



Florida Department of Environmental Protection

Silver Springs and Rainbow Springs Basin Management Plan Onsite Sewage Treatment and Disposal System (OSTDS) Remediation Plan Meeting

**December 15, 2016
Mary Paulic**





Agenda

- Follow-up on Questions from September and November Meetings
- Locating Areas of Concern
 - Factors to be Used to Identify Rainbow Springs OSTDS Priority Locations
 - Review FDEP Proposed Criteria and Discussion from November
- Enhanced OSTDS as a Remediation Option
 - Review DOH November Presentation
 - FOWA Presentation on Enhanced Nitrogen Removal OSTDS
- Education Plan and Science Questions
 - Developing Public Support When Sewer is the Preferred Remediation Approach
 - Overall nitrogen reduction
 - Maintenance of OSTDS
 - NSILT refinement
- Summary and Action Items



Remediation Plan

- Plan needs to:
 - Provide for BMAP revision by July 2018.
 - Include development of 5-year, 10-year, and 15-year goals.
 - *20 year plan started at adoption of BMAPs in 2015.*
 - Include detailed plan to meet TMDL in 20 years.
- OSTDS Advisory Committee members:
 - Represent the sectors that are affected by the OSTDS Remediation Plan.
 - Have expertise to lend to the process and to successful outcomes to reduce nitrogen loadings from OSTDS sources.
 - Advise/provide DEP with opinions or direction on Wastewater/OSTDS Remediation Plan.



Advisory Committee Sunshine Law

- OSTDS Advisory Committee operates under the Sunshine Laws (Article 1, Section 24, Florida Constitution and Section 286.011, F.S.)
- Discussion or any form of communication between committee members on matters reasonably expected to come before the committee is **prohibited** outside of a publicly noticed meeting.
 - Communication includes but not limited to phone calls, writing, texting, and emailing another committee member.
 - Discussion between a committee member and non-committee members, including staff, is permissible.
 - Discussion of committee topics between a committee member and their alternate representative is permissible.





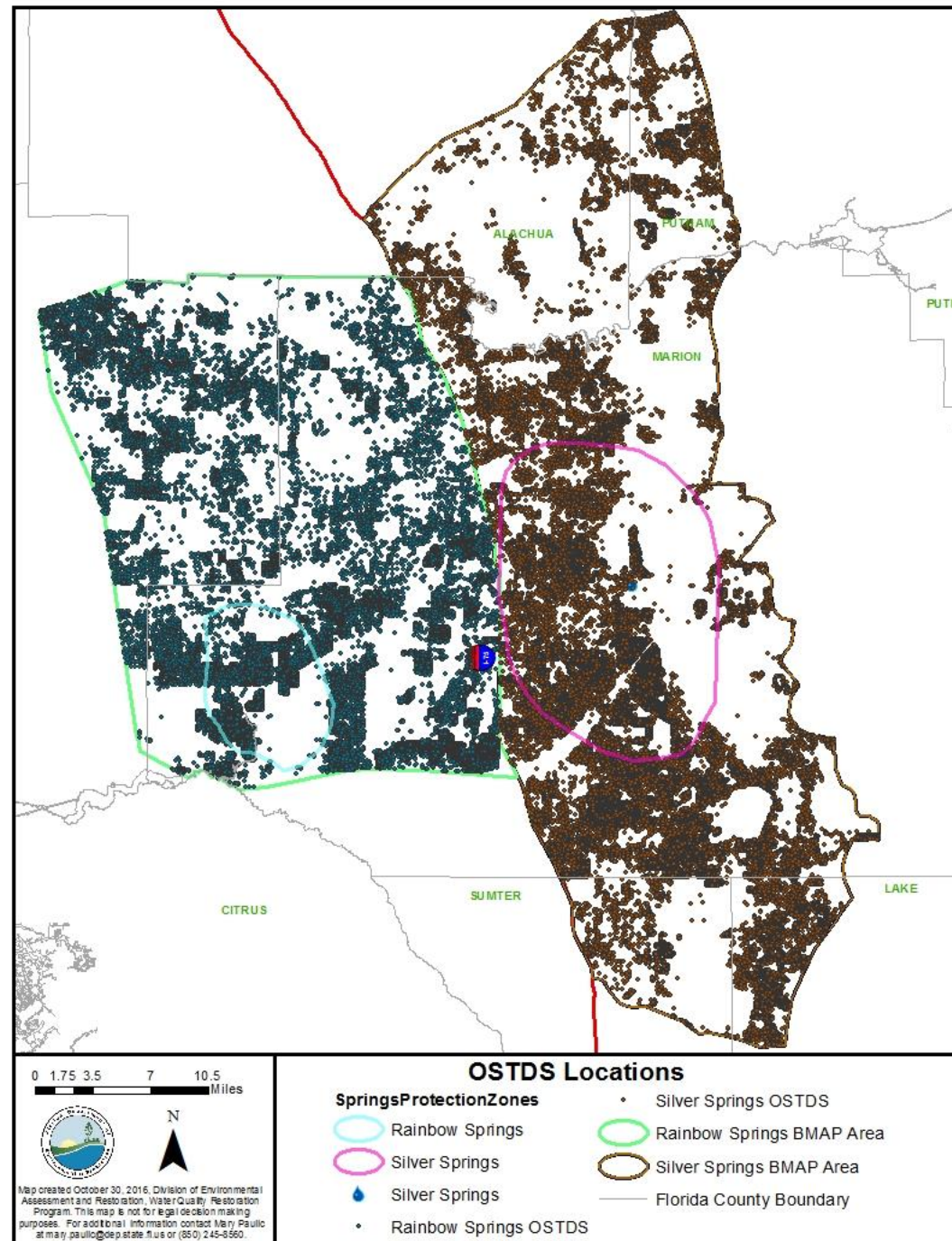
Remediation Options

- Provide central sewer service.
- Install nitrogen reducing septic systems.
- Implement maintenance program.



OSTDS Numbers

- Location of OSTDS.
- Based on DOH 2014 data.
- Only used known and likely categories.
- Silver Springs = ~71,940
— PFA=~26,804
- Rainbow Springs = ~36,726
— PFA=~5,064
- Draft numbers





Rainbow Springs BMAP Area Reductions

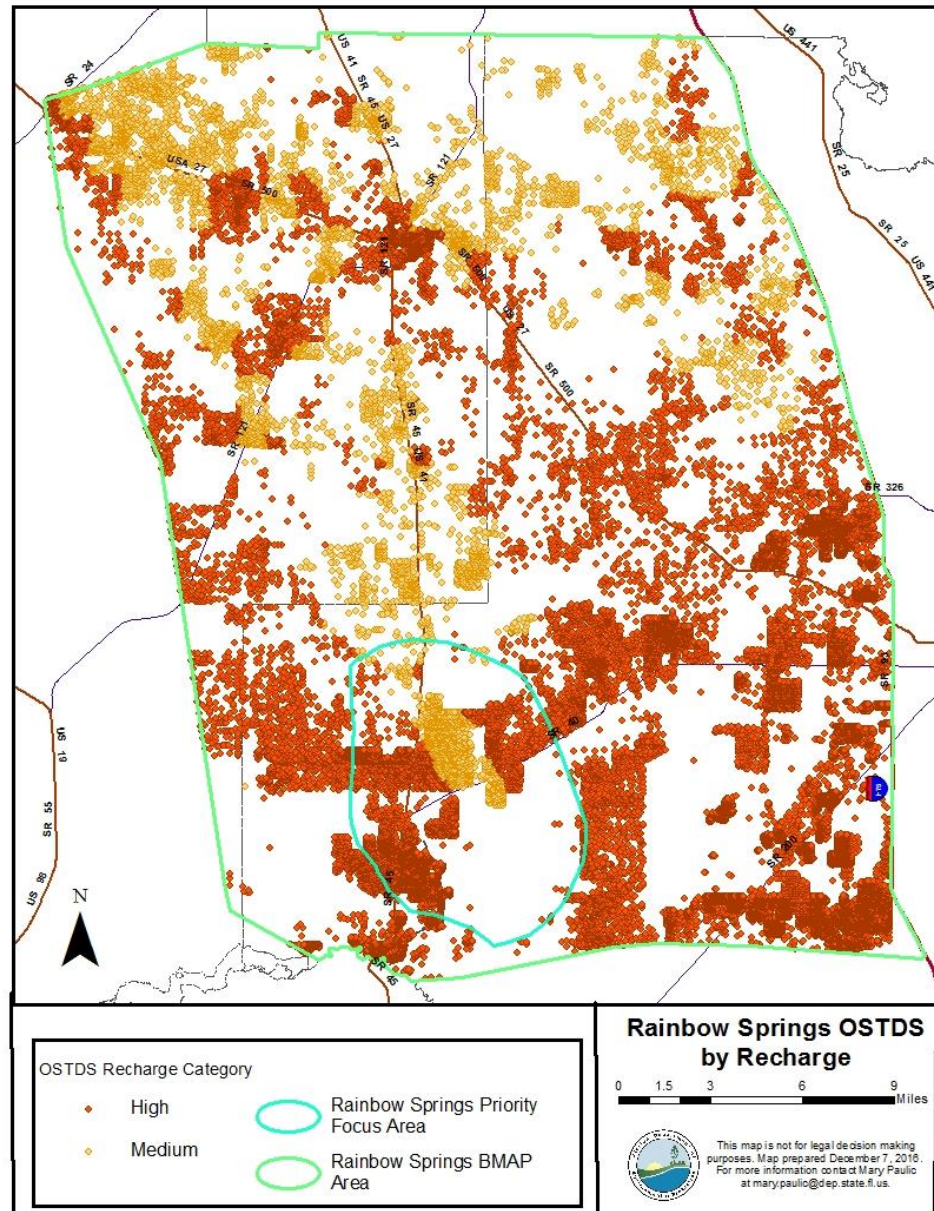
	Draft Load lbs-N	Draft Target Load Reduction lbs-N
OSTDS	251,844	206,512

Recharge Rate	Estimated Nitrogen Load to Groundwater lbs-N/year	Estimated Nitrogen Load Reduction to Groundwater lbs-N/year
High	211,110 (84% of total)	173,110
Medium	40,734 (16% of total)	33,402
Total	251,844	206,512



Rainbow Springs Recharge

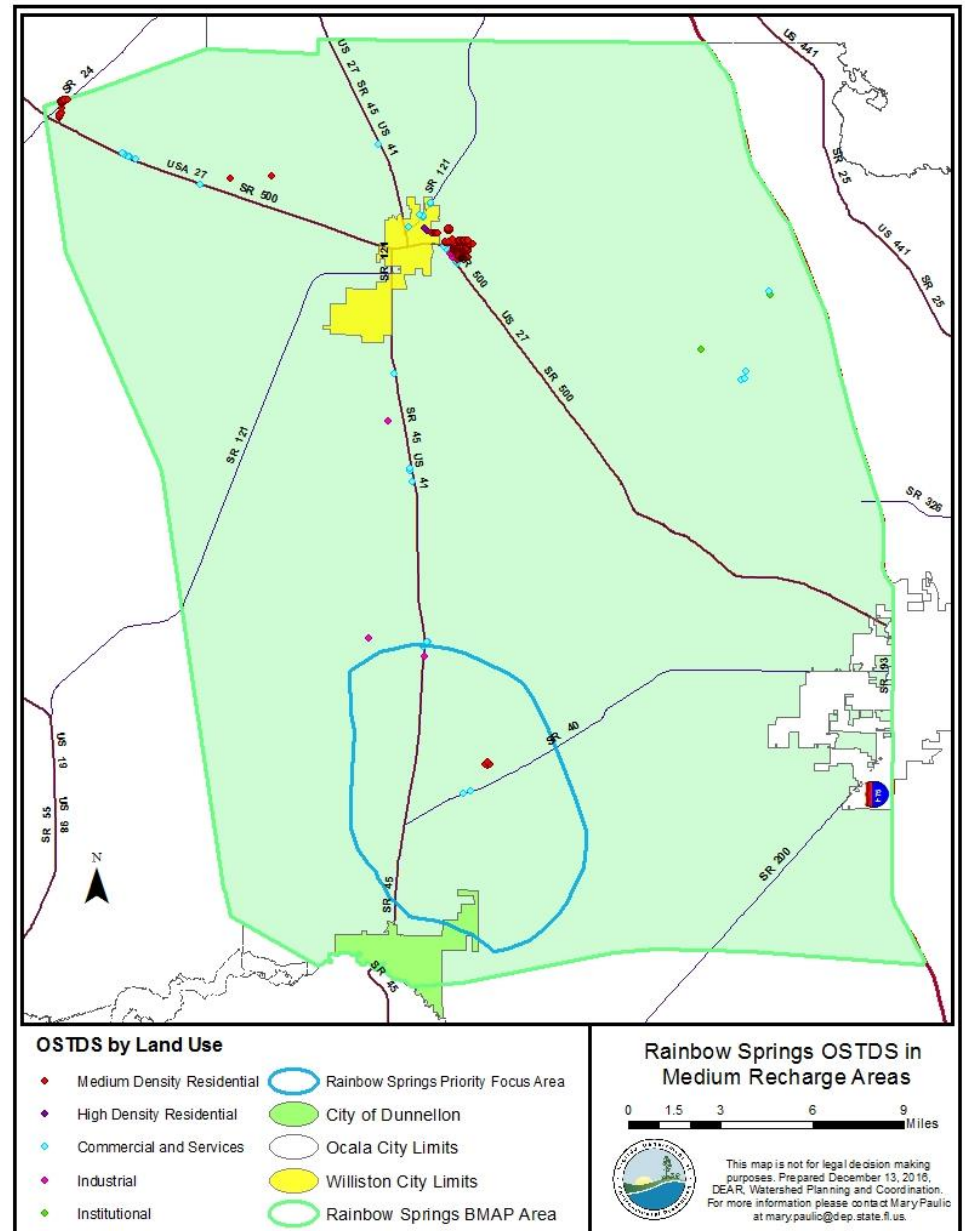
- High recharge = 30,596 OSTDS estimated.
- Medium recharge = 6,130 OSTDS estimated.





Rainbow Springs Medium Recharge

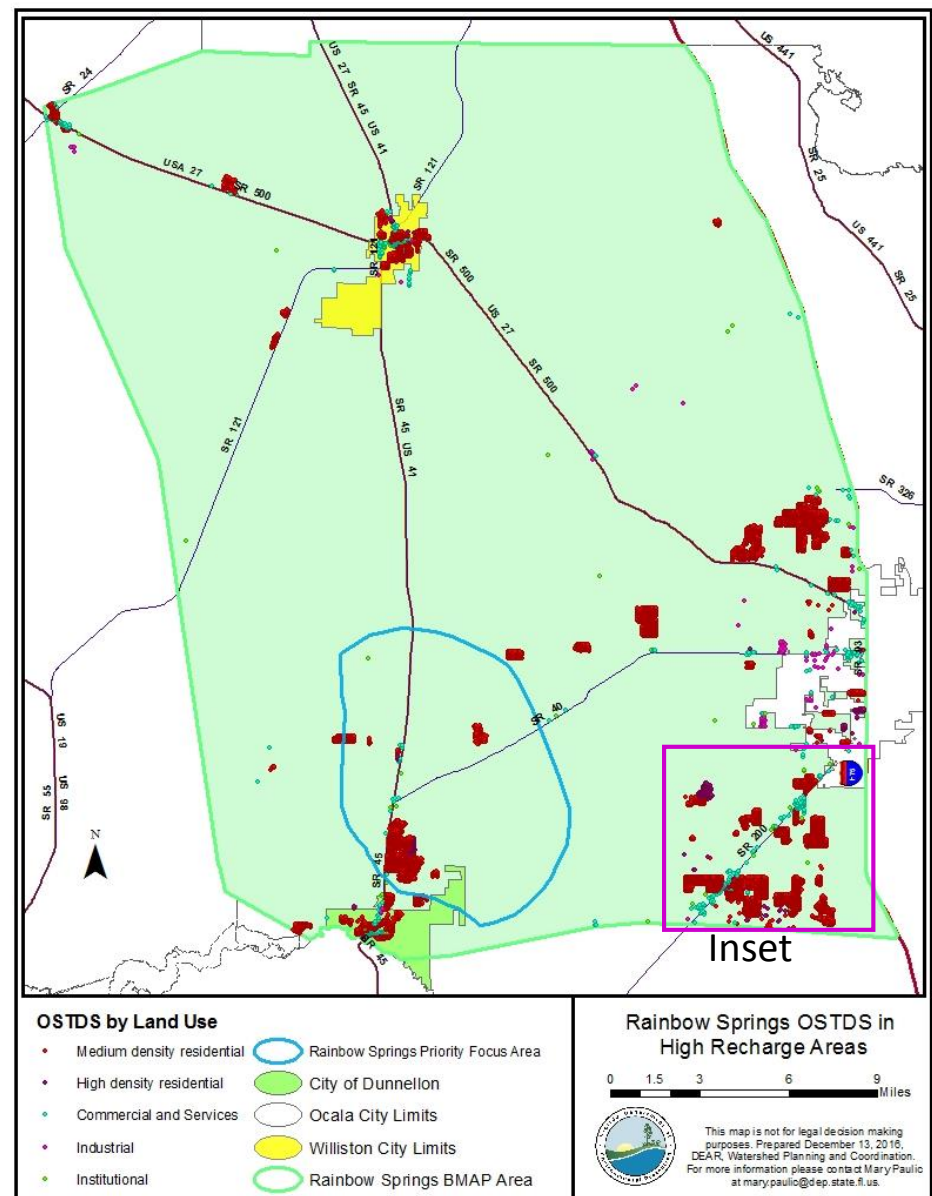
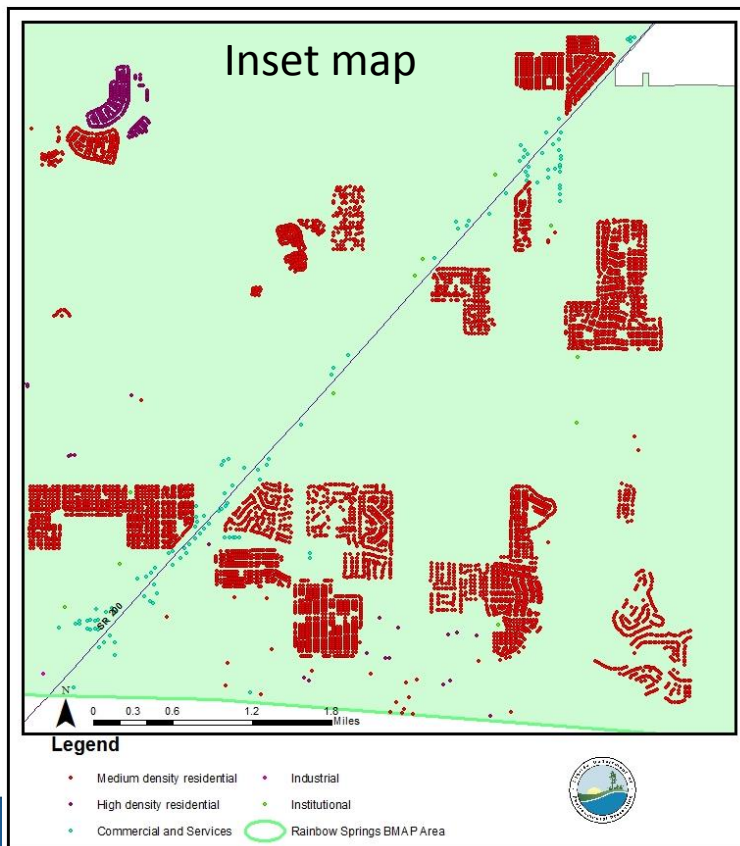
- SWFWMD land use 2010.
- Low density residential not included.
- Includes high density residential, medium density residential, industrial, commercial, and institutional land uses.
- Medium density residential = 2 to 5 dwelling units/acre.
- High density residential = more than 6 dwelling units/acre.
- Medium density residential = 215 OSTDS estimated.





Rainbow Springs High Recharge

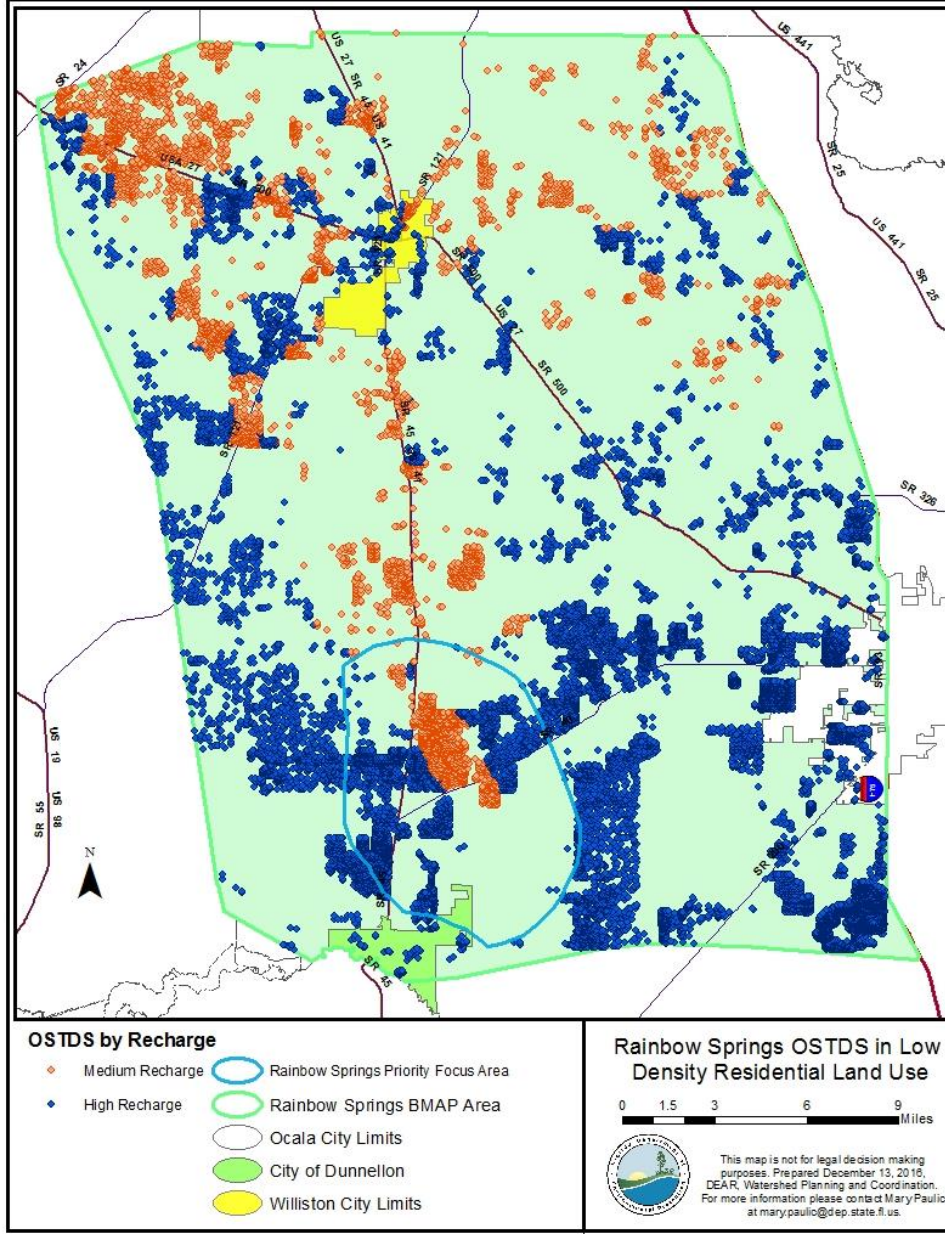
- Medium density residential = 12,309 OSTDS estimated.
- High density residential = 513 OSTDS estimated.





Rainbow Springs Low Density Residential by Recharge

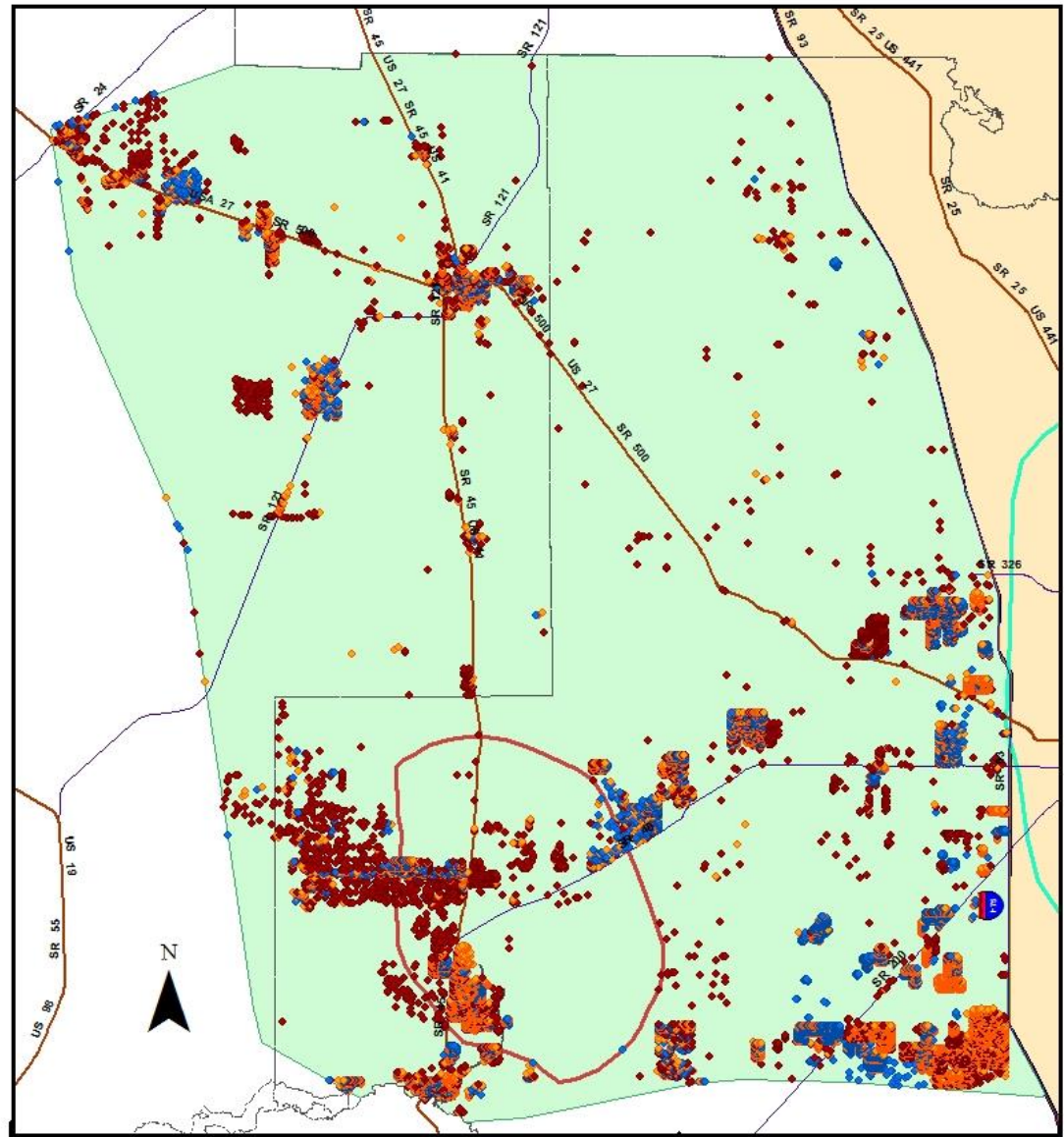
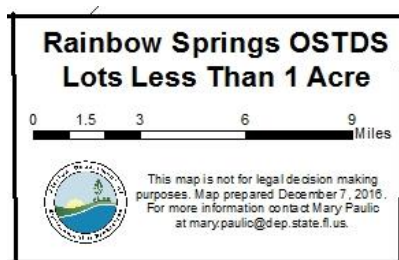
- Less than 2 dwelling units/acre.
- High recharge areas = 14,353 OSTDS estimate.
- Medium recharge areas = 4,572 OSTDS estimate





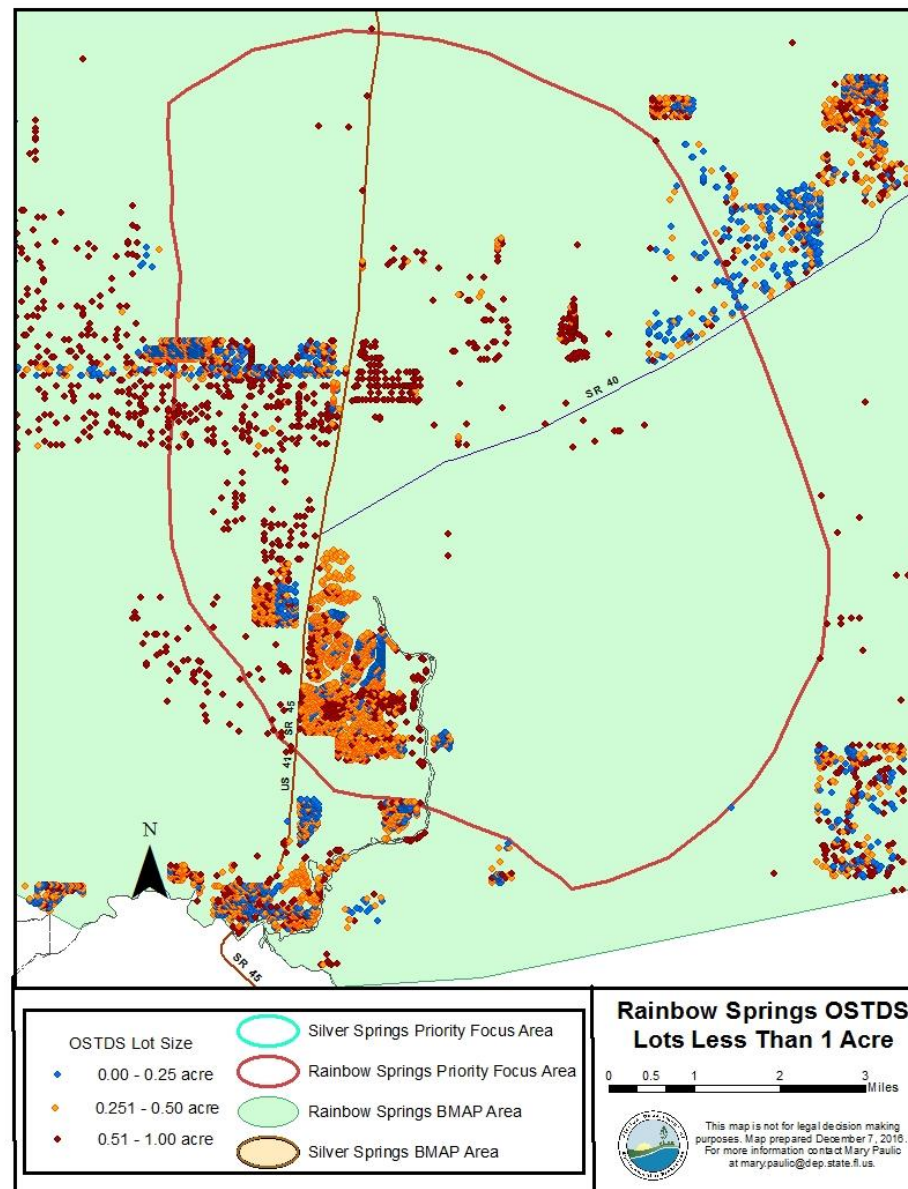
Rainbow Springs Parcel Size

- OSTDS parcels 1 acre or smaller in size.





Rainbow Springs Priority Focus Area Parcel Size

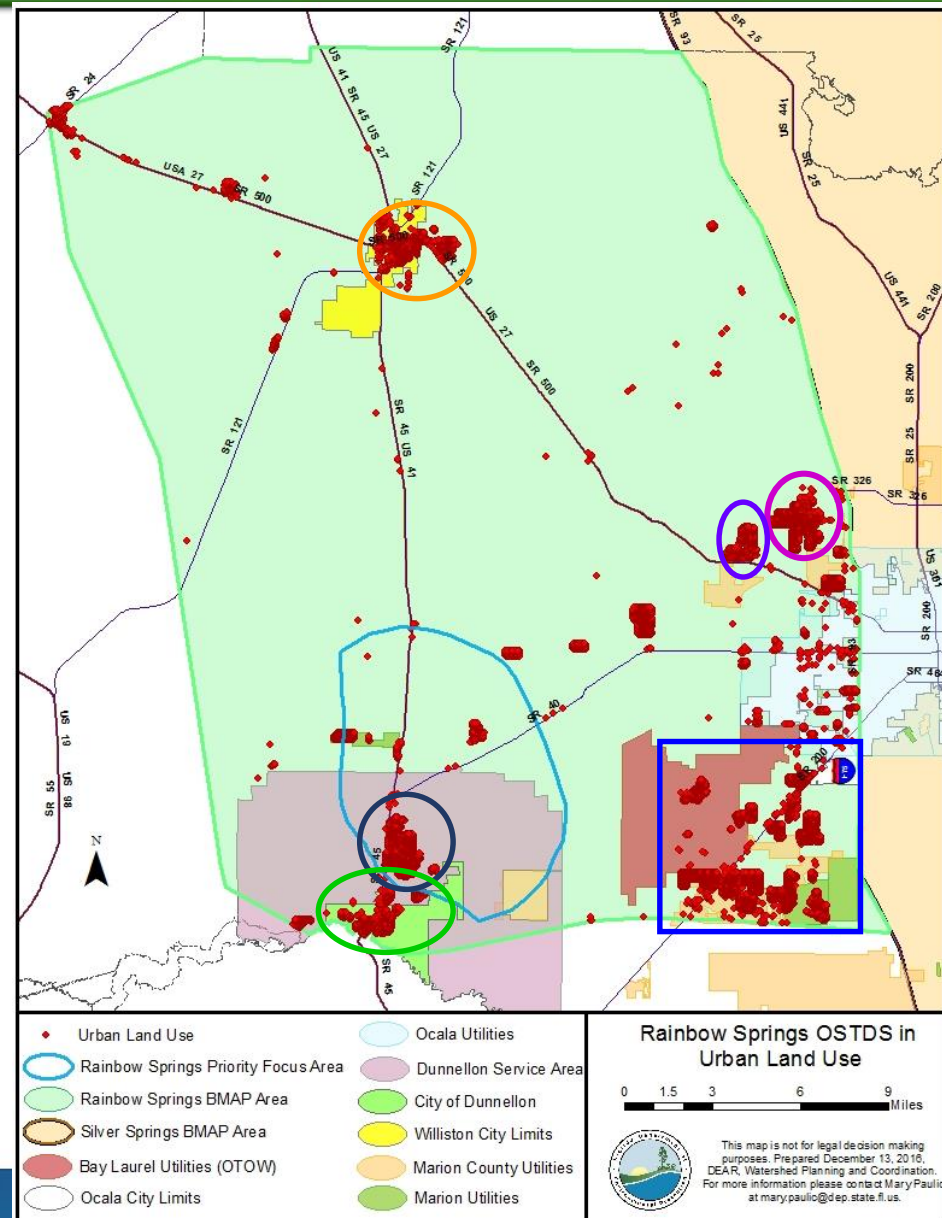




Geographic Focus Rainbow Springs

Draft Coarse estimates of number of OSTDS by area:

- Close to Spring.
- PFA – high and medium recharge and urban land use - ~2600 OSTDS.
- Add in systems in Dunnellon ~ 1,000.
- Williston – ~1400.
- SR 200 Corridor - ~8000
- Closer to Silver Springs
- NW Ocala 1 - ~1800.
- NW Ocala 2 - ~380.





Silver Springs BMAP Area Reduction

Entire BMAP Area Source Category	Draft Load lbs-N	Draft Target Load Reduction lbs-N
OSTDS	628,459	496,483

Priority Focus Area Source Category	Draft Load lbs-N	Draft Target Load Reduction lbs-N
OSTDS	267,974	211,699

- Priority focus area is included within BMAP area. Need to adjust BMAP area calculation to account for Priority Focus Area.
- BMAP area – PFA loading and loading reduction = remaining BMAP area draft loading reduction.

Entire BMAP Area Source Category	Draft Load lbs-N Adjusted for PFA	Draft Target Load Reduction lbs-N Adjusted for PFA
OSTDS	360,485	284,784



OSTDS Loading Reductions

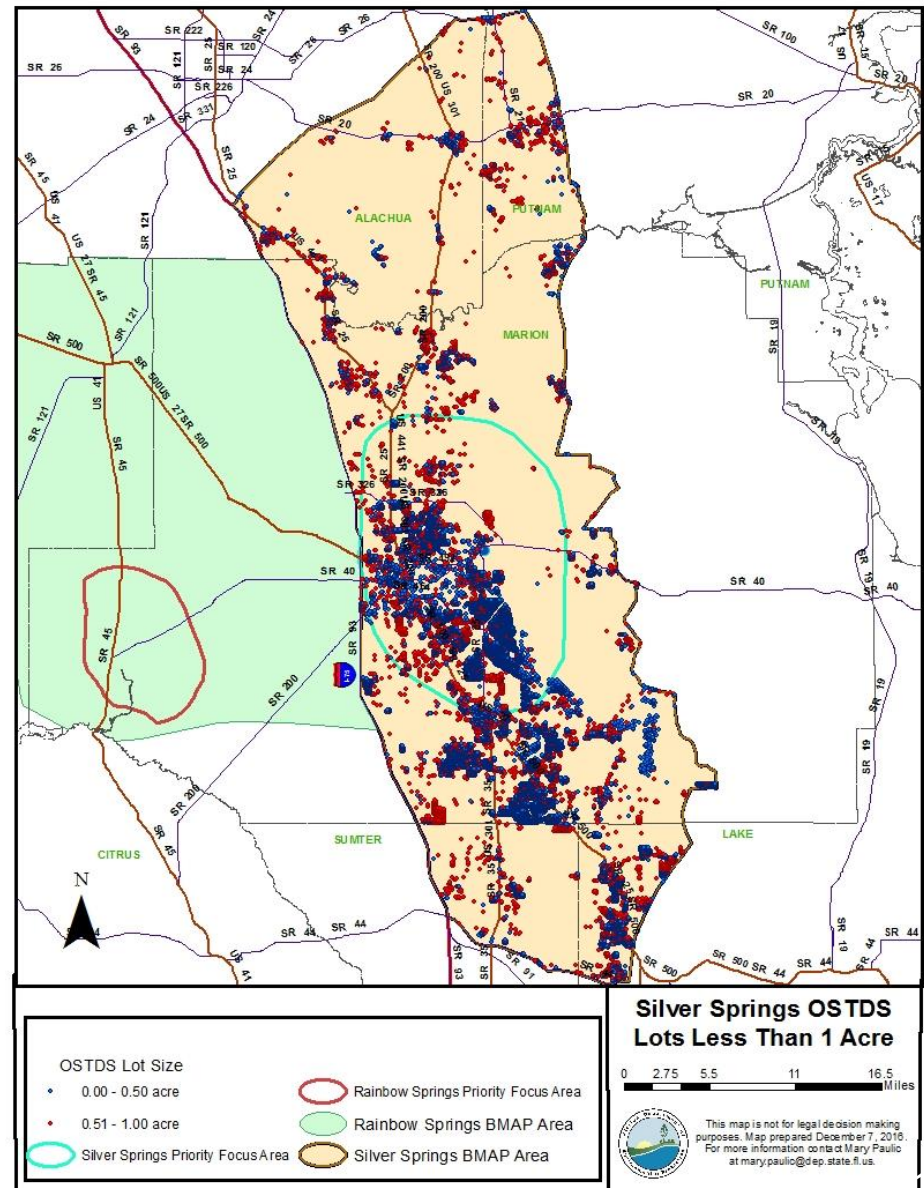
- Silver Springs BMAP Area.

Recharge Rate	Estimated Nitrogen Load to Groundwater lbs-N/year	Estimated Nitrogen Load Reduction to Groundwater lbs-N/year
High	430,073 (68%)	339,757
Medium	188,579 (30%)	148,977
Low	9,808 (2%)	7,748
Total Input	628,459	496,483



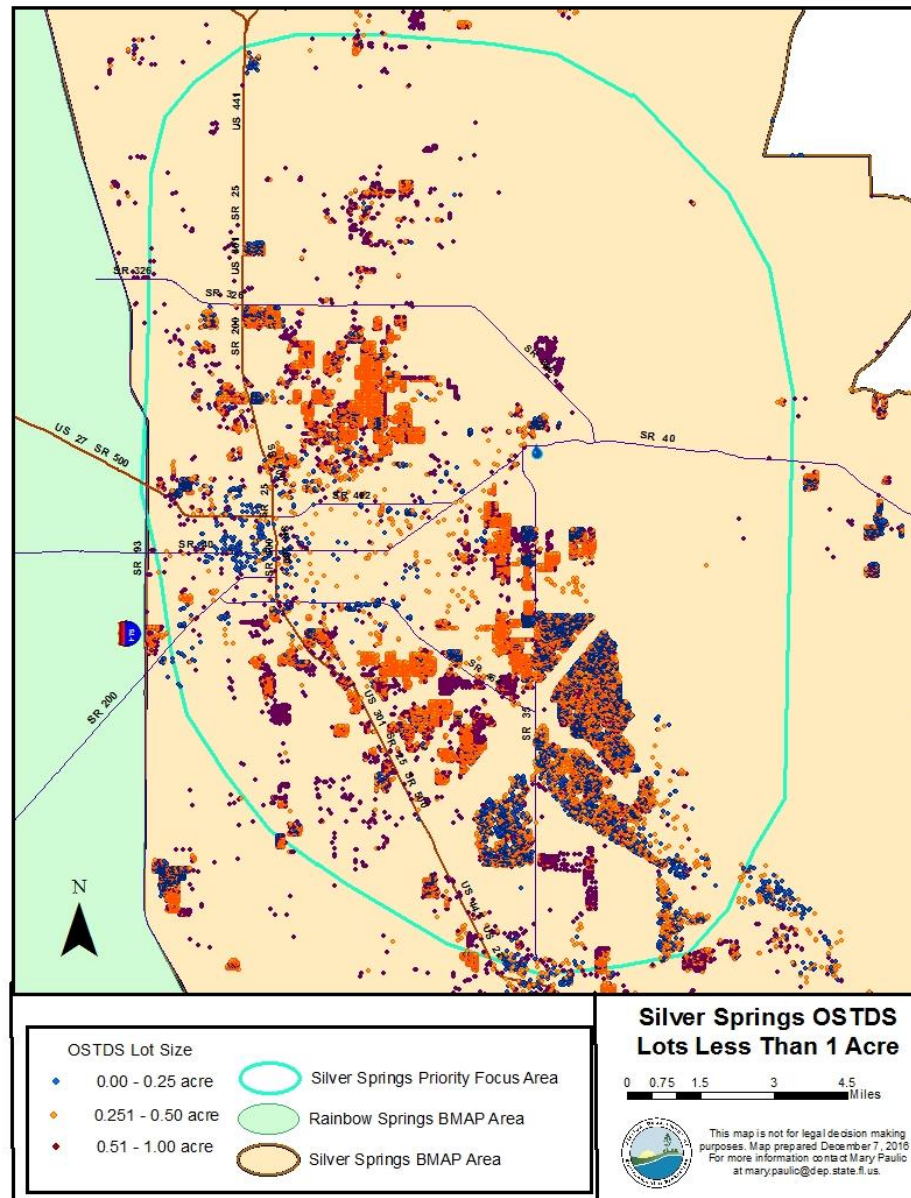
Silver Springs Parcel Size

- OSTDS parcels 1 acre or smaller in size.





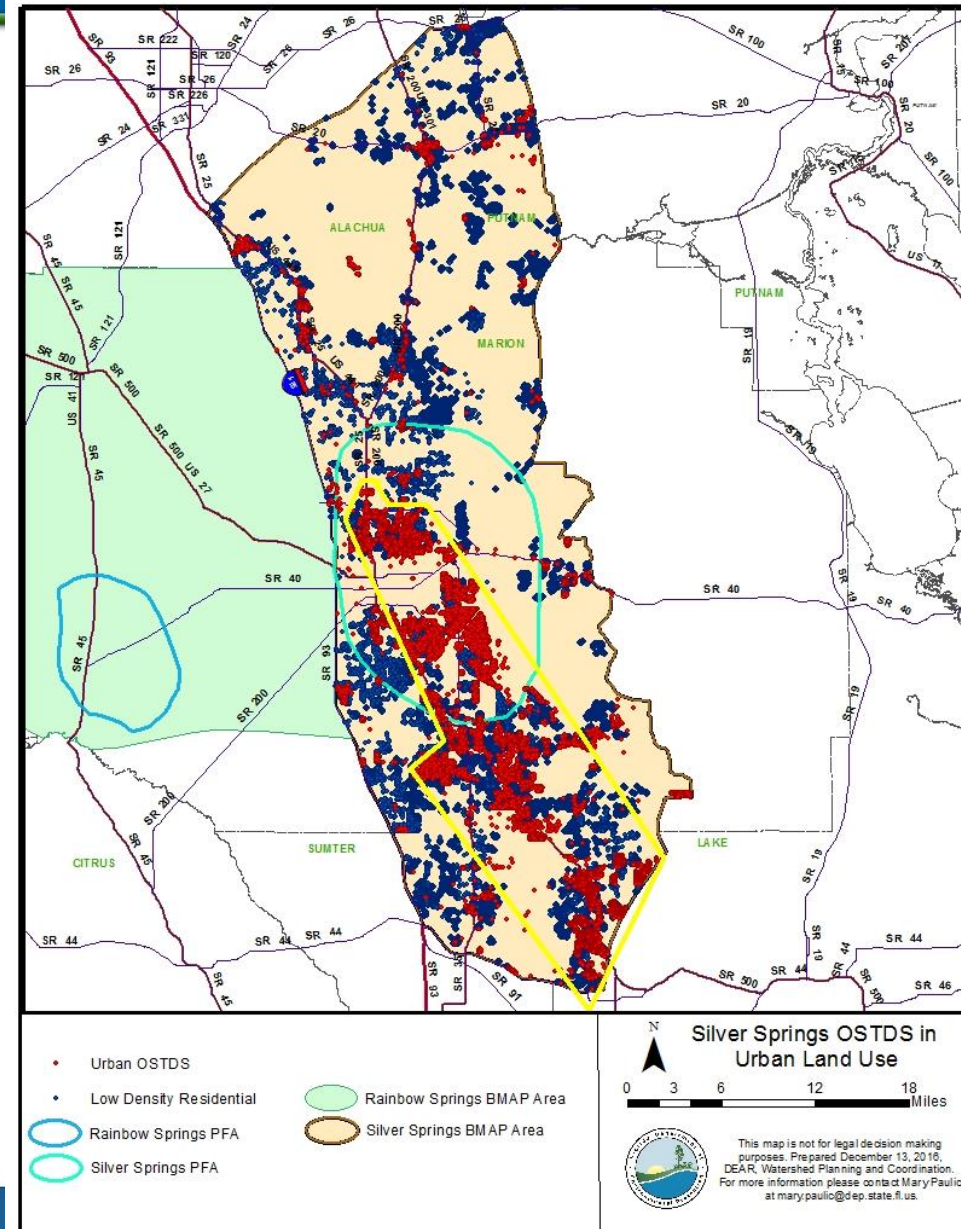
Silver Springs Priority Focus Area Parcel Size





Silver Springs Urban Land Use

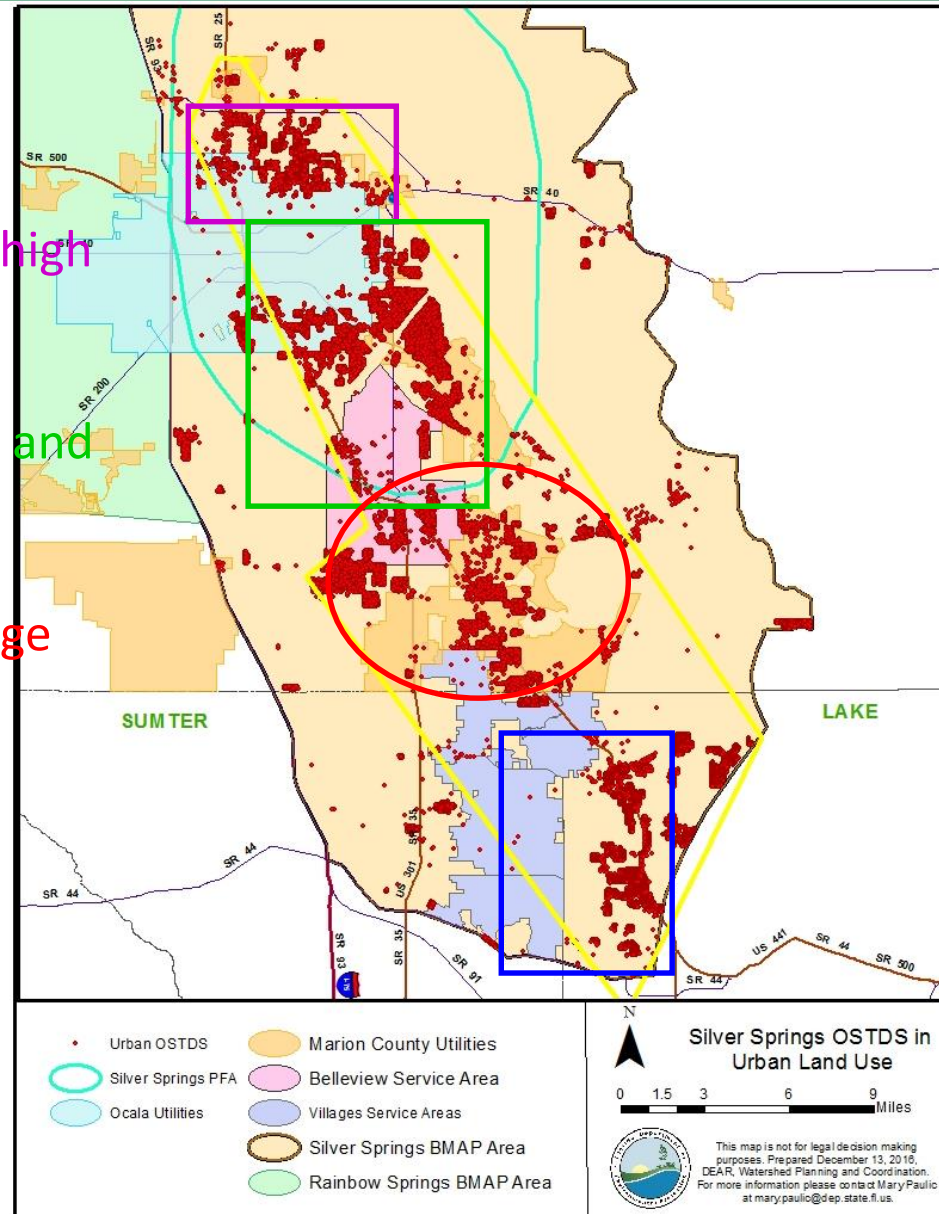
- Urban includes high density residential, medium density residential, industrial, commercial, and institutional land uses.





Geographic Focus Silver Springs

- Draft coarse estimates of OSTDS by area.
- North PFA (Ocala) - ~4100 OSTDS, ~1600 high recharge and ~2500 medium recharge.
- South PFA - ~10900, ~9850 high recharge and ~1050 medium recharge.
- South Marion - ~8400, ~2400 high recharge and ~6000 medium recharge.
- Lake County (low priority area) - ~5000, ~2440 high recharge and ~2560 medium recharge.





Funds for Planning

- Technical assistance grants are available from the Department of Economic Opportunity at:
- <http://www.floridajobs.org/community-planning-and-development/programs/community-planning-table-of-contents/technical-assistance>
- Contact at DEO is Sherry Spiers at (850) 717-8499.



Education and Science Questions

- Developing Public Support When Sewer is the Preferred Remediation Approach.
 - How to change from mandate to acceptable alternative.
- Overall nitrogen reduction.
 - Ammonia based cleaning products.
 - Inorganic fertilizers.
- Proper care and feeding of a waste management system (maintenance program).



Benefits Barriers to Sewer

- Cost effective for utility, requires available capacity.
- Legal obstacles for requiring connection.
- Homeowner buy-in or support.
- Homeowner resistance.



Homeowner Benefits Barriers to Central Sewer

Barriers

- Cost of conversion.
- Disruption of daily life.
- Road construction interferes with access.
- Private property landscaping disruption.
- Monthly bill (forever).
- Homeowner not convinced they are really the problem.
- Doesn't increase value of property.
- No personal connection to Silver Springs/Rainbow Springs.

Benefits

- Less homeowner responsibility for waste management.
- My action will help the springs.
- Utility incentive or rebate programs now available to me.
- Rebates or incentives could lead to improvements on property that increase its value.
- Peer pressure. Want to participate in the majority's behavior.
- Member of the group that is acting responsibly.



Summary

- What do homeowners care about?
- Do homeowners need emotional connection to springs to participate?
- Think of conversion of septic system to sewer as an exchange. For the cost what is homeowner getting in return?
- If the exchange is not attractive, people won't make it. In this case they won't support connection to central sewer.



Nitrogen Source Reduction

- What are we talking about?



OSTDS Maintenance Program

- What are we talking about?
- Is it only periodic required pump-out of septic tank?
- Does it include an inspection component?
- ??????????



Science Questions

- NSILT Refinements.
 - Refinements will be included as part of BMAP.
 - Are refinements to OSTDS attenuation factor and per person N values needed?
 - Are additional data collection efforts needed to better define concentration of N under drainfield?
 - DEP supported study in the Wekiva Basin. Data collection at 11 sites complete, but report not available till late spring.
 - Earlier data collection by DOH at 3 sites in the Wekiva Springs Basin.
 - Suggested Silver/Rainbow study elements?



Next Meeting

- Tentative topics for next meeting.
 - What we can do to manage the problem.
 - Planning requirements.
 - Local ordinances.
 - Funding for remediation.
 - Education Plan development.
 - Continue discussion of scientific questions.



Summary and Action Items

- Summary.
 - TMDL needs to be achieved no more than 20 years after adoption of BMAP.
 - Wastewater/OSTDS Remediation Plan developed with input from Advisory Committee to help achieve TMDL reduction within 20 years.
- Need to update information (data, projects, studies, etc.) and start gathering necessary information.
 - Identify projects to meet the 5-year, 10-year and 15-year targets.
 - Identify what and where scientific information is needed.
 - Identify what public education efforts exist & what needs to be done.
- Action Items.
 - Annual meeting January 26, 2017.
 - Next Advisory Committee meeting, January 26, 2017.



Questions?



Contacts

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