WATERSHED ASSESSMENT MODEL USED TO EVALUATE RESTORATION OPTIONS FOR THE BOB JANES PRESERVE

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The Bob Janes Preserve (BJP) is a 5,620-acre parcel of land that was previously a working part of Babcock Ranch. Located on the northern border of Lee County, BJP was purchased by the Lee County Board of County Commissioners in July of 2006. This study focused on developing a plan for the integration of optimized and strategically selected best management practices (BMPs) and water quality improvement projects to reduce nutrient loads to the Caloosahatchee River, while helping restore the BJP to a more productive native ecosystem.

The Watershed Assessment Model (WAM) was used to assess the hydrologic and water quality responses within the BJP for when it was in agricultural production (circa 2000), its current condition (2019), and for various proposed restoration alternatives. These simulations allowed for the selection and optimization of BMPs and water quality control projects that will help Lee County to achieve their restoration goals for the preserve and meet BMAP targets. The following tasks were completed to meet the above stated objectives:

- Relevant hydrologic, water quality, and physiographic characterization data for the BJP were gathered and analyzed.
- WAM was set up to simulate the hydrologic and nutrient transport processes within the BJP as well as for all upstream flows into the BJP.
- Simulations were used to identify nutrient hotspots and optimal locations for the application of BMPs and water quality projects.
- Use WAM to design and evaluate the cost effectiveness of various BMP and water quality projects.

The completion of these tasks resulted in water quality BMPs, invasive species control, and water quality projects being recommended in coordination with existing BJP habitat management programs.

PRESENTER BIO: Dr. James is the senior modeler at Soil and Water Engineering Technology with more than 25 years of experience in hydrologic and water quality modeling and analysis of watersheds in Florida.