

Lake Trafford Watershed Delineation Study Update

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Objectives

- Identify Lake Trafford watershed boundary and flow network
 - Utilize high-resolution LiDAR data, hydrological assessments and field investigations
 - Update hydrologic and water quality models with updated flow network and boundary conditions
- Conduct water budget and nutrient analysis
- Develop Lake Trafford Watershed Management Plan and continue ecosystem restoration efforts



Summary of Work To Date

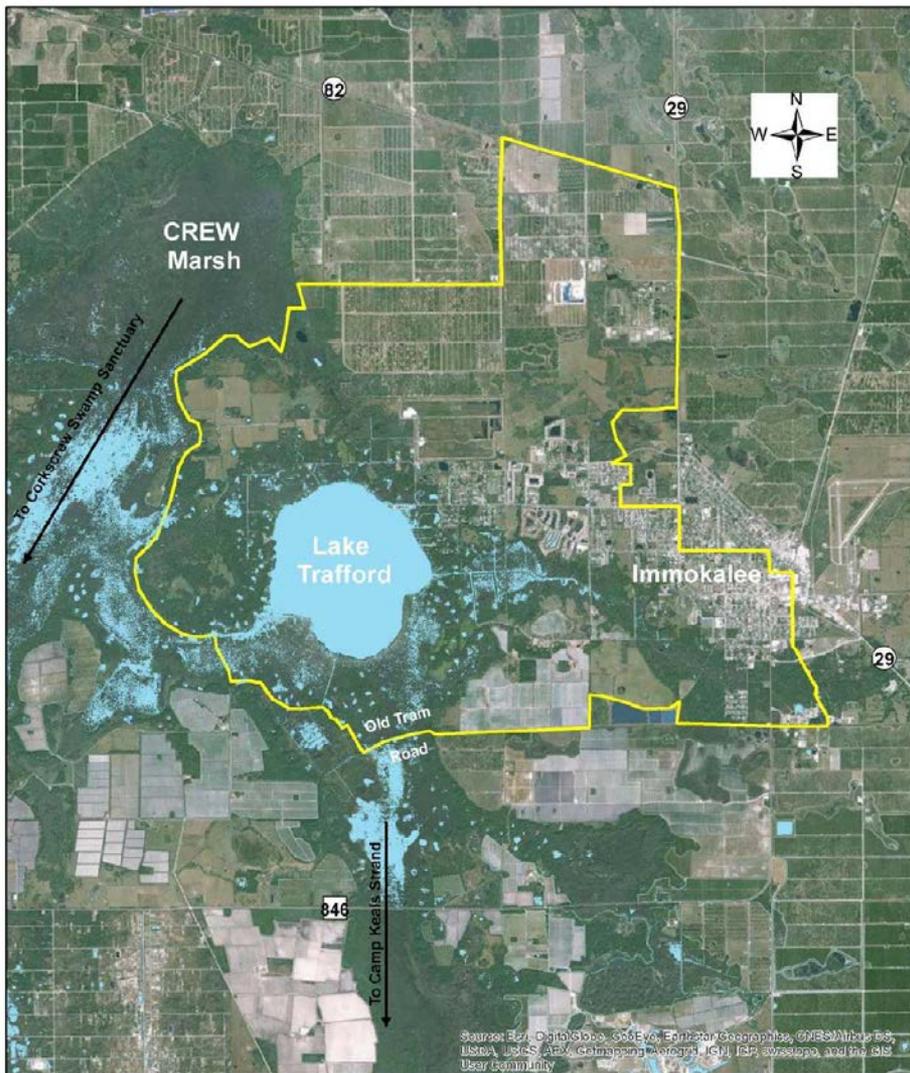
- LiDAR analysis performed
- Digital Elevation Model (DEM) created
- Areas of uncertainty identified
- Field investigations and hydrological assessments conducted
 - Access to private property acquired
 - Piezometers and equipment deployed
- Provisional watershed boundary delineated



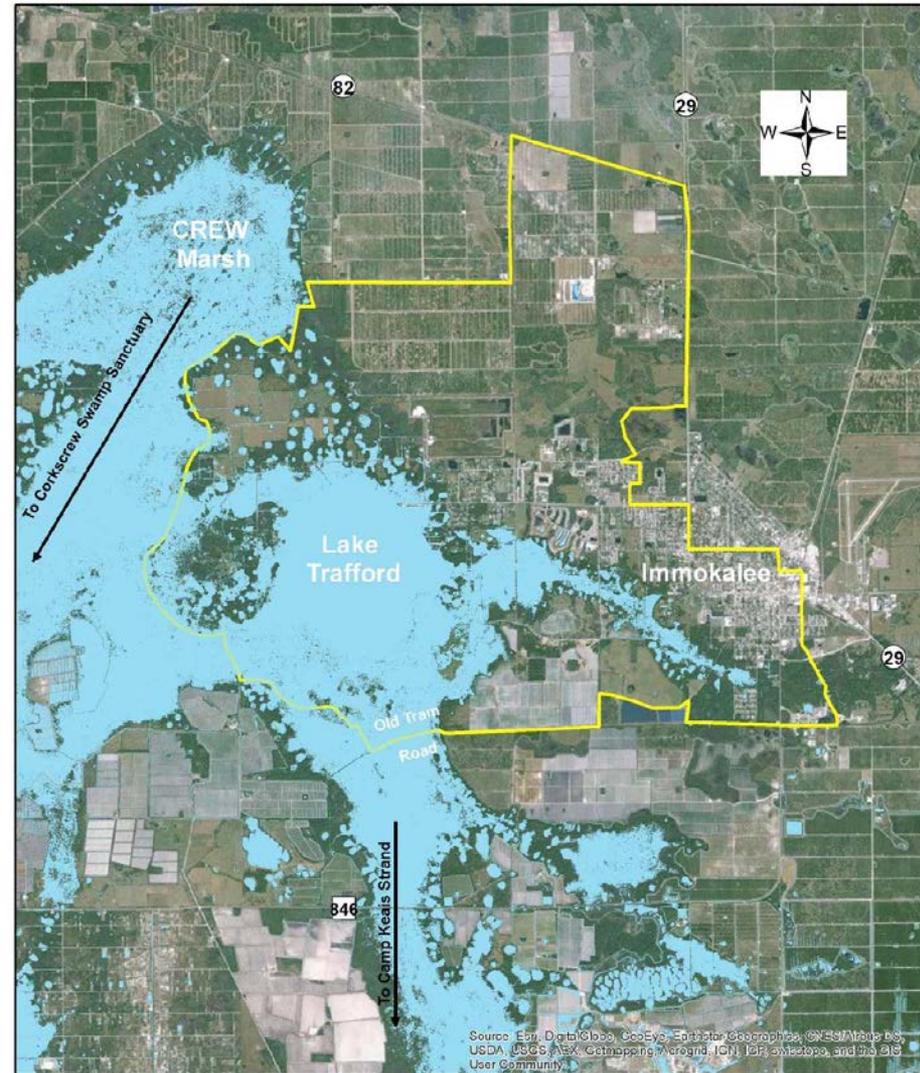
Recent Findings

- Provisional watershed boundary likely dependent on lake stage and spatially variable rainfall
 - Areas northwest of lake appear to be outside of the watershed boundary
 - Areas southeast of lake appear to be inside watershed boundary
 - Observed flows from lake to CREW Marsh – may reverse when lake stage drops below certain threshold
 - Normal drainage pattern south to Panther Refuge/Picayune Strand via Camp Keais Strand is reversed to north except when lake stage is excessively high

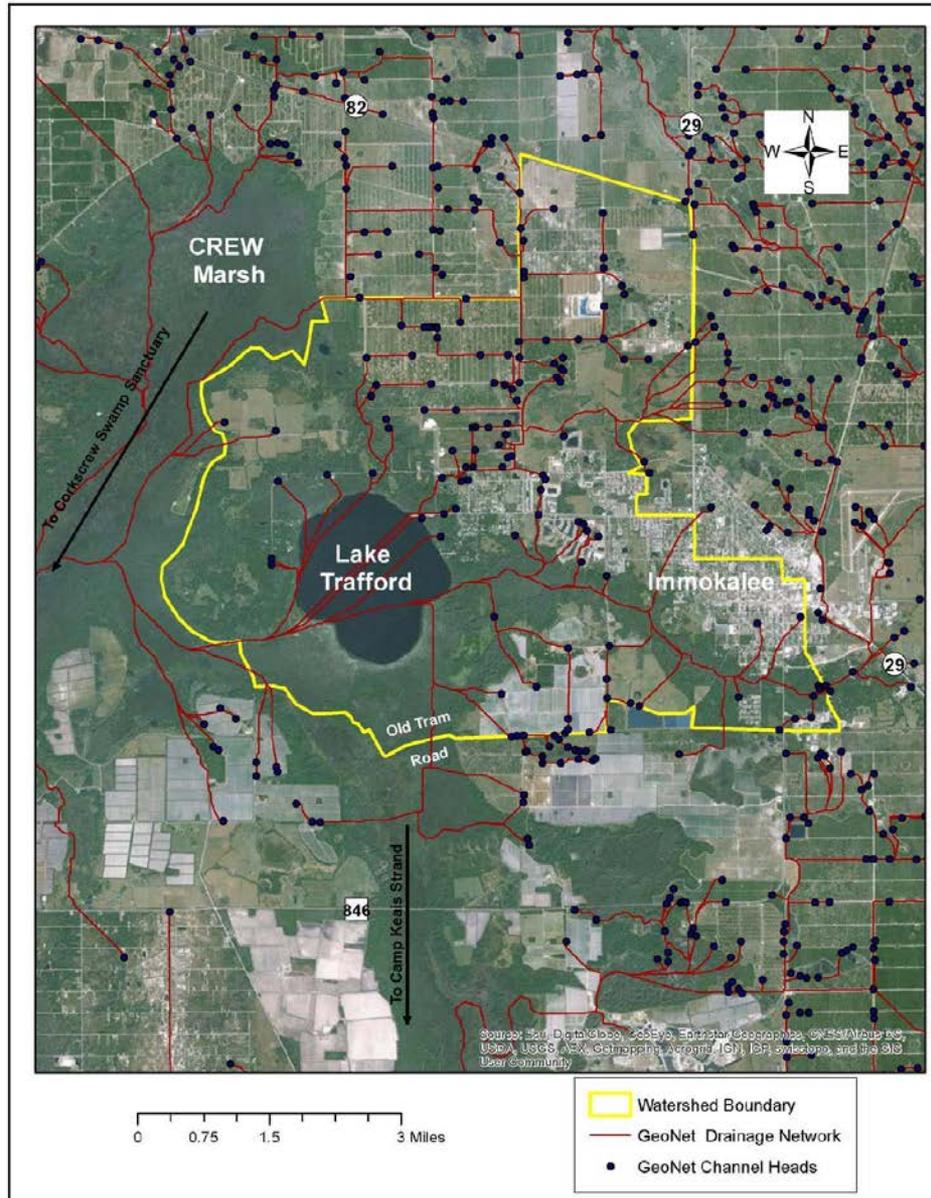




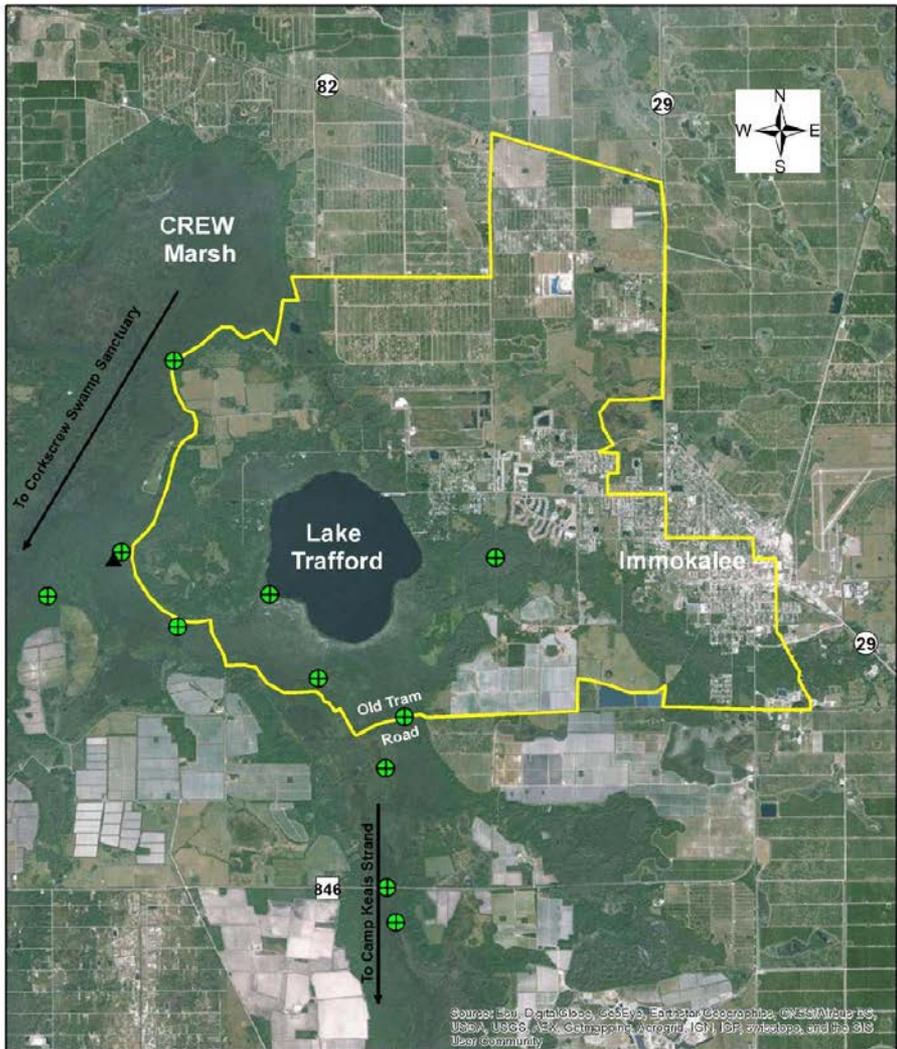
Potential area of inundation at median lake stage for May – end of dry season (17.55 feet NAVD)



Potential area of inundation at median lake stage for September – end of wet season (19.25 feet NAVD)



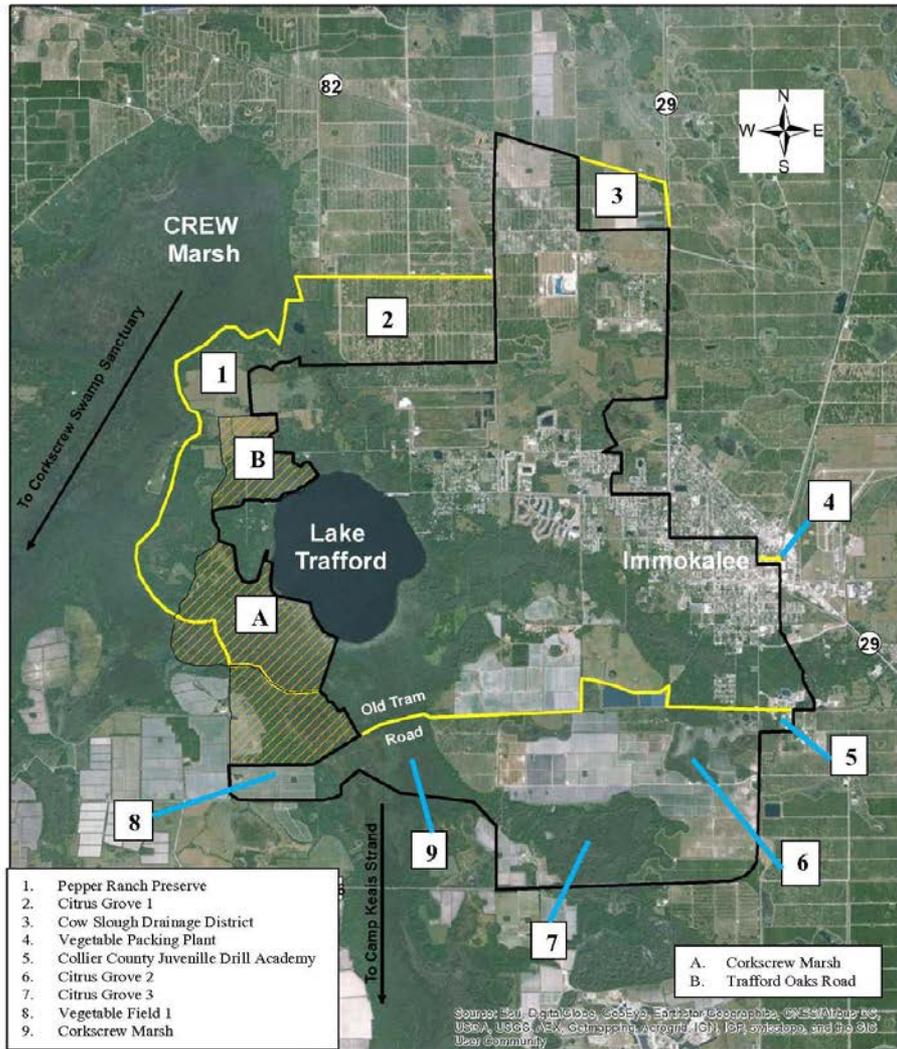
GeoNet Software Results



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroVantage, IGN, IPR, swisstopo, and the SIS User Community



Field Investigation Sites



- 1. Pepper Ranch Preserve
 - 2. Citrus Grove 1
 - 3. Cow Slough Drainage District
 - 4. Vegetable Packing Plant
 - 5. Collier County Juvenile Drill Academy
 - 6. Citrus Grove 2
 - 7. Citrus Grove 3
 - 8. Vegetable Field 1
 - 9. Corkscrew Marsh
- A. Corkscrew Marsh
B. Trafford Oaks Road

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroVantage, IGN, IPR, swisstopo, and the SIS User Community



Provisional Watershed Boundary 7

Next Steps

- Field investigations to continue through end of wet season (October 2017)
- Additional data to be processed and analyzed (November – December 2016)
- Final watershed boundary to be presented to BCB Board (January 2017)
- Development of Lake Trafford Watershed Management Plan to be initiated (February – March 2017)
- Final Report to be submitted and shared with partners and stakeholders (April 2017)



Discussion