



HB893- Impact of Growth concerning
ENR upgraded wastewater facilities

Big Question
Does it promote “Growth”?

Does it reduce the Nitrogen and Phosphorous concentration
levels that are discharged from wastewater effluents?

SB320 – Water Pollution – State Waters – Bay Restoration Fund (2004)

Establishes: Re-commitment to restoring the Chesapeake Bay's water quality and natural character

- ❖ Bay Restoration Fund in the Department of the Environment; The intent is to award grants and loans from the fund to upgrade the Nutrient Removal Technology at certain WWTP facilities to achieve ENR Status.
- ❖ Bay Restoration Fees – paid by wastewater facility, septic systems and sewage holding tank users.

[Enhanced Nutrient Removal Technology – refers to technology capable of reducing the nitrogen and phosphorous concentrations in wastewater effluent to concentrations not more than 3 milligrams/per liter total nitrogen and not more than 0.3 milligrams/per liter total phosphorous, as calculated on an annually average basis.]

HB893 - Bay Restoration Fund – Wastewater Treatment Facilities

Upgrades — Reporting Requirement

Requires MDE and MDP to jointly report on the impact that an ENR upgraded wastewater treatment facility has on Growth in the jurisdiction it serves.

➤ **Beginning January 1, 2009** – and every year thereafter – The Report should consist of:

➤ **Permit Activity** – Residential and Commercial Building Permits.

➤ **Other Appropriate Information** - determined in consultation with the Bay Restoration Fund Advisory Committee, and with assistance of the municipality and county in which the ENR upgrade is located.

Planning satisfies the requirement:

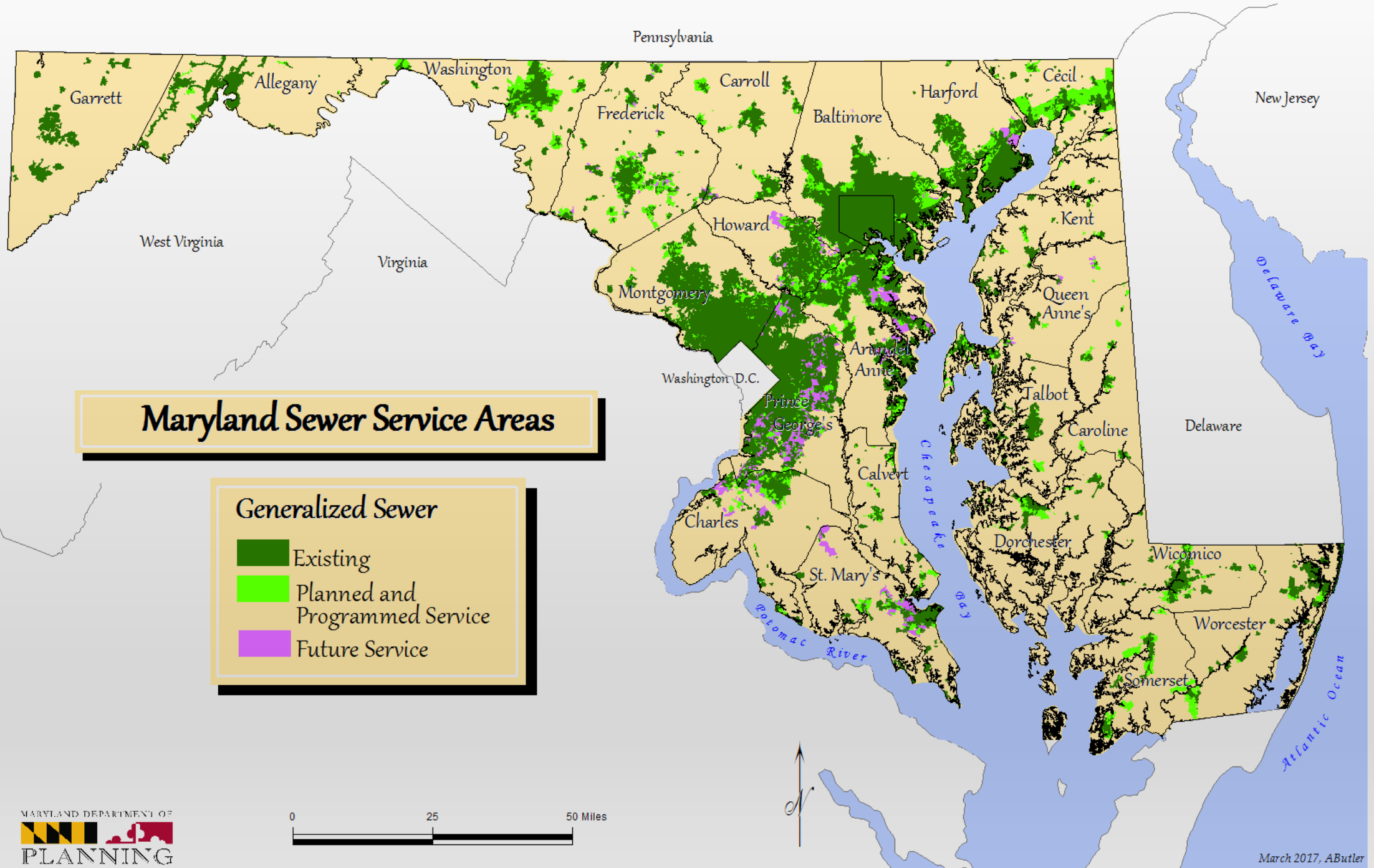
➤ Conducting growth analyses and reporting the findings

➤ Real Property Parcel Data - Maryland Department of Assessment and Taxation

➤ Approved Sewer Service Area and Certified Priority Funding Area (PFA) Data - provided From Local Governments to Planning

➤ U.S. Census Data – Growth Indicator - Population and Housing Unit Data

➤ Other Official Documentation – Local Government Water and Sewage Master Plans, WREs, Comprehensive Plans, etc.



Maryland Sewer Service Areas

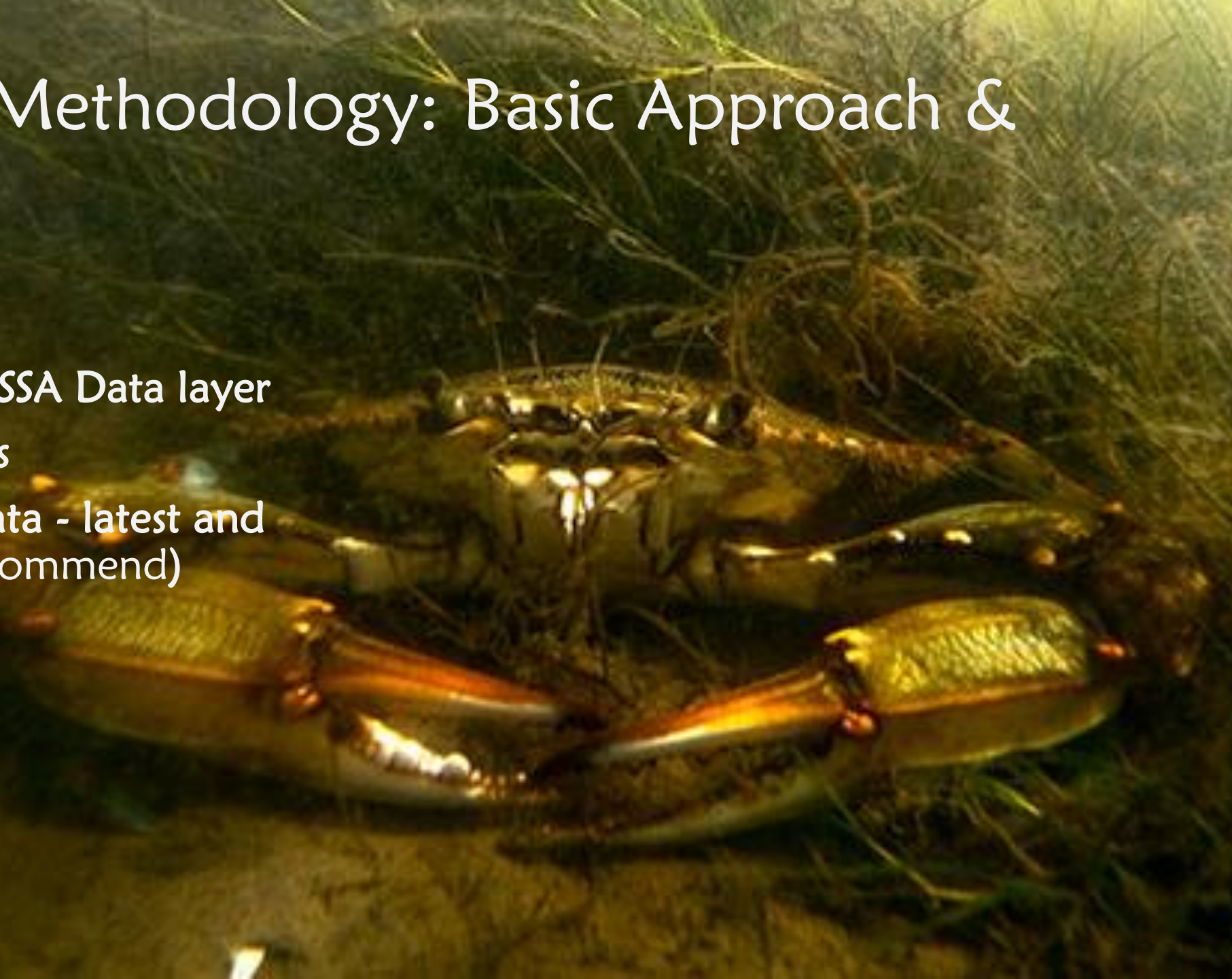
Generalized Sewer

- Existing
- Planned and Programmed Service
- Future Service



2017 BRF Methodology: Basic Approach & Analysis

- Prepare a Plan
- Update the Statewide SSA Data layer
- Verify ENR Sewersheds
- Collect parcel point data - latest and greatest available (*Recommend*)
- Research growth data
- Archive the Data



ENR Progression – Connections Before ENR

Starting Points ~ ENR Reporting

2010

- Bowie
- Cumberland
- Delmar
- Pocomoke City

2011

- Denton
- Little Patuxent

2012

- Cambridge
- Joppatown/
Sod Run
- Piscataway
- Thurmont
- Parkway
- Damascus

2005

- Celanese
- Hurlock

2006

- Easton
- Kent Island

2007

- Brunswick
- Chestertown
- Talbot Region II

2008

- Elkton
- Indian Head

2013

- La Plata
- Snow Hill

2009

- Crisfield
- Hagerstown
- Havre De Grace
- Mt. Airy
- Perryville
- Federalsburg
- George's Creek
- Poolesville

2014

- Aberdeen
- Broadneck
- Md. City
- Patuxent

Table 1 Existing Service Area

**Development
Tracker**

Priority Funding Area

geographies relate
to Maryland's
economic growth,
resource protection
and planning policies

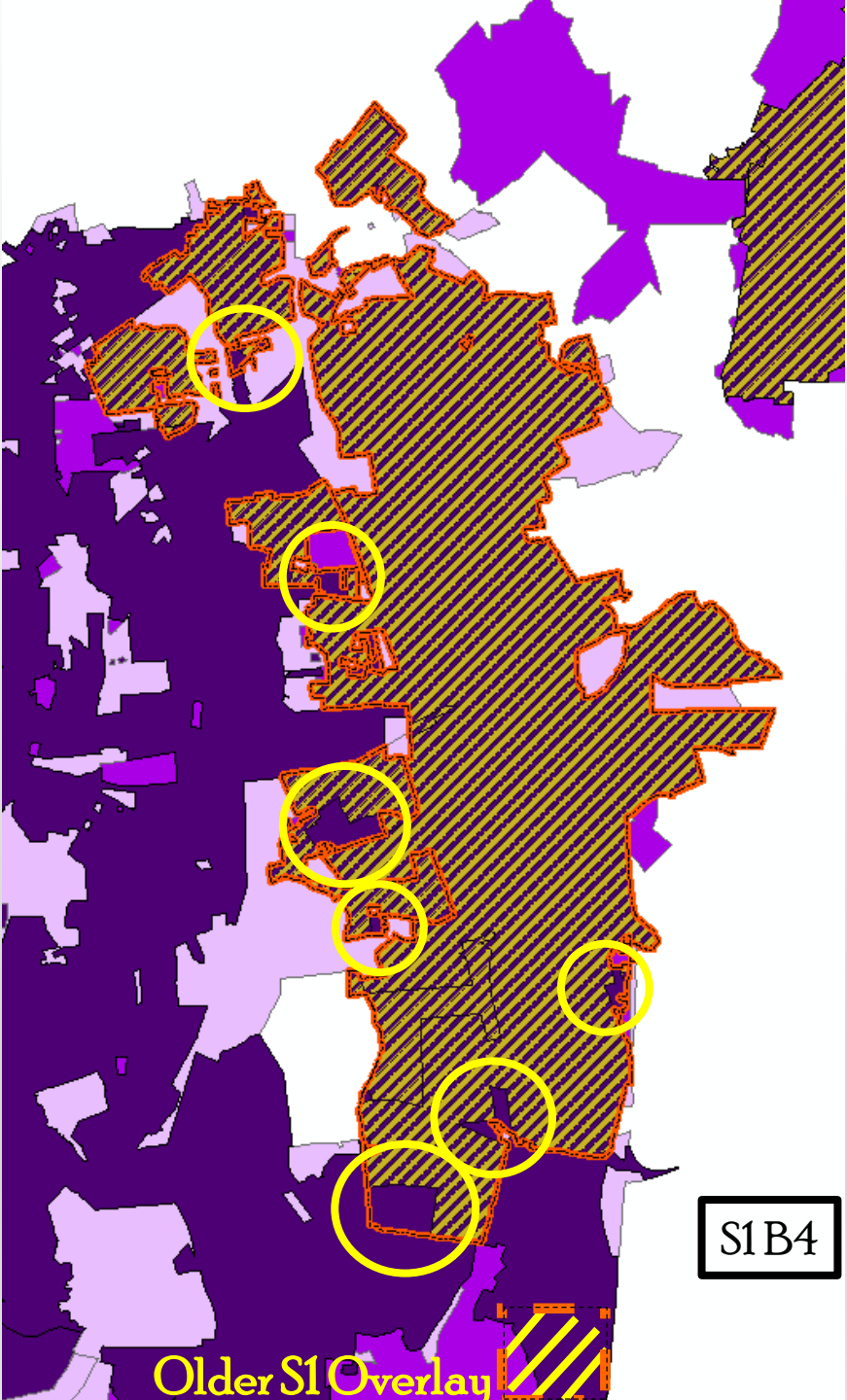
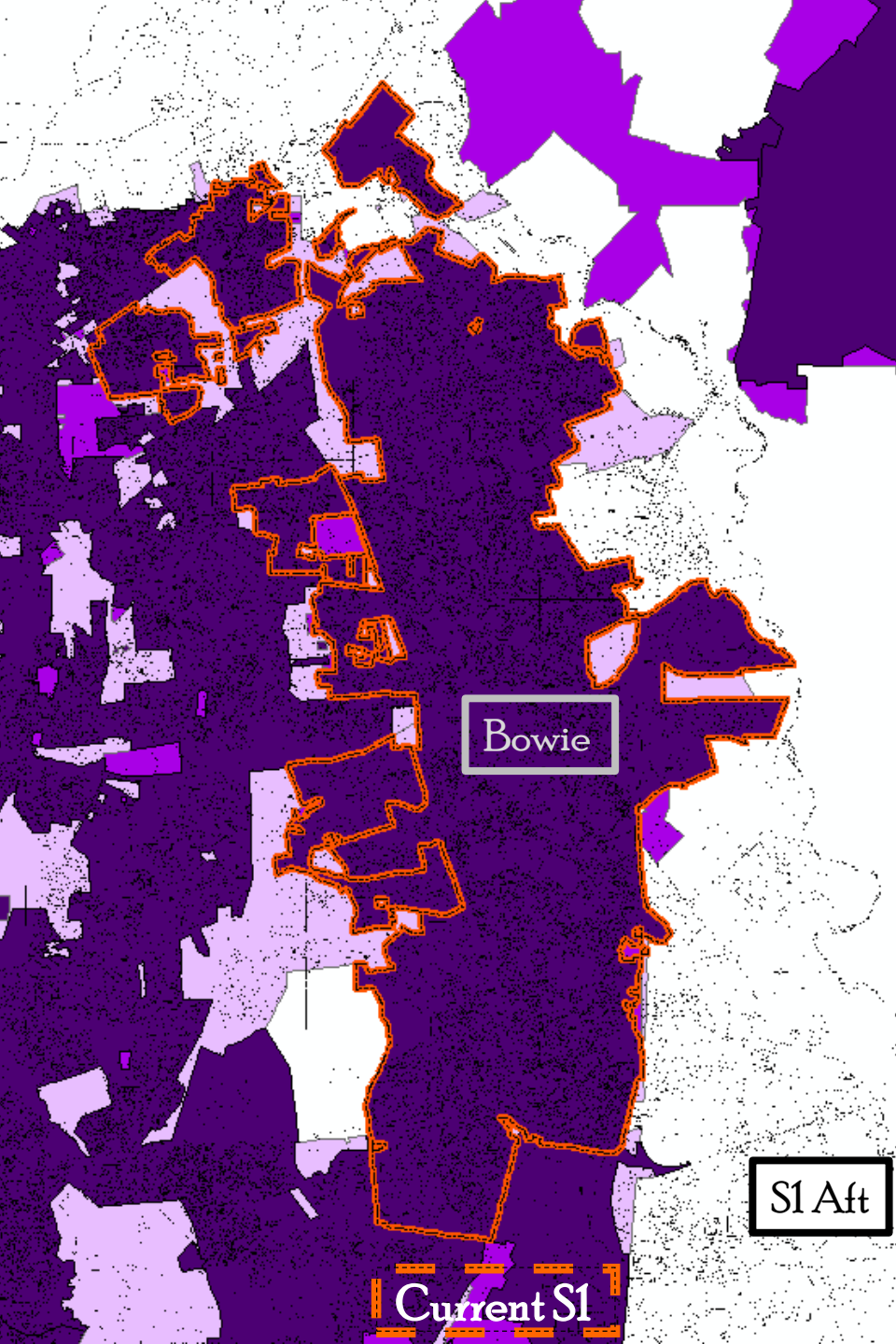
ENR WWTP	County	ENR Upgrade Completed and Operational (Month-Year)	Reporting Period (Start Pt.) Column A: Reporting Year before ENR Funding	"S1" B4 ENR Fund				"S1" Aft ENR Fund		
				Column B: Number of Improved Parcels in the Sewershed	Column C: Number of Improved Parcels in Existing Service Area ("S1")	Column D: Number of Improved Parcels in "S1" within PFA	% of Connections Located in "S1" & PFA (Column D ÷ C)	Column F: Total Improved Parcels in S1	Column G: Total Improved Parcels in S1 & PFA	% Total Improved Parcels Located in "S1" within PFA (Column G ÷ F)
Western Region										
Celanese	ALLE	Nov-06	2005	1,913	1,801	1,794	99.6%	1,858	1,840	99.0%
George's Creek	ALLE	Nov-10	2009	2,069	1,938	1,876	96.8%	1,997	1,938	97.0%
Cumberland	ALLE	Feb-11	2010	17,656	16,412	16,243	99.0%	16,797	16,643	99.1%
Hagerstown	WASH	Dec-10	2009	21,975	18,825	17,769	94.4%	19,991	19,717	98.6%
Western Region Total				43,613	38,976	37,682	97%	40,643	40,138	99%
Washington Region										
Brunswick	FRED	Sep-08	2007	2,446	1,957	1,957	100.0%	2,267	2,267	100.0%
Thurmont	FRED	Apr-13	2012	2,385	2,345	2,204	94.0%	2,350	2,217	94.3%
Poolesville	MONT	Jul-10	2009	1,742	1,719	1,651	96.0%	1,721	1,652	96.0%
Damascus	MONT	Feb-13	2012	3,997	3,793	3,437	90.6%	3,793	3,437	90.6%
Bowie	PRIN	Feb-11	2010	20,712	20,559	20,269	98.6%	20,949	20,478	97.8%
Parkway	PRIN	Jul-13	2012	15,470	15,394	15,383	99.9%	15,450	15,439	99.9%
Piscataway	PRIN	May-13	2012	56,296	55,007	51,954	94.4%	56,060	52,481	93.6%
Washington Region Total				103,048	100,774	96,855	96%	102,590	97,971	95%
Upper Eastern Shore Region										
Elkton	CECI	Dec-09	2008	6,000	4,926	4,925	100.0%	5,092	5,090	100.0%
Perryville	CECI	Dec-10	2009	1,704	1,509	1,509	100.0%	1,547	1,544	99.8%
Chestertown	KENT	Jun-08	2007	1,772	1,742	1,562	89.7%	1,885	1,695	89.9%
Kent Island	QUEE	Aug-07	2006	6,590	6,401	5,974	93.3%	7,134	6,757	94.7%
Denton	CARO	May-12	2011	1,508	1,097	1,095	99.8%	1,490	1,486	99.7%
Federalburg	CARO	Aug-10	2009	881	827	817	98.8%	860	849	98.7%
Easton	TALB	Jun-07	2006	5,810	5,831	5,822	99.8%	6,429	6,423	99.9%
Talbot Region II	TALB	Oct-08	2007	2,289	2,214	1,981	89.5%	2,413	2,145	88.9%
Upper Eastern Shore Total				26,554	24,547	23,685	96%	26,850	25,989	97%
Lower Eastern Shore Region										
Cambridge	DORC	Dec-13	2012	5,861	5,418	5,293	97.7%	5,433	5,308	97.7%
Hurlock	DORC	May-06	2005	769	703	703	100.0%	798	798	100.0%
Delmar	WICO	Sep-11	2010	1,107	932	824	88.4%	951	841	88.4%
Pocomoke	WORC	Oct-11	2010	1,893	1,607	1,585	98.6%	1,613	1,592	98.7%
Crisfield	SOME	Aug-10	2009	2,495	2,044	1,735	84.9%	2,108	1,828	86.7%
Snow Hill	WORC	Jun-14	2013	900	930	882	94.8%	930	882	94.8%
Lower Eastern Shore Total				13,025	11,634	11,022	95%	11,833	11,249	95%
Baltimore Region										

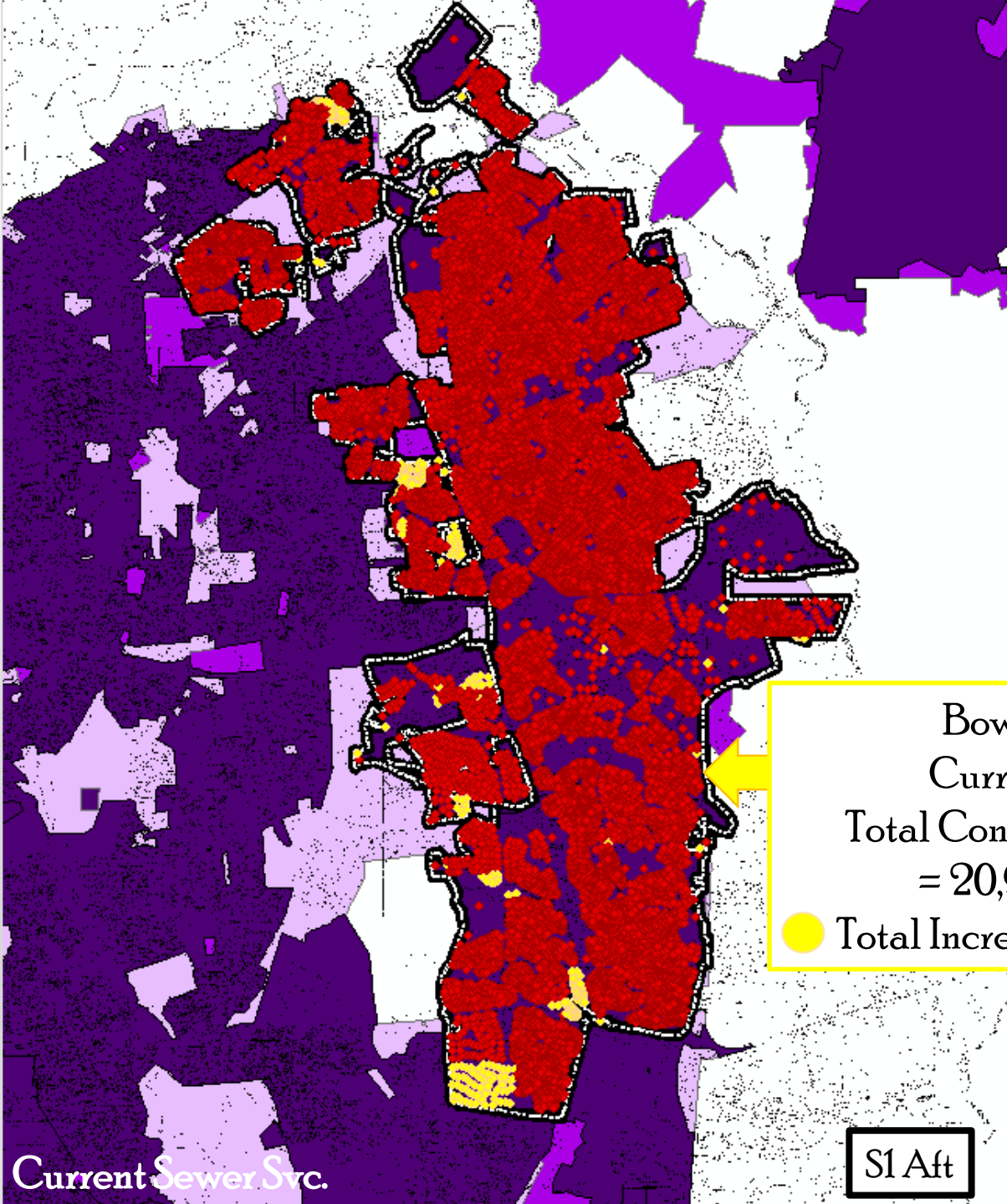
Table 2 Growth Impact

36 ENRs	Total Increase		New Development			Hook-ups		
	a		b			c		
	Total Increase Improved Parcels in S1 (Total Number New Connections)	% Total Improved Parcels in "S1" within PFA	Newly Improved Parcels in S1 (New Development built since upgrade)	Newly Improved Parcels in S1 & PFA	% of Newly Improved Parcels in S1 & PFA	Total Septic System Hook-ups	Septic System Hook-ups in PFA	% Of Septic Hook-ups in PFA
Western Region								
Celanese	57	98.2%	47	46	97.9%	10	10	100.0%
George's Creek	59	78.0%	28	24	85.7%	31	22	71.0%
Cumberland	385	88.8%	119	116	97.5%	266	226	85.0%
Hagerstown	1,166	98.9%	584	573	98.1%	582	580	99.7%
Western Region Total	1,667	95.8%	778	759	97.6%	889	838	94.3%
Washington Region								
Brunswick	310	100.0%	27	27	100.0%	283	283	100.0%
Thurmont	5	100.0%	5	5	100.0%	0	0	n/a
Poolesville	2	50.0%	2	1	50.0%	0	0	n/a
Damascus	0	n/a	0	0	n/a	0	0	n/a
Bowie	390	34.9%	141	68	48.2%	249	68	27.3%
Parkway	56	100.0%	56	56	100.0%	0	0	n/a
Piscataway	1,053	50.0%	1,053	527	50.0%	0	0	n/a
Washington Region Total	1,816	57.0%	1,284	684	53.3%	532	351	66.0%
Upper Eastern Shore Region								
Elkton	166	100.0%	144	144	100.0%	22	22	100.0%
Perryville	38	94.7%	32	32	100.0%	6	4	66.7%
Chesterstown	143	93.0%	129	119	92.2%	14	14	100.0%
Kent Island	733	93.2%	600	576	96.0%	133	107	80.5%
Denton	393	99.5%	18	18	100.0%	375	373	99.5%
Federalburg	33	100.0%	6	6	100.0%	27	27	100.0%
Easton	598	99.2%	531	531	100.0%	67	62	92.5%
Talbot Region II	199	78.4%	68	60	88.2%	131	96	73.3%
Upper Eastern Shore Total	2,303	95.1%	1,528	1,486	97.3%	775	705	91.0%
Lower Eastern Shore Region								
Cambridge	15	100.0%	15	15	100.0%	0	0	n/a
Hurlock	95	100.0%	35	35	100.0%	60	60	100.0%
Delmar	19	57.9%	19	11	57.9%	0	0	n/a
Pocomoke	6	100.0%	6	6	100.0%	0	0	n/a
Crisfield	64	92.2%	45	41	91.1%	19	18	94.7%
Snow Hill	0	n/a	0	0	n/a	0	0	n/a
Lower Eastern Shore Total	199	93.5%	120	108	90.0%	79	78	98.7%
Baltimore Region								
Mount Airy	193	100.0%	103	103	100.0%	90	90	100.0%
Joppatowne/ Sod Run (new)	104	100.0%	104	104	100.0%	0	0	n/a
Havre De Grace	364	100.0%	351	351	100.0%	13	13	100.0%
Little Patuxent	292	100.0%	292	292	100.0%	0	0	n/a
Aberdeen (new)	0	n/a	0	0	n/a	0	0	n/a

Total Increase
= New Development
+ Possible Hook-ups

Validation
Process:
Correction &
Discovery

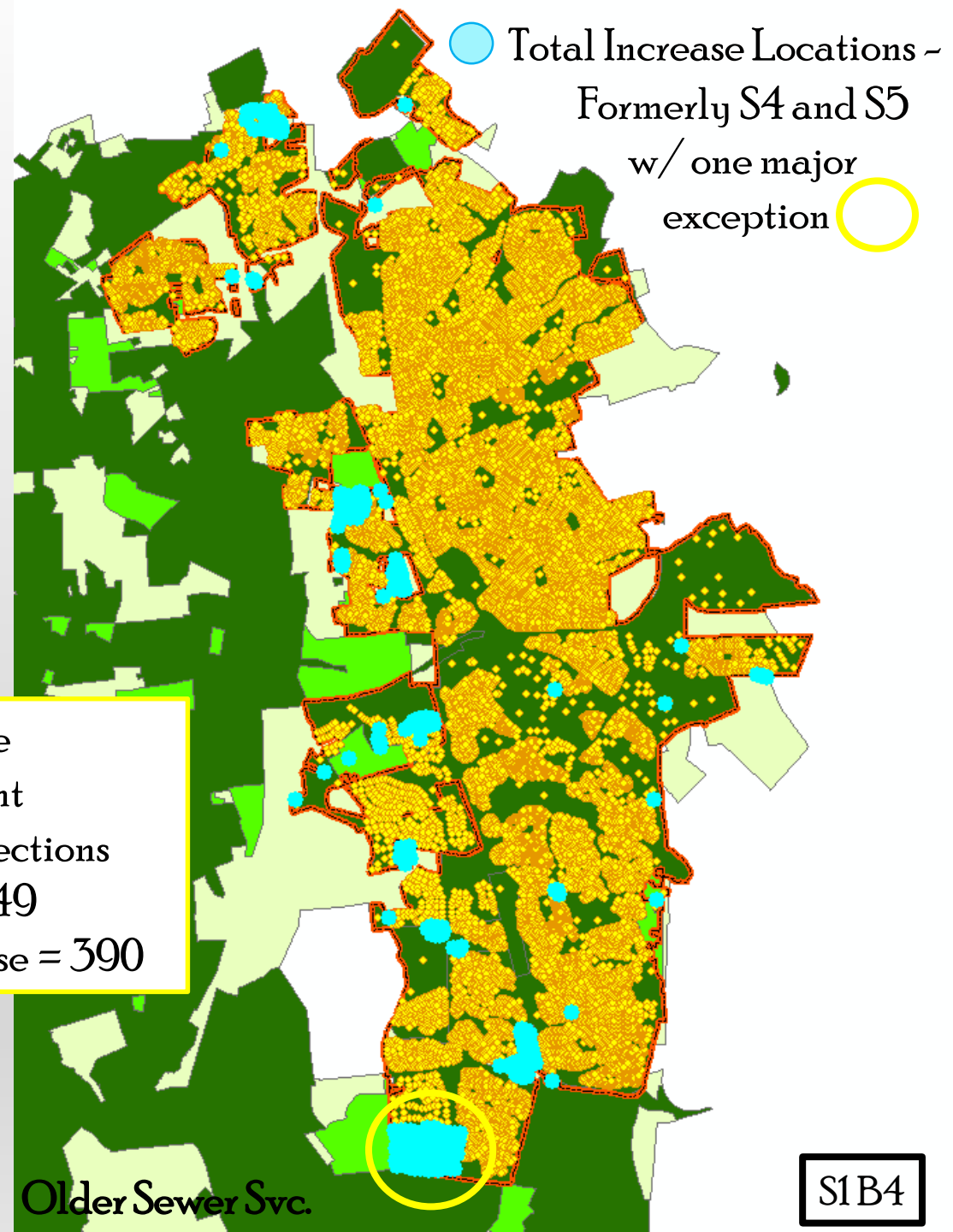




Current Sewer Svc.

S1Aft

Bowie
Current
Total Connections
= 20,949
● Total Increase = 390



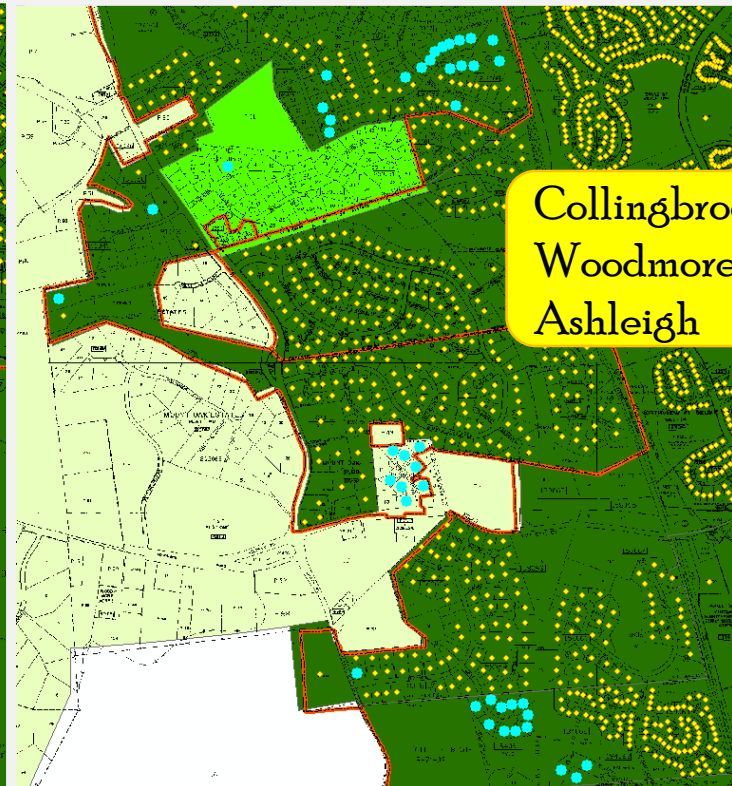
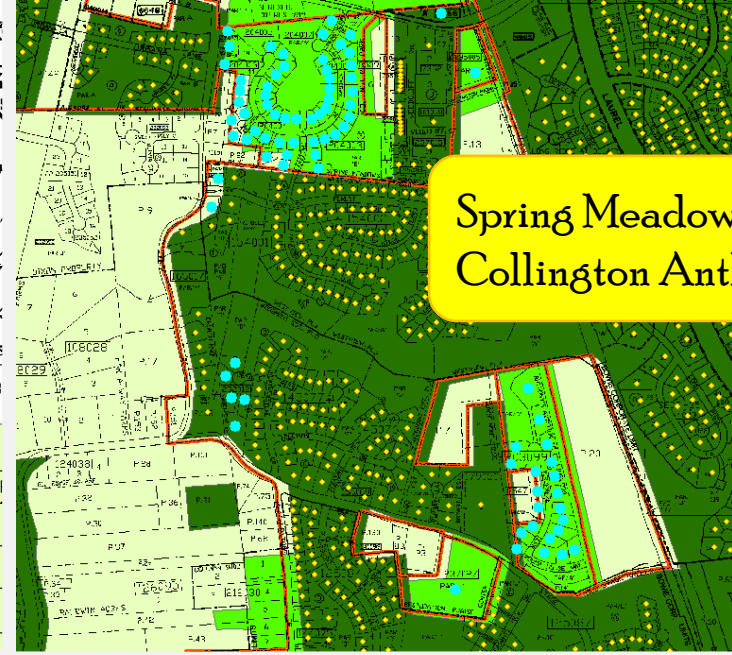
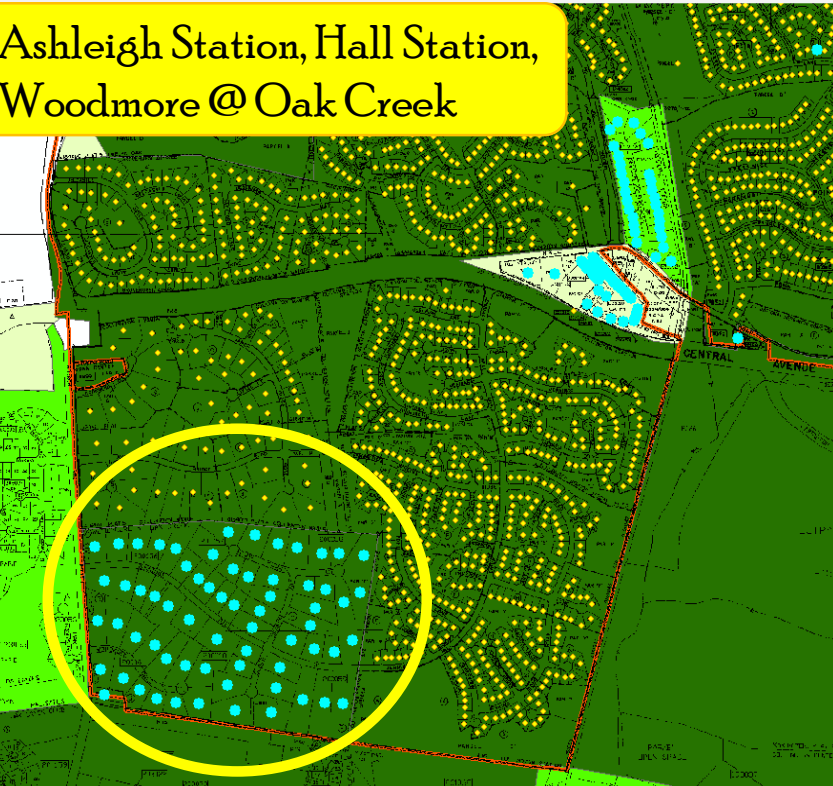
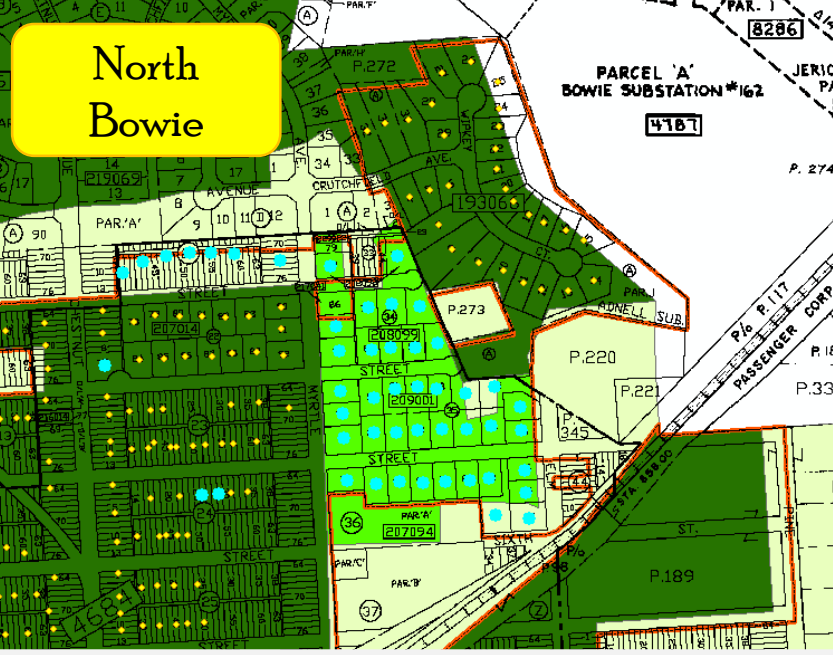
Older Sewer Svc.

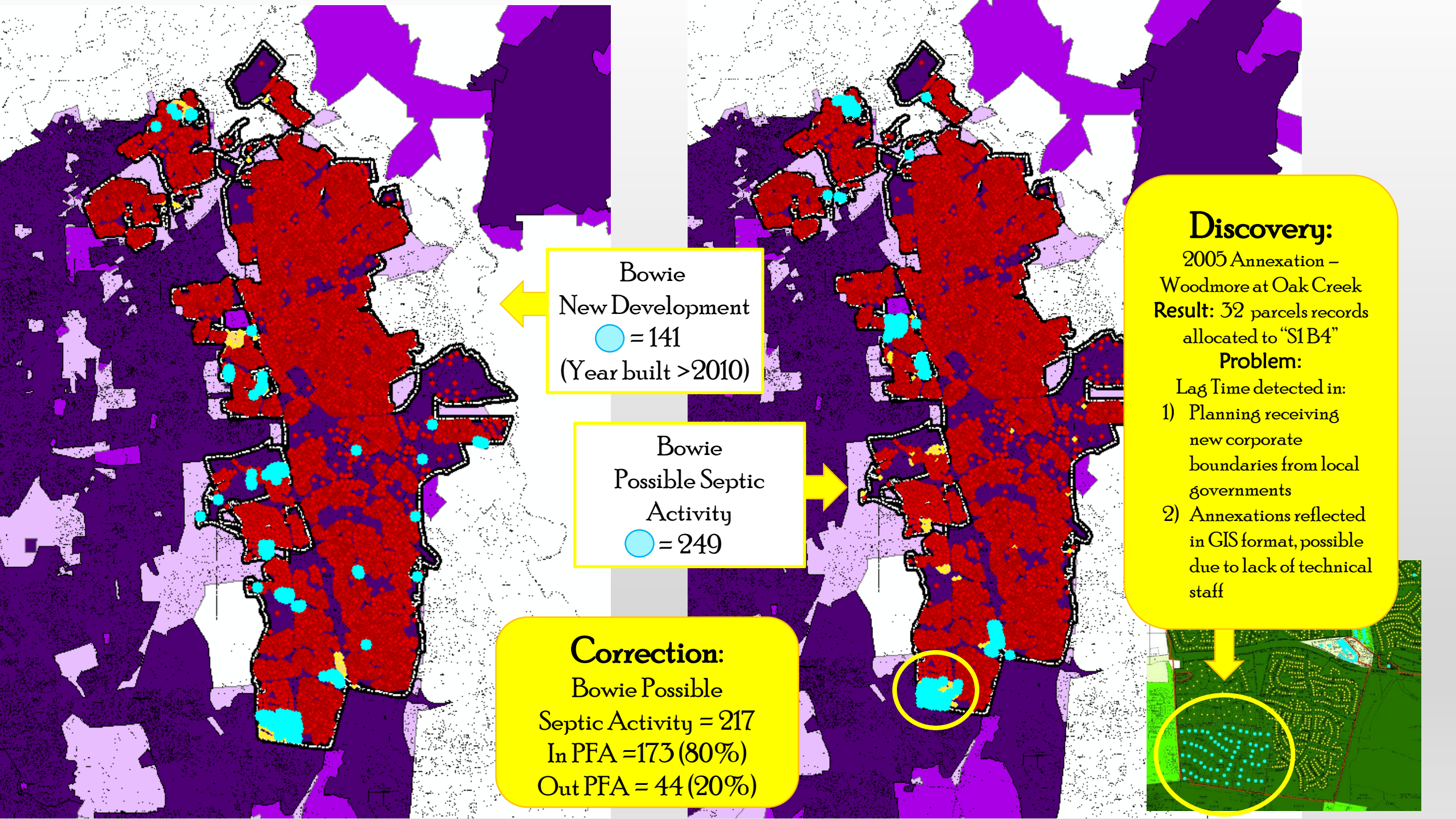
S1B4

● Total Increase Locations ~
Formerly S4 and S5
w/ one major
exception ○

Identification

- Total Increase
- Locations
- Zoom-In





Bowie
New Development
● = 141
(Year built >2010)

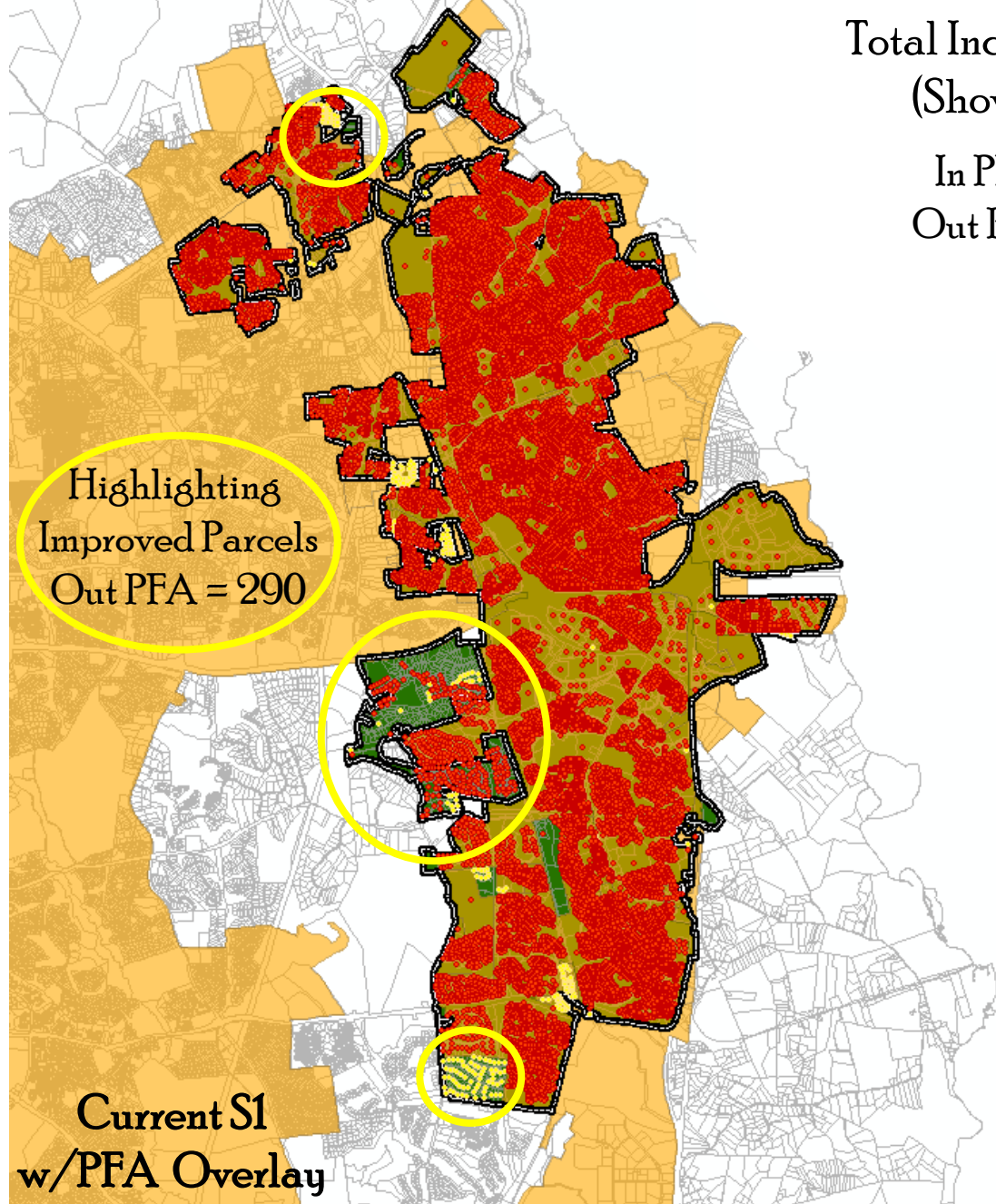
Bowie
Possible Septic
Activity
● = 249

Correction:
Bowie Possible
Septic Activity = 217
In PFA = 173 (80%)
Out PFA = 44 (20%)

Discovery:
2005 Annexation –
Woodmore at Oak Creek
Result: 32 parcels records
allocated to “S1B4”
Problem:
Lag Time detected in:
1) Planning receiving
new corporate
boundaries from local
governments
2) Annexations reflected
in GIS format, possible
due to lack of technical
staff



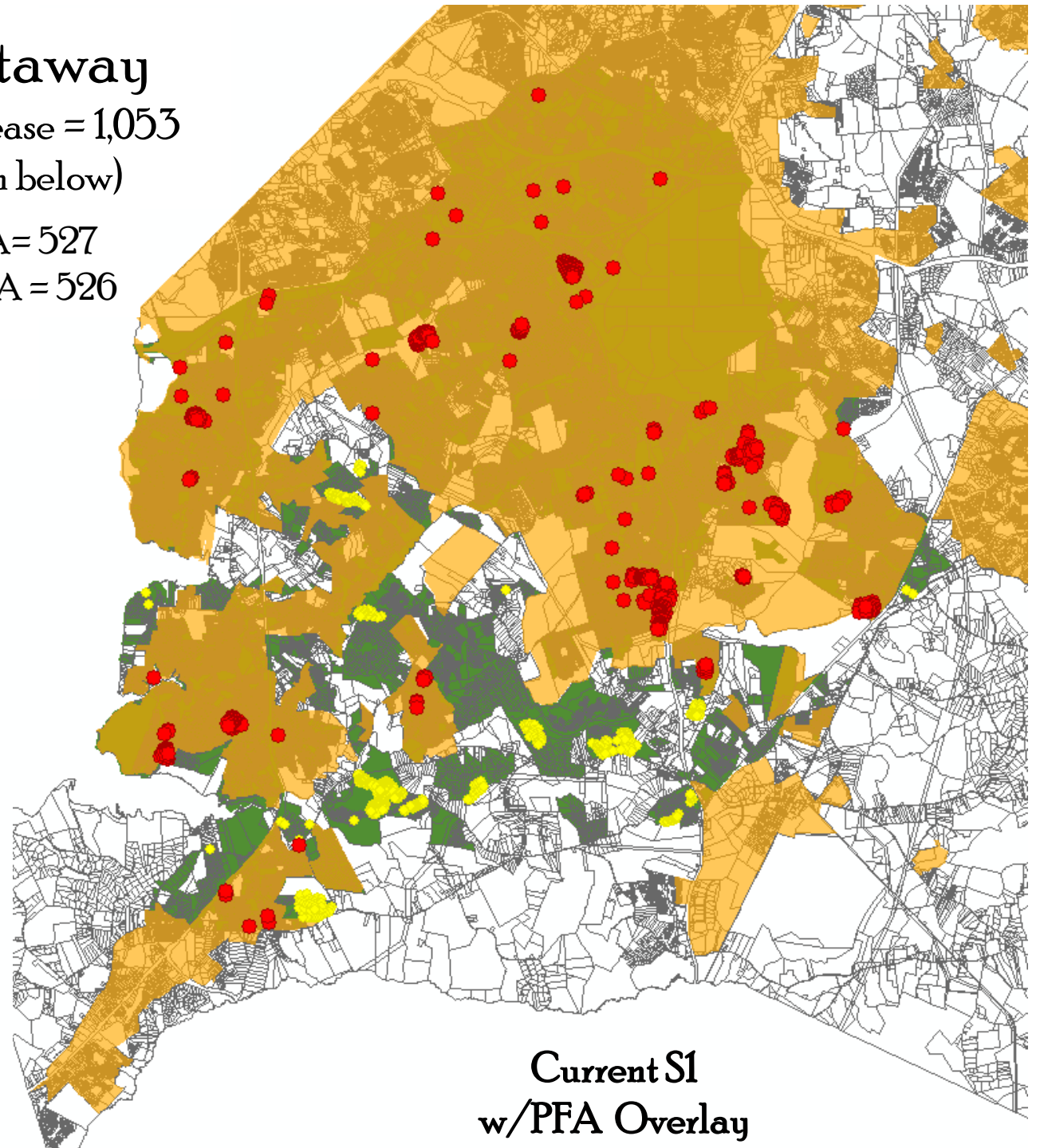
Bowie PFA



Piscataway

Total Increase = 1,053
(Shown below)

In PFA = 527
Out PFA = 526



U.S. Census Data

Municipality Survey

		Population - 2010	Population - 2000	Change	% Change
Bowie		54,727	50,269	4,458	8.87
Piscataway "S1"	District Hgts.	5,837	5,958	-121	-2.03
	Forest Hgts.	2,447	2,585	-138	-5.34
	Morningside	2,015	1,295	720	55.60
Washington Region Total		65,026	60,107	4,919	8.18

		Housing Units- 2010	Housing Units - 2000	Change	% Change
Bowie		20,687	18,718	1,969	10.52
Piscataway "S1"	District Hgts.	2,212	2,170	42	1.94
	Forest Hgts.	927	945	-18	-1.90
	Morningside	922	494	428	86.64
Washington Region Total		24,748	22,327	2,421	10.84

		Population - 2010	Population - 2000	Change	% Change
Elkton		15,443	11,893	3,550	30
Perryville		4,361	3,672	689	19
Chestertown		5,252	4,746	506	11
Kent Island		0	0	0	0
Denton		4,418	2,960	1,458	49
Federalburg		2,739	2,620	119	5
Easton		15,945	11,708	4,237	36
Talbot Region II					
	St. Michaels	1,029	1,193	-164	-14
Upper Eastern Shore Total		49,187	38,792	10,395	27

		Housing Units- 2010	Housing Units - 2000	Change	% Change
Elkton		5,944	4,743	1,201	25
Perryville		1,959	1,507	452	30
Chestertown		2,361	2,164	197	9
Kent Island		0	0	0	0
Denton		1,791	1,264	527	42
Federalburg		1,191	1,130	61	5
Easton		7,405	5,399	2,006	37
Talbot Region II					
	St. Michaels	711	671	40	6
Upper Eastern Shore Total		21,362	16,878	4,484	27

Conclusion:

Planning maintains the position that there is little to indicate that an ENR upgrade encourages extension of services to and consumption of WWTP capacity by development (nor by development outside of PFAs). Our analysis shows that ENR improvements provide a significant opportunity for municipalities to continue to meet their growth goals under highly improved water quality standards.

