

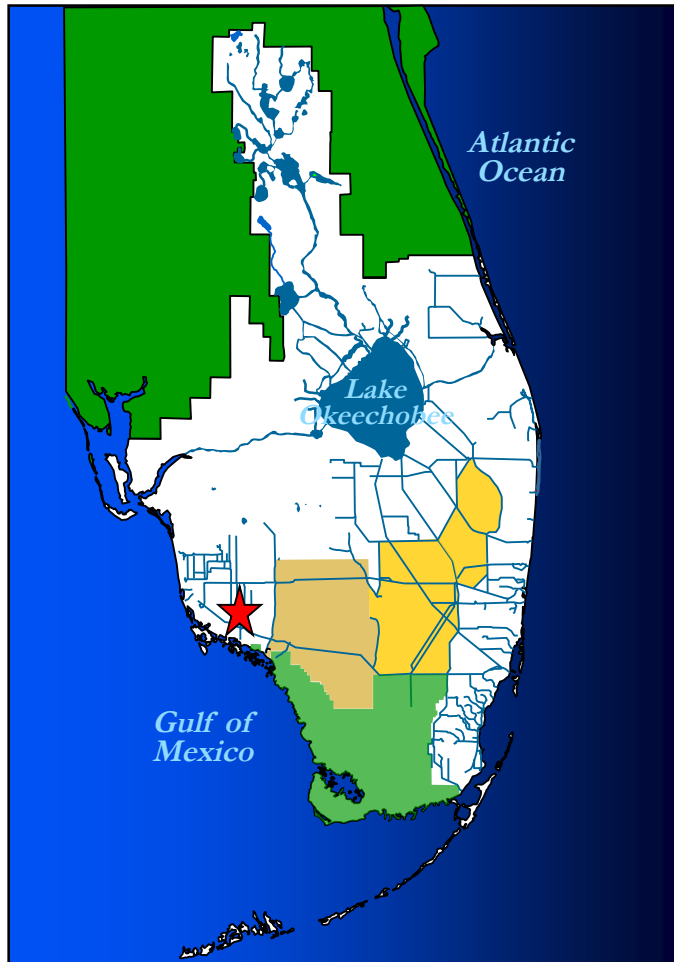
Picayune Watershed Water Quality Feasibility Study

Big Cypress Basin Board Project Update

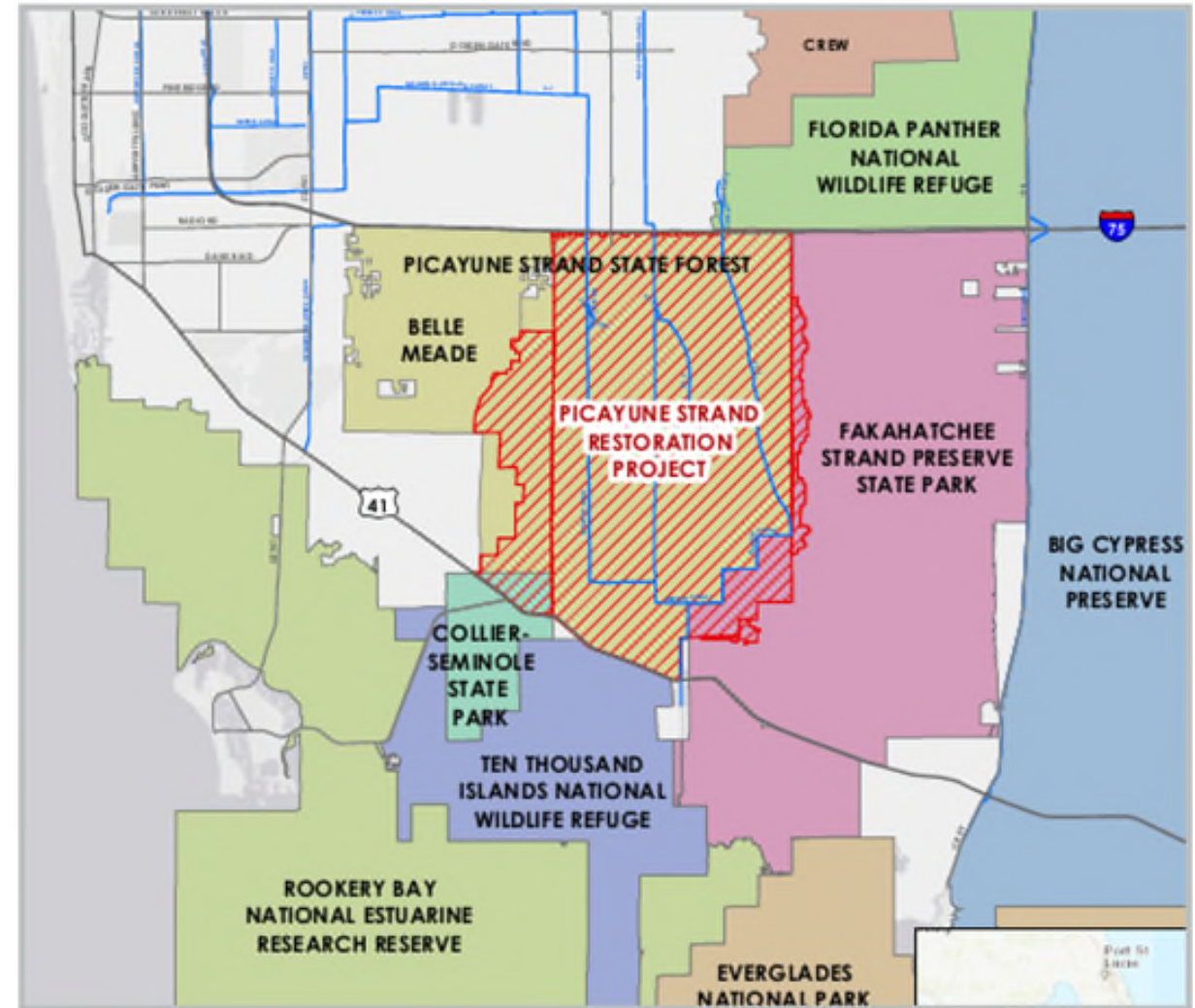
Jennifer Leeds, PMP
Bureau Chief, Ecosystem Restoration Planning
April 22, 2021



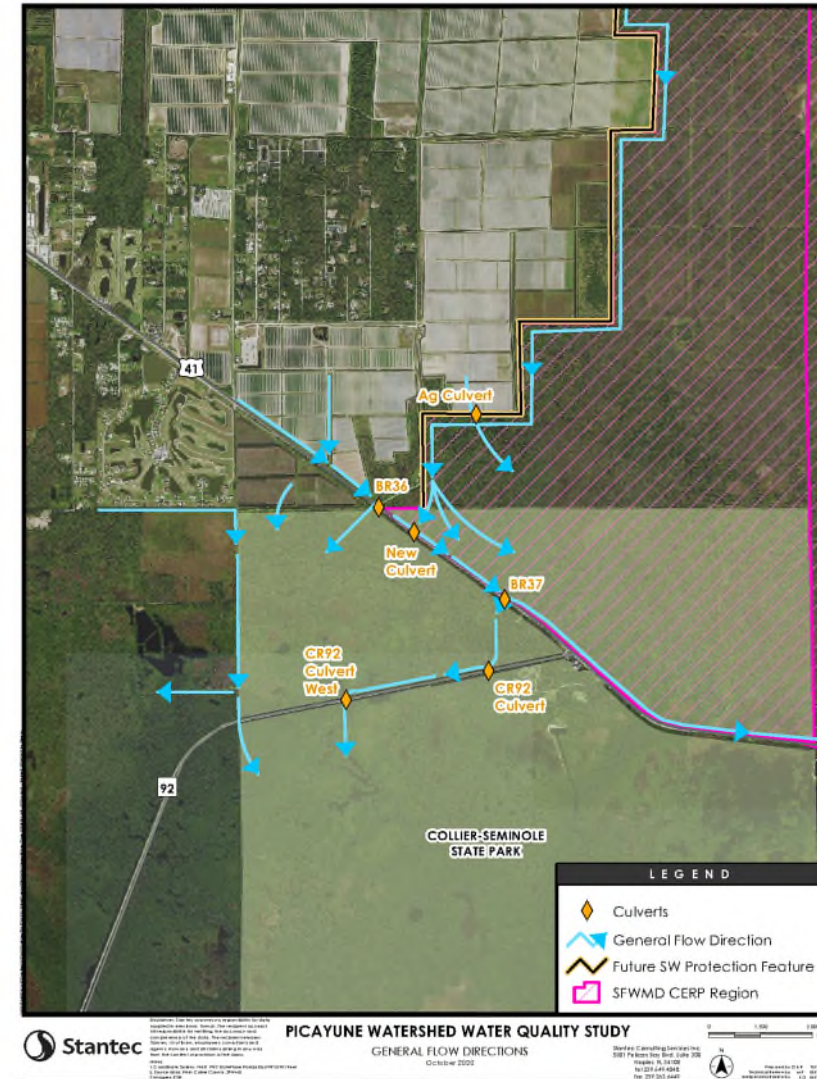
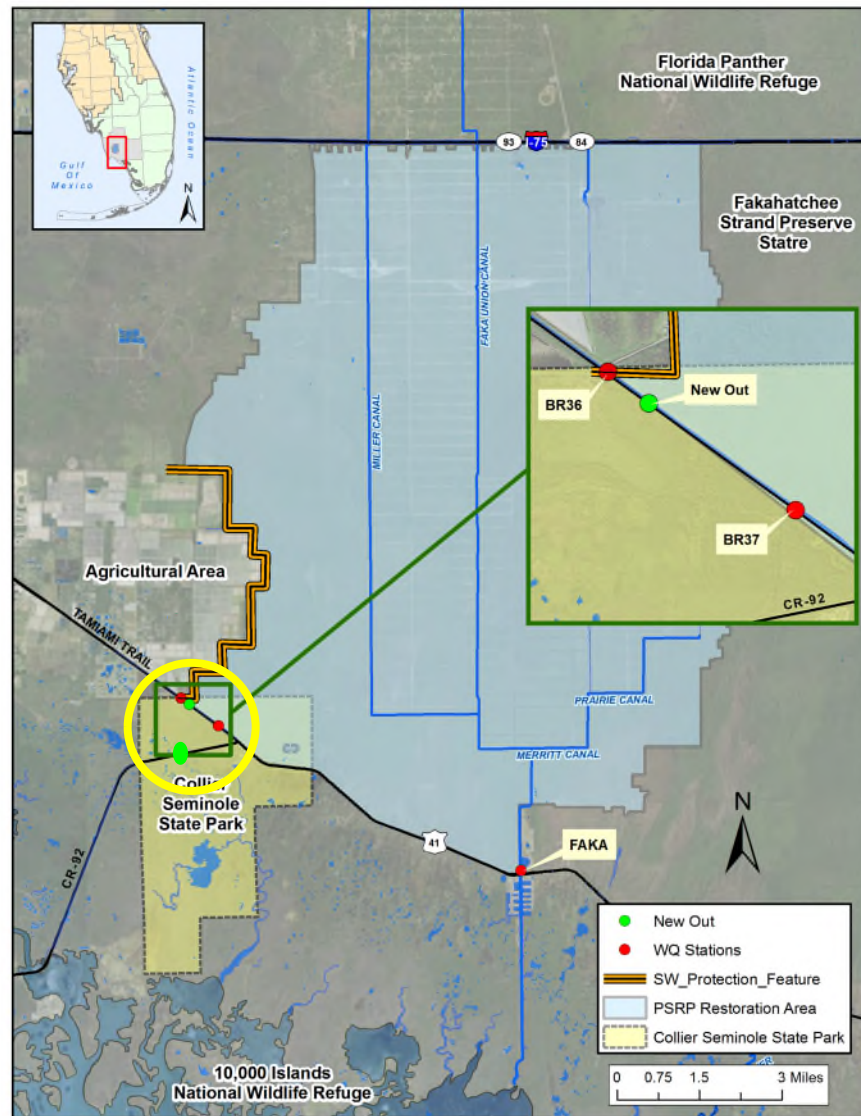
Picayune Watershed



Presenter: Jennifer Leeds



Picayune Restoration Project Flows



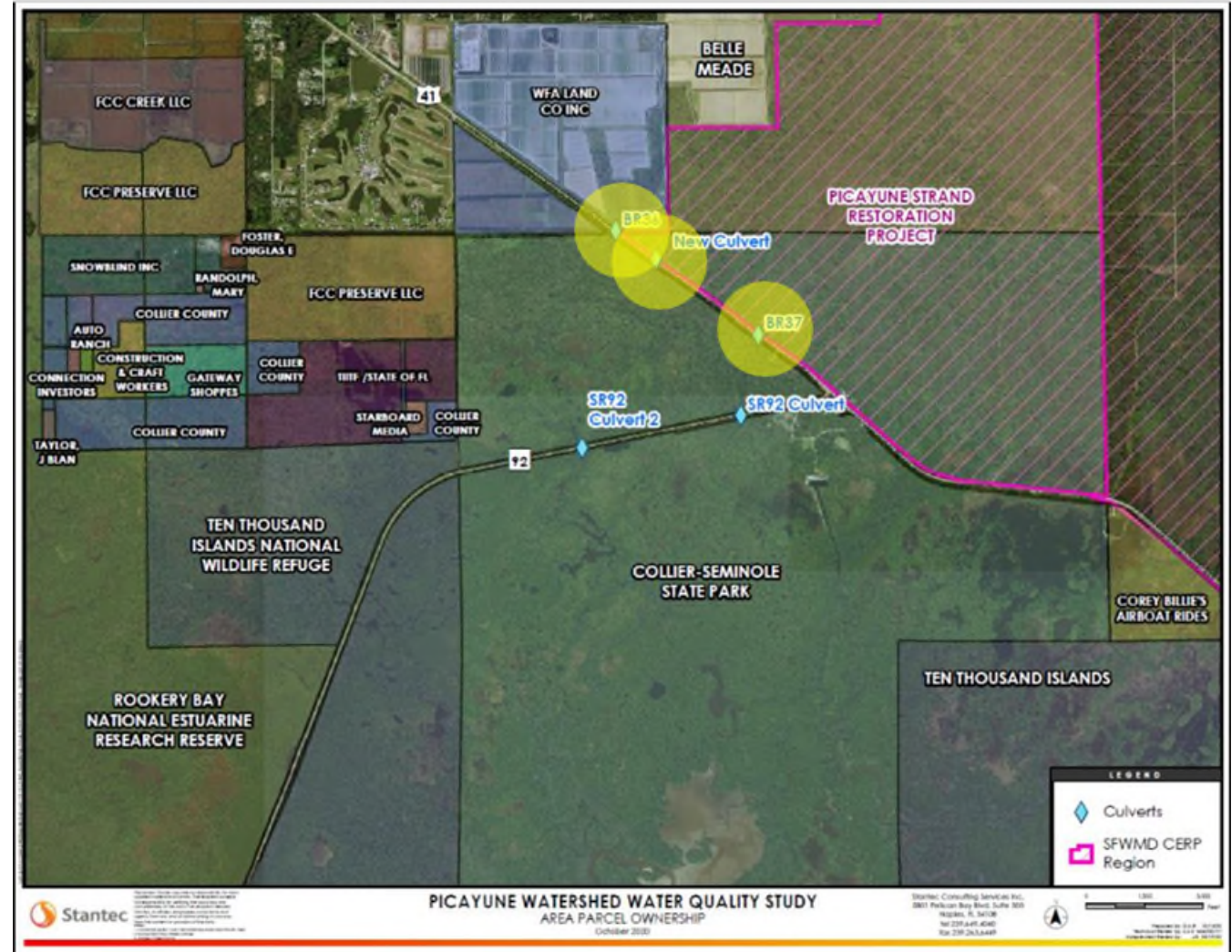
Picayune Watershed Water Quality Feasibility Study

- Collaborative watershed feasibility study with SFWMD, local agencies and stakeholders to address water quality concerns
- Evaluate current and future flows coming from the watershed north of U.S. 41
- Kicked off July 2020, completed March 2021
- Conducted three public meetings:
 - August, October and December of 2020



Collaborative Approach

- Working group
- Technical group
- Land availability limited
 - OFW
 - private
- Project partnerships
- Project one pager



Project Deliverables

- Project one pager
- Final plan:
 - Information collection report
 - suite of various project alternatives
 - advanced treatment technologies
 - project partnerships
 - funding options
 - recommendations section
- All information in the 440-page final report



Improving Water Quality in the Picayune Watershed

Background

The Picayune River watershed area is one of the most diverse and productive in the state of Florida. It is home to a wide variety of wildlife, including the endangered Florida panther, and is a critical habitat for many other species. The watershed is also a major source of drinking water for the region. However, the water quality in the watershed has been declining over the past several decades due to a variety of factors, including land use changes, agricultural runoff, and urban development. This report provides a comprehensive overview of the current water quality issues in the watershed and offers a range of recommendations for improving water quality and protecting the environment.

Objectives

- To assess the current water quality in the watershed and identify the major sources of pollution.
- To develop a range of recommendations for improving water quality and protecting the environment.
- To implement the recommendations and monitor the progress of the project.




Next Steps

The South Florida Water Management District completed a study to identify opportunities to improve water quality in the Picayune Watershed. With several opportunities identified, additional water quality data are necessary to determine the best approach to improving water quality improvement projects in the watershed.

To improve the quality of water received from sources north of US-27, a series of innovative treatment technologies may be constructed in phases to reduce nutrient and sediment concentrations discharged from US-27 watersheds to protect the Outstanding Florida Waters to the south.

Some types of treatment technologies that can be constructed into a treatment train to improve water quality and then benefit an additional phase. Placement of these proposed treatment components is dependent upon identification of suitable land availability in the vicinity of the project area, which is a significant challenge for implementation of this project. Public Public and Public Private Partnerships will be critical in realizing this goal.

Treatment Train Component	Description	Benefits
Treatment Wetlands	Creation of surface water wetlands to allow plant uptake of nutrients to improve water quality.	<ul style="list-style-type: none"> • Wetlands constructed in uplands to restore the function of natural wetlands. • Provides nutrient treatment. • Provides habitat value for aquatic wildlife.
Spinnet Barriers and Canals	A series of canal systems allows water to spread out and flow downstream over a wide area of a shoreline pattern instead of discharging at a single point.	<ul style="list-style-type: none"> • Eliminates scouring point locations. • Reduces erosion and sedimentation from shore water supply. • Allows natural wetlands to better filter discharge waters through plant and tree uptake of additional nutrients.
Sedimentation Basins and Polluting Fields	One or multiple ponds that slow inflow water, allowing sediment and associated nutrients and contaminants to settle out before water flows to the next stage of a treatment system.	<ul style="list-style-type: none"> • Reduces sedimentation. • Significant improvement in water quality.
Buttresses	Buttresses are typically used towards the end of a treatment train to promote the growth of bacteria that remove nutrients from inflow water, either by consuming the nutrients in place or by loading the nutrients to the biofilter substrate.	<ul style="list-style-type: none"> • Provides enhanced nutrient removal in a relatively small area.



Marsh habitat in the northern Ten Thousand Islands National Wildlife Refuge.

Next Steps

- Project one pager and final report available to the public
- Collaborating with Collier County and local stakeholders
- Siting analysis

<https://www.sfwmd.gov/our-work/picayune-watershed-water-quality-feasibility-study>



Questions?



Public Comment on Item #9

**If you're participating via Zoom
– use the Raise Hand feature**

**If you're participating via
Phone –**

***9 Raises Hand**

***6 Mutes/Unmutes**

