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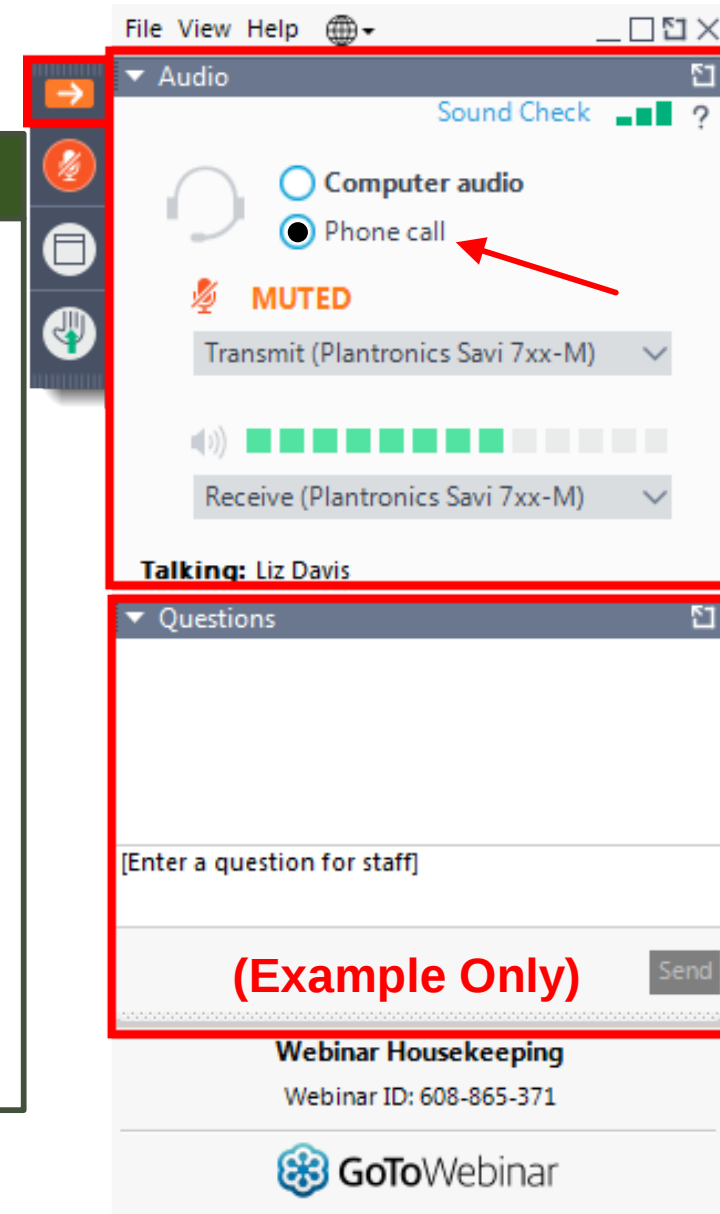
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Note: Today's presentation is being recorded and will be provided on the file transfer protocol (FTP) site after the webinar.





North Indian River Lagoon, Banana River Lagoon, and Central Indian River Lagoon Basin Management Action Plans (BMAP)

Spatial Watershed Iterative Loading (SWIL) Model Update

**Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection (DEP)**

October 18, 2021



Agenda

- Opening Remarks
- Overview of SWIL Updates
- Review of Surface Data
- Next Steps
- Questions, Comments, Discussion



Overview of SWIL Updates

2008

2012

2013

2017

2021

- DEP adopts Total Maximum Daily Loads (TMDL) for Indian River Lagoon (IRL) and Banana River Lagoon (BRL) Mainstem
- Established reduction targets for total nitrogen (TN) and total phosphorus (TP)
- Established targets for median deep edge seagrass bed restoration

- Interlocal Agreement begins to develop SWIL Model

- DEP adopts BMAP for North IRL, BRL, and Central IRL Subbasins
 - Allocations established for North IRL and Banana River based on TMDL Pollutant Load Screening Model (PLSM)
- TMDLs for tributaries also adopted

- SWIL Model version 4B complete for review

- DEP adopts updates to the BMAPs for the North IRL, BRL, and Central IRL Subbasins
 - Allocations recalculated for North IRL and BRL based on SWIL model
 - Allocations established for Central IRL based on SWIL model
- SWIL Model updates begin
 - Surface runoff input module
 - Subsurface flow module

NORTH IRL, BANANA RIVER LAGOON, AND CENTRAL IRL STAKEHOLDER BMAP MEETING

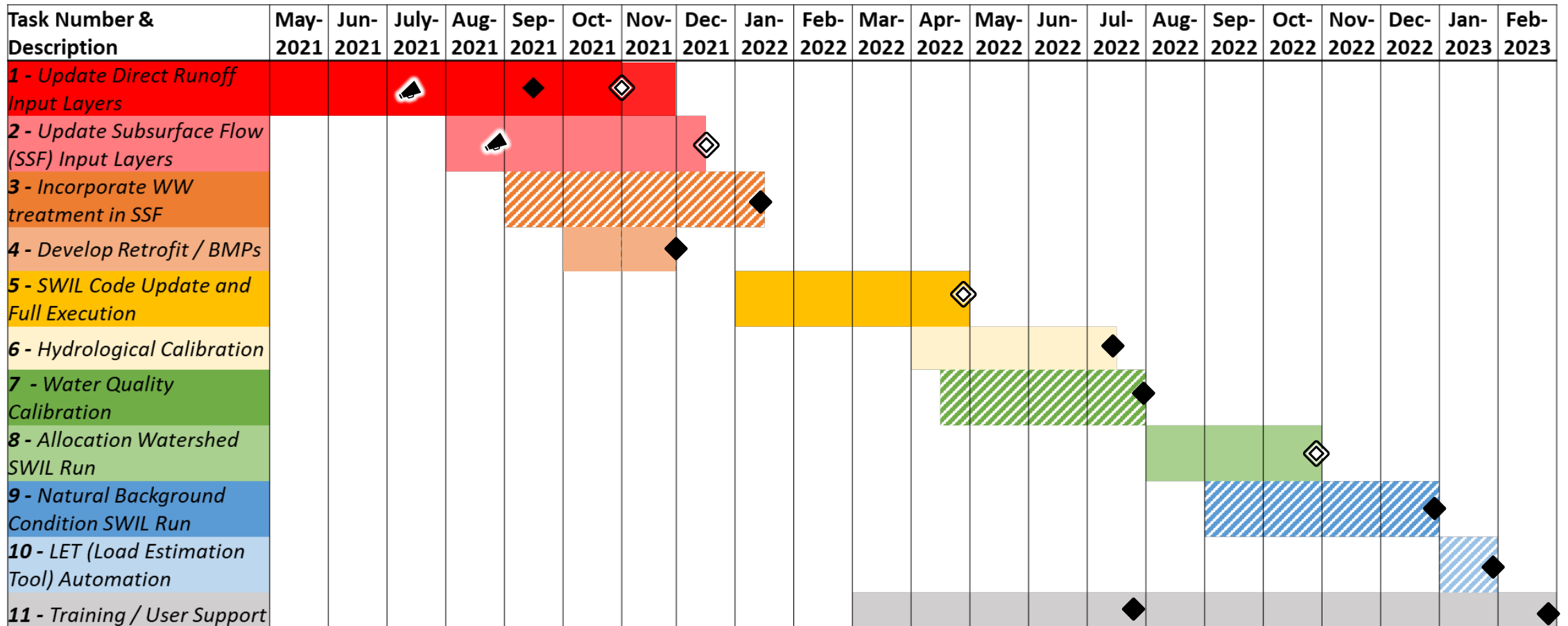
SWIL MODEL REDEVELOPMENT - PROGRESS MADE TO DATE



OCTOBER 18, 2021



TIMELINE UPDATE



Data Call



General Milestone



Milestone/Stakeholder Input

CONCEPTUAL MODEL DECISIONS

- Model Timeframe: January 2010 – December 2020
- Three sets of inputs used during model simulations for land use/land cover and associated ERP Treatments:
 - 2010 – Use between 2010 - 2013
 - 2015 – Use between 2014 - 2017
 - 2020 – Use between 2018 – 2020
- Direct Runoff Module is EMC-based (same concept as original SWIL)
- Complexity of the baseflow module still under evaluation

DIRECT RUNOFF MODEL INPUT LAYER UPDATES

Basin Boundaries

Rainfall

Evapotranspiration
(ET)

Land Use and
Land Cover

Soils

ERP Treatments

Direct Runoff
Coefficients
(ROCs)

Direct Runoff
Event Mean
Concentrations
(EMCs)

Impoundments
and their
Management
Schedule

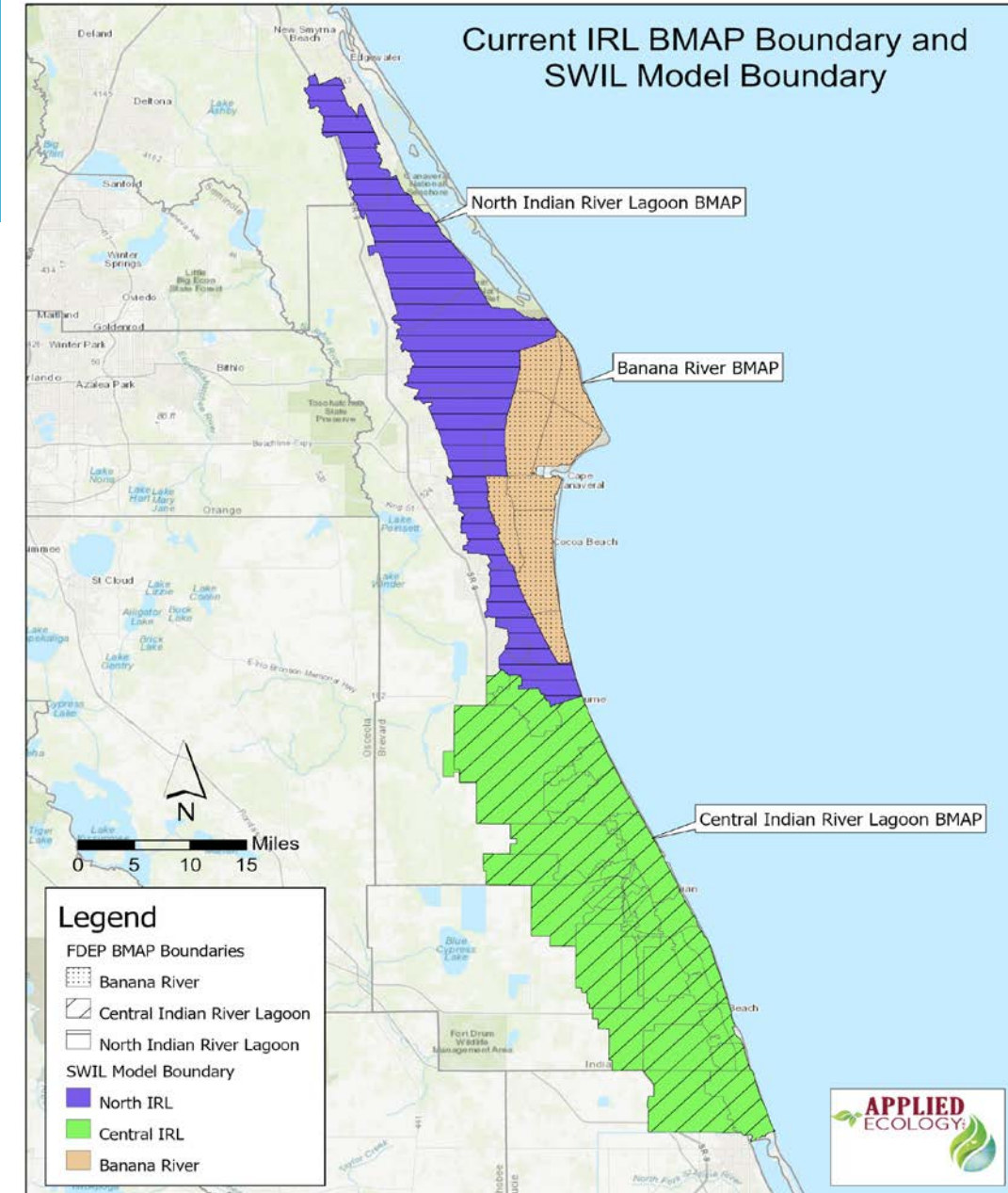
STAKEHOLDER DATA REVIEW

Data Type	Data Description	Requested Data Format	Criteria for acceptance	Source	Received Data Format	Spatial Coverage	Meets Acceptance Criteria	Processing Requirements	Level of Effort	Recommendation	Comments	Data Location	Data Location 2
Watershed Boundary	Area that drains partially or completely into the NRL ¹ , CRL ² , BRL ³	GIS format (shapefile or feature class); provide metadata	Basins within stakeholder's political boundaries draining into the Indian River Lagoon (IRL) will be reviewed. Provide method used to delineate basins (e.g., FDEP field inspection, etc.)	FDEP/SRWMDs FVMD	GDBSHP	Whole IRL Area	Yes	Create maps - show discrepancies between WMD basins and FDEP BMAP Boundaries	Intermediate	Discuss with FDEP and stakeholders what current model boundaries should be	Need feedback from Stakeholders	Addition to IRL, NFP, Ocala, and BLM Basins	
Land Use Land Cover (LULC) - current (2020/2021)	Type of land cover using either traditional FLUCCS or the consolidated land use classes (see Table 3)	GIS format (shapefile or feature class); provide metadata	Only provide data if different than LULC by SRWMD or FVMD; data should correspond to recent conditions (2013/2020/2021). No overlapping polygons or gaps anticipated; please provide methodology used to develop the land use land cover. If other classification method used, please describe classes. Please crosswalk to the SWL LULC Table 3 if using codes different from FLUCCS codes.	FDACS	GDB	Select Ag parcels from Volusia south to St. Lucie County	Yes	Need to cross-reference with our 2020 Ag data - update to consolidated code	Intermediate	Discuss with FDEP in hearing enrolled lands differently in terms of loading and runoff	DOR Codes can be added from accompanied tables and referenced for FLUCCS codes	Basic: MerProcsDataQp FDEPDataTech DataResources ConnectTask35 stakeholderData DataRequest1a	
				IRC	Imagery	All of IRC					2020 and 2021 imagery for API use to build Land Use	Basic: MerProcsDataQp FDEPDataTech DataResources ConnectTask35	
				COVB	SHP	All of the city of Vero Beach	Yes	Need to update FLUCCS codes to consolidated code	High - convert descriptions to match FLUCCS code values	Current COVB Land use - will cross-reference with our 2020 layer	Includes table of their land use descriptions with the land use from the EHC table in the data request handout	Basic: MerProcsDataQp FDEPDataTech DataResources ConnectTask35	
LULC - 2015	Type of land cover using either traditional FLUCCS or the consolidated land use classes (see Table 3)	GIS format (shapefile or feature class); provide metadata	Only provide data if different than SRWMD or FVMD datasets; data should correspond to 2014/2015/2016 conditions. No overlapping polygons or gaps anticipated; please provide methodology used to develop the land use land cover. If other classification method used, please describe classes. Please crosswalk to the SWL LULC Table 3 if using different FLUCCS codes.	SRWMDs, SRWMD	SHP	NRL, BRL, and 50% of CRL	Yes	Compare to 2015 Imagery for API work	High		2015 Land use Done	Addition to IRL, NFP, Ocala, and BLM Land Use 2014	
LULC - 2010	Type of land cover using either traditional FLUCCS or the consolidated land use classes (see Table 3)	GIS format (shapefile or feature class); provide metadata	Only provide data if different than SRWMD or FVMD datasets; data should correspond to 2009/2010 conditions. No overlapping polygons or gaps anticipated; please provide methodology used to develop the land use land cover. If other classification method used, please describe classes. Please crosswalk to the SWL LULC Table 3 if using different FLUCCS codes.	SRWMDs, SRWMD	SHP	NRL, BRL, and 50% of CRL	Yes	Compare to 2010 Imagery for API work	High		2010 Land use Done	Addition to IRL, NFP, Ocala, and BLM Land Use 2009	
LULC - 2004	Type of land cover using either traditional FLUCCS or the consolidated land use classes (see Table 3)	GIS format (shapefile or feature class); provide metadata	Only provide data if different than SRWMD or FVMD datasets; data should correspond to 2004/2005 conditions. No overlapping polygons or gaps anticipated; please provide methodology used to develop the land use land cover. If other classification method used, please describe classes.	SRWMDs, SRWMD	SHP	NRL, BRL, and 50% of CRL	Yes	Compare to 2004 Imagery for API work	High		2004 Land use Done	Addition to IRL, NFP, Ocala, and BLM Land Use 2004	
Soils - Hydrologic Group	Type of land cover using either traditional FLUCCS	GIS format (shapefile or feature class); provide metadata	Only provide data if different than USDA NRCS ⁴ soils data; please provide methodology used to develop the soils layer; avoid using urban soil classification.	IRC	SHP	Yes	Yes	None	None		Already have latest soils	Basic: MerProcsDataQp FDEPDataTech DataResources ConnectTask35	
				USDA	MDB	All counties within IRL	Yes	Convert MDB to GDB, link tables to spatial data	High		Soils are Complete	Basic: FDEPDataQp FDEPDataTech DataResources ConnectTask35	
Stormwater Treatments - www.flgov.com	EPF ⁵ basin areas - areas being treated	GIS format (shapefile or feature class); provide metadata	Complete coverage of areas being treated by EPFs from 1996 - current. Please provide, at minimum, type of EPF (wet/dry pond) and year of implementation. Additional information, such as % volume, % water quality concentration	FDEP	SHP - Points	Statewide	Partly				Contains all EPFs 2007 to Present. Contains Stormwater Events (62-25 and 40C-42) Also contains historic maps from 1996 to 2006		

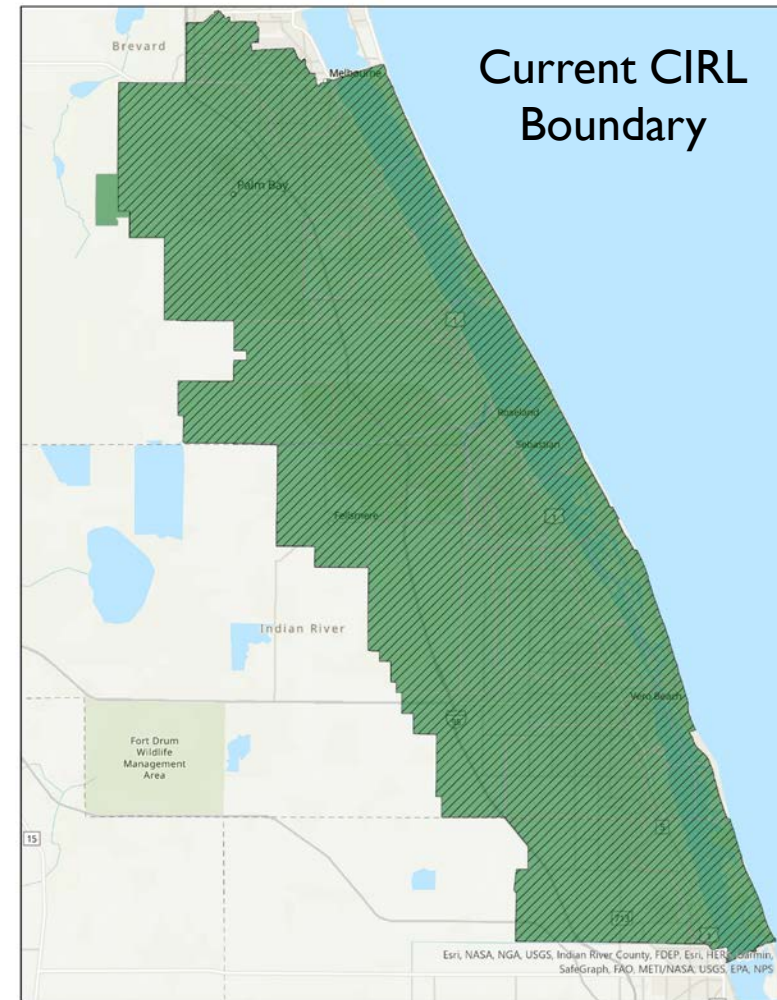
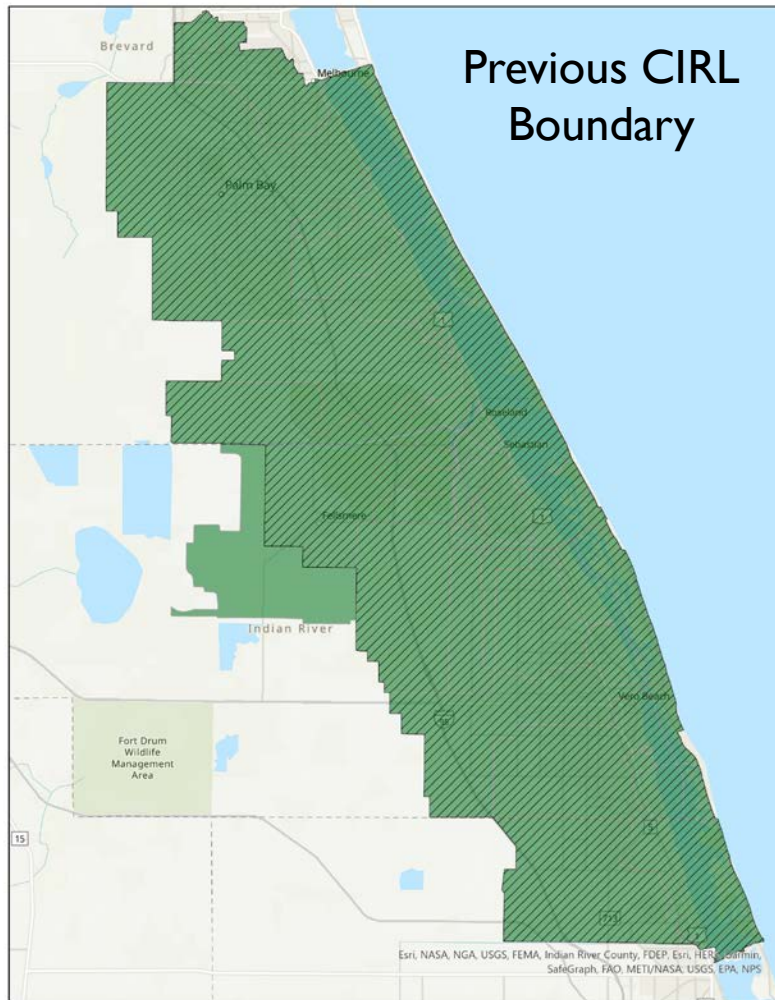
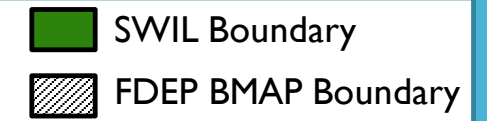
- Data requests from stakeholders arrived in two different drops
 - July 22nd 2021
 - September 14th 2021
- Both data deliveries reviewed and quantified:
 - Relevance to model inputs
 - Representative of Time Period
 - Data Format/Standards
- Decisions made to include data or supplement with additional data from other sources.

BASIN BOUNDARIES

- New BMAP Boundaries updated August 26th 2021 – largely match watershed basins
- Minor Discrepancies exist where basin boundaries meet
- FDEP BMAP Boundaries will be used for current SWIL Iteration:
 - The Fellsmere area in the CIRL from the last model iteration will be removed, due to diversion to the Upper St. Johns River
 - The C-I Canal Phase I project will be included in the model.
 - Reductions will be made based on measured monthly flow data



BASIN BOUNDARIES – CIRL UPDATE



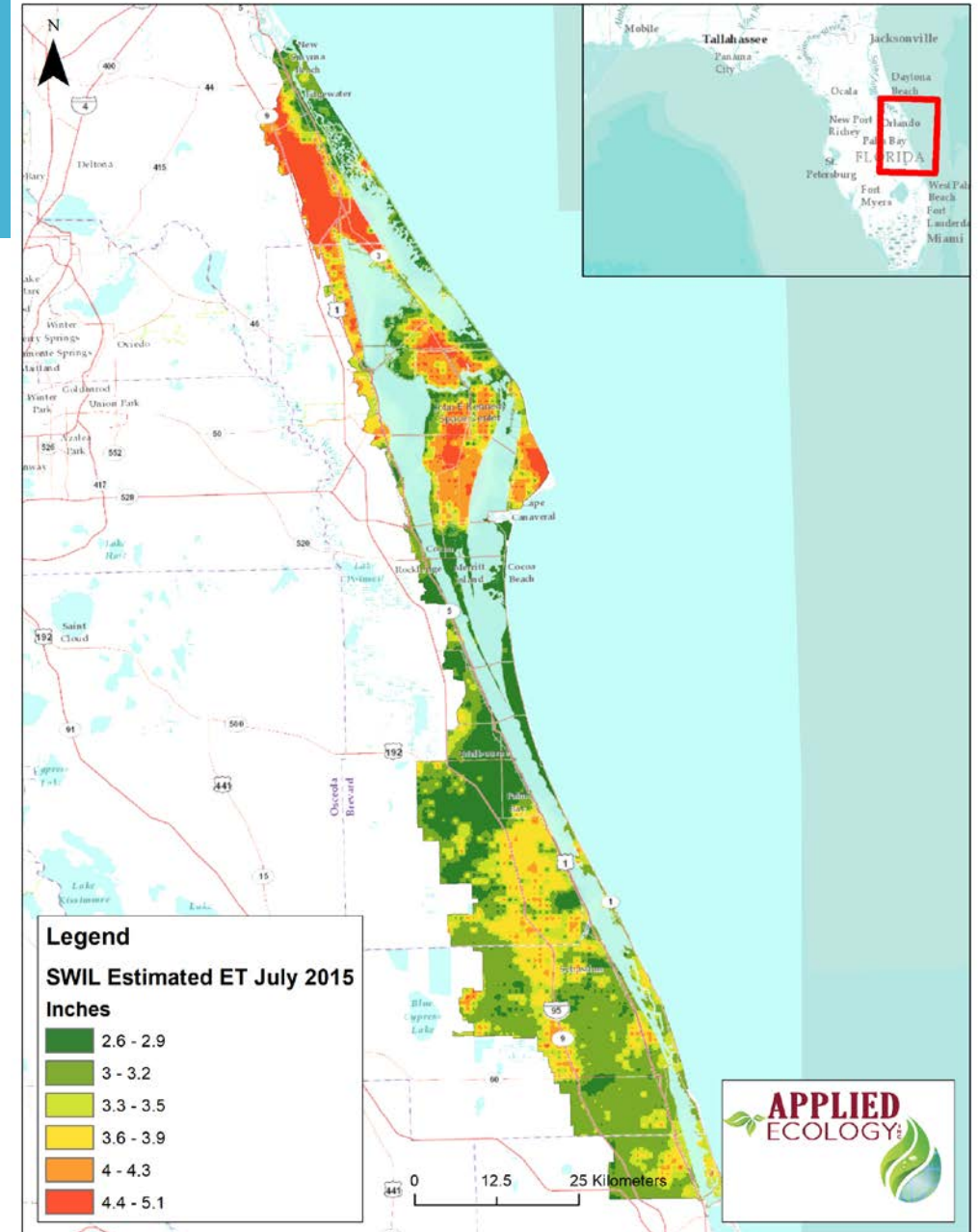
■ 120 Monthly Rasters

-
- Legend**
- SJRWMD NEXRAD**
July 2020
Cumulative Rainfall (in)
- | |
|-------------|
| 4.2 - 6.1 |
| 6.2 - 7.2 |
| 7.3 - 8.4 |
| 8.5 - 10.1 |
| 10.2 - 15.1 |
- Source: <https://www.sjrwmd.com/data/hydrologic/>
- APPLIED ECOLOGY**

EVAPOTRANSPIRATION (ET)

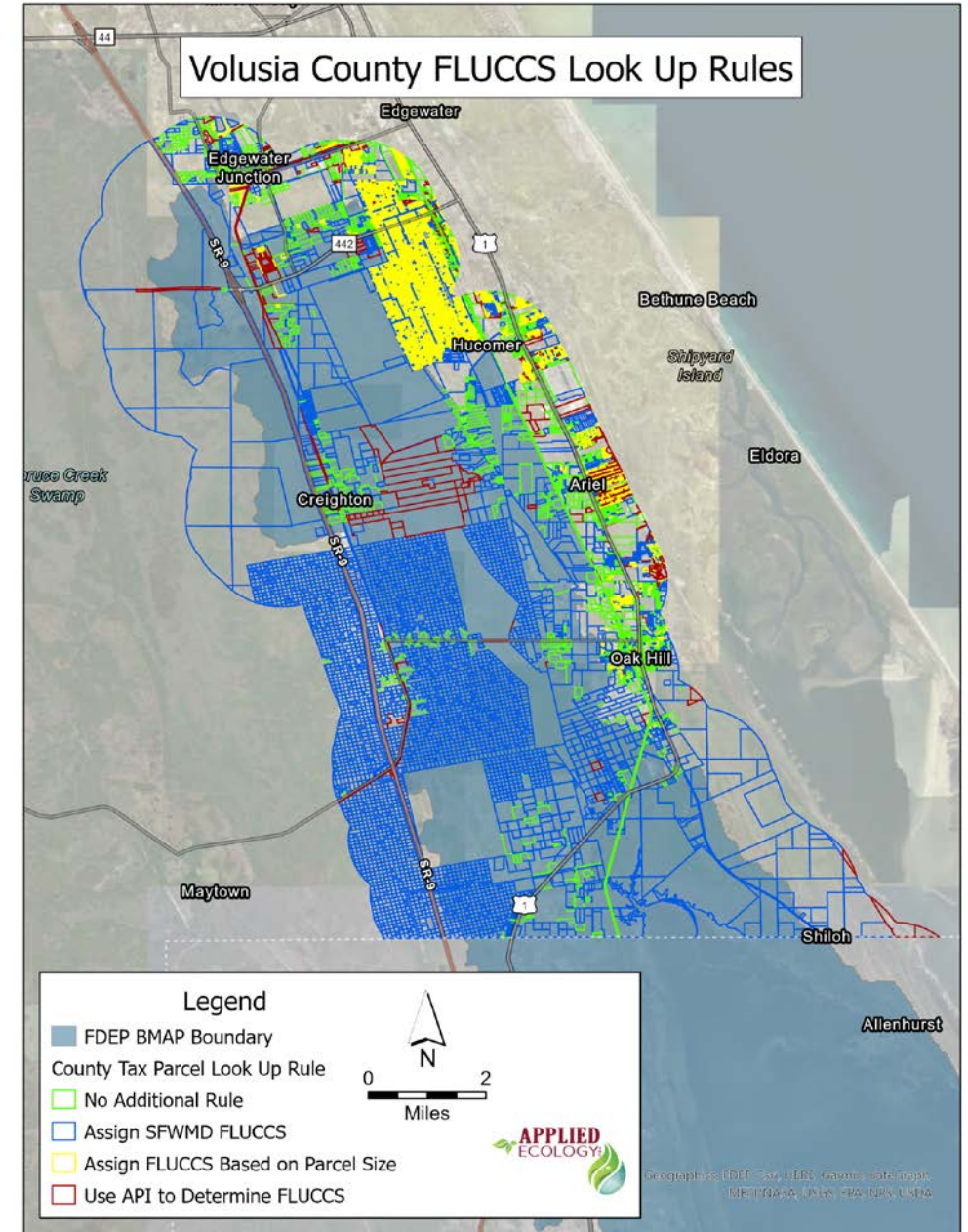
- In Progress
- Will follow Harper & Baker 2015 Interpolation Method
 - MODIS 8-Day Net ET
 - ET not calculated for “Urban/Built Up” pixels
 - Interpolation process for missing pixels
 - Estimated ET for pervious and impervious urban
 - Impervious urban estimated 0.1 abstracted rainfall
 - Pervious urban estimated by Bahia grass ET
 - Convert MODIS grid to points and IDW interpolation

Harper, H.H. and Baker, D.M. 2015. Refining the Indian River Lagoon TMDL, Technical Memorandum Report: Assessment and Evaluation of Model Input Parameters. Final Report submitted to Brevard County Natural Resources.



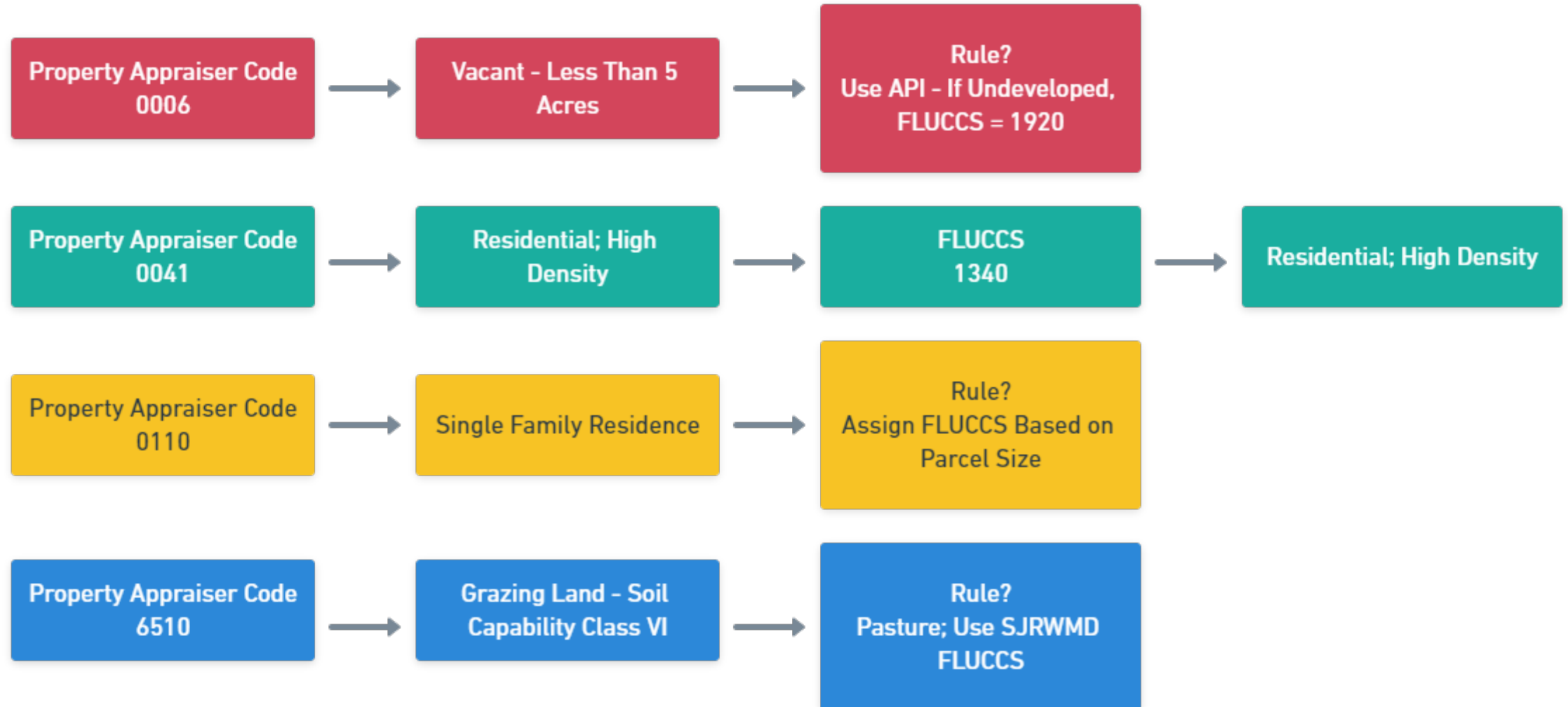
2020 UPDATE

- Urban Areas
 - 2020 County Specific Property Appraiser Data
 - FLUCCS Look Up Comparison Tables complete for Brevard, Volusia, Indian River, and St. Lucie counties
 - Figures representing where conversion rules are applied were made for each county
 - **Need feedback by 10/29/21**
- Next Steps:
 - Validate current land use using API
 - Update previous land use years (2010 and 2015) using approved lookup tables, stakeholder input data and API



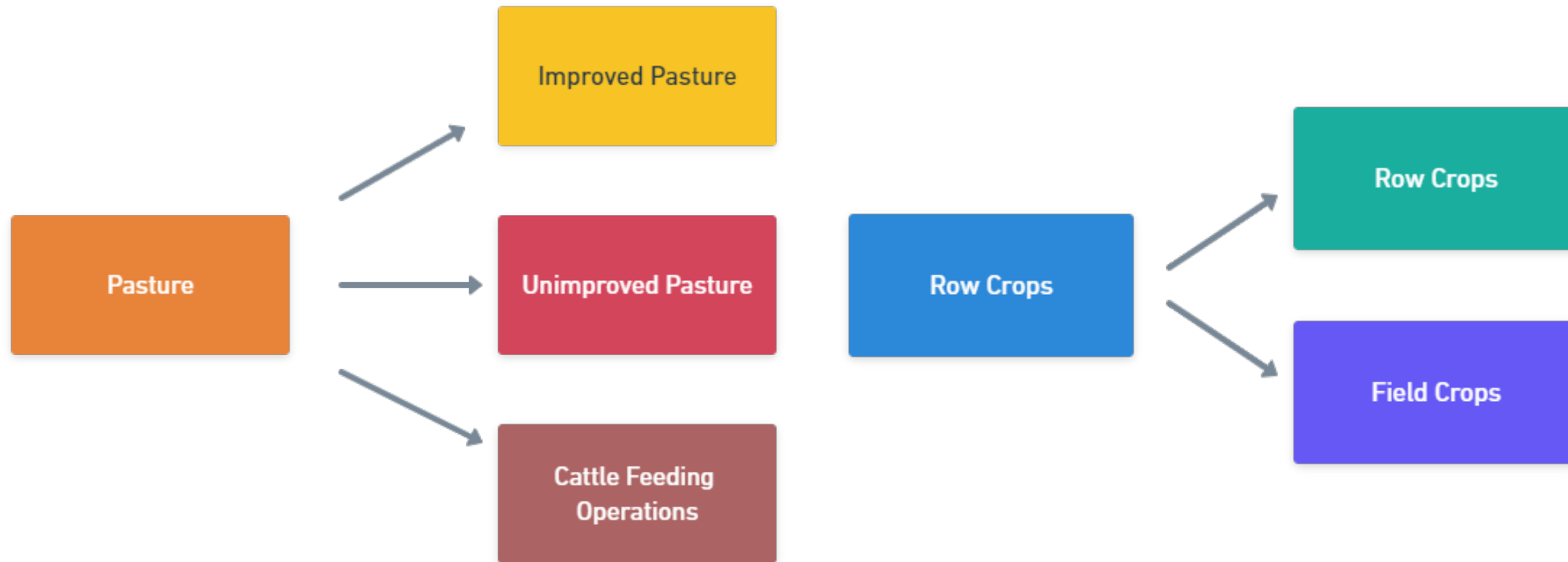
LAND USE AND LAND COVER

2020 UPDATE – URBAN AREA RULE EXAMPLE



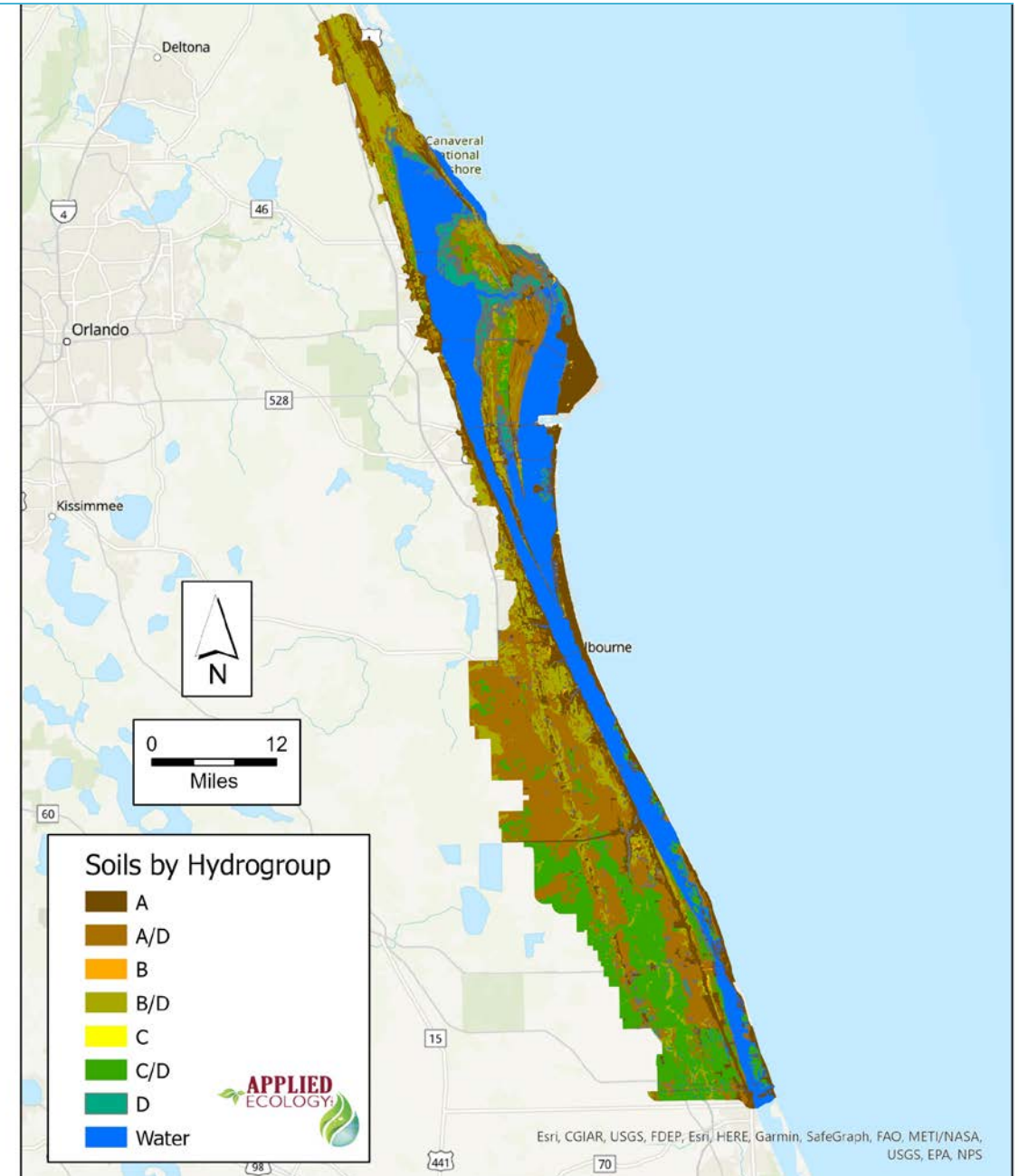
LAND USE CATEGORIES UPDATE

Agriculture land use categories were divided out into distinct subcategories based on ample data provided in the literature

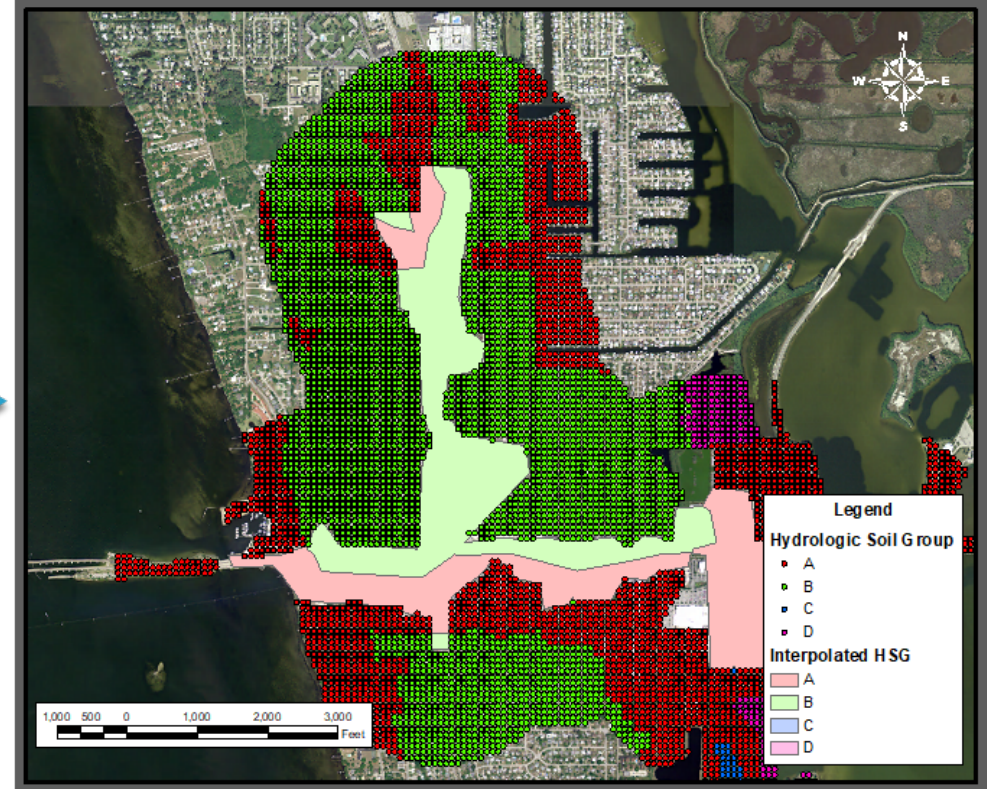
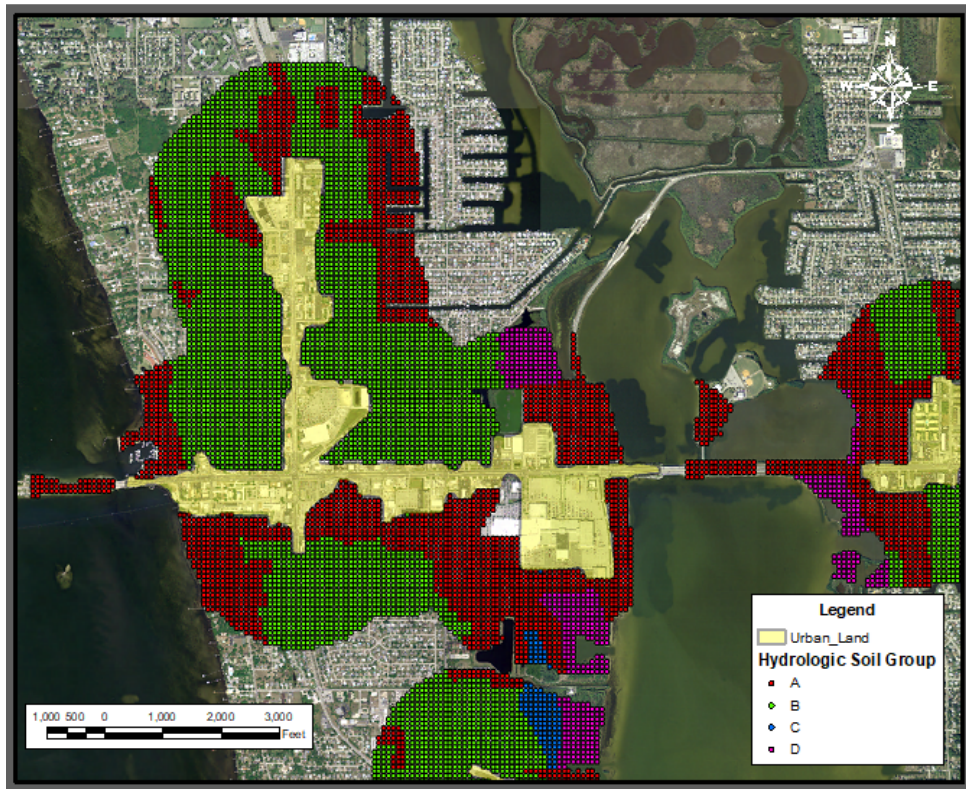


SOILS

- USDA Web Soil Survey
 - Gridded Soil Survey Geographic (gSSURGO) Database
- Downloaded as MDB and converted into GDB with linked soil component datasets
- Areas within urban areas sometimes Null/Missing
 - Spatial interpolations extend soil polygons symbolized by hydrogroup to fill in urban areas to closely match historical extents
- Current model iteration soils complete



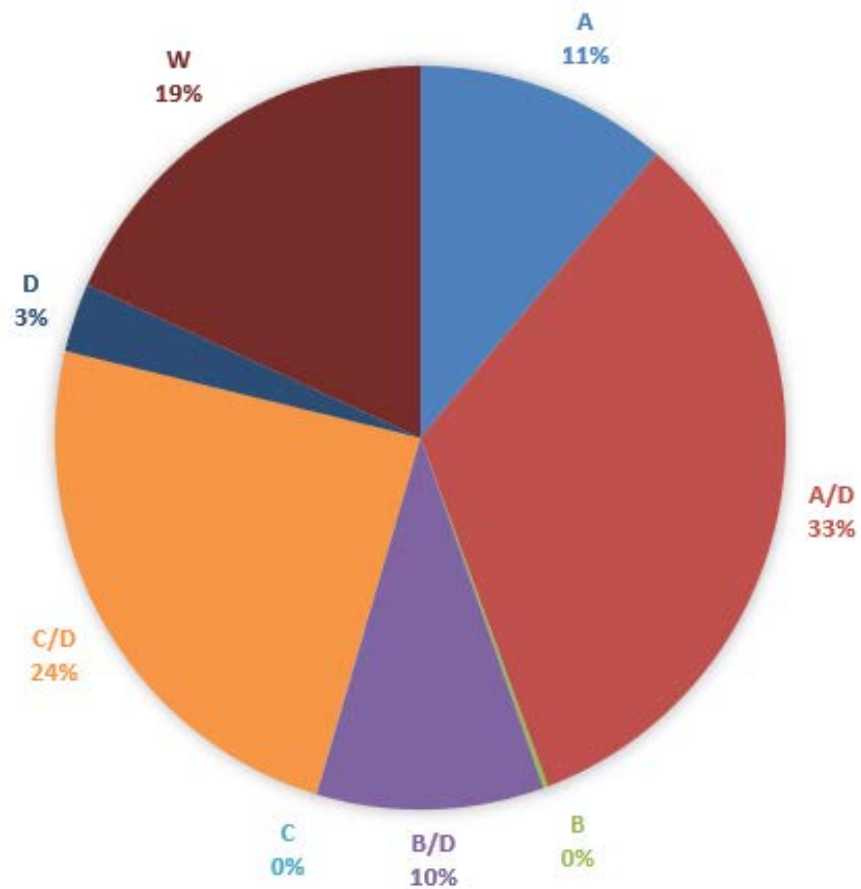
URBAN SOILS



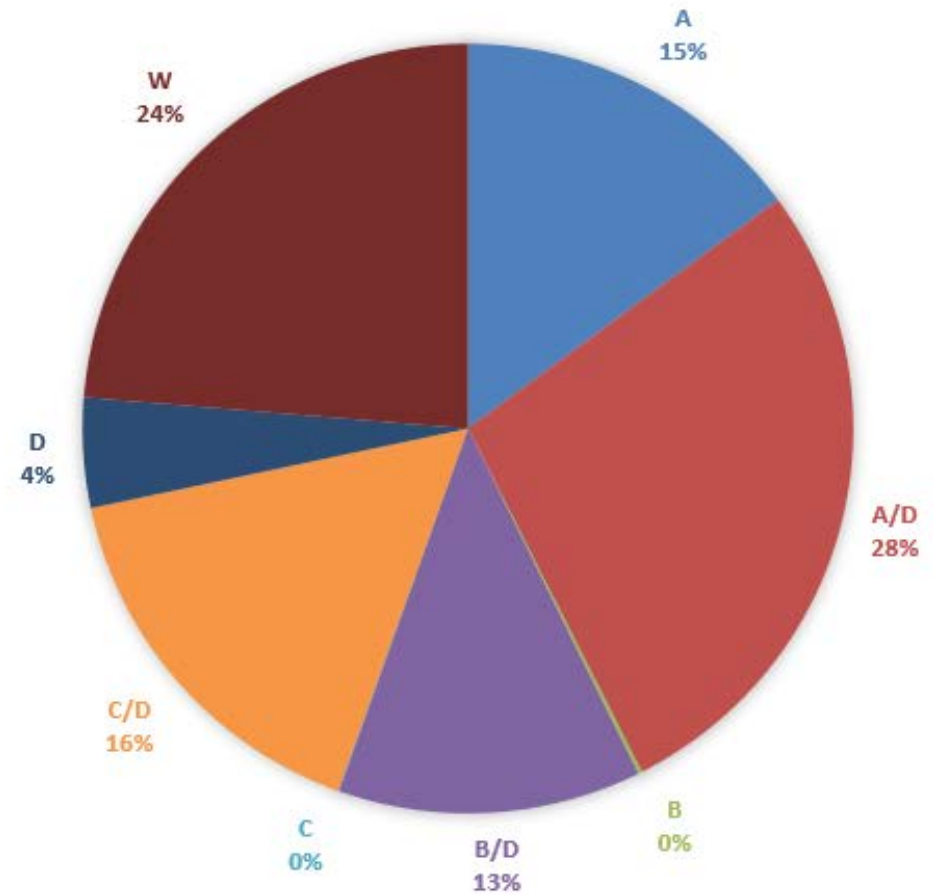
- Previous SWIL Iteration used an interpolation method to classify urban soils with Null Values
- Current SWIL Model had much fewer Nulls – API used to classify Urban Soils to match surrounding classifications

SOILS

PREVIOUS SWIL MODEL SOIL DISTRIBUTION



NEW SWIL MODEL SOIL DISTRIBUTION





DIRECT RUNOFF EVENT MEAN CONCENTRATIONS (EMCS)

- Additional Data received primarily from FDACS (SJRWMD), FDOT, and USAF
- Important Decisions made:
 - Agriculture speciation
 - Pasture divided into Improved, Unimproved, and Rangeland
 - Mixed Rangeland (Dry Prairie) to be compared to FDACS provided Ag enrollment land use and SOLARIS lands to define as Unimproved Pasture versus Dry Prairie.
 - Updating EMCs
 - Transportation and Agriculture EMCs will be updated based on additional data received
 - Other Land Use EMCs will use original SWIL values other values remain
 - Handout with EMCs will be uploaded to the FTP site by the end of October for stakeholder review

DIRECT RUNOFF COEFFICIENTS (ROCS)

- Continue to use the Soil Conservation (SC) Curve Number Method from Original SWIL model
- Will keep monthly ROCs for previous existing consolidated land uses
- Monthly Values (12 months) by land use/soil type
- New subsegmented land use categories:
 - Use same ROCs (all pastures assigned the same ROC)
 - Hydrologic characteristics assumed to be similar between speciated EMC categories

CALCULATED ANNUAL C VALUES FOR LAND USE CATEGORIES

Land Use	Hydrologic Soil Group	Monthly C Value											
		1	2	3	4	5	6	7	8	9	10	11	12
Agriculture	A	0.002	0.005	0.009	0.001	0.000	0.007	0.004	0.005	0.019	0.035	0.029	0.012
	A/D	0.104	0.096	0.095	0.063	0.065	0.135	0.097	0.108	0.174	0.246	0.178	0.109
	B	0.026	0.024	0.030	0.011	0.011	0.041	0.026	0.031	0.067	0.108	0.080	0.041
	B/D	0.104	0.096	0.095	0.063	0.065	0.135	0.097	0.108	0.174	0.246	0.178	0.109
	C	0.068	0.060	0.062	0.035	0.036	0.092	0.062	0.072	0.126	0.188	0.136	0.078
	C/D	0.104	0.096	0.095	0.063	0.065	0.135	0.097	0.108	0.174	0.246	0.178	0.109
	D	0.104	0.096	0.095	0.063	0.065	0.135	0.097	0.108	0.174	0.246	0.178	0.109
	W	0.555	0.586	0.587	0.547	0.531	0.603	0.569	0.577	0.636	0.668	0.602	0.541
	X?	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Citrus	A	0.000	0.001	0.004	0.000	0.000	0.002	0.001	0.001	0.008	0.016	0.015	0.004
	A/D	0.090	0.082	0.082	0.052	0.054	0.118	0.083	0.094	0.156	0.225	0.162	0.097
	B	0.017	0.017	0.023	0.007	0.006	0.029	0.018	0.022	0.052	0.086	0.065	0.032
	B/D	0.090	0.082	0.082	0.052	0.054	0.118	0.083	0.094	0.156	0.225	0.162	0.097
	C	0.054	0.048	0.052	0.027	0.027	0.075	0.050	0.058	0.107	0.164	0.119	0.066
	C/D	0.090	0.082	0.082	0.052	0.054	0.118	0.083	0.094	0.156	0.225	0.162	0.097
	D	0.090	0.082	0.082	0.052	0.054	0.118	0.083	0.094	0.156	0.225	0.162	0.097
	W	0.555	0.586	0.587	0.547	0.531	0.603	0.569	0.577	0.636	0.668	0.602	0.541
	X?	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Commercial	A	0.480	0.497	0.510	0.489	0.477	0.510	0.495	0.498	0.532	0.546	0.516	0.479
	A/D	0.480	0.497	0.510	0.489	0.477	0.510	0.495	0.498	0.532	0.546	0.516	0.479
	B	0.501	0.516	0.527	0.503	0.491	0.535	0.514	0.519	0.561	0.582	0.542	0.497
	B/D	0.501	0.516	0.527	0.503	0.491	0.535	0.514	0.519	0.561	0.582	0.542	0.497
	C	0.526	0.543	0.552	0.525	0.514	0.564	0.539	0.545	0.592	0.617	0.569	0.520
	C/D	0.526	0.543	0.552	0.525	0.514	0.564	0.539	0.545	0.592	0.617	0.569	0.520
	D	0.544	0.563	0.571	0.543	0.531	0.584	0.557	0.564	0.613	0.638	0.587	0.536
	W	0.610	0.636	0.643	0.613	0.599	0.655	0.628	0.634	0.682	0.705	0.649	0.599
	X?	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dry Prairie	A	0.000	0.001	0.003	0.000	0.000	0.002	0.000	0.001	0.006	0.013	0.013	0.002
	A/D	0.058	0.052	0.055	0.029	0.030	0.080	0.054	0.062	0.113	0.171	0.124	0.070
	B	0.005	0.008	0.013	0.003	0.001	0.013	0.007	0.009	0.029	0.050	0.040	0.018
	B/D	0.058	0.052	0.055	0.029	0.030	0.080	0.054	0.062	0.113	0.171	0.124	0.070
	C	0.031	0.028	0.034	0.013	0.013	0.047	0.030	0.036	0.074	0.119	0.087	0.045
	C/D	0.058	0.052	0.055	0.029	0.030	0.080	0.054	0.062	0.113	0.171	0.124	0.070
	D	0.058	0.052	0.055	0.029	0.030	0.080	0.054	0.062	0.113	0.171	0.124	0.070
	W	0.555	0.586	0.587	0.547	0.531	0.603	0.569	0.577	0.636	0.668	0.602	0.541
	X?	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

IMPOUNDMENTS AND THEIR MANAGEMENT SCHEDULE

- Mosquito Impoundments Impact in Model
- No management schedule changes received from stakeholders
 - If connected to the system, impoundments function as a wetland and don't need to be included in the model impoundment module
- Assume schedule for other impoundments is still the same since 2017

Sublagoon	Acres					
	ML	NIRL	BRL + NFH	CIRL	SIRL	Total
Reconnected	5,360	14,801	3,722	3,044	4,943	31,870
Targeted for reconnection in the future	1,396	4,227	1,257	230	0	7,110
Not targeted due to management goals, surrounding development, or other reasons	0	740	100	0	53	893
Total	6,756	19,768	5,079	3,274	4,996	39,873
ML = Mosquito Lagoon						
NIRL = Indian River Lagoon north of Melbourne Causeway						
BRL + NFH = Banana River Lagoon + Newfound Harbor						
CIRL = Indian River Lagoon from Melbourne Causeway to the southern boundary of Indian River County						
SIRL = Indian River Lagoon adjacent to St. Lucie and Martin counties						

STORMWATER ERP TREATMENTS – DEVELOPMENT

- Spatial layer locating treated areas due to WMD requirements after 1986 developed using Property Appraiser Data (Built Year)
- Residential property: first house developed year assigned to subdivision
- Other types of developed properties: year of development
- To use within appropriate model year:
 - **Year 2010 land use: create treatments for 1986-2010**
 - **Year 2015 land use: create treatments for 1986-2015**
 - **Year 2020 land use: create treatments for 1986-2020**
- Using API, only two types of ERP Treatments will be identified as either Dry or Wet Pond
- Will use same % removal as original SWIL until calibration tasks

BMP EFFICIENCIES BY TREATMENT TYPE USED IN SWIL

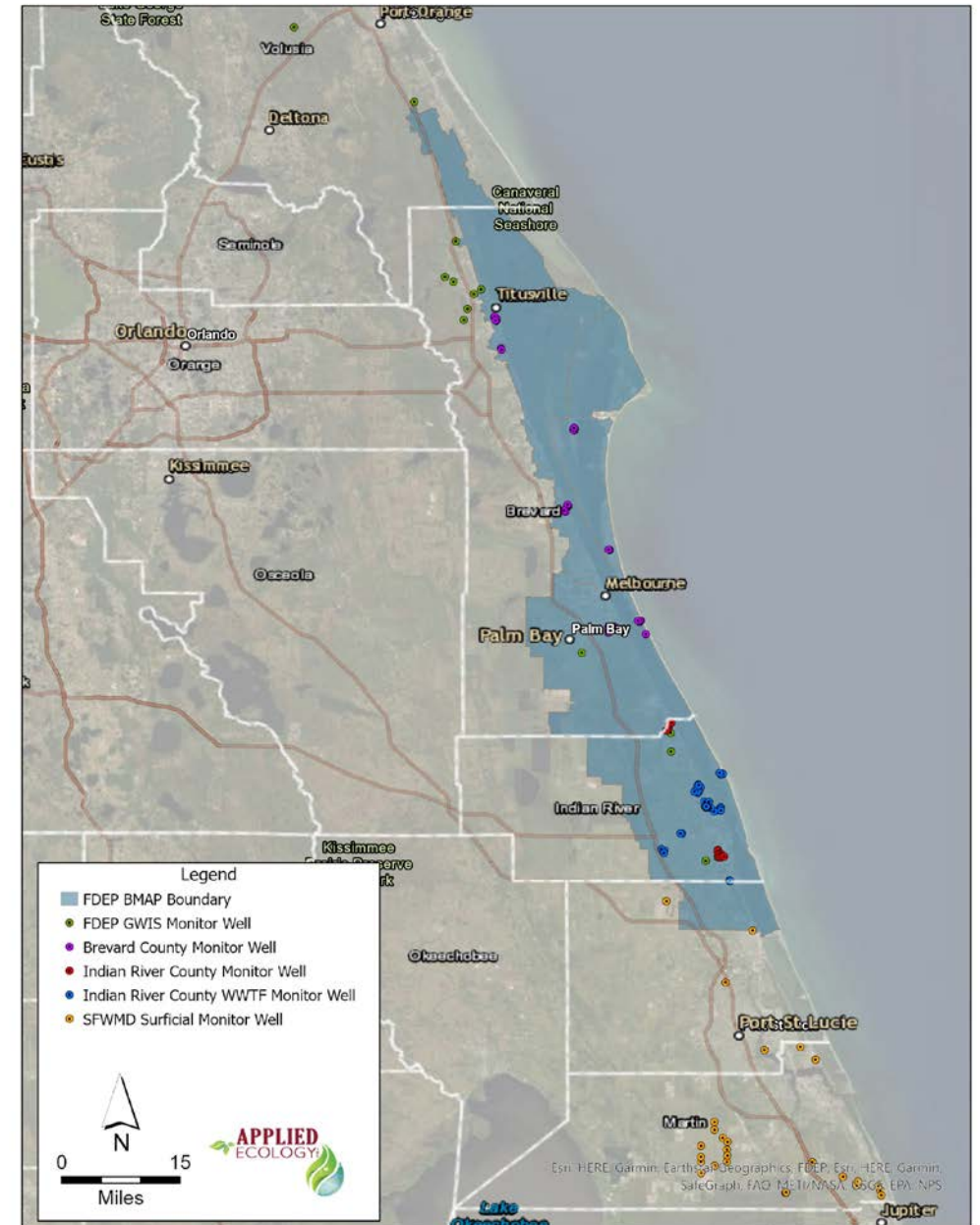
Time Period	BMP Type	Assumed Annual Mass/Volume Removal (% of total)			Assumptions	Reference
		Runoff Volume	Total N Mass	Total P Mass		
Prior to Implementation of Impaired Water Design Criteria	Dry Retention (Dry Ponds)	75	75	75	Assumes that dry ponds are primarily dry detention designed to SJRWMD rules. Efficiencies reflect water volume which is infiltrated into the ground.	Harper and Baker (2007) ¹
	Wet Detention (Wet Ponds)	20	36	62	Based on relationships between removal eff. and detention time. Assume that ponds are designed with a 14 day wet season detention time, equivalent to 22 day annual detention time	Harper and Baker (2007) ¹

¹ "Performance Efficiency Evaluation of Stormwater Management Systems in Florida", Harper and Baker, 2007

COMING NEXT

RECEIVED LAYERS FOR BASEFLOW MODULE

- SOIRL Ground Water Sampling Data (Brevard County) June 2018 – July 2020
 - 45 Wells with NOX,TKN,TN,TP
 - Represents septic, sewer, sewer with reclaimed, and natural control areas
- Other Ground Water Wells
 - SFWMD – 39 wells and 3 stations – Only Depth, Temperature, Chloride, and pH data (no nutrients)
 - Indian River County
 - 39 Wells detailing TN and TP data for 4th Quarter 2020 and 1st, 2nd, 3rd, 4th Quarter 2021
 - 18 Wells detailing TN and TP for one sample event of each parameter each year – 2015 and Current (2021)
 - Representation of treatment types being determined



COMING NEXT

DATA UPLOADS CONTINUED

- ET Rasters – Work will commence in next couple weeks and will be uploaded once finished
- Rainfall Rasters – Awaiting additional NEXRAD data from SJRWMD
 - Data received as individual pixel values for polygon covering IRL
 - Needs to be compiled into monthly averages then attributed to polygon layer
 - Polygon layer then converted into one raster per month for each year (12 months x 10 years = 120 rasters) - Developing Python script to automate this process
- Land Use - stakeholder input needed ASAP
 - Validate 2020 current land use using API
 - Create 2010 new land use layer (change from original scope) using approved crossover tables, 2010 WMD
 - Update previous land use (2015) using updated rules and API



COMING NEXT

DATA UPLOADS

- ERP Treatment Layers – Required Land Use to be complete
 - 2010 ERP Treatments, use API to identify wet/dry type
 - 2015 ERP Treatments, (treatments developed until then), use API
 - 2020 ERP Treatments (all treatments until current), use API
- Final EMC values (including new agricultural and transportation values)
- ROC values including for the new land use categories (additional agricultural speciation)

TASK 2 and BEYOND

- *Comprehensive feature class containing all wells associated summary monitoring data*
- *Comprehensive feature class of septic/reclaimed parcels (best available data)*
- *Summary data for available calibration basins (hydrological and water quality)*



Questions?



REVIEW MODEL DATA

If you would like to review the land use and boundary data that will go into the surface runoff portion of the model you may do so here:

http://publicfiles.dep.state.fl.us/DEAR/BMAP/IndianRiverLagoon/Models/SWIL/SWIL_Updates_2021-23/Surface%20Data%20Review/

Please provide any comments, in writing, by

October 29, 2021



Task 3 – Expand Subsurface Module with Wastewater to Reuse and Septic Nutrient Input

- Limited data was submitted across the watershed.
- POLL QUESTION: What is the best way to use it?
 - A. Extrapolate the best datasets across the watershed.
 - B. Apply submitted local site-specific data to just those applicable areas.
 - C. Acknowledge this as a data gap, focus available time and resources on other tasks, and revisit at next modeling period.



Task 4 – Model to Include Retrofit BMPs

- Any structural BMPs submitted to the BMAP through 2015
- Use percent efficiency from BMP guidance
 - https://publicfiles.dep.state.fl.us/DEAR/DEARweb/BMAP/BMP_Efficiencies/BMP%20efficiencies%20091621_Distribution.pdf
- Improve starting load from model output
 - Projects remain in project tables but not sum into the progress reduction
- Included to simplify calibration steps





2020 Statewide Annual Report (STAR)

Florida Statewide Annual Report

Published June 30, 2021

Introduction Total Maximum Daily Loads Basin Management Action Plans Minimum Flows and Minimum Water Levels Recovery and Prevention Strategies Contacts and Data

Troubleshooting

Basin Management Action Plans

A basin management action plan (BMAP) is a framework for water quality restoration that contains local and state commitments to reduce pollutant loading through current and future projects and strategies. BMAPs contain a comprehensive set of solutions, such as permit limits on wastewater facilities, urban and agricultural management practices, and conservation programs designed to achieve pollutant reductions established by a total maximum daily load (TMDL). These broad-based plans are developed with local stakeholders and rely on local input and commitment for development and successful implementation. BMAPs are adopted by Florida Department of Environmental Protection (DEP) Secretarial Order and are legally enforceable.

Navigation

Select any of the following sections for additional information about BMAPs. Click on the dots in the column to the left of the page links you to these same sections. Clicking on the home icon returns you to the top of this page.

Northern Everglades and Estuaries Protection Program BMAPs.

- Outstanding Florida Springs (OFS) BMAPs.
- Additional Nutrient BMAPs.
- Fecal Indicator Bacteria BMAPs.
- Alternative Restoration Approaches.

How to Use This Report

The management actions listed in the BMAPs comprise local projects proposed and committed to by counties, municipalities, special districts, private industrial facilities, wastewater utilities, commercial agricultural operations, state agencies, and other stakeholders. In 2020, DEP contacted stakeholders in all BMAP areas to request information on the status of projects through December 31, 2020. The tables throughout this report contain updates on existing projects, as well as information on new projects.

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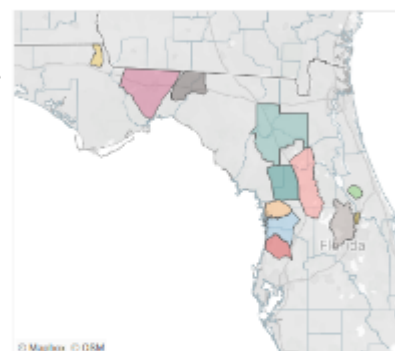
Basin Management Action Plans

Outstanding Florida Springs BMAPs

Introduction

The Florida Springs and Aquifer Protection Act (Part VIII of Chapter 373, F.S.) provides for the protection and restoration of the state's OFS, which comprise 24 first magnitude springs, 6 additional named springs, and their associated spring runs. The act provides the following special protections for OFS, many of which are implemented through the BMAP program.

- Adoption of implementation plans with 5-year milestones and a target to achieve the TMDL within 20 years.
- Delineation of priority focus areas where statutory prohibitions on certain activities will apply.
- Identification of and estimated pollutant loads for each point source or category of nonpoint sources in the springshed.
- Listing of specific projects and programs, along with planning level estimates of costs, funding sources, schedules, and anticipated



BMAP Name		Project Status	
Chassahowitzka / Homosassa		Completed	
Crystal River / Kings Bay		Ongoing	
Palm Bay		Underway	
Cape Canaveral		Planned	
Jacksonville		Completed	
Rainbow		Ongoing	
Santa Fe		Underway	
Silver		Completed	
Wetmore		Ongoing	
Wetmore		Underway	
Weeks Wetland		Planned	
Wetmore River		Completed	

BMAP Name	Lead Entity	Project No.	Project Name	Project Type
Chassahowitzka / Homosassa	Citrus County	CC-01	Public Education Activities	Education Efforts
		CC-02	Southwest Regional Water Reclamation	WWTF Upgrade
		CC-03	Garcia Point Septic to Sewer Project	OGTDS Phase Out
		CC-04	Chassahowitzka to SWRWRF Force Main	WWTF Upgrade
		CC-05	Sugar Mill Woods Residential Reclaimed	WWTF Diversion to Reuse

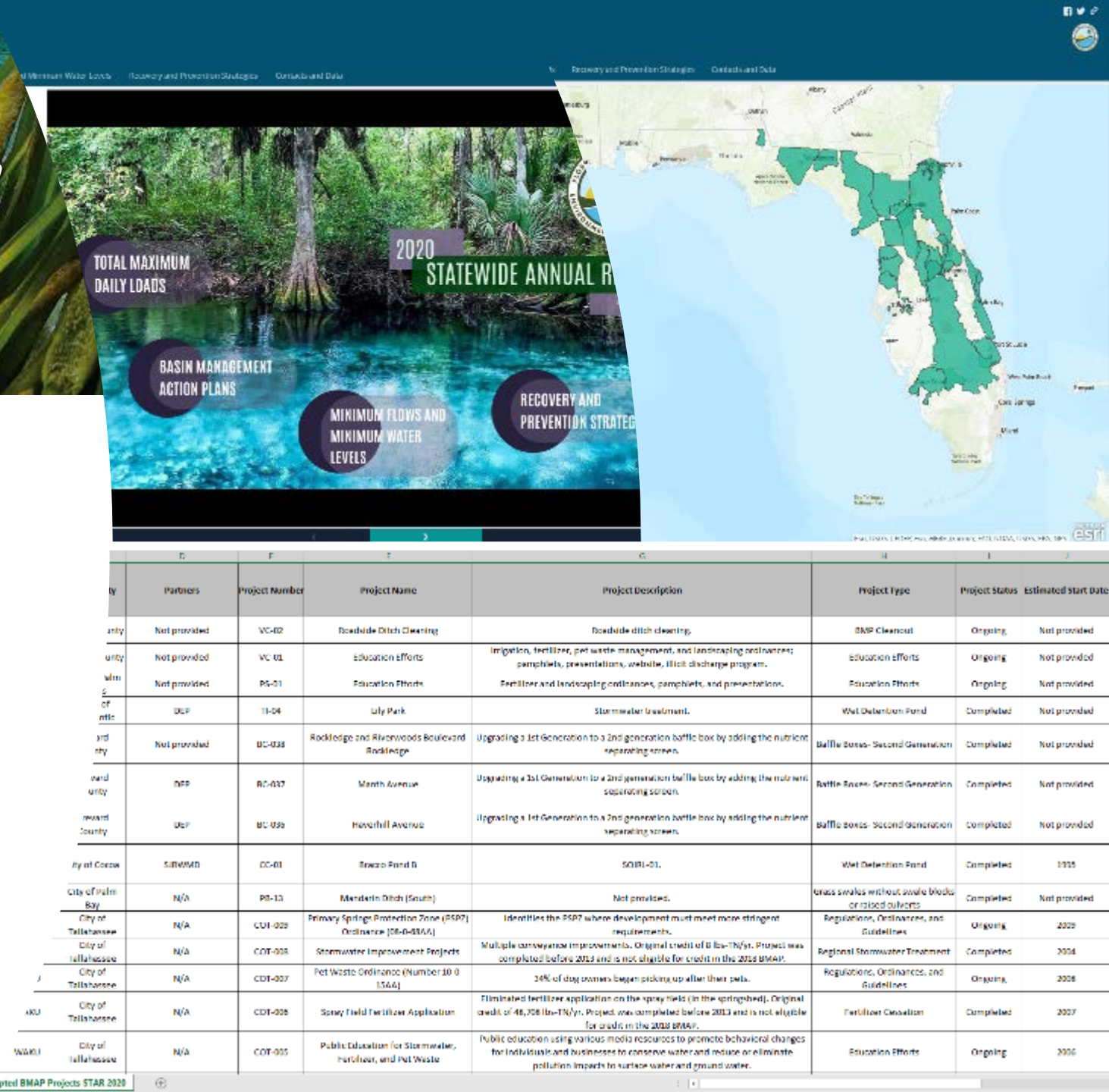


The Portal is Coming!

BMAP Project Collection Portal

- 2015 BMAP begins Statewide Annual Report (STAR)
 - Initiated effort to streamline project reporting and efficiency
- 2021 Implement Online Portal Pilot
 - Replace the current back/forth updating of >400 Excel workbooks
 - Streamline supporting documentation uploads
 - Better QA/QC
 - Track changes
 - Built in user assistance
- Pilot runs mid-November 2021 – January 15, 2022
 - Contact BMAP coordinator for assistance

DEP has reached out to some reporting entities to assist in the user testing phase





Next Steps

- Review the land use and boundary data available here:

http://publicfiles.dep.state.fl.us/DEAR/BMAP/IndianRiverLagoon/Models/SWIL/SWIL_Updates_2021-23/Surface%20Data%20Review/

- Notifications will go out when remaining surface data is available
- Finish evaluating subsurface data
- STAR project collection begins November 15, 2021
- Annual meeting December 2021

Thank you!



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