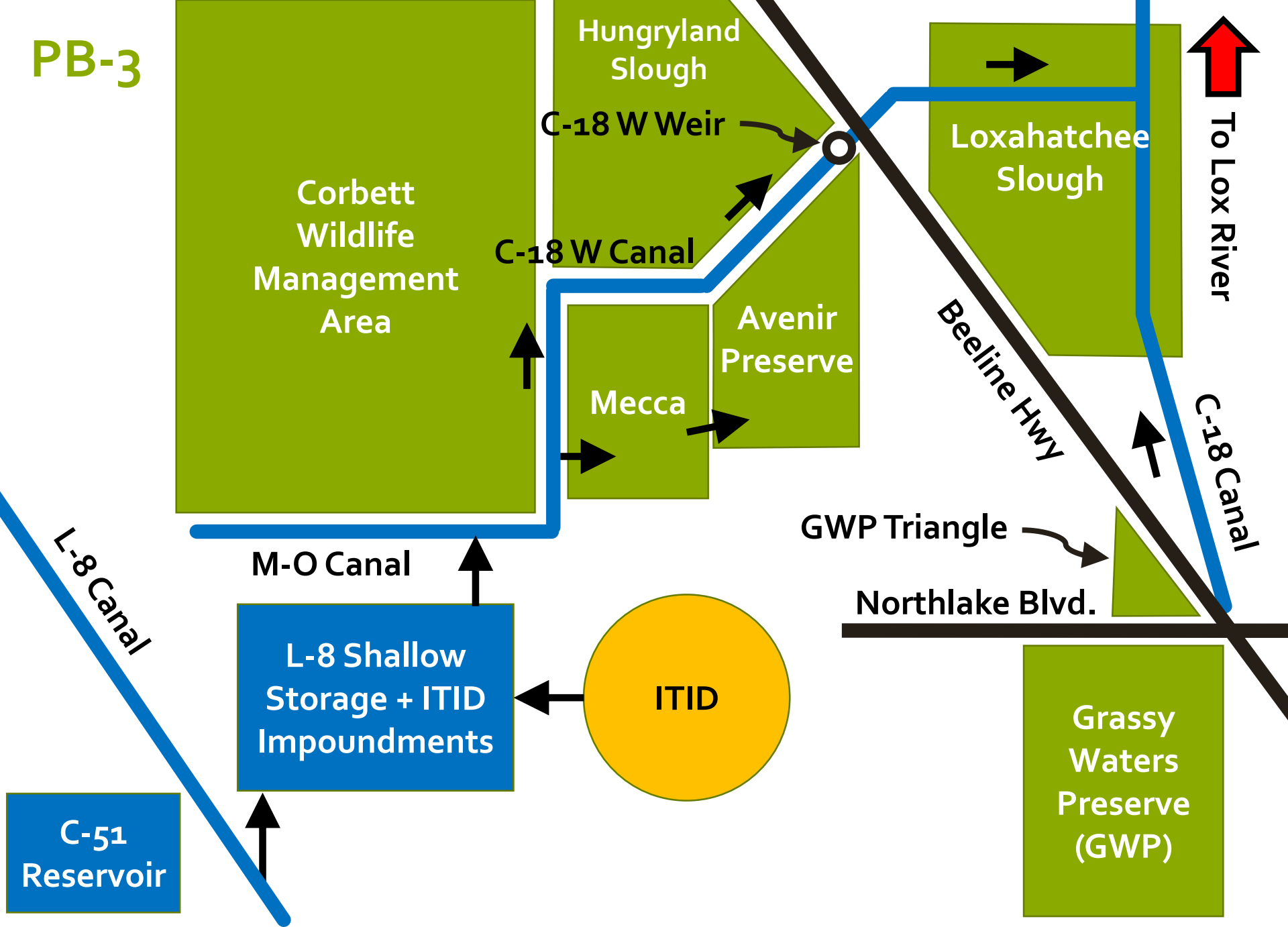
PB-1



PB-2



PB-3



Next Steps

- Alternative Simulation and Evaluation
- Documentation
- Update Water Resources Task Force at October 17, 2019 Meeting
- Update Board of County Commissioners
- Communicate Information to SFWMD/U.S. Army Corps of Engineers

Discussion / Public Comments



Loxahatchee River Watershed Restoration Project

TENTATIVELY SELECTED PLAN (TSP)

1. Kitching Creek (Restoration/hydration): (Spreader canal; weir/plug (Jenkins Ditch))
2. Moonshine Creek (MC) & Gulfstream East (GE) Restoration: Connect HSLCD ditch to MC; clear MC vegetation; weir in Hobe Grove Ditch; grade area to historic topography
3. Cypress Creek Canal (CCC)(Reduce over-drainage): Replace CCC weir to raise control elevation, raise berm at Ranch Colony, automate twin 84" culverts; pump and spreader swale; regrade CC southern forks
4. Gulfstream West (GW)(Restoration & reduce over- drainage): Partial backfile & relocate southern end of HSLCD canal; small pump, construct flow through marsh to attenuate flows
5. Pal-Mar East (Restoration & Connectivity): Plug ditches; remove pipes; improve northern berm; construct western berm improve eastern berm; pumps at Thomas Farm to redirect drainage to GW flow- redirect drainage to GW flow-through marsh via north Nine-Gems Canal
6. C-18W Reservoir (9,500 ac-ft. & 4 ASR wells): Above ground reservoir; inflow pump, discharge structure; seepage control; M-O canal connector and pump
7. G-160 Structure (Reduce over-drainage): Improve hydroperiod in Loxahatchee Slough
8. G-161 Structure (Connectivity): GWP water to Loxahatchee Slough
9. GWP Triangle (Connectivity): Grade and reconnect
10. M-1 Pump Station (conveyance): Deliver lower M-1 basin water to M-Canal, GWP and G- 161

