



Florida Department of Environmental Protection

Basin Management Action Plan Crystal River / Kings Bay

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Topics

- Basin Management Action Plan (BMAP) Overview
- Nitrogen Source Inventory Loading Tool (NSILT)
- Florida Springs and Aquifer Protection Act
- BMAP Schedule



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BMAP Overview





Springs Coast

BMAPs in development:

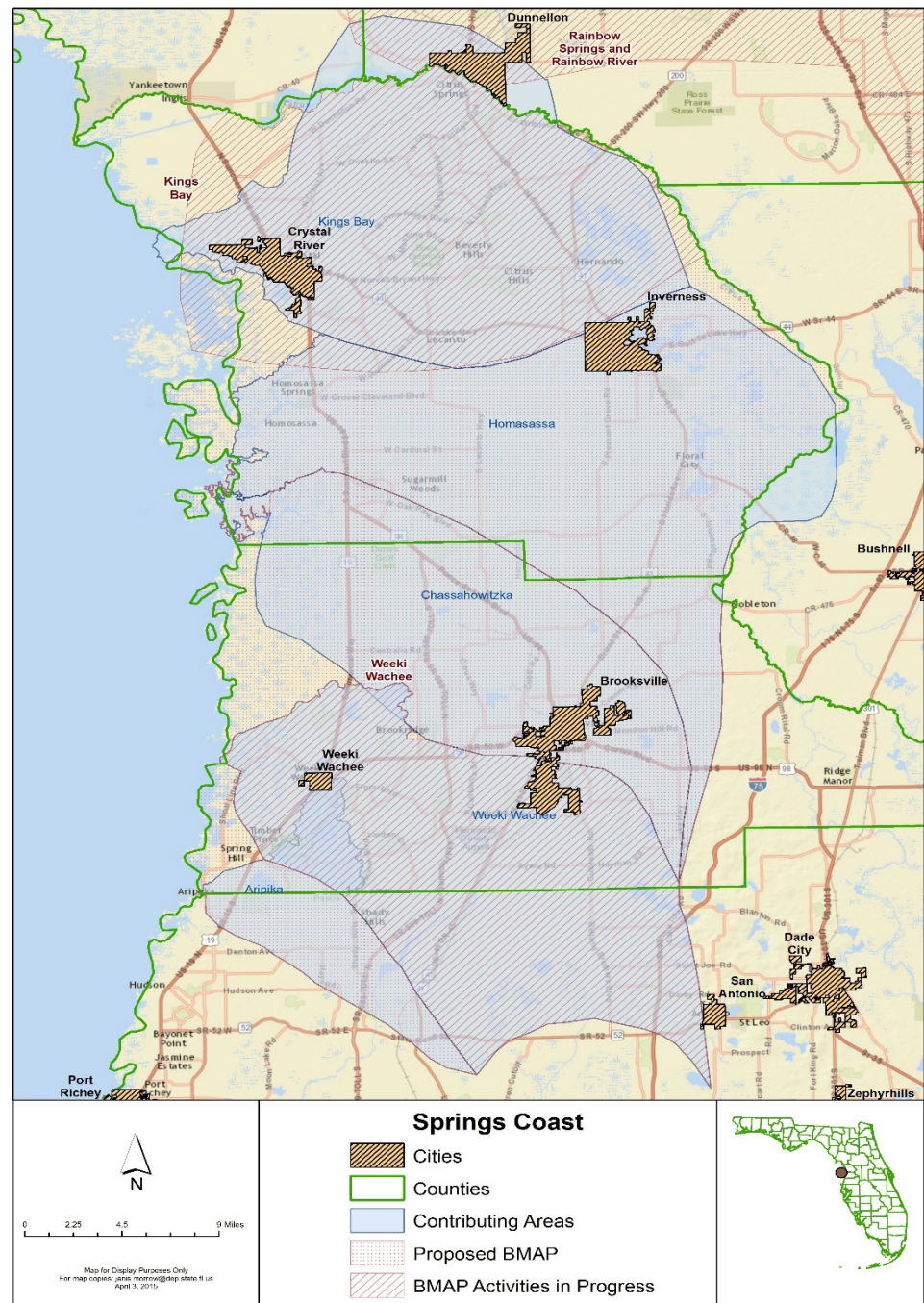
- Crystal River / Kings Bay
- Weeki Wachee

Total maximum daily loads (TMDLs) finalized:

- Homosassa
- Chassahowitzka

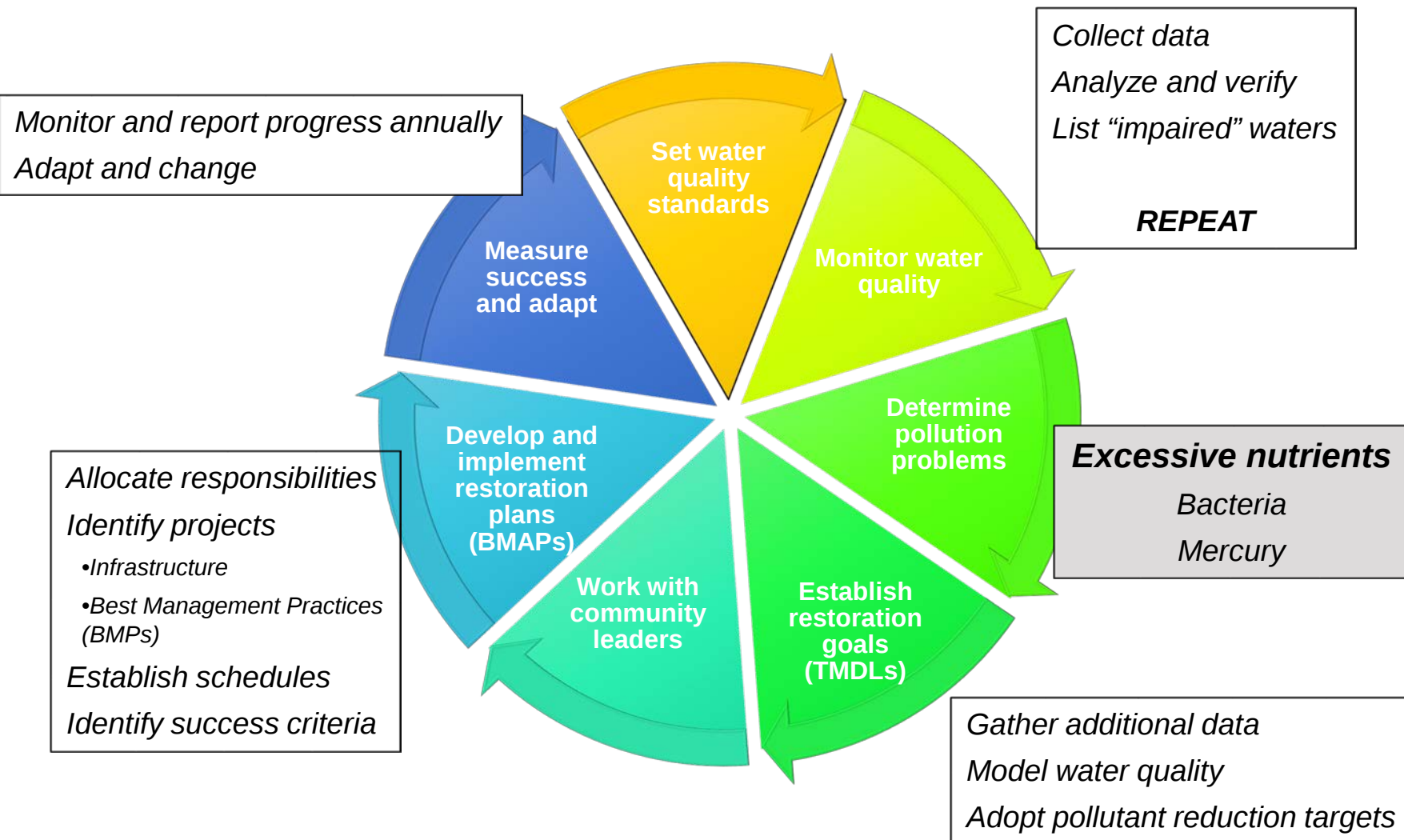
TMDL in development:

- Aripeka





Water Quality Framework





Basin Management Action Plan

- Florida Department of Environmental Protection's (DEP's) method for restoring water quality to an impaired water body.
- BMAPs are adopted by DEP through a Secretarial Order.
- BMAPs are enforceable.
- BMAPs are reviewed annually and updated every five years.





Regulatory Framework

The process for preparing BMAPs is found in:

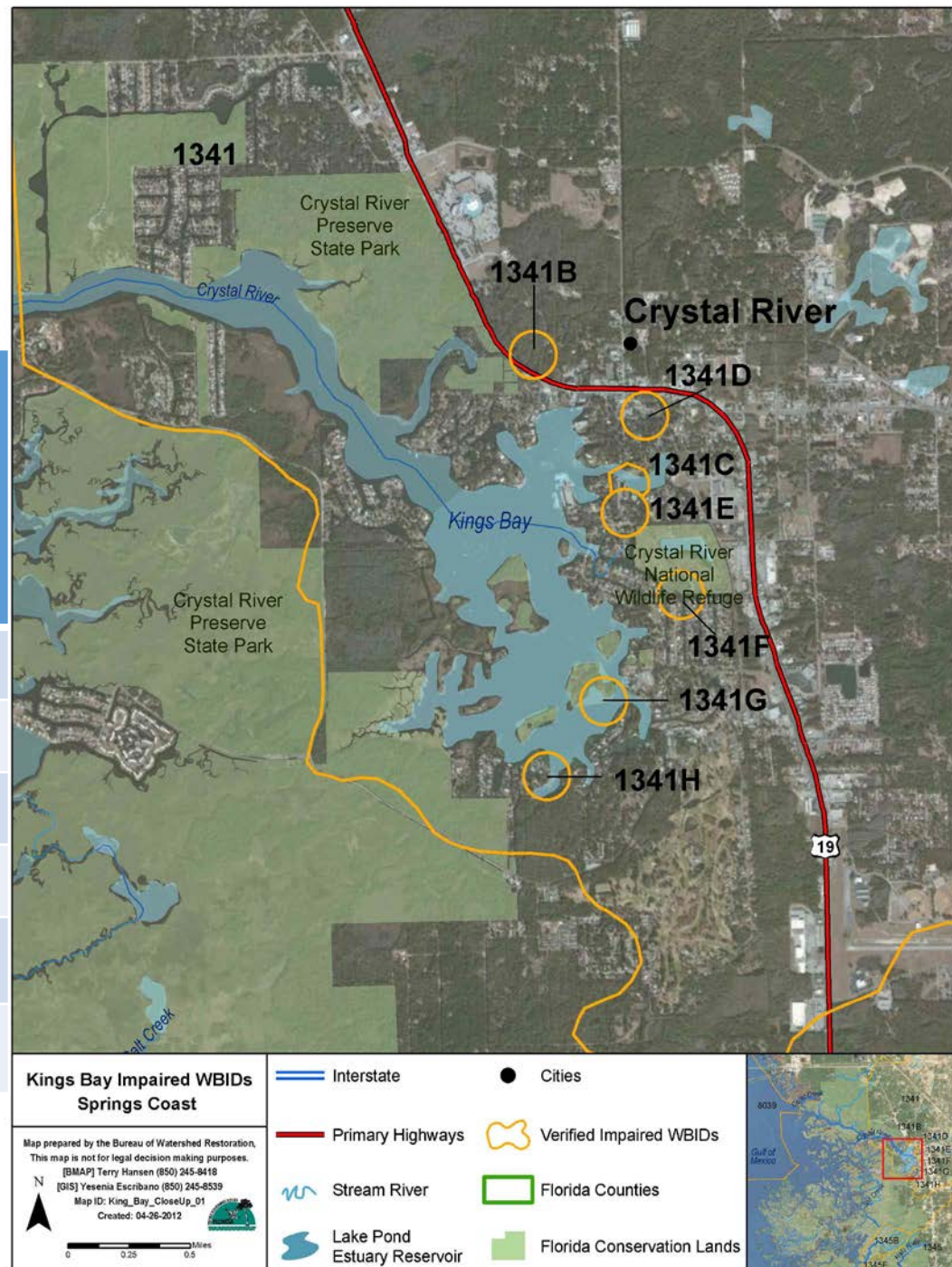
- Section 403.067, Florida Statutes (F.S.), known as the Florida Watershed Restoration Act (FWRA).
- Spells out issues that are addressed within a BMAP.





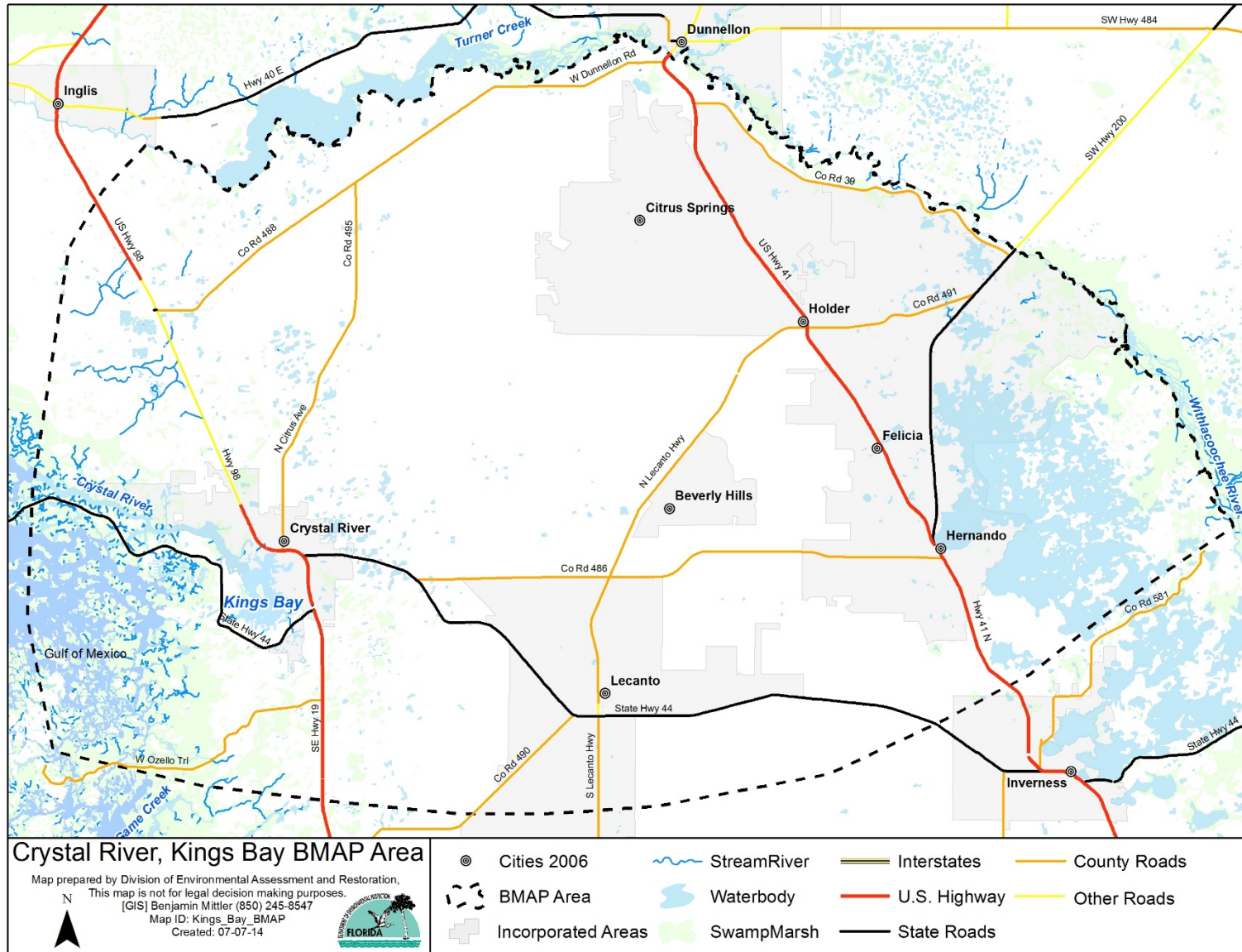
TMDLs

Water Body Identification (WBID)	Reduction-Total Nitrogen (TN)	Reduction-Total Phosphorus (TP)
1341	22%	14% TP
1341C	64%	0% ortho-P
1341D	53%	0% ortho-P
1341F	26%	7 % ortho-P
1341G	21%	10% ortho-P
1341H	26%	0% ortho-P



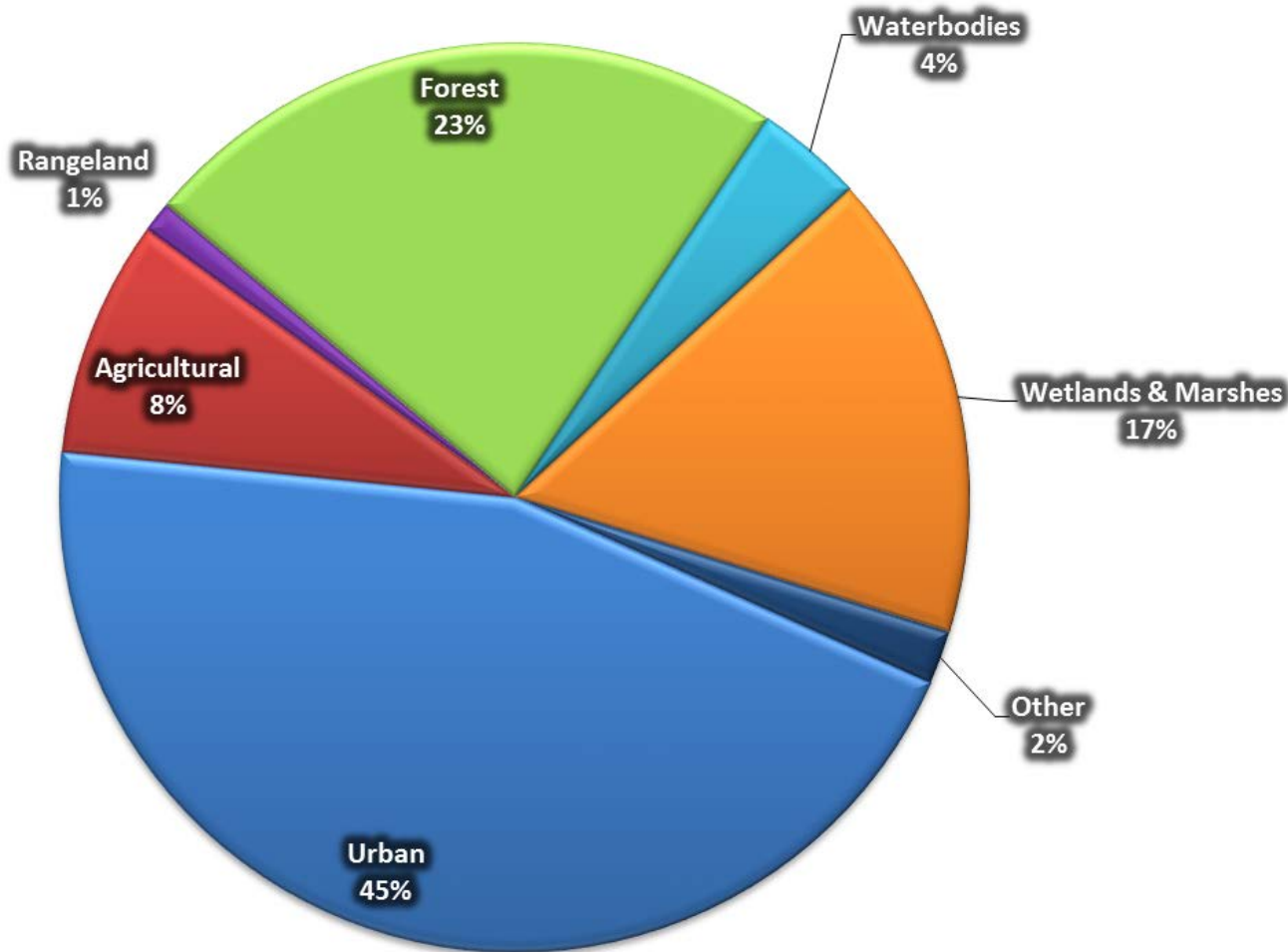


BMAP Area





Kings Bay Land Use



- ♦ Majority of inputs occur within agricultural and urban landscapes.
- ♦ Nitrogen sources are concentrated in 53% of the BMAP land uses.



Stakeholders

- Reduce nutrient footprint.
- Agricultural producers:
 - Enroll in Florida Department of Agriculture and Consumer Services (FDACS) BMPs or monitor.
- Homeowners:
 - Observe fertilizer ordinance.
 - Healthy septic tank process.





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NSILT





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Florida Springs and Aquifer Protection Act





Florida Springs and Aquifer Protection Act (2016-1)

- The 2016 Florida Springs and Aquifer Protection Act lists requirements for BMAPs for Outstanding Florida Springs (OFS):

BMAPs must be adopted within two years after initiation and must include detailed project, financial and water quality benefits information; five-year incremental milestones; and implementation plan designed with a target to achieve the TMDL no more than 20 years after adoption (373.807(1)(b), F.S.).





Florida Springs and Aquifer Protection Act (2016-1)

- Specifically the project list for the BMAP area must be:
 - Prioritized.
 - Include a planning level cost estimate and completion date.
 - Funding source identified.
 - Identification of point and nonpoint sources.
 - Implementation plan with TMDL achievement less than or equal to 20 years.
 - 5-, 10- and 15-year schedules for planning and funding.



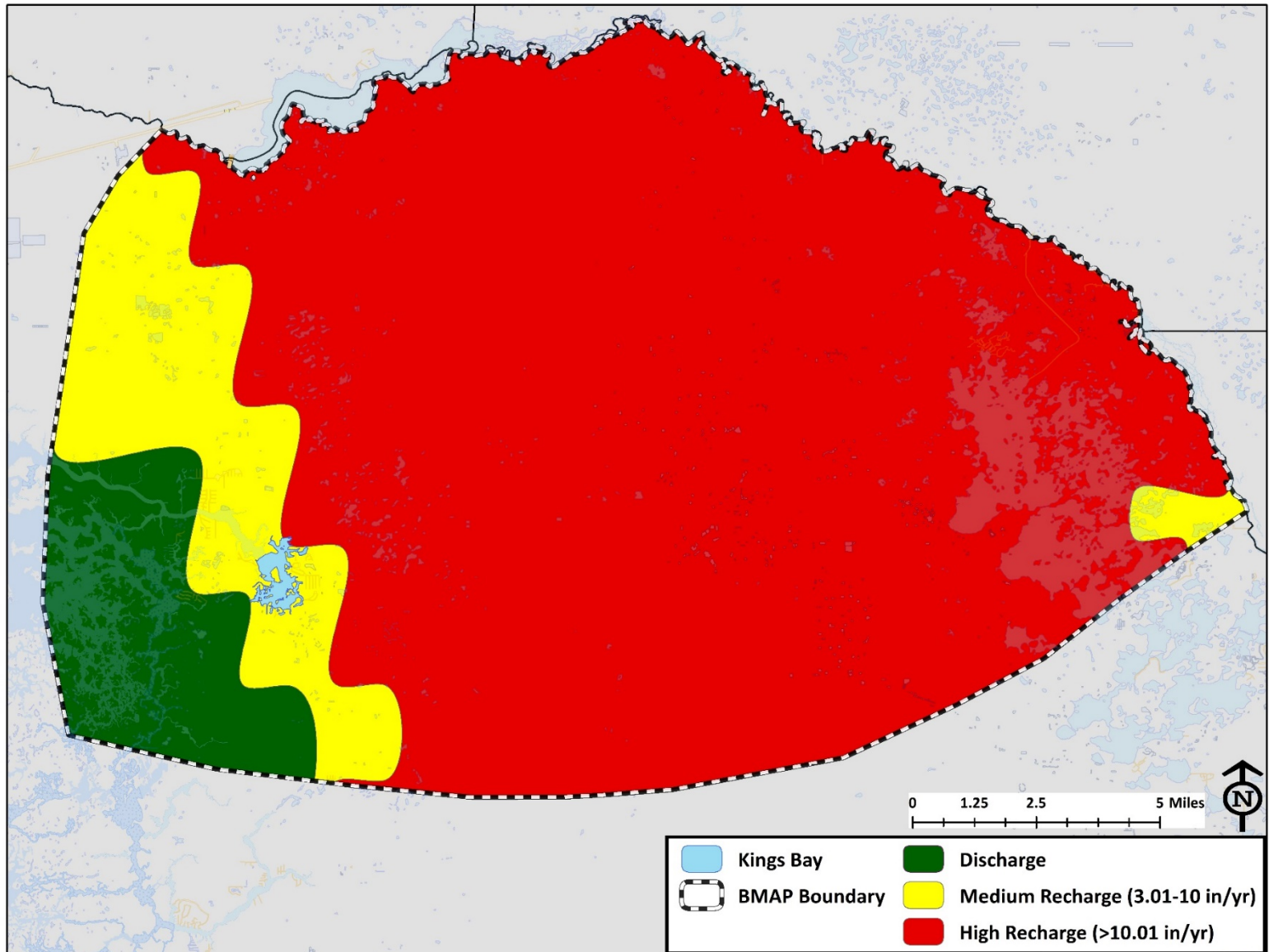


Florida Springs and Aquifer Protection Act (2016-1)

- Specifically requires:
 - Identification of point sources and nonpoint source categories with estimated load allocations (NSILT).
 - Fertilizer ordinance for all local governments.
 - Agricultural BMPs.
- Delineate within the priority focus area (PFA):
 - List of projects identified.
 - Create an on-site sewage treatment and disposal system (OSTDS) Remediation Plan if OSTDS loads are greater than or equal to 20% of nitrogen load, or determined to be needed by the DEP.
- Prohibits within a PFA:
 - Wastewater treatment facilities greater than 100,000 gallons per day (GPD), UNLESS advanced wastewater treatment (AWT) is used.
 - New OSTDS on less than 1 acre lots.
 - Ban on land application of biosolids.
 - Hazardous waste facilities.



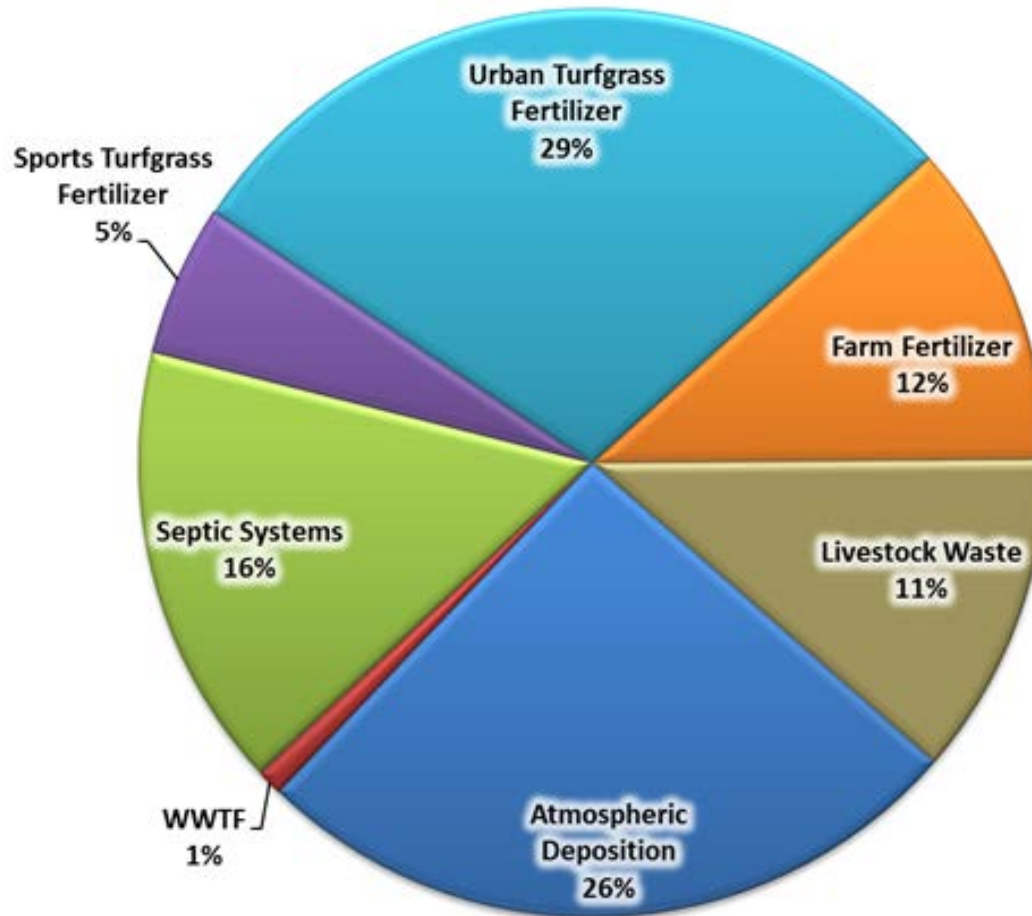
PFA Development



This map was prepared on 06/17/16 by FDEP Ground Water Management Section. For display purposes only. For more information: K.Eller (850)245-8652.

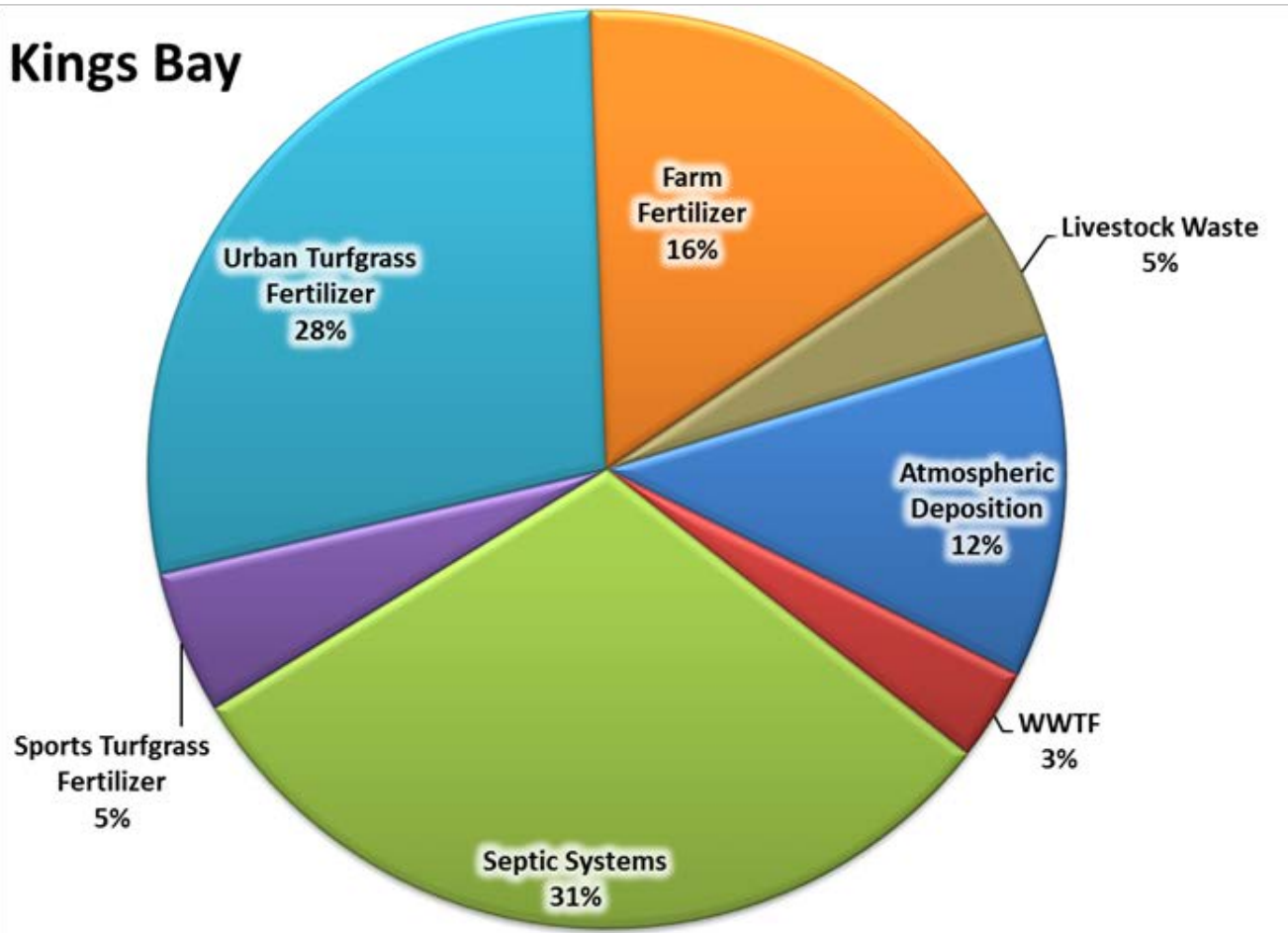


Kings Bay Input to Land Surface





Kings Bay Load to Ground Water





Florida Springs and Aquifer Protection Act

- After the BMAP is adopted:
 - **Funding**--Provides stakeholder the opportunity to access funding sources that require an adopted BMAP to be considered for receiving funds.
 - **Inventory**--Allows refinement of the NSILT to determine the required estimates of a project's nutrient load reductions.
 - **Pilot Projects**--Allows development and implementation of innovative pilot BMP activities and effectiveness determination prior to required rulemaking.



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BMAP Schedule





BMAP Schedule

- BMAP adoption by June 2017.
- Includes development of 5-year, 10-year, and 15-year goals.
- Includes a detailed plan to meet TMDL in 20 years:
 - Includes both TN and TP reductions.
- Monthly meetings to develop strategies to meet 2016-1 requirements.
- July meeting to focus on the OSTDS Remediation Plan.

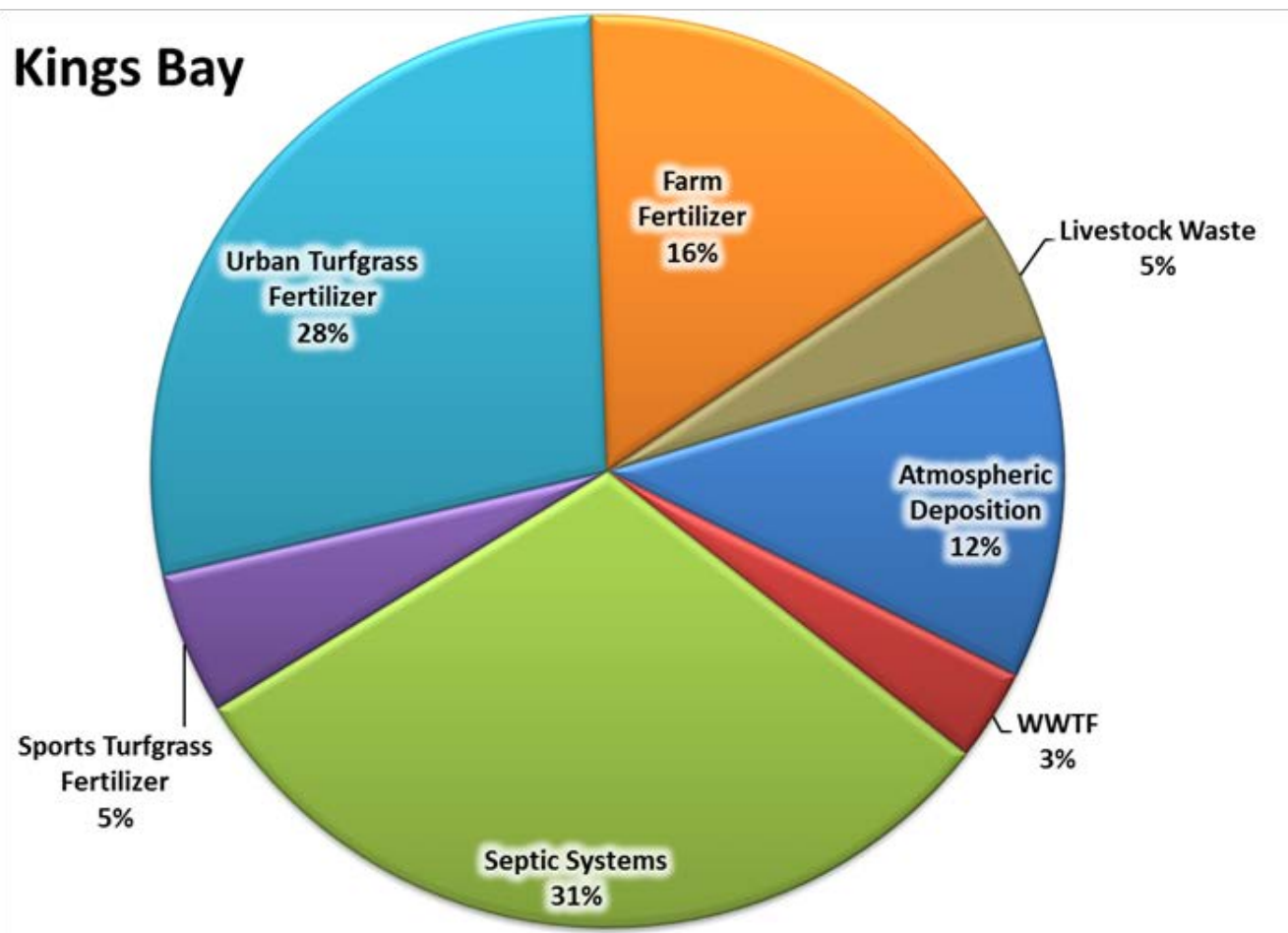


OSTDS Remediation Plan

- Required - If OSTDS within a PFA contribute greater than or equal to 20% of the nitrogen load.
- Include Florida Department of Health (FDOH), DEP, relevant local governments, relevant local public and private wastewater utilities.
- Goal is an OSTDS remediation plan with the following:
 - Identify cost-effective & financially feasible projects.
 - Collect and evaluate credible scientific information.
 - Develop a public education plan about OSTDS and springs.
 - Include options for repair, upgrade, replacement, drainfield modification, addition of effective nitrogen-reducing features, in addition to sewer connection.
 - Priority ranking of projects and fund contingent on appropriations.

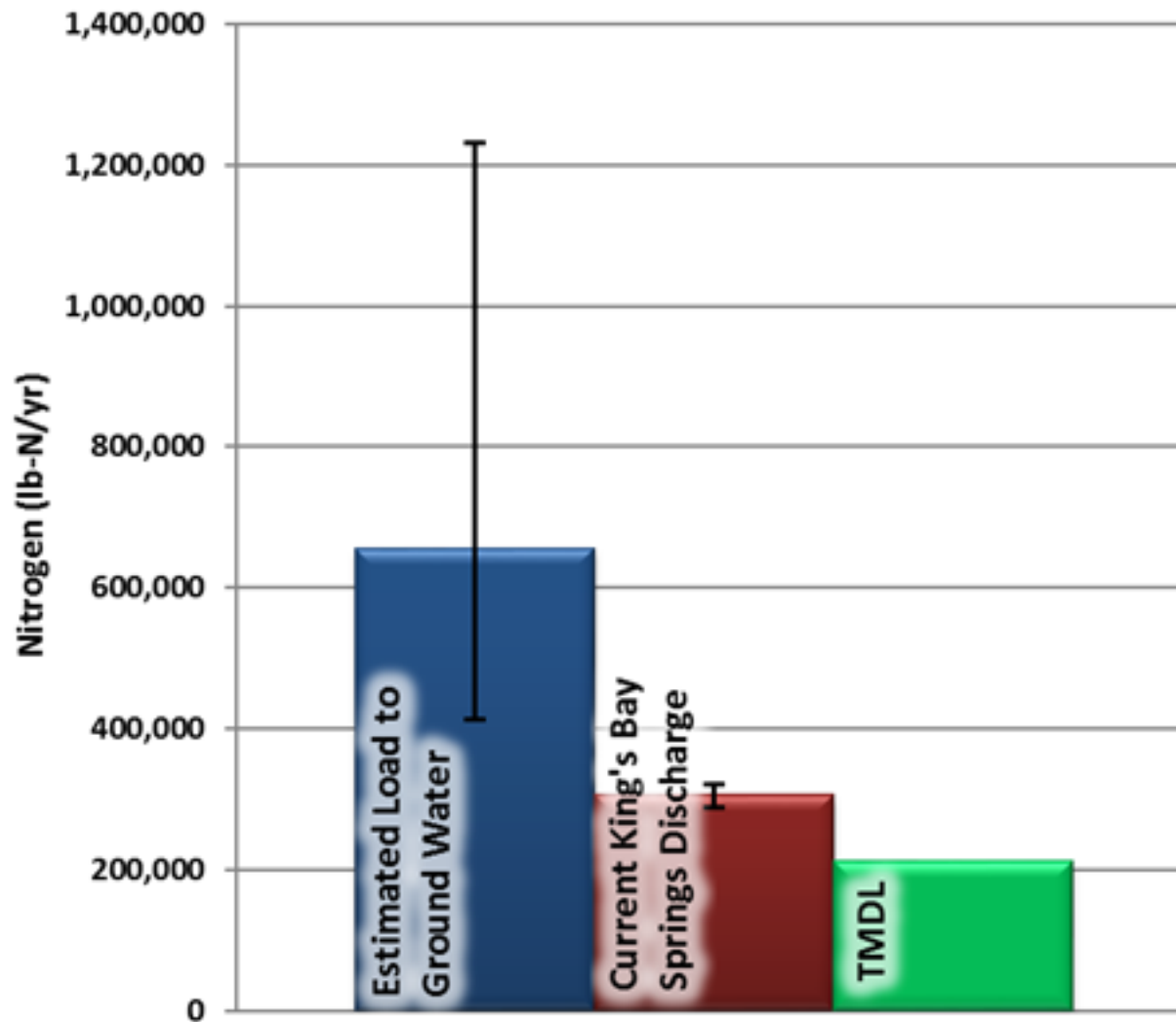


Kings Bay Load to Ground Water



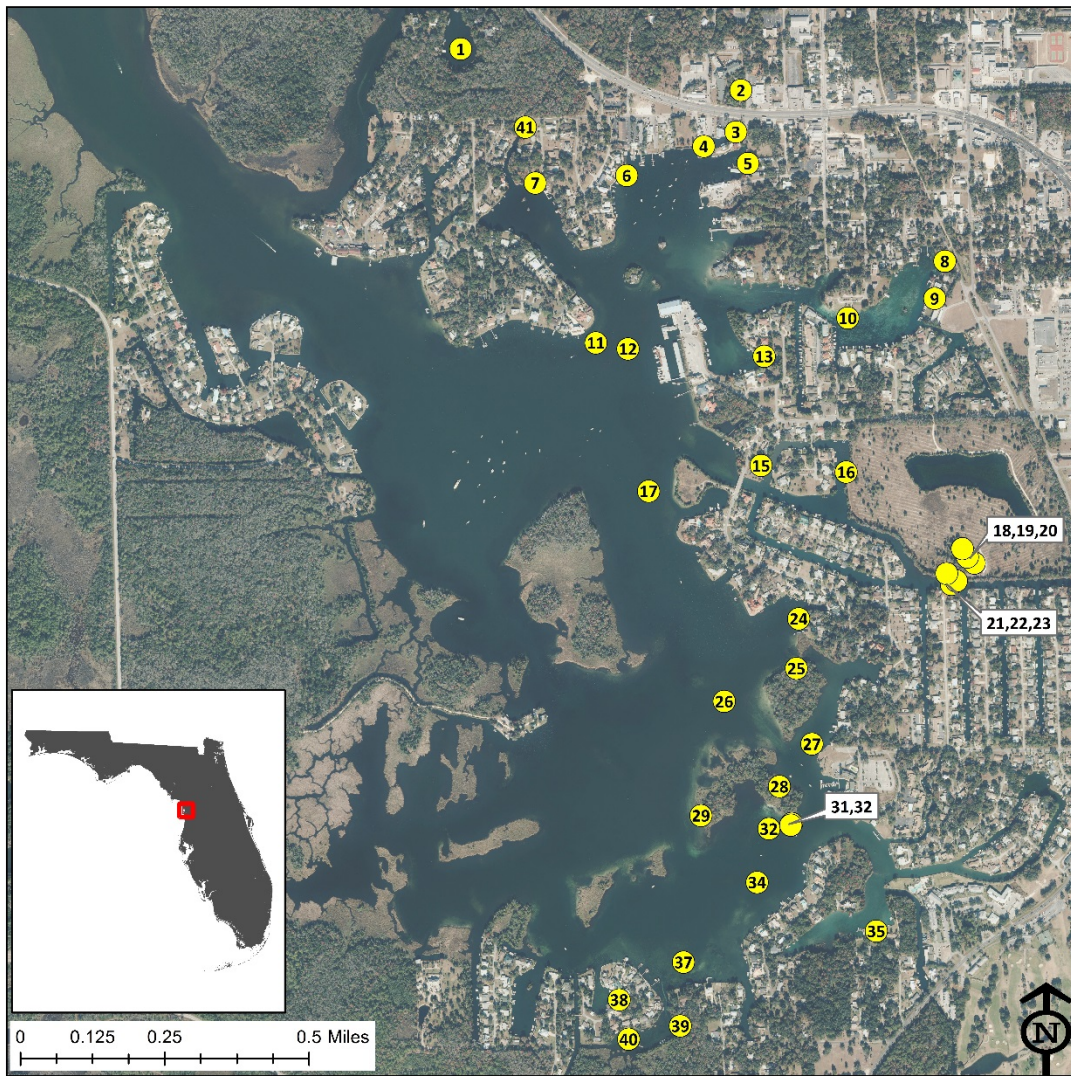


Kings Bay Load



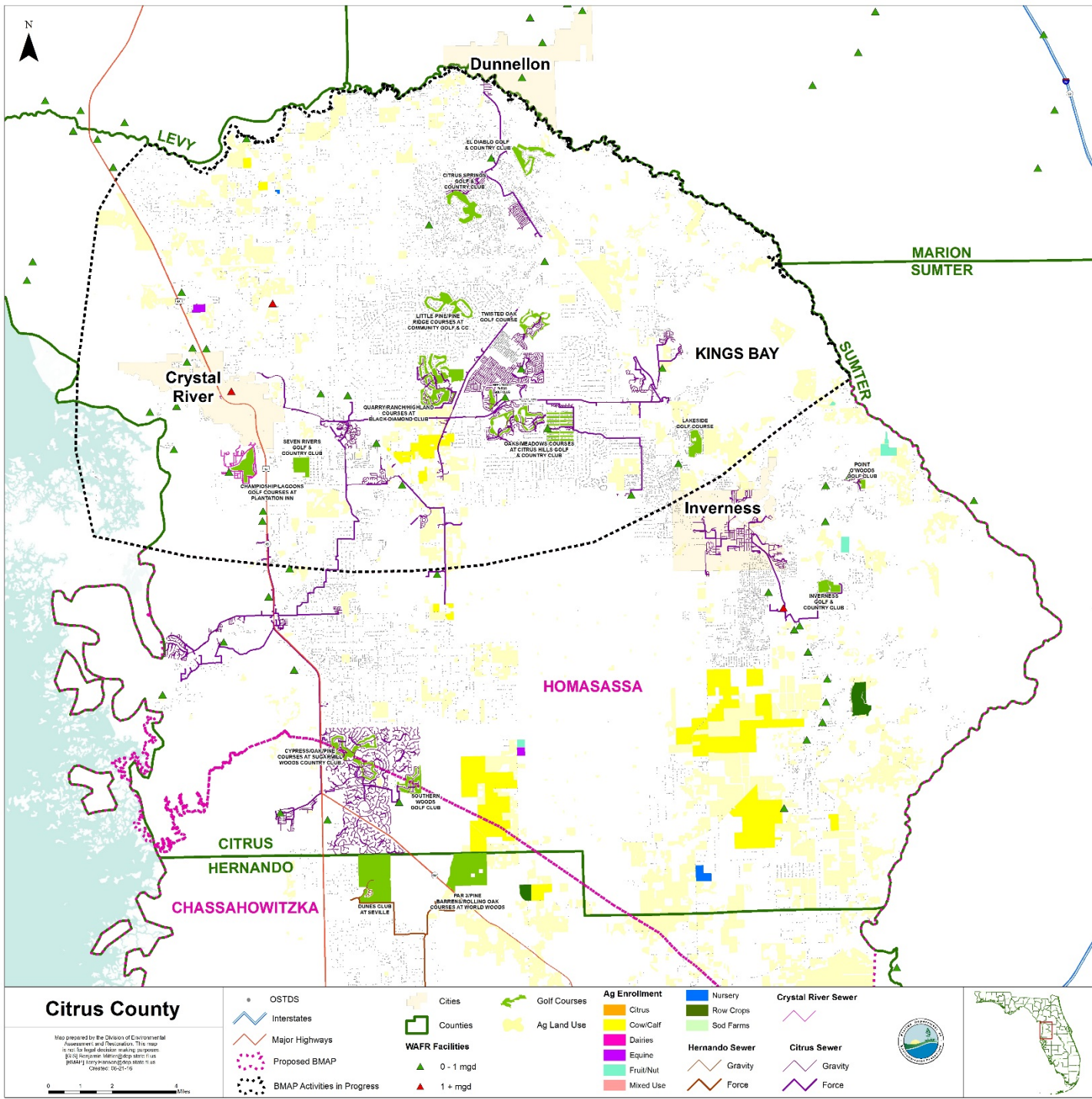


Springs of Kings Bay



The Springs of Kings Bay			
1 Miller's Creek Spring	11 Magnolia Circle Spring	22 Idiots Delight #2	32 King Spring
2 City Hall Spring	12 Pete's Pier Spring	23 Idiots Delight #3	34 Dave's Quest Springs
3 Charlie's Fish House Spring	13 Moray Spring	24 Parker Island North Spring Complex	35 Golfview
4 Birds Underwater Spring	15 Paradise Isles	25 Parker Island Spring	37 Wynn Court Springs
5 Pool Spring	16 Manatee Sanctuary	26 Banana Island North Spring Complex	38 Black Spring
6 Catfish Spring	17 Buzzard Island Spring	27 FWS Spring Complex	39 Sid's Springs
7 NW 9th Avenue Springs	18 Three Sisters Spring #1	28 Banana Island East Springs	40 Gary's Grotto
8 House Spring	19 Three Sisters Spring #2	29 Banana Island West Springs	41 Hammett 24
9 Jurassic Spring	20 Three Sisters Spring #3	30 Tarpon Hole #2	
10 Hunters Spring	21 Idiots Delight #1	31 Tarpon Hole	

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Basin Management Action Plan

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<http://www.dep.state.fl.us/water/>

http://publicfiles.dep.state.fl.us/DEAR/BMAP/Springs Coast/BMAPs/CR_KB_BMAP/

