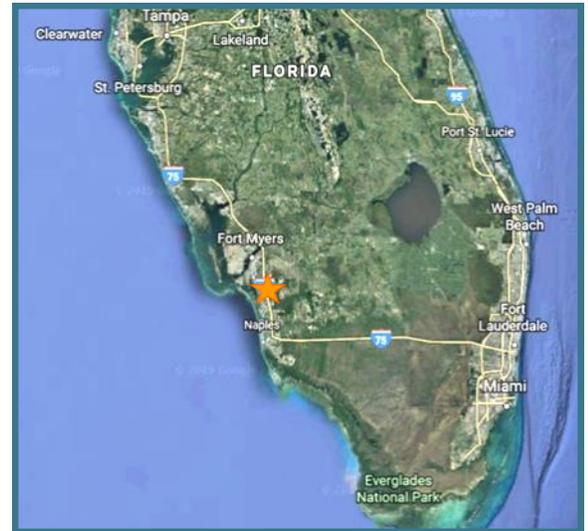
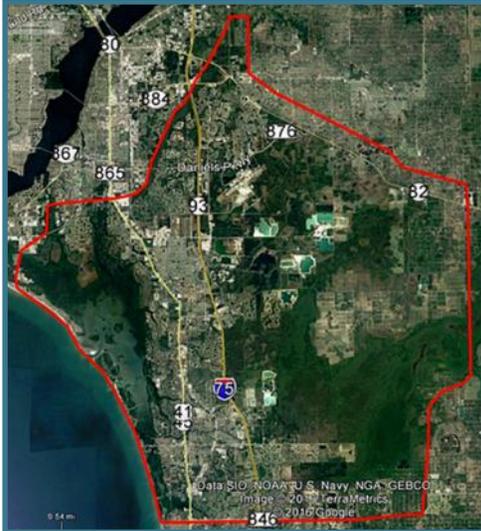


South Lee County Watershed Initiative Hydrological Modeling Project

HYDROLOGICAL RESTORATION



Summary

The South Lee County Watershed is comprised of the Estero River, Spring Creek, and Imperial River watersheds, which flow into the Estero Bay Aquatic Preserve. Much of the native wetland habitats have been lost to agriculture, development, the installation of drainage canals, surface mining, and major roadways. These activities have significantly altered the historic flow of water from the southern region of Lehigh Acres south to the Corkscrew Sanctuary and southwest to Estero Bay. The surrounding wetland ecosystems are highly susceptible to over-drainage, flooding, habitat changes, water quality degradation, and climate change stressors. The rivers and creeks in this area experience significant flooding during storm events and very low flows during the dry season.

To address these concerns partners in the area came together to form the South Lee County Watershed Initiative (SLCWI), which aims to restore more natural water flows, improve water quality and environmental conditions, and increase natural water storage and moderation of flooding events.

CHNEP is providing funding for the development of a science-based, data-driven integrated surface/ground water hydrologic model that is capable of simulating both dry and wet season water levels and flows. It will fill data gaps and bridge the various modeling efforts in the area to build a regional watershed-scaled picture. Potential future conditions scenarios (that include factors like climate change as well as likely development and public works projects) will be modeled to serve as a planning tool for resource management agencies, and will help guide appropriate restoration and management in the region.

Location: Lee County, FL

Partners: South Florida Water Management District, Southwest Florida Regional Planning Council, City of Bonita Springs, Lee County, Village of Estero, Bonita Springs Utilities, Florida Department of Transportation, Conservancy of Southwest Florida, Audubon Society, Corkscrew Swamp Sanctuary, and the Estero Council of Community Leaders.

Implemented: 2020

Status: Ongoing-December 2022

CHNEP Cost: \$206,799

Funding Source: Environmental Protection Agency, South Florida Water Management District

2019 CHNEP Plan Activity:  Hydrological Restoration 1.1: Conduct data collection, modeling, and analysis of historical, current, and projected hydrologic conditions to identify needs and guide hydrologic restoration.



Mike Kaplan

Anticipated Results and Benefits

Informed Decision Making:

This project will result in a coherent model that simulates both wet and dry season water levels and flows for the Estero and Imperial River watersheds. This will aid in identifying appropriate and cost-effective restoration projects for the area.

Improved Water Quality:

Restoration efforts conducted as a result of this project will improve the water quality of the individual rivers themselves, as well as the main waterways they flow into. Restoring natural flows will re-hydrate wetlands and allow them to provide their natural water-cleansing function to improve water quality downstream.



Linda Wroble

Increased Aquatic and Terrestrial Habitat:

Re-hydrating wetlands will clean water before it moves downstream. This provides better habitat for fish and wildlife in the downstream areas and estuary. It will also increase natural water storage on land and allow aquifer recharge. Water flow will be rerouted from areas where it is doing harm to provide greater flood protection.



The Weather Channel

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Uniting Central and Southwest Florida to protect water and wildlife