

The background is a light blue gradient with several realistic water droplets of various sizes scattered across the surface. The droplets have highlights and shadows, giving them a three-dimensional appearance.

UPDATE ON MYAKKA RIVER WATERSHED INITIATIVE

NOVEMBER 14, 2014

OUTLINE

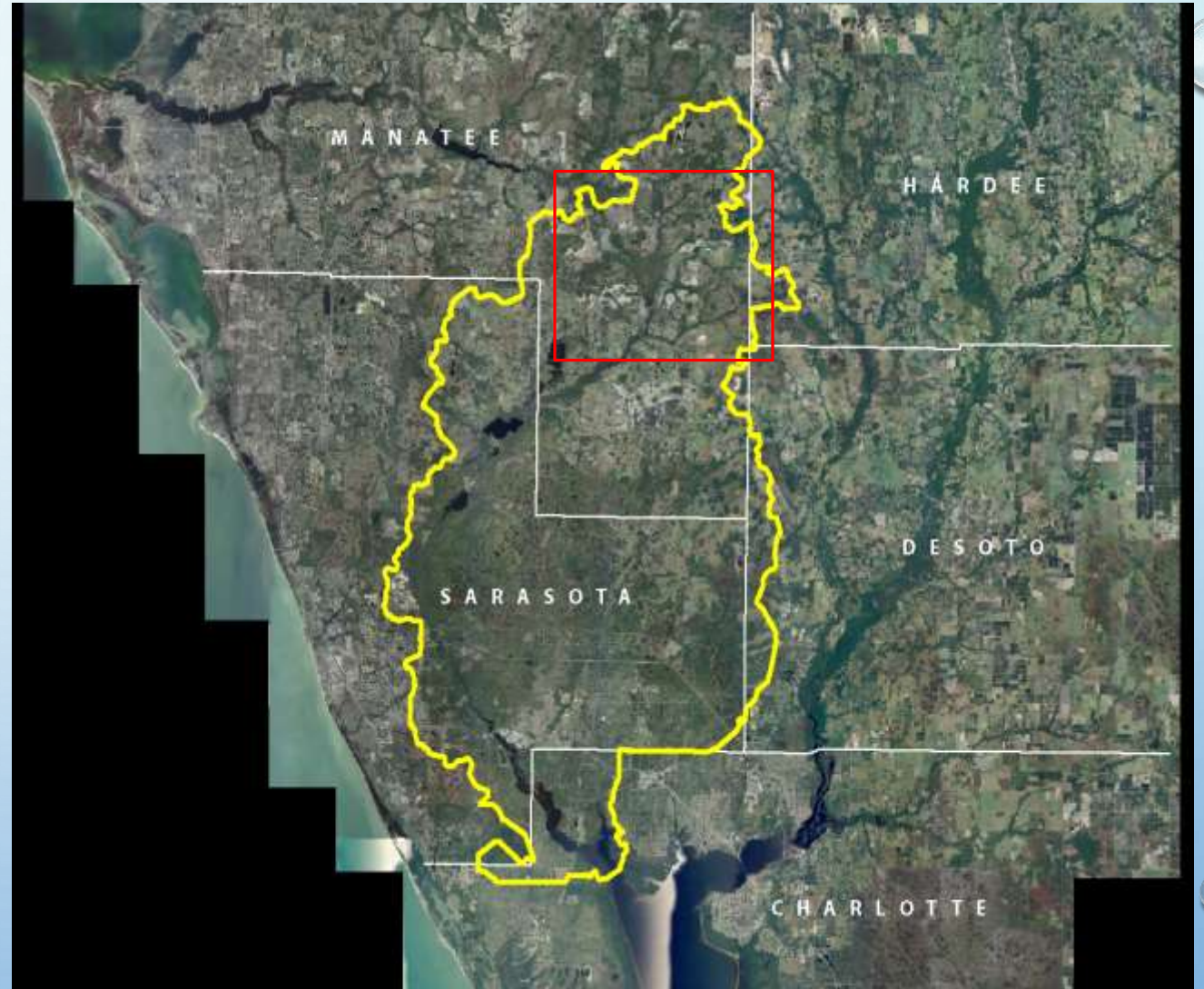
- BACKGROUND
- WATERSHED MANAGEMENT PROGRAM EVALUATION
- NATURAL SYSTEMS EVALUATION ON FLATFORD SWAMP
- NEXT STEPS

MYAKKA WATERSHED

APPROXIMATELY 595 SQUARE
MILES

SARASOTA COUNTY PORTION
WILD AND SCENIC
DESIGNATION.

FLATFORD SWAMP IN
HEADWATERS

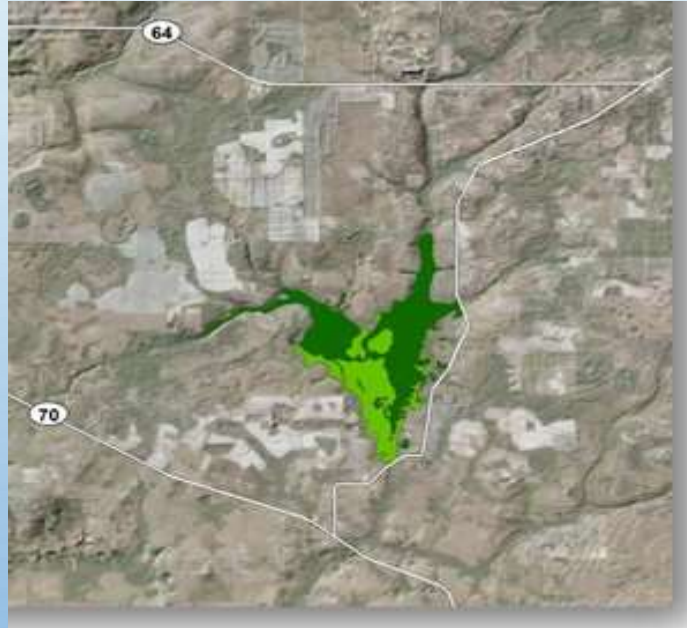


FLATFORD SWAMP

FARMS & WUP



LOCATION



HYDROLOGY & NATURAL SYSTEMS



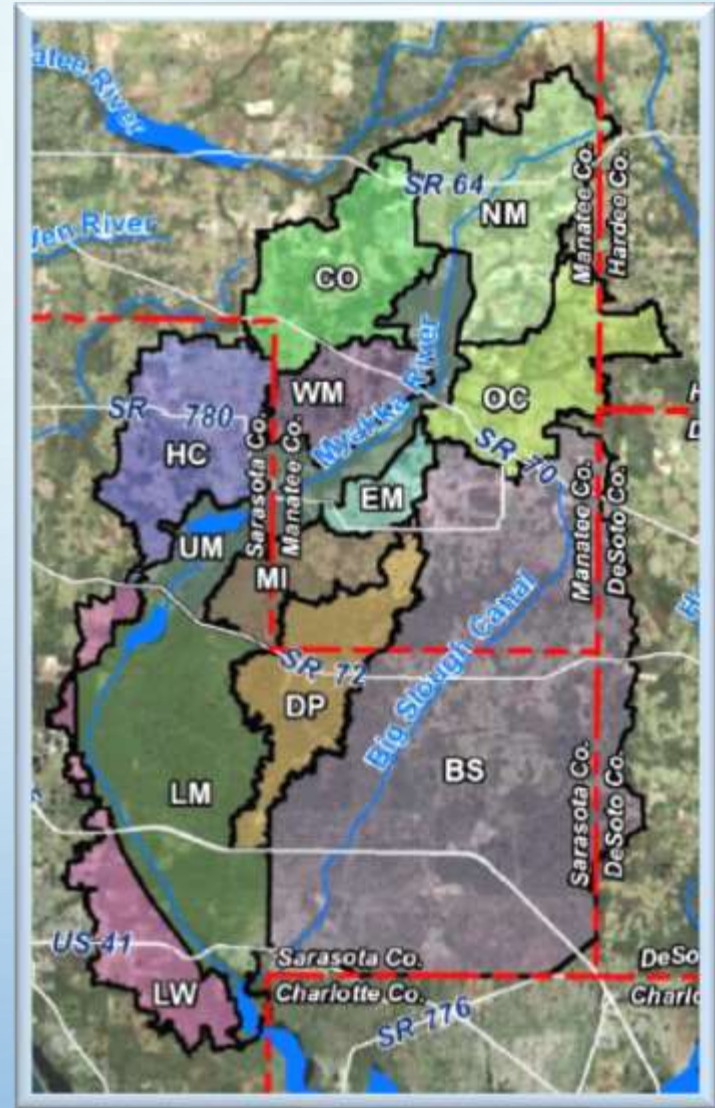
WATERSHED MANAGEMENT PROGRAM

TOPOGRAPHIC INFORMATION-UNDERSTAND THE SURFACE FEATURES, TERRAIN AND BOUNDARIES (LIDAR, DEM)

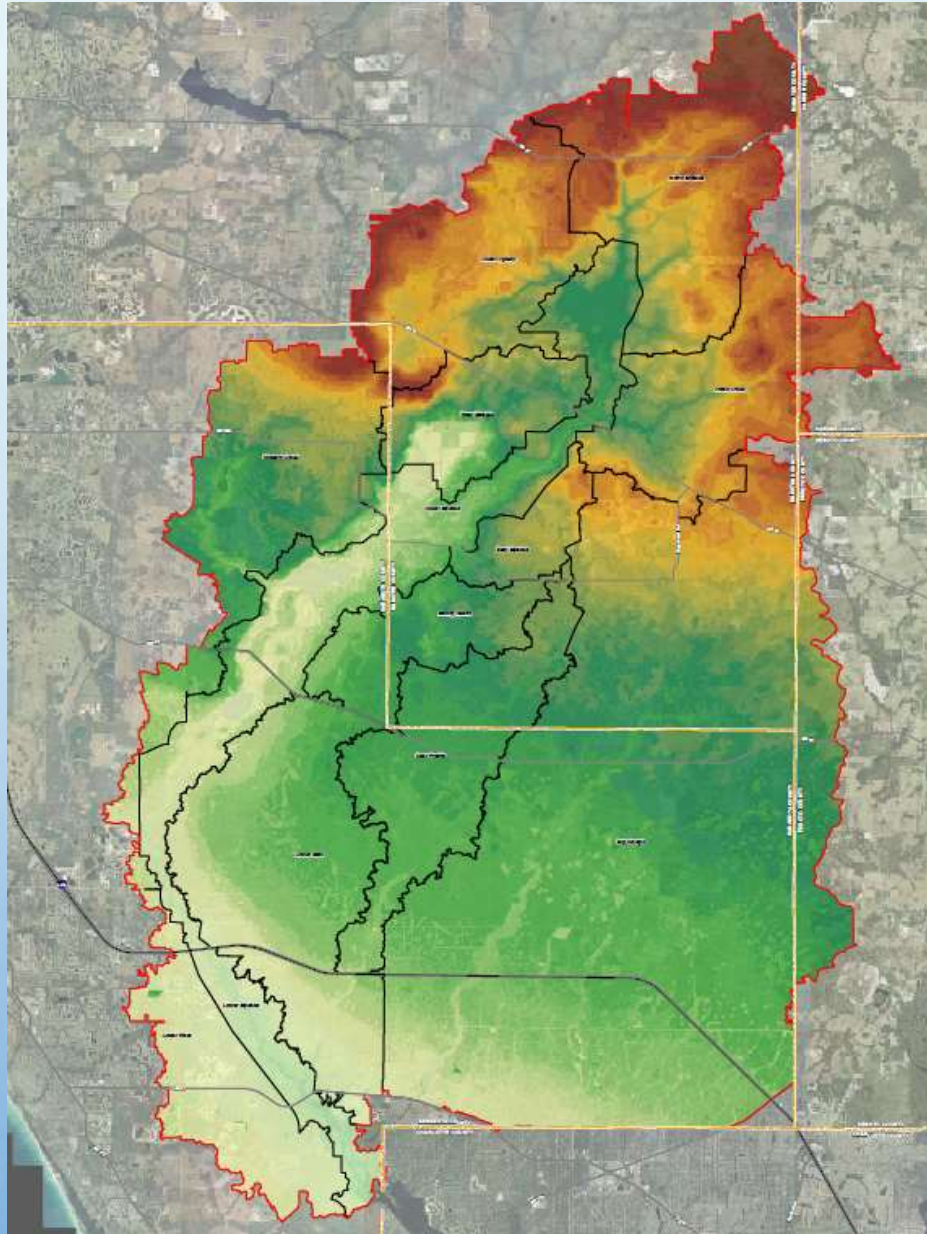
WATERSHED EVALUATION- HYDRAULIC FEATURE INVENTORY THE WATERSHED, DETERMINE STORAGE, DIRECTION OF FLOW, FIELD INVESTIGATIONS, SURVEY. GIS DATABASE DEVELOPMENT

WATERSHED MANAGEMENT PLAN-COMPUTER MODELING EFFORTS DEVELOPING THE TOOLS, SET THE FRAMEWORK

IMPLEMENTATION OF BEST MANAGEMENT PRACTICES-CONCEPTUAL MODELING SCENARIOS



DIGITAL TOPOGRAPHIC INFORMATION



	Sub-basin	Area (sq. mi.)	Pipes	Channels	Drop Structures	Bridges	Weirs - structural	Totals
	North Myakka	45.8	226	371	4	8	488	1097
	Owen Creek	32	132	301	0	1	360	794
	East Myakka	8.5	113	170	2	1	170	456
	Coker-Ogleby	34.7	205	231	35	1	994	1466
	West Myakka	17.3	142	105	3	4	461	715
	Mossy Island	17.1	38	103	0	2	578	721
	Upper Myakka	35.6	151	23	7	19	4	204
	Deer Prairie	32.1	69	0	0	7	0	76
	Lower Myakka	71.7	117	1	5	13	2	138
			WATERSHED EVALUATION					

WATERSHED MANAGEMENT PLAN

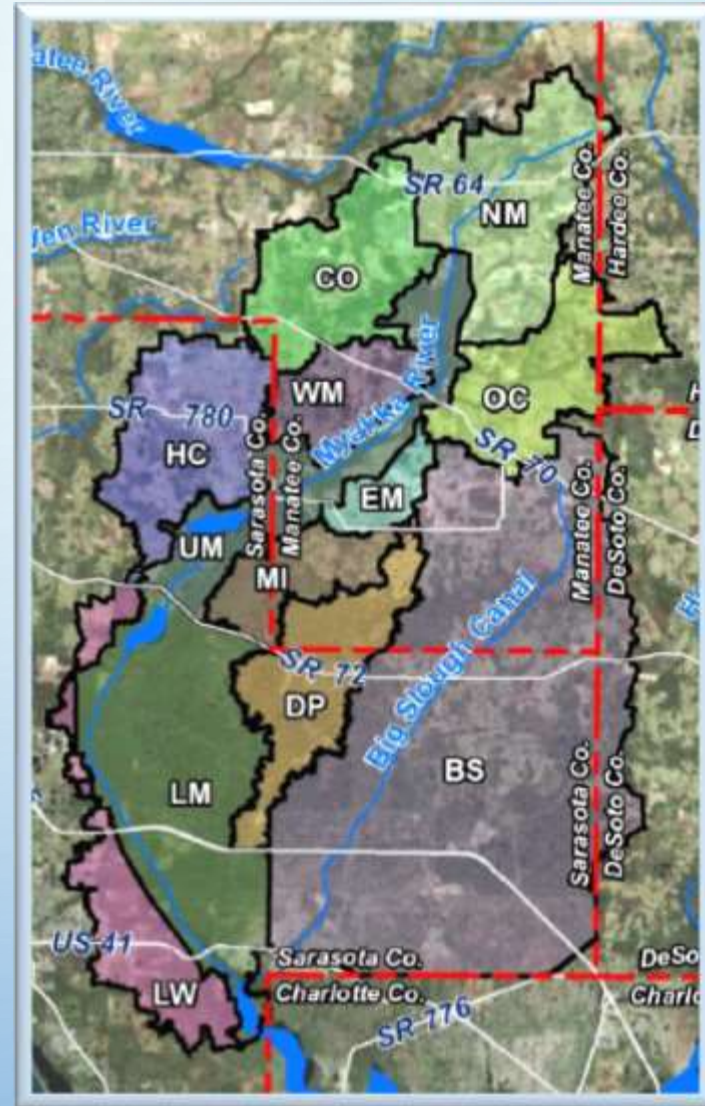
UPPER MYAKKA WATER BUDGET MODEL (FROM SR 72
UPSTREAM)

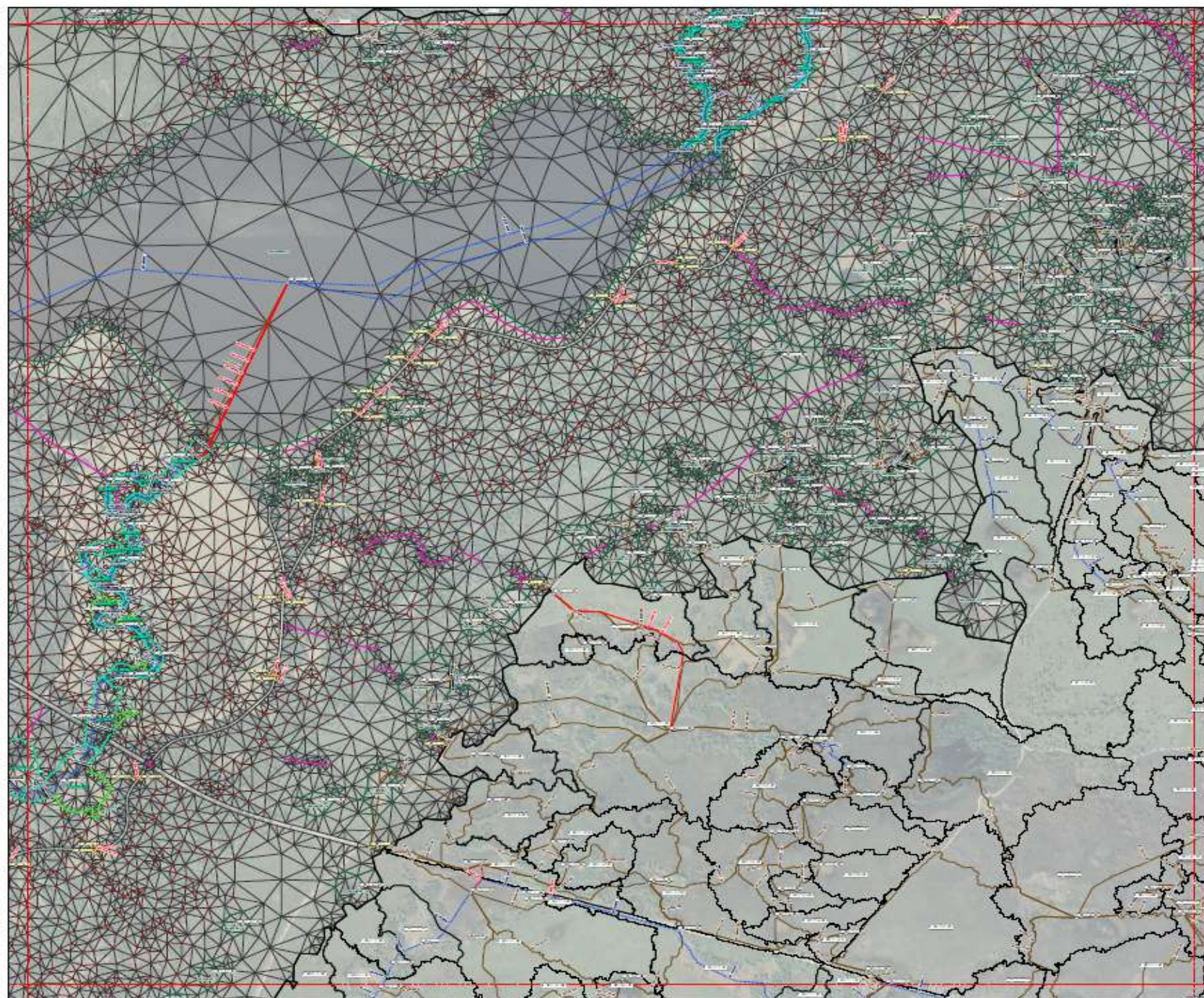
ICPR3 USED FOR 6 SUB-BASINS

ICPRV4 USE OF 2D ELEMENTS TO REPRESENT
OVERLAND FLOW.

3 SUB-BASINS WERE COMPLETED OR IN PROGRESS
UNDER OTHER PROJECTS

7 NEW SUB-BASIN MODELS CONNECTED ALONG
WITH 3 EXISTING MODELS





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Legend

- | | | | |
|---|------------------------|---|---------------------------|
|  | Wiggle Icon |  | OP Core |
|  | Wave |  | OP Channel/Channel/Volume |
|  | Pipe |  | OP Power Control/Power |
|  | Drop |  | OP Switch/Port |
|  | Channel |  | OP Core/Port |
|  | Wave |  | OP Node |
|  | Routing/Control |  | OP Switch/Port |
|  | Cross/Control |  | OP S2 Interface/Line |
|  | Bridge/Control/Control |  | Wave |
|  | OP/Control |  | Wave/Line |

Keywords: *work, stress, coping, organizational commitment, turnover, organizational citizenship*



Figure 1



Figure: C-23
Nodal Network Map


Project: 25018.84

Watershed:
Myakka River

Therapist carmel_therapist@bham.ac.uk	Study Dates 1/2018-06/2019	Study Progress and Rep 90/100
Date of Photography 1/2018		

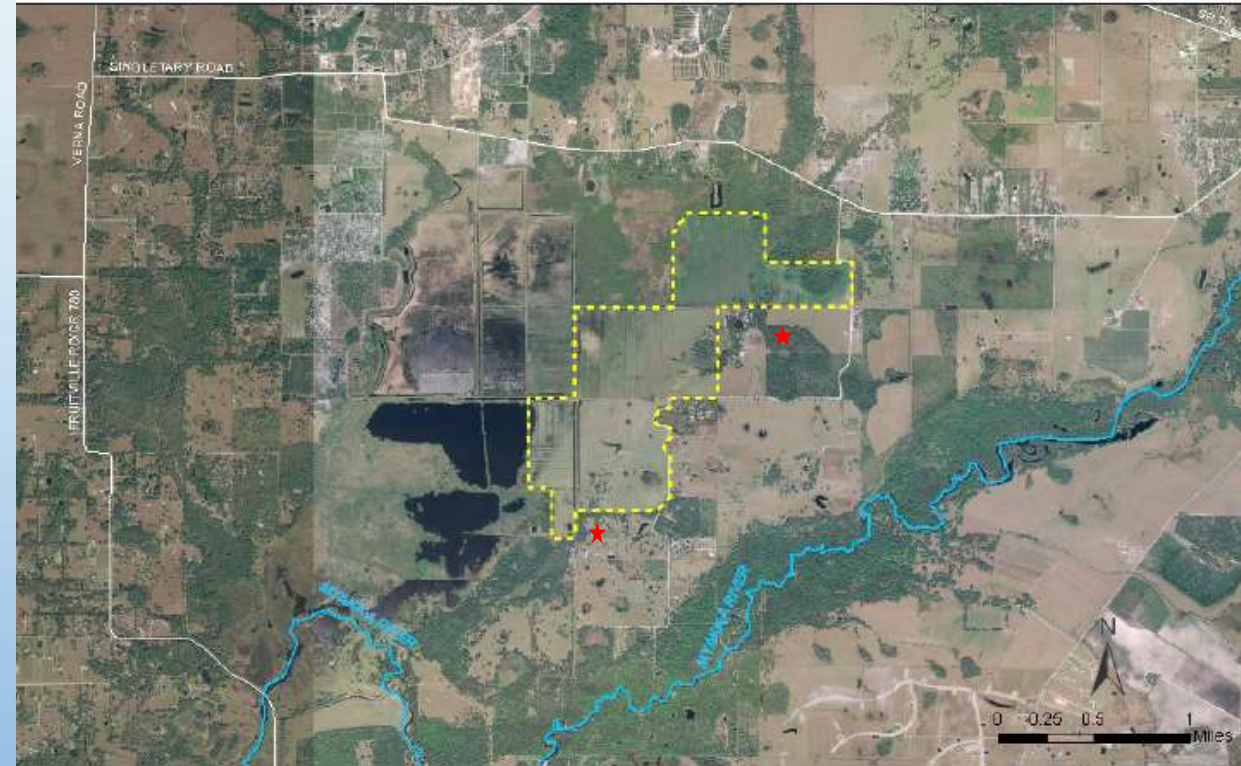


IMPLEMENTATION OF BEST MANAGEMENT PRACTICES: CONCEPTUAL SCENARIOS

- TATUM SAWGRASS RESTORATION
 - CLAY GULLY ELIMINATION
 - UPPER MYAKKA LAKE WEIR MODIFICATIONS
 - BLACKBURN CANAL FLOW REDUCTION
 - FLATFORD SWAMP HYDROLOGIC RESTORATION
- 

TATUM SAWGRASS RESTORATION

- BREACHES IN DIKES TO RE-HYDRATE AREA AT LOWER FREQUENCY STORMS FOR THE HOLLINGSWORTH PROPERTY
- WOULD REHYDRATE AT LOWER FREQUENCY STORMS BUT TWO PROPERTIES LIKELY BE INUNDATED AT LOWER FREQUENCY THAN BEFORE WHEN PUMPING.
- NRCS CONSERVATION EASEMENT PROGRAM

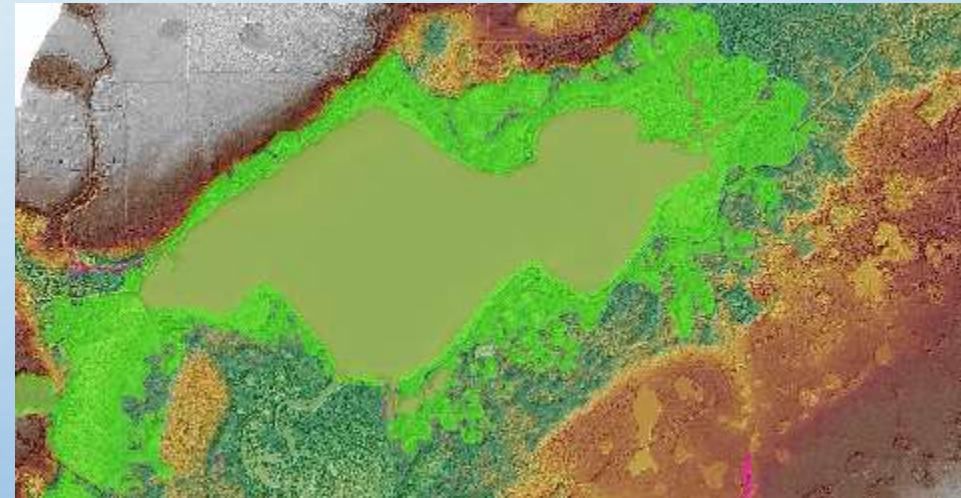


SCENARIOS (MEAN, 25 YR 24 HR, 100 YR 24 HR)

CLAY GULLY

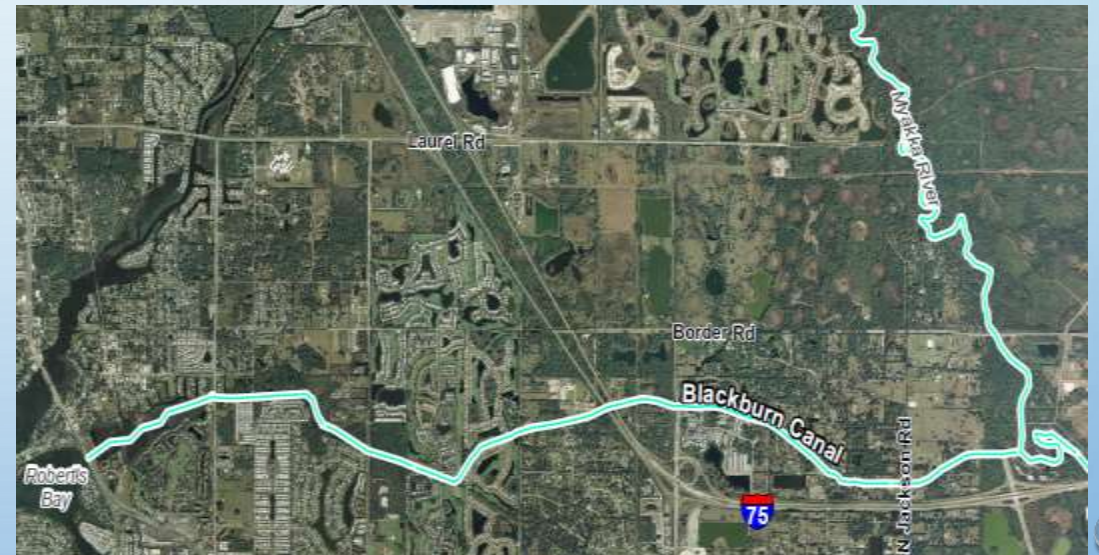


UPPER MYAKKA WEIR



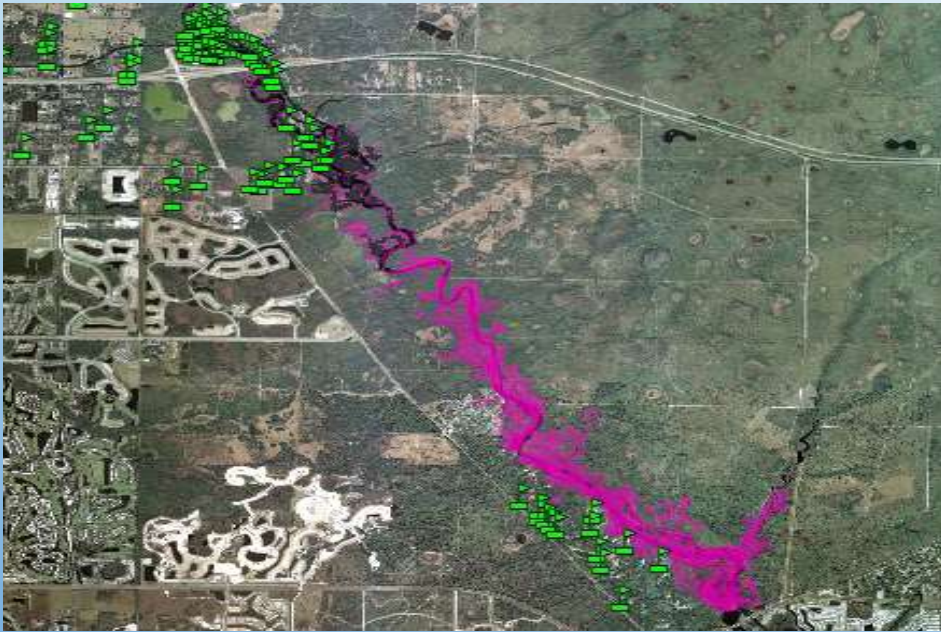
BLACKBURN CANAL FLOW REDUCTIONS

- DECREASE FLOW TO ROBERTS BAY
- INSTALL WEIR IN CANAL
- INCREASES IN STAGES, 0.02-0.52 FT.

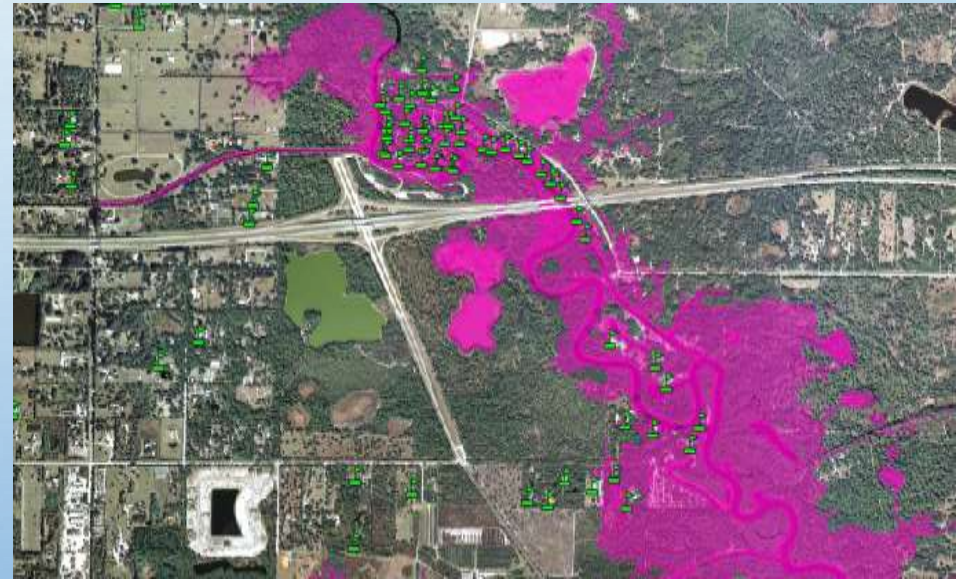


BLACKBURN CANAL INUNDATION AREAS

MEAN ANNUAL

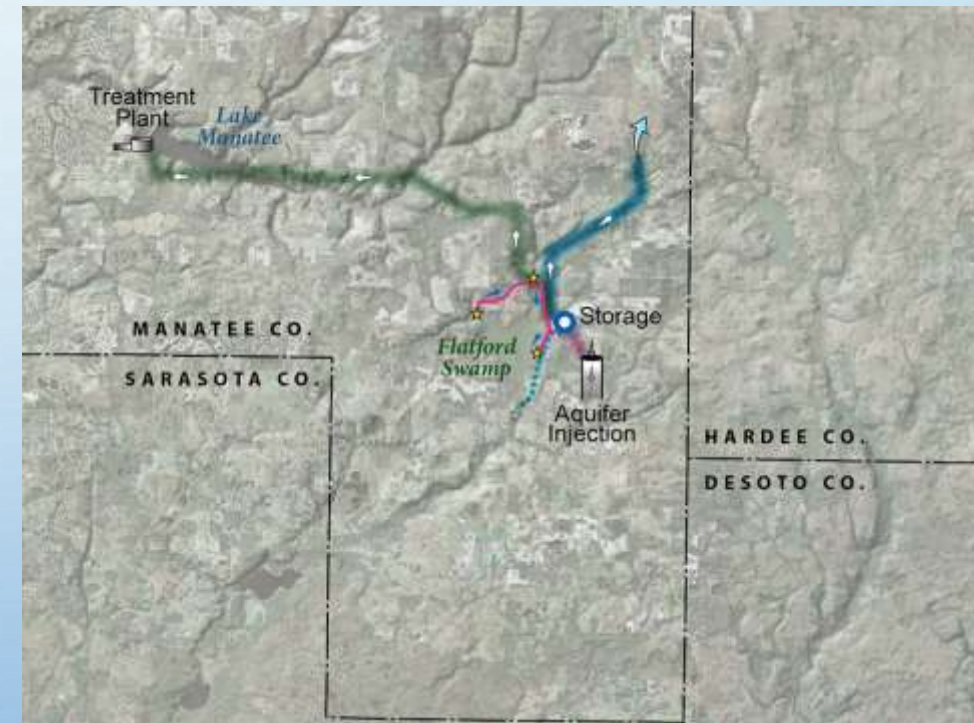


100 YR. 24 HR



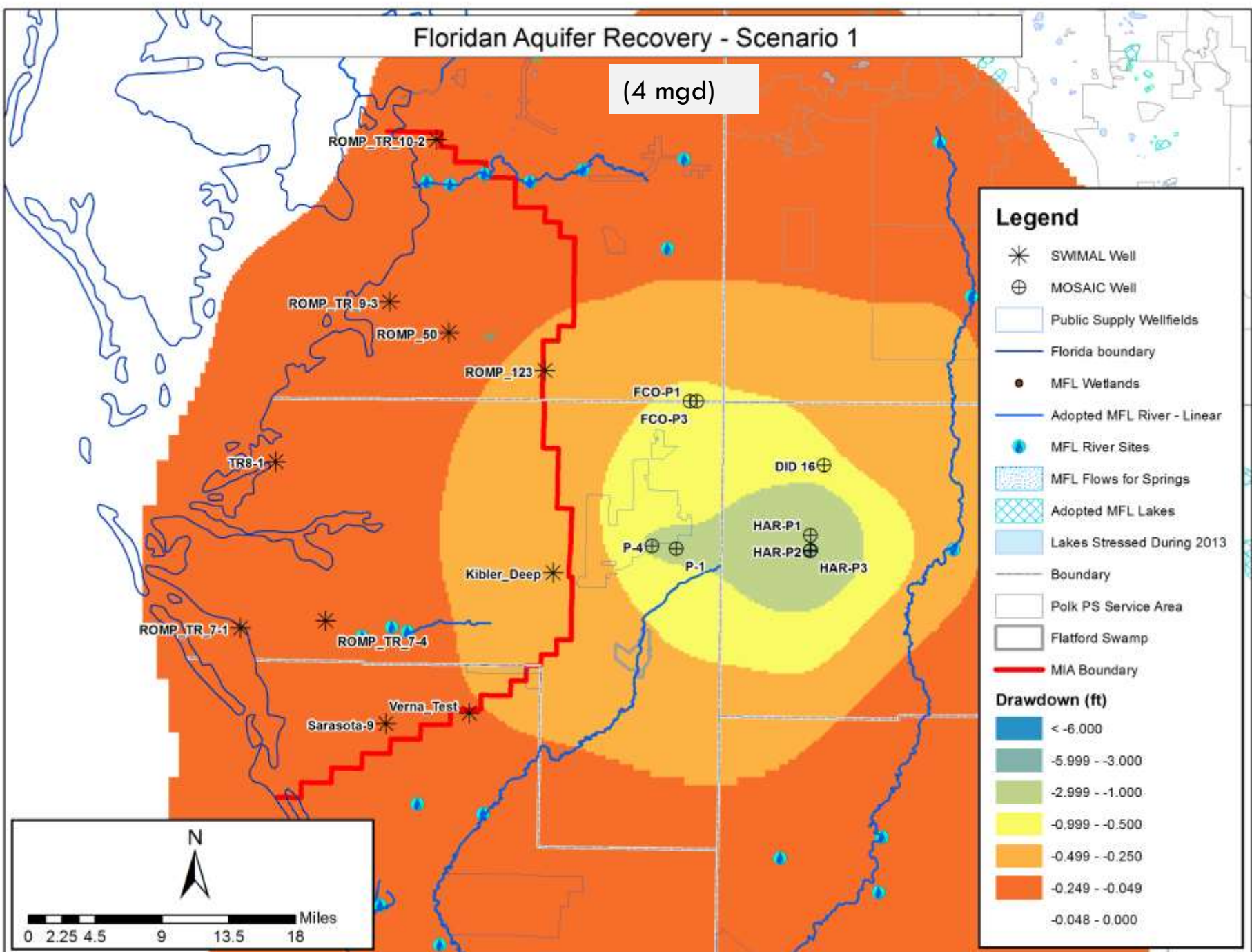
FLATFORD SWAMP HYDROLOGIC RESTORATION

- CONTINUE WITH FARMS PROJECTS, “WORK HORSE” PROJECT NEEDED
- INTERCEPT FLOW BEFORE REACHES SWAMP
- BENEFICIAL USE OPTIONS
- MOSAIC MOST PROMISING ALTERNATIVE



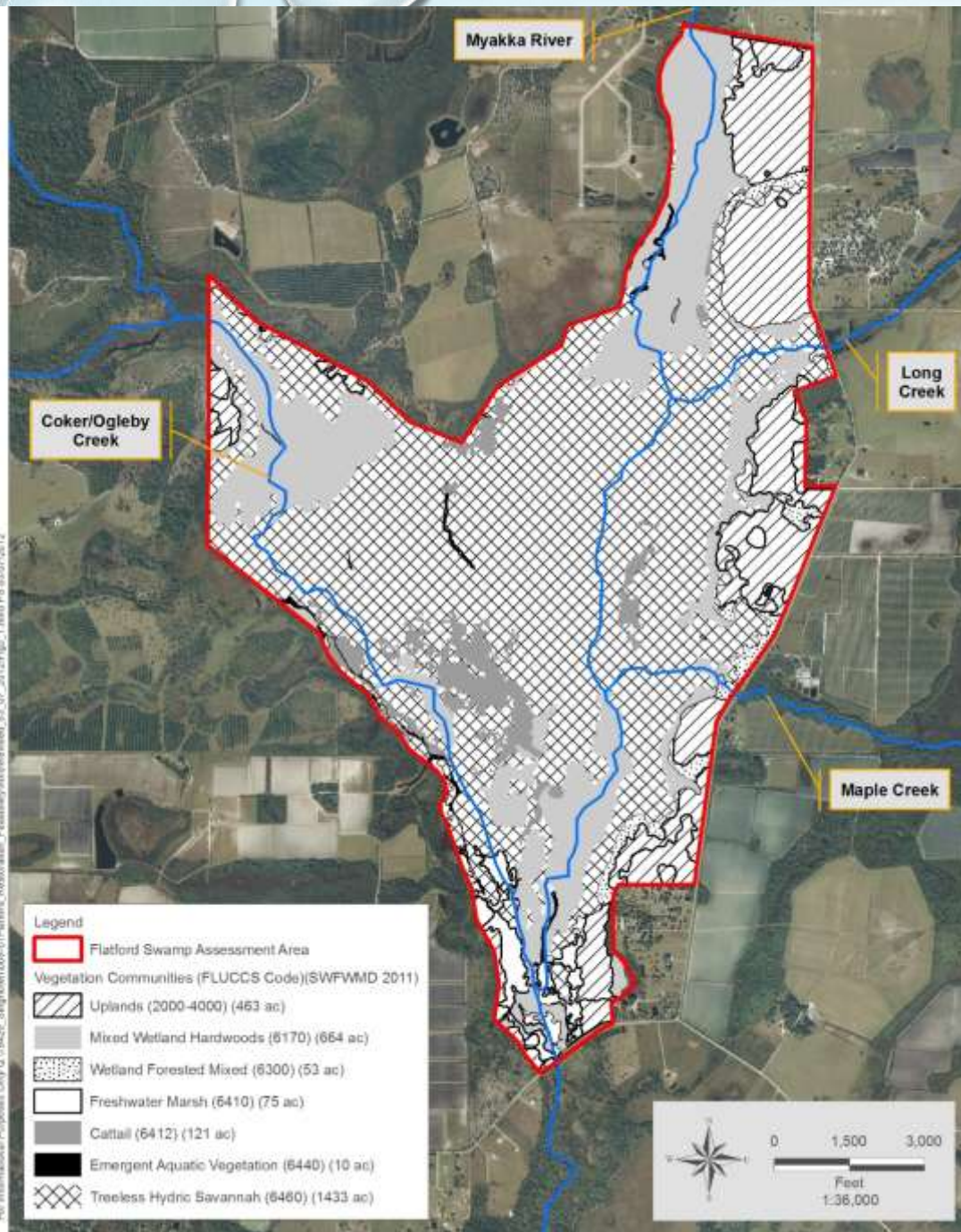
Floridan Aquifer Recovery - Scenario 1

(4 mgd)



2011 EXISTING VEGETATION MAP

- PROJECT SPECIFIC 6" AERIAL IMAGERY
- GIS-BASED MAPPING:
 - MANUAL INTERPRETATION & DELINEATION FROM IMAGES
 - MAPPED LAND COVER CLASSES
- FIELD VERIFICATION FROM HELICOPTER OBSERVATIONS



PRE - HYDROLOGIC MODIFICATION MONITORING PLAN

- TARGETED MONITORING APPROACH TO DETERMINE PRIORITY AREAS FOR RESTORATION (BEYOND HYDROLOGIC RESTORATION)
 - BEFORE/AFTER/CONTROL/IMPACT (BACI) DESIGN TO ASSESS SUCCESS OF RESTORATION EFFORTS (VEGETATION COVER AND WATER QUALITY)
- REMOTE SENSING TO QUANTIFY PRE-POST EFFECTS OF RESTORATION ON ENTIRE ECOSYSTEM FUNCTION
 - HIGH RESOLUTION AIRBORNE SENSORS TO QUANTIFY VEGETATION COVER BY SPECIES
- BIOGEOCHEMICAL SOIL/SEDIMENT ANALYSIS (UF SOIL SCIENTISTS)
 - POSSIBLE PARAMETERS: PH, SEDIMENT MOISTURE CONTENT, ORGANIC CONTENT, NUTRIENTS, SPECIFIC GRAVITY

POST - HYDROLOGIC MODIFICATION RESTORATION PLAN

- ENHANCE BIODIVERSITY AND ECOSYSTEM FUNCTION OF FLATFORD SWAMP FOLLOWING REDUCTION OF HYDROPERIOD
- TO ACCOMPLISH THIS NEED TARGETED RESTORATION TREATMENTS BASED ON PRIOR EVALUATION
 - APPROPRIATE PRESCRIBED BURN FREQUENCY IN TARGETED AREAS (WITH HIGHER ORGANIC MATTER)
 - SUPPLEMENTAL PLANTINGS OF FORESTED WETLAND SPECIES AND EXOTIC VEGETATION REMOVAL

POST - HYDROLOGIC MODIFICATION MONITORING PLAN

- CONTINUE MONITORING FOR MINIMUM OF 10 YEARS:
 - ANNUAL BACI FOR TARGETED RESTORATION AREAS (VEGETATION COVER AND WATER QUALITY)
 - ANNUAL REMOTE SENSING IMAGERY FOR ENTIRE ECOSYSTEM
 - SOIL/SEDIMENT BIOGEOCHEMICAL RE-EVALUATION ON 3-5 YEAR FREQUENCY

NEXT STEPS

- PURSUING FLATFORD OPTION
- OTHER WATERSHED OPTIONS WOULD HAVE TO COME THROUGH COOPERATIVE FUNDING BUT THE FRAMEWORK IS IN PLACE.
- NATURAL SYSTEMS ON FLATFORD