

Program Name: Water Quality
Project name: **Total Maximum Daily Load (TMDL) for South Florida**
Project ID: 1600
Lead Agency: Florida Department of Environmental Protection
Authority: 403.067, F.S.

Strategic Plan Goal(s) Addressed: 1.B.2: Get the Water Quality Right: Prepare locally-based plans to reduce pollutants as determined necessary by the total maximum daily loads.

Measurable Output(s): Basin Assessments; Identification of Impaired Waters; Collection of Supplemental Data; Development of Total Maximum Daily Loads (TMDLs), Basin Management Action Plans (BMAPs), and Implementation Plans; Verification that Water Quality (WQ) Standards have been met.

Project Synopsis: During the first phase, the water quality data for each basin will be assessed in detail, including the identification of waters for which Site-Specific TMDLs will be developed based on verified impairments. Once a basin assessment report and a Plan of Study are completed, intensive monitoring will be conducted in the basin to supply any additional data needed to model the impaired waters in the basin and generate TMDLs. During the third phase, TMDLs will be calculated and then allocated to individual point sources and the major categories of nonpoint sources. After TMDLs are approved, a consensus-based restoration plan (ex. BMAP, Reasonable Assurance (RA), etc), which will include a TMDL implementation plan, will be developed during the fourth phase. The implementation plan will include more detailed allocations to nonpoint sources, but the allocations will be voluntary if the sources are currently outside of the State's regulatory authority. Once these plans have been adopted and implemented, verification will allow waters to be certified as meeting water quality standards.

Current Status: The Florida Department of Environmental Protection (DEP) is continuing to make progress in the development of Site-Specific TMDLs to identify impaired waters and has developed key BMAPs within the greater Everglades region. Since 2008, the department has completed and adopted by rule TMDLs identifying needed reductions for nutrients and/or to address low dissolved oxygen (DO) levels in the St Lucie-Loxahatchee Basin (including the Estuary, North Fork, South Fork, C-44, C-24, C-23 canals, and Bessey Creek), and for nutrients in the estuarine portion of the **three WBIDs which comprise the estuarine portion of the** Caloosahatchee (below the Franklin Locks), and for fecal coliforms in Trout Creek (Caloosahatchee Basin) and Ten Mile Creek (St Lucie-Loxahatchee Basin), **Southwest Fork Loxahatchee River (St Lucie-Loxahatchee Basin), and the North Fork of the St. Lucie River (St Lucie-Loxahatchee Basin)**. In addition, three TMDLs were adopted in the Charlotte Harbor Basin (DO TMDL for Coral Creek-East Branch, plus fecal coliform TMDLs for Gottfried Creek and the North Prong of Alligator Creek). One TMDL was adopted in the Everglades Basin (West Palm Beach Canal Fecal Coliform TMDL). Seven TMDLs were completed for nutrients, DO, unionized ammonia, or fecal coliforms in the Everglades West Coast Basin (one for Cocohatchee River Estuary, one for the Gordon River, three for Hendry Creek, one for the Imperial River, and one for Lake Trafford). A fecal coliform TMDL was adopted for the E-1 Canal in the Lake Worth Lagoon Basin. In 2011, the DEP proposed TMDLs to address high fecal coliforms concentrations in 20 water bodies located in the Southeast Coast region of the state, ranging from St Lucie County to Miami-Dade. These TMDLs have now been adopted into rule and became effective May 14, 2012.

The DEP is currently developing TMDLs for nutrients and DO in the upper Caloosahatchee River and multiple tributaries located throughout the watershed. As part of this effort, the DEP is revisiting and potentially revising the TMDLs for the Caloosahatchee Estuary (The Franklin Lock and Dam, S-79, divides

the upper river from the estuary.). The DEP hosted three public meetings in June and August of 2013, and May of 2014. The DEP currently has a modeling support contract with a consulting company for the Caloosahatchee project. It is expected that all the modeling work will be completed by March 2017 and TMDLs finalized by the end of the same year.

During Florida fiscal year July 1, 2015 through June 30, 2016, the DEP intends to finalize nutrient TMDLs for Lake Juliana (Withlacoochee Basin), complete a RA plan for Mud Lake, and complete part of the modeling work for impaired waters in the Caloosahatchee River Basin. In addition, the DEP currently has a modeling support contract with a consulting company for the Loxahatchee River Basin. It is expected to complement a potential RA plan for the area.

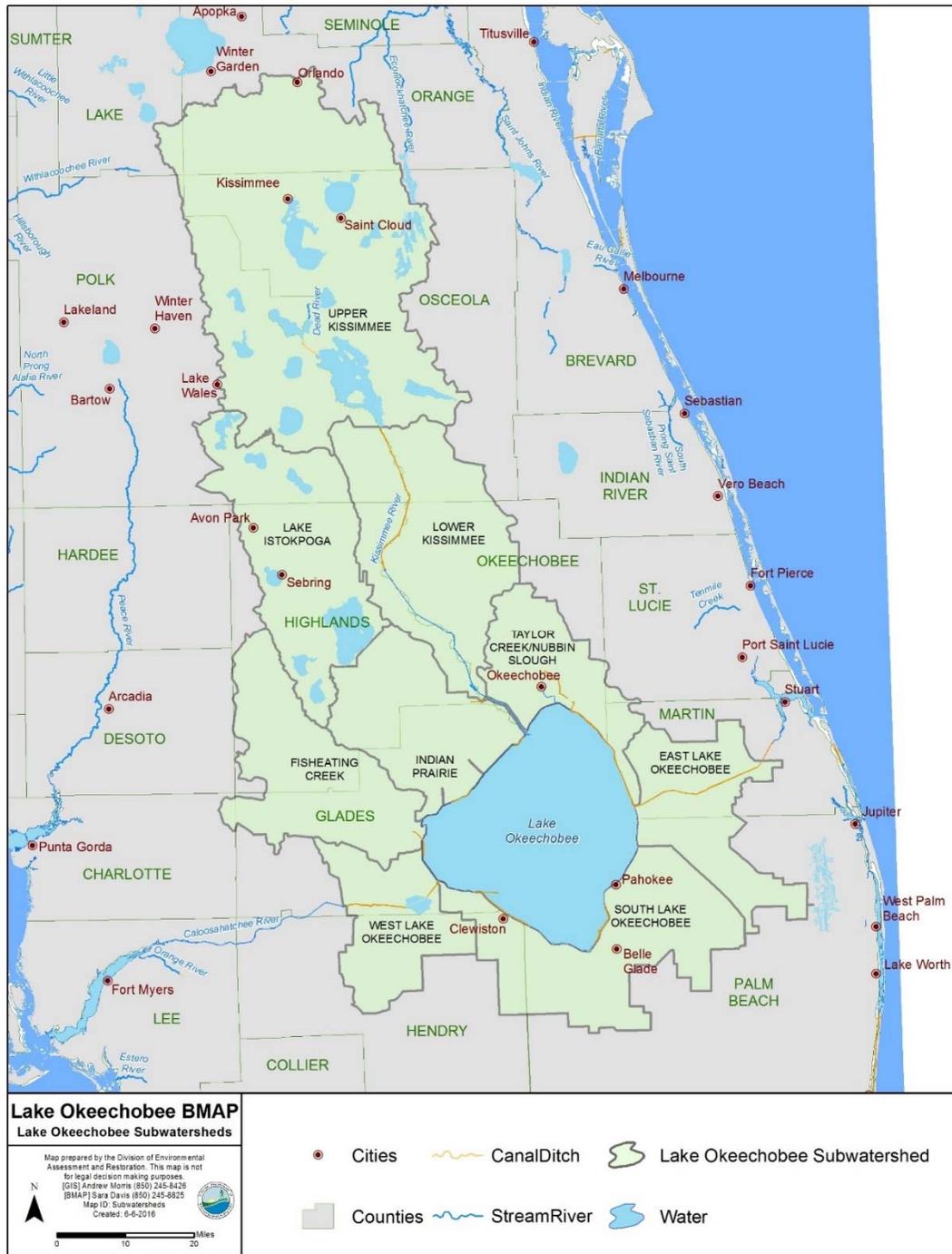
Statewide Mercury TMDL: In October 2013, the U.S. Environmental Protection Agency approved Florida's statewide TMDL for mercury. The statewide TMDL for fresh and marine waters was the most comprehensive approach offering the most protection for the people of Florida. This approach addressed the following concerns: possible elevated levels of mercury in fish in Florida's fresh and marine waters that were not assessed, adjacency of waterbodies, mobility of marine species, and atmospheric deposition of mercury (the dominant source of mercury). The TMDL is now in effect and will be incorporated into new and renewal discharge permits for industrial and large domestic wastewater facilities. Recently completed group 2 cycle 3 assessment of verified impaired waterbodies (Sarasota Bay-Peace Myakka, Caloosahatchee, and Lake Worth Lagoon-Palm Beach Coast) will be incorporated into the updated statewide Mercury TMDL.

A BMAP is the "blueprint" for restoring impaired waters by reducing pollutant loadings to meet the allowable loadings established in a TMDL. It represents a comprehensive set of strategies--permit limits on wastewater facilities, urban and agricultural best management practices, conservation programs, financial assistance and revenue generating activities, etc. These broad-based plans are developed with local stakeholders, relying on local input and local commitment, and they are adopted by Secretarial Order to be enforceable.

The following BMAPs have been completed for the Caloosahatchee, Everglades West Coast, Lake Okeechobee, and St. Lucie basins:

Lake Okeechobee (December 2014) The Lake Okeechobee Watershed BMAP identifies projects and activities needed to restore water quality such that it meets the designated uses in this watershed. The Lake Okeechobee BMAP builds upon the decade plus work already done under the Lake Okeechobee Watershed Protection Program to reduce total phosphorus loadings to the lake. In 2015, the DEP, in conjunction with FDACS and the SFWMD, initiated an effort to refine the Watershed Assessment Model (WAM) to better meet the needs of the BMAP. These refinements will include updates to the input data, further model calibration, and the addition of the three sub-watersheds south of Lake Okeechobee to the modeling domain. It is expected that the modeling work will be completed by the end of 2016.

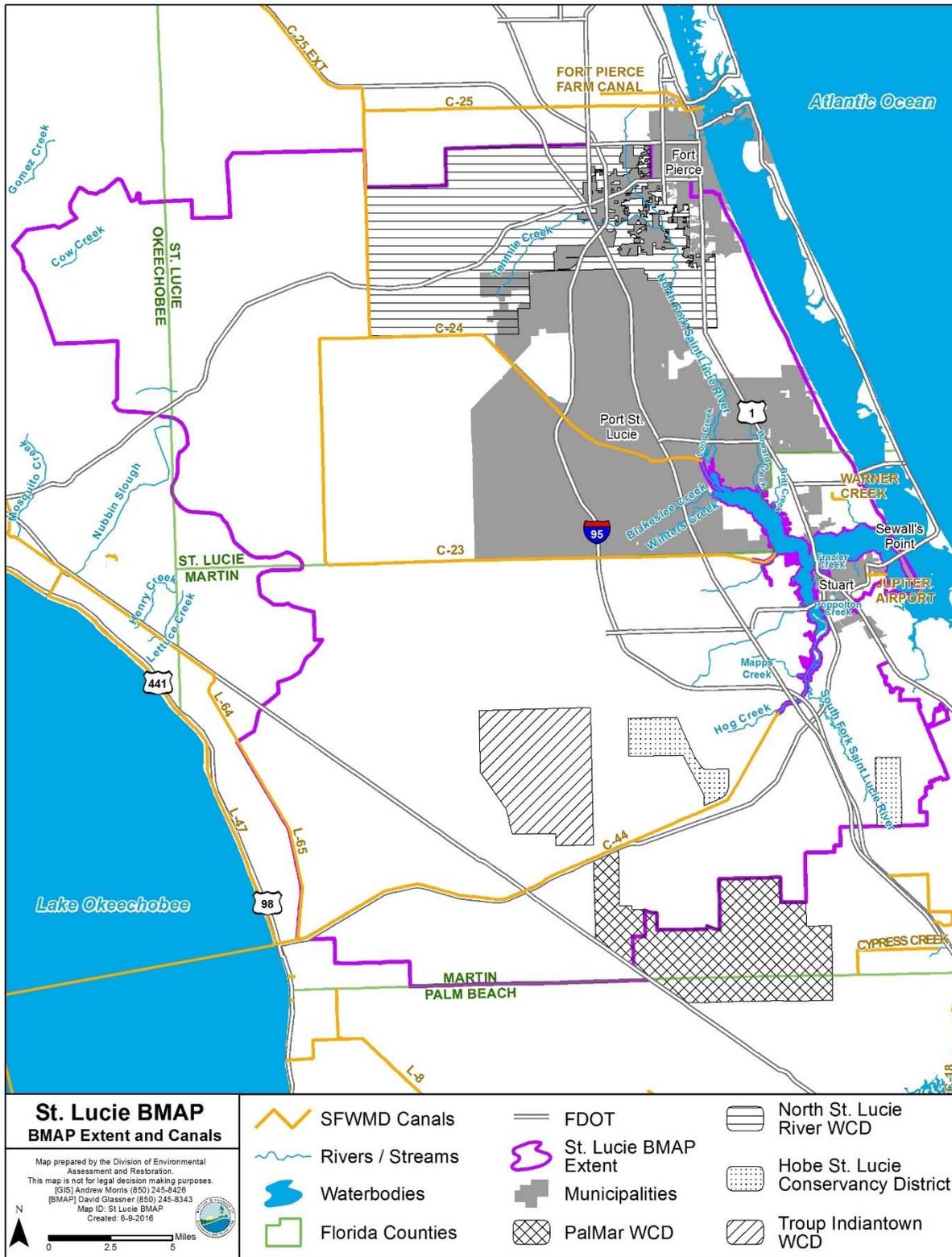
FIGURE 1: LAKE OKEECHOBEE BASIN MANAGEMENT ACTION PLAN



- **St. Lucie River and Estuary (May 2013)**

The St. Lucie River and Estuary BMAP represents the collaborative effort of Martin County, Okeechobee County, St. Lucie County; the cities of Fort Pierce, Port St. Lucie, Stuart, and Town of Sewall's Point; Copper Creek Community Development District (CDD), Tradition CDD, Verano CDD; Hobe St. Lucie Conservancy District, North St. Lucie River Water Control District (WCD), Pal Mar WCD, Troup-Indiantown WCD; Florida Department of Transportation; Florida Turnpike Authority; Florida Department of Agriculture and Consumer Services; and South Florida Water Management District (SFWMD) to identify and implement the management strategies necessary to achieve the nutrient and DO TMDL for the St. Lucie River and Estuary Basin. The DEP held BMAP annual update meetings in August 2014 and August 2015 to update stakeholders on BMAP progress and discuss various projects being implemented by local agencies. In 2015, the DEP, in conjunction with the SFWMD, initiated an effort to update the St. Lucie Estuary Watershed Model (WaSH Model) to better meet the needs of the BMAP. This update includes enhancements to the modeling code, updates to the water quality component, and further model calibration.

FIGURE 2: ST. LUCIE BASIN MANAGEMENT ACTION PLAN

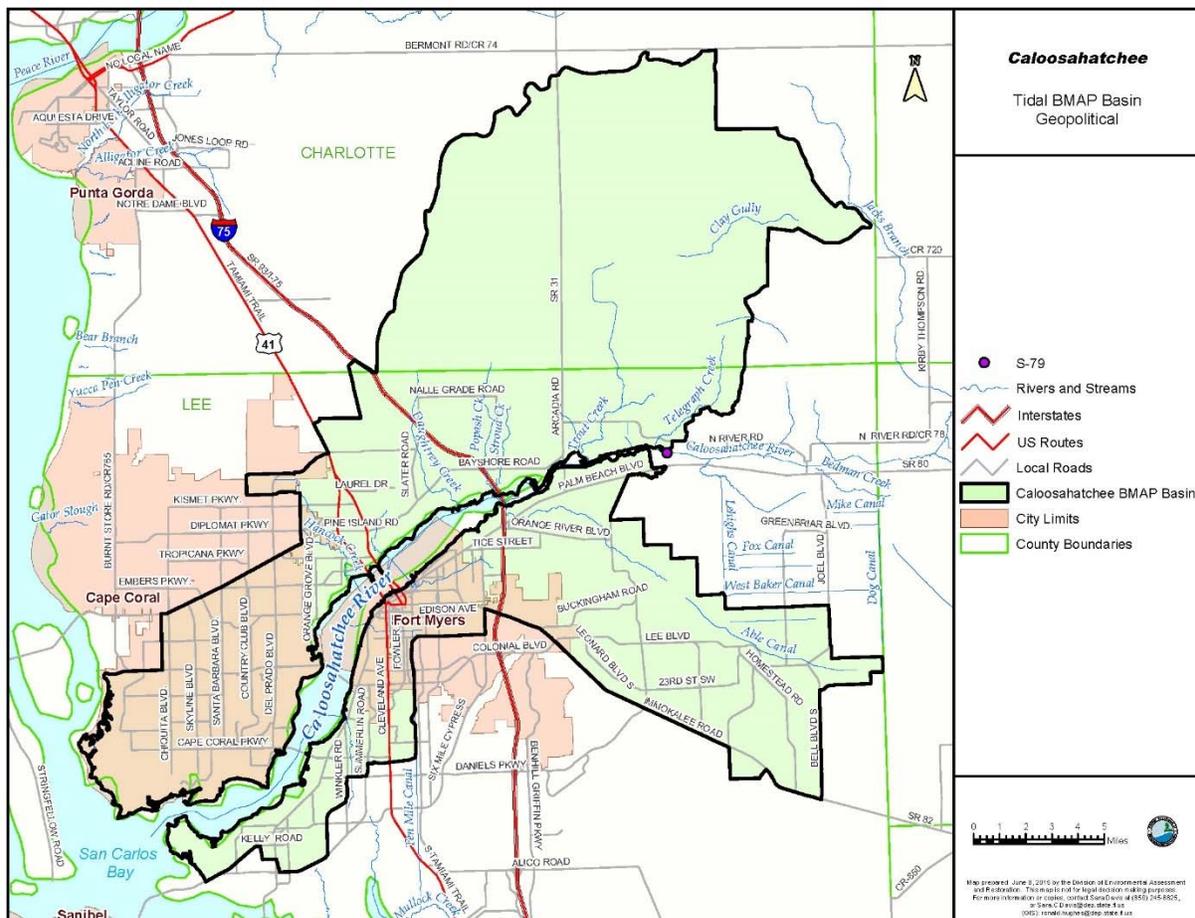


Project Name: C&SF: CERP Comprehensive Integrated Water Quality Plan (CIWQP)

▪ **Caloosahatchee Estuary Basin (November 2012)**

The Caloosahatchee Estuary Watershed BMAP was prepared as part of a statewide watershed management approach to restore and protect Florida's water quality. This document was developed by the Caloosahatchee River stakeholders, with participation from affected local, regional, and state governmental interests; elected officials and citizens; and private interests. The purpose of this BMAP is to implement TN reductions for the portion of the loading generated in the Caloosahatchee Estuary Basin. The DEP held BMAP annual update meetings in February of 2014, January 2015, and March 2016 to update stakeholders on BMAP progress and discuss various projects being implemented by local agencies.

FIGURE 3: CALOOSAHATCHEE BASIN MANAGEMENT ACTION PLAN



Map prepared June 8, 2015 by the Division of Environmental Assessment and Policy. This map is not for legal action in any purpose. For more information or copies, contact Sandrine at DESD (68985) or Sara C. Evans@dep.state.fl.us (904) 399-0000. www.dep.state.fl.us

▪ **Everglades West Coast Basin (November 2012)**

The Everglades West Coast BMAP was prepared as part of a statewide watershed management approach to restore and protect Florida’s water quality. It was developed by the Everglades West Coast stakeholders, with participation from affected local, regional, and state governmental interests; elected officials and citizens; and private interests. The purpose of this BMAP is to implement TN reductions for the Hendry Creek and Imperial River Basins to achieve the TMDLs for DO. The DEP held BMAP annual update meetings in February of 2014, January 2015, and March 2016 to update stakeholders on BMAP progress and discuss various projects being implemented by local agencies.

FIGURE 4: EVERGLADES WEST COAST BASIN MANAGEMENT ACTION PLAN - HENDRY CREEK BASIN

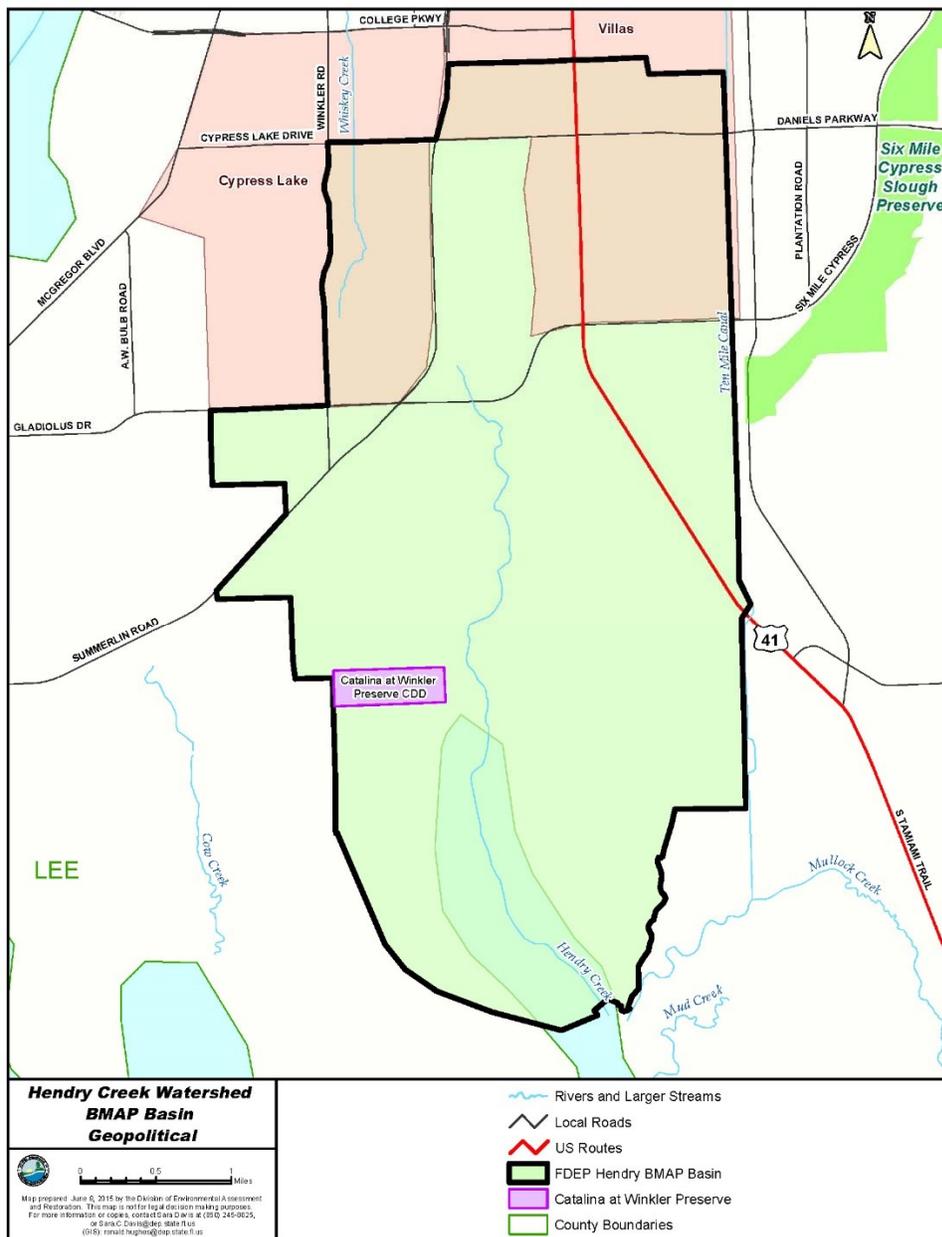
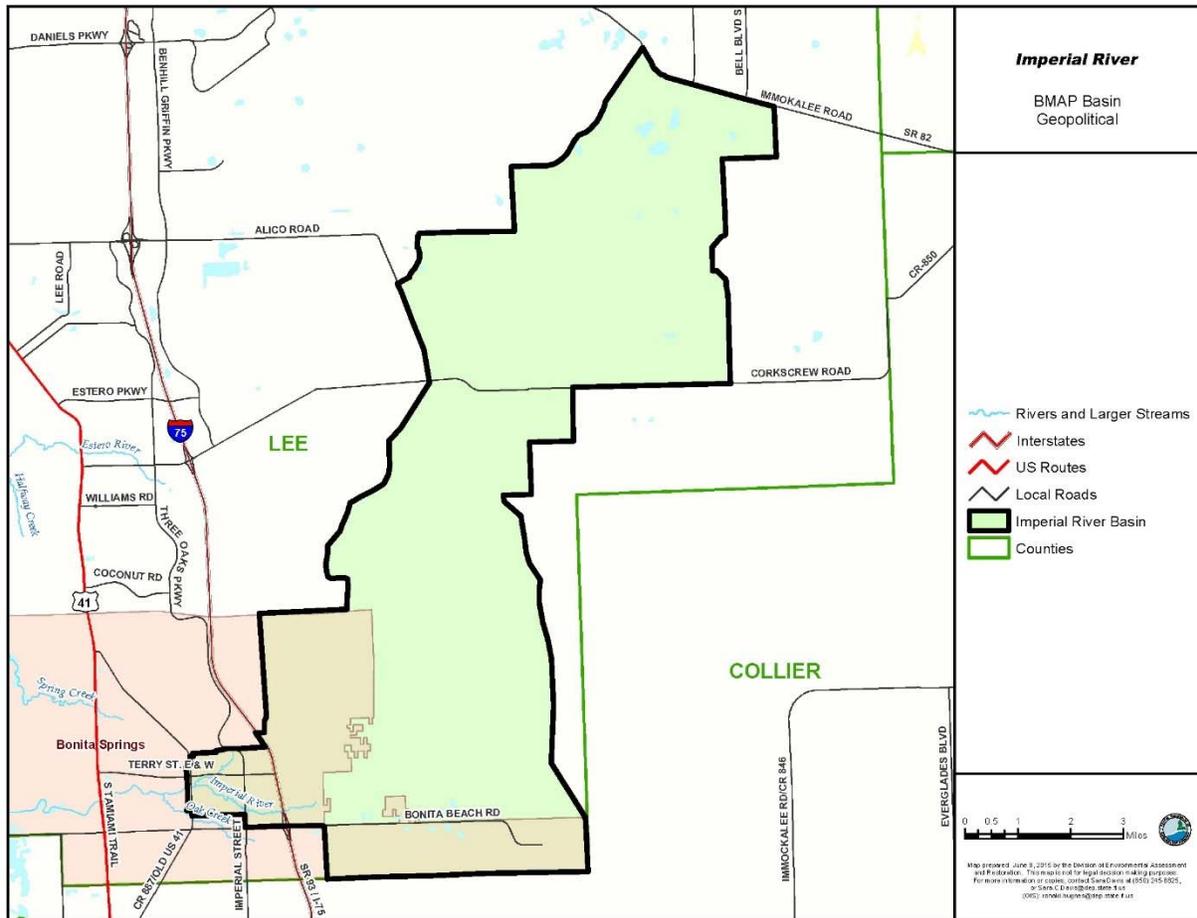


FIGURE 5: EVERGLADES WEST COAST BASIN MANAGEMENT ACTION PLAN - IMPERIAL RIVER BASIN



Hyperlink: <http://www.dep.state.fl.us/water/tmdl/index.htm>
<http://www.dep.state.fl.us/water/watersheds/bmap.htm>

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