



Numeric Progress for the Urban Sector 2014 Progress

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Urban Stormwater Workgroup Meeting
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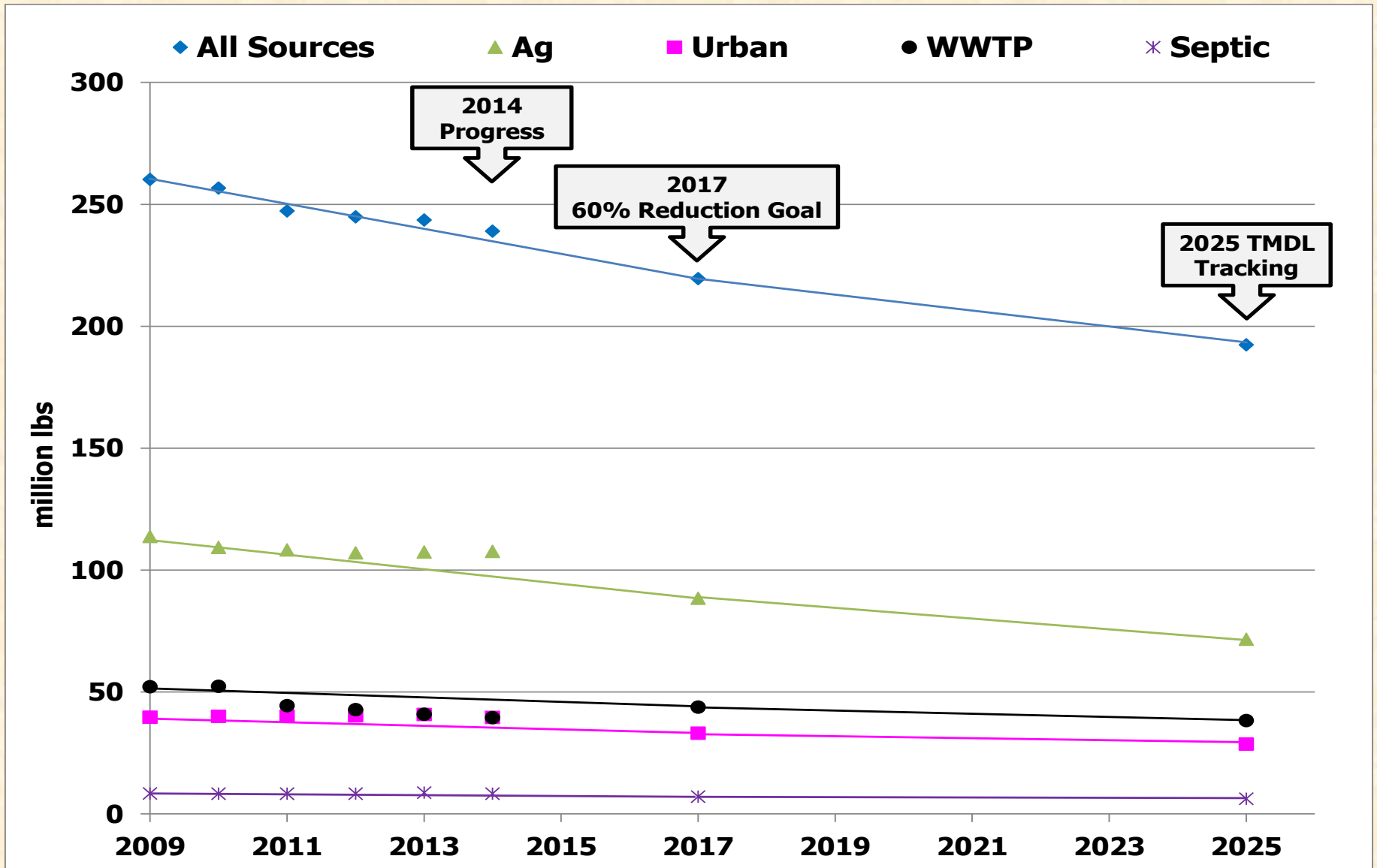
2014 Progress Numeric Evaluations

For the CBW as a whole:

- Jurisdictions' estimated 2014 urban loads are not on track to meet the 2017 60% reduction goals for N, P and TSS.
 - By 2014, should be at 37.5% reduction (2009→2025) while urban loads show:
 - -14% = increase for N
 - 23% reduction for TP
 - -0.5% = increase for TSS

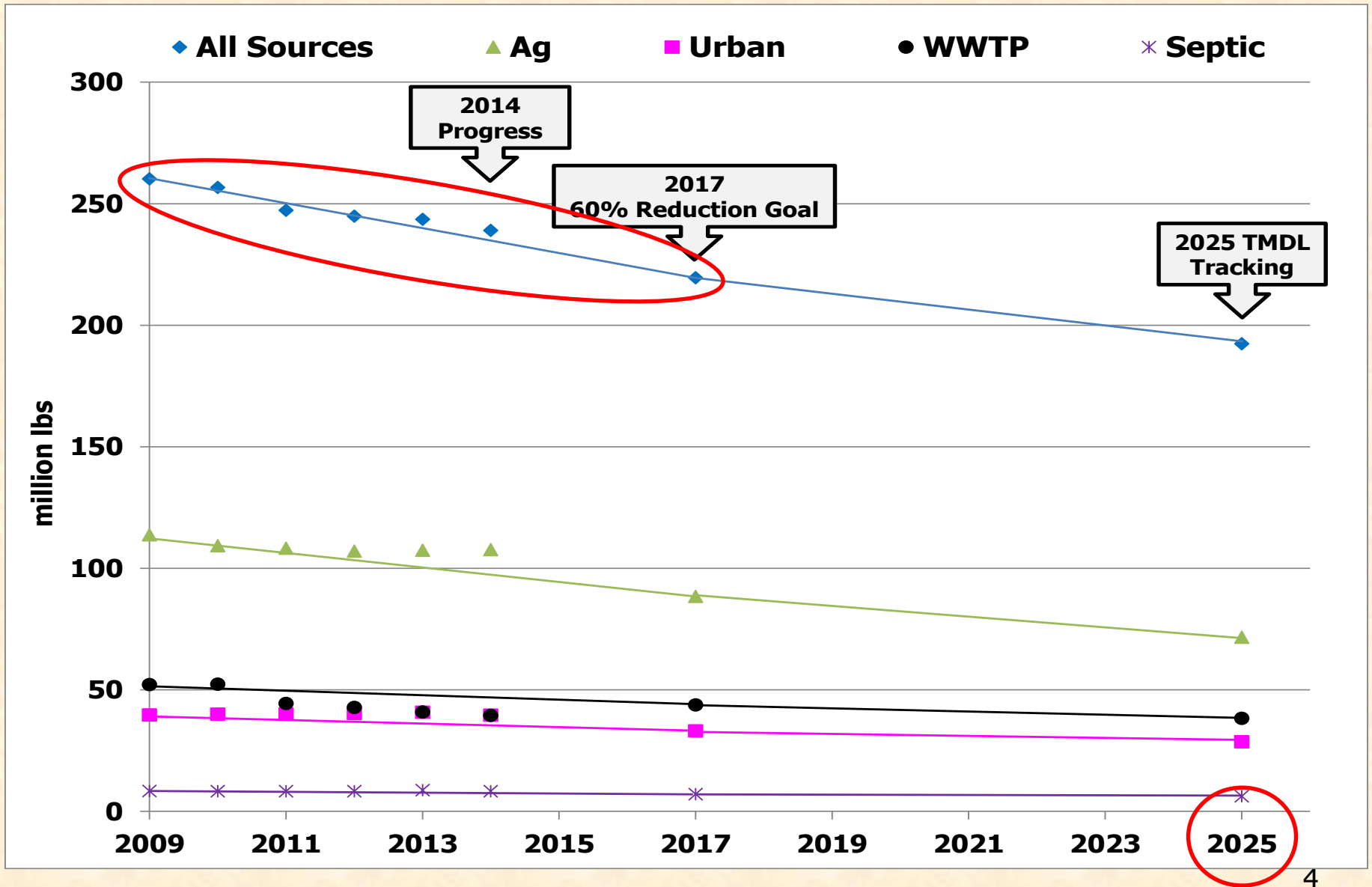


Nitrogen Loads and Goals



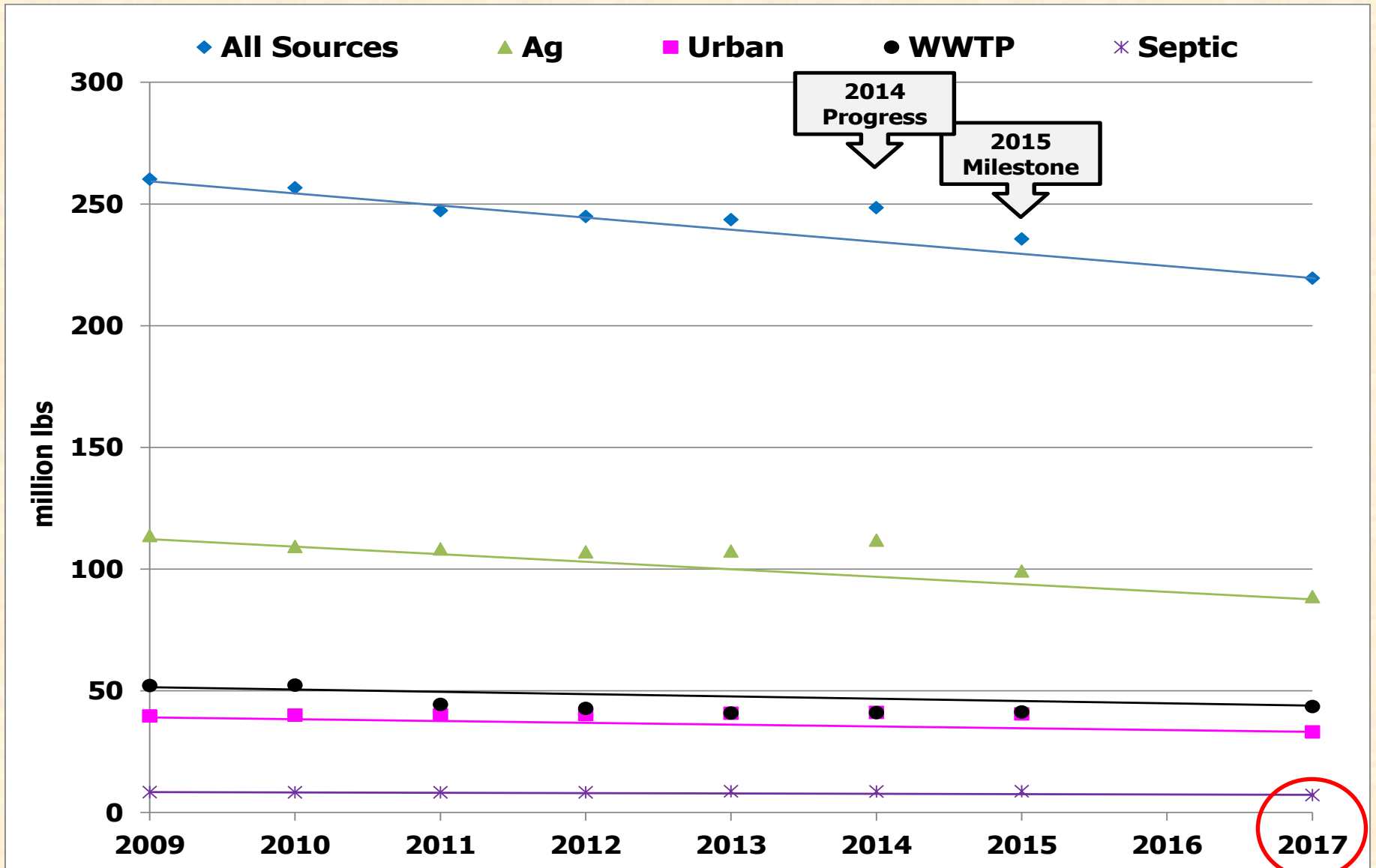


Nitrogen Loads and Goals



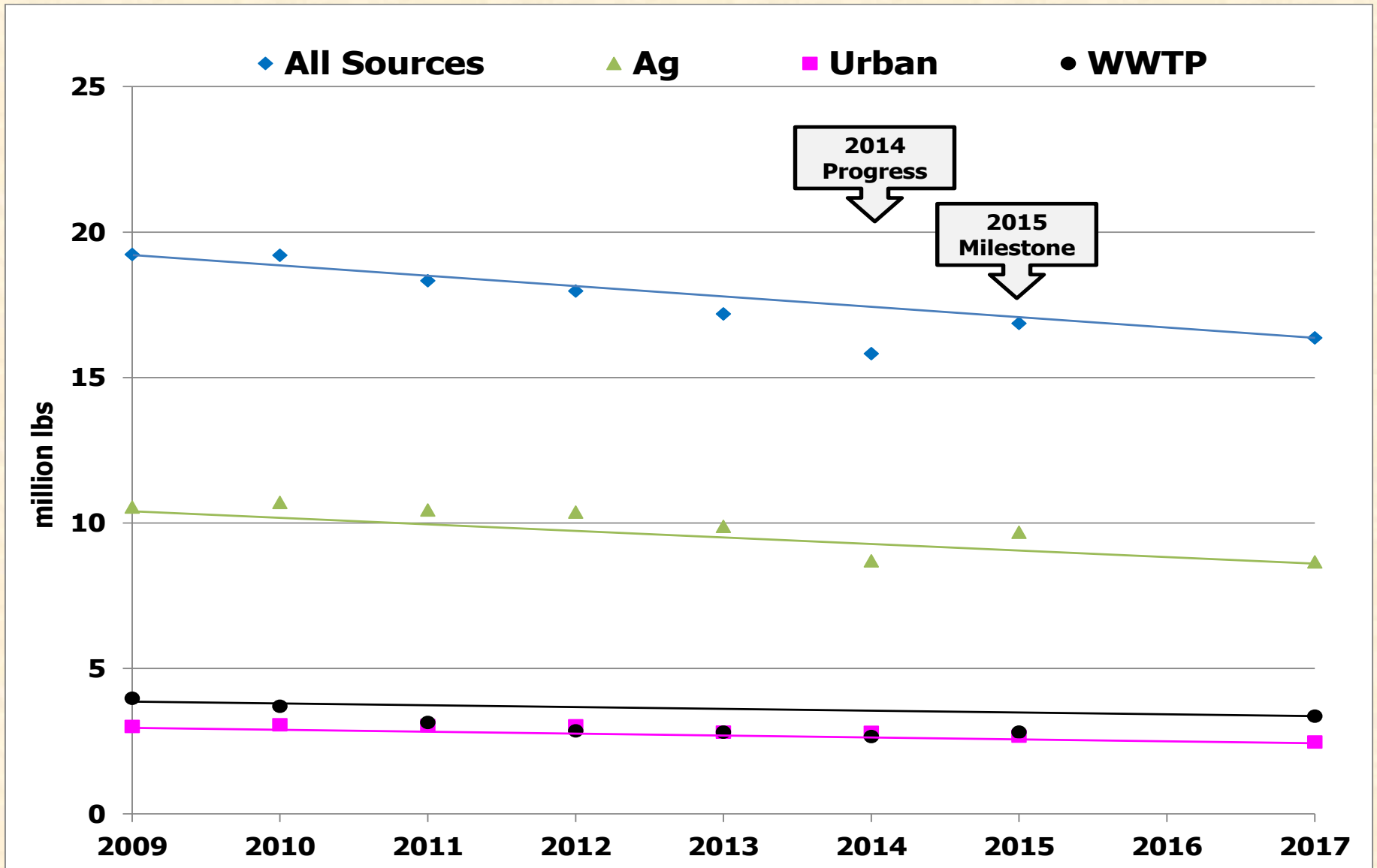


Nitrogen Loads and Goals



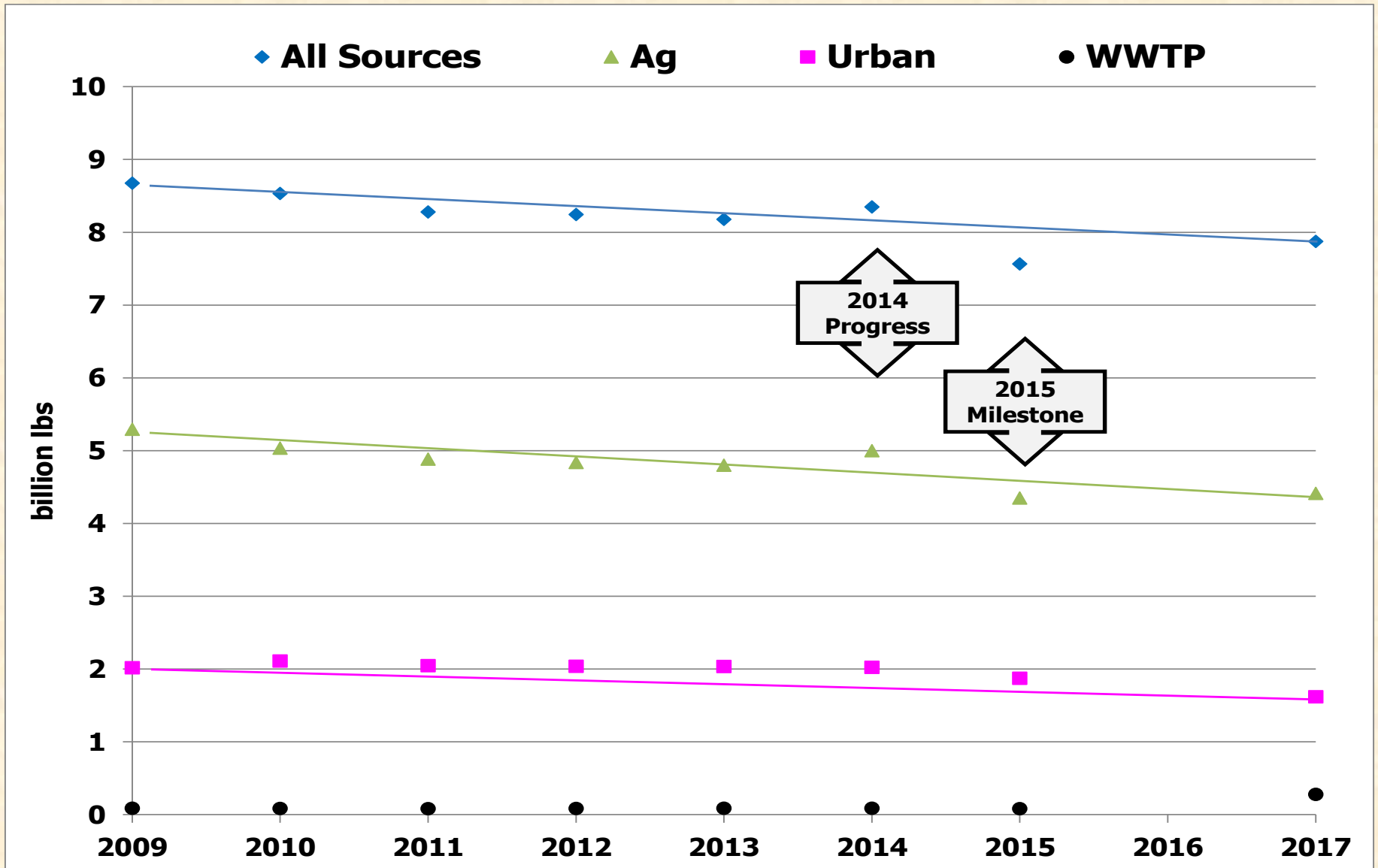


Phosphorus Loads and Goals



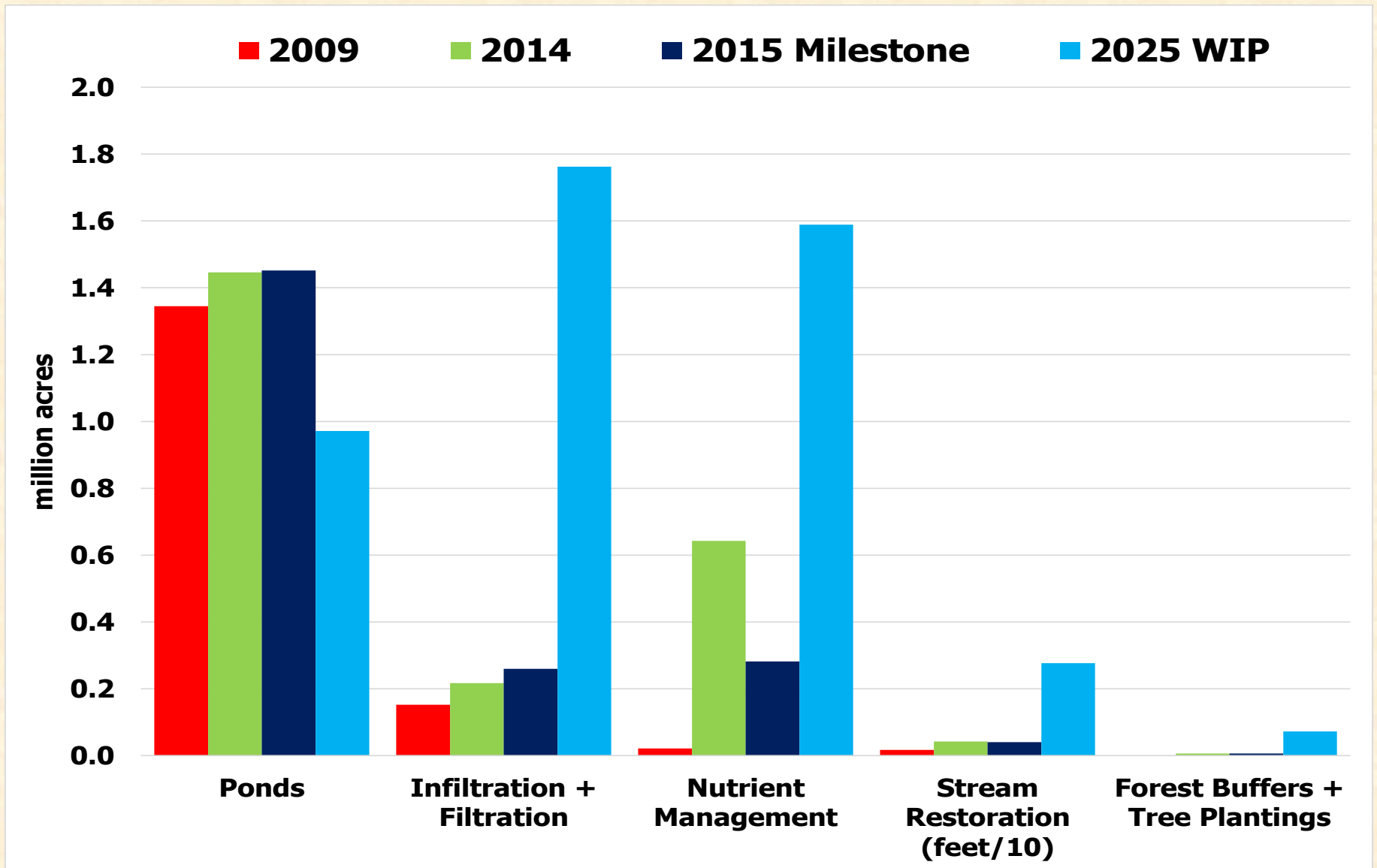


Total Solids Loads and Goals





Urban BMP Implementation





Chesapeake Bay Watershed Loads and Goals

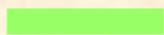
		2009 Progress TOTN	2014 Progress TOTN	2015 Milestone TOTN	2015 Target TOTN	2017 Target TOTN	2025 Target TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
AllJurisdictions	Agriculture	113.80	111.93	99.24	94.95	88.67	71.91
AllJurisdictions	Urban Runoff	39.70	41.17	40.53	34.78	33.13	28.76
AllJurisdictions	Wastewater+CSO	52.18	41.05	41.31	45.73	43.58	37.86
AllJurisdictions	Septic	8.42	8.64	8.71	7.46	7.14	6.28
AllJurisdictions	Forest+	46.16	45.69	45.89	46.80	47.01	47.58
AllJurisdictions	AllSources	260.25	248.48	235.67	229.71	219.53	192.39
		2009 Progress TOTP	2014 Progress TOTP	2015 Milestone TOTP	2015 Target TOTP	2017 Target TOTP	2025 Target TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
AllJurisdictions	Agriculture	10.546	8.696	9.678	9.132	8.661	7.404
AllJurisdictions	Urban Runoff	3.010	2.803	2.674	2.607	2.472	2.114
AllJurisdictions	Wastewater+CSO	3.972	2.657	2.813	3.512	3.358	2.949
AllJurisdictions	Forest+	1.701	1.668	1.693	1.831	1.874	1.989
AllJurisdictions	AllSources	19.229	15.825	16.858	17.082	16.366	14.457
		2009 Progress TSS	2014 Progress TSS	2015 Milestone TSS	2015 Target TSS	2017 Target TSS	2025 Target TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
AllJurisdictions	Agriculture	5,295	4,998	4,349	4,634	4,414	3,826
AllJurisdictions	Urban Runoff	2,019	2,022	1,873	1,719	1,620	1,353
AllJurisdictions	Wastewater+CSO	87	88	82	231	279	406
AllJurisdictions	Forest+	1,274	1,239	1,263	1,490	1,562	1,755
AllJurisdictions	AllSources	8,675	8,348	7,567	8,075	7,874	7,341

- Loads meet 2014 trajectory target
- Loads don't meet 2014 trajectory target.

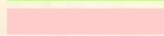


PA Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
PA	Agriculture	62.66	65.10	55.03	50.47	46.41	35.58
PA	Urban Runoff	17.41	17.44	16.68	14.19	13.12	10.26
PA	Wastewater+CSO	12.14	9.81	9.80	10.69	10.21	8.92
PA	Septic	2.33	2.55	2.13	2.07	1.98	1.74
PA	Forest+	22.10	22.11	22.00	22.27	22.33	22.49
PA	AllSources	116.64	117.01	105.64	99.70	94.05	79.00
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
PA	Agriculture	2.716	2.564	2.535	2.311	2.176	1.816
PA	Urban Runoff	0.767	0.696	0.602	0.613	0.561	0.424
PA	Wastewater+CSO	1.071	0.758	0.750	0.992	0.966	0.897
PA	Forest+	0.431	0.421	0.430	0.433	0.433	0.435
PA	AllSources	4.984	4.438	4.317	4.348	4.136	3.571
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
PA	Agriculture	1,677	1,695	1,398	1,414	1,326	1,092
PA	Urban Runoff	560	519	436	433	391	278
PA	Wastewater+CSO	21	25	16	96	121	187
PA	Forest+	386	379	378	387	388	389
PA	AllSources	2,644	2,618	2,229	2,330	2,225	1,945



Loads meet 2014 trajectory target



Loads don't meet 2014 trajectory target.



MD Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
MD	Agriculture	19.76	18.84	16.37	17.70	17.02	15.19
MD	Urban Runoff	9.53	9.79	9.70	8.52	8.18	7.27
MD	Wastewater+CSO	13.75	12.66	11.84	12.31	11.83	10.55
MD	Septic	2.97	2.83	2.95	2.47	2.30	1.85
MD	Forest+	5.92	5.70	5.98	6.09	6.15	6.30
MD	AllSources	51.95	49.81	46.85	47.10	45.48	41.17
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
MD	Agriculture	1.613	1.460	1.624	1.537	1.511	1.444
MD	Urban Runoff	0.712	0.674	0.647	0.621	0.591	0.511
MD	Wastewater+CSO	0.787	0.599	0.600	0.729	0.710	0.659
MD	Forest+	0.190	0.186	0.193	0.193	0.194	0.196
MD	AllSources	3.301	2.919	3.064	3.080	3.006	2.810
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
MD	Agriculture	744	633	608	761	767	782
MD	Urban Runoff	514	534	494	451	430	374
MD	Wastewater+CSO	12	12	10	35	42	63
MD	Forest+	125	119	127	127	128	130
MD	AllSources	1,395	1,299	1,240	1,375	1,368	1,350

- Loads meet 2014 trajectory target
- Loads don't meet 2014 trajectory target.



VA Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
VA	Agriculture	20.73	17.94	18.31	17.45	16.36	13.45
VA	Urban Runoff	10.12	11.20	11.36	9.52	9.32	8.79
VA	Wastewater+CSO	21.73	14.52	14.98	18.51	17.44	14.58
VA	Septic	2.47	2.57	2.79	2.30	2.24	2.09
VA	Forest+	13.08	12.80	12.83	13.35	13.44	13.68
VA	AllSources	68.13	59.02	60.26	61.13	58.80	52.59
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
VA	Agriculture	4.824	3.565	4.400	4.066	3.813	3.139
VA	Urban Runoff	1.255	1.215	1.203	1.134	1.093	0.985
VA	Wastewater+CSO	1.757	1.024	1.123	1.494	1.406	1.173
VA	Forest+	0.836	0.819	0.828	0.957	0.997	1.105
VA	AllSources	8.672	6.624	7.554	7.650	7.310	6.402
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
VA	Agriculture	2,410	2,279	1,977	2,050	1,929	1,609
VA	Urban Runoff	698	772	734	605	574	491
VA	Wastewater+CSO	47	43	44	92	107	146
VA	Forest+	587	568	583	775	838	1,005
VA	AllSources	3,743	3,662	3,339	3,522	3,448	3,251

- Loads meet 2014 trajectory target
- Loads don't meet 2014 trajectory target.



WV Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
WV	Agriculture	2.66	2.47	2.43	2.48	2.43	2.27
WV	Urban Runoff	0.80	0.86	0.87	0.79	0.78	0.77
WV	Wastewater+CSO	0.262	0.249	0.425	0.251	0.247	0.237
WV	Septic	0.17	0.15	0.25	0.18	0.18	0.18
WV	Forest+	1.57	1.54	1.53	1.57	1.57	1.56
WV	AllSources	5.47	5.27	5.51	5.27	5.20	5.02
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
WV	Agriculture	0.556	0.438	0.457	0.487	0.464	0.402
WV	Urban Runoff	0.116	0.075	0.078	0.093	0.086	0.065
WV	Wastewater+CSO	0.109	0.063	0.081	0.077	0.067	0.039
WV	Forest+	0.118	0.117	0.116	0.123	0.124	0.128
WV	AllSources	0.899	0.693	0.733	0.780	0.740	0.635
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
WV	Agriculture	268	210	202	227	214	178
WV	Urban Runoff	105	57	67	81	73	52
WV	Wastewater+CSO	0.8	0.8	2.2	1.4	1.6	2.1
WV	Forest+	72	70	70	103	113	140
WV	AllSources	445	338	341	413	402	373

- Loads meet 2014 trajectory target
- Loads don't meet 2014 trajectory target.



DE Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DE	Agriculture	3.45	3.08	3.24	2.97	2.81	2.38
DE	Urban Runoff	0.39	0.41	0.44	0.37	0.36	0.34
DE	Wastewater+CSO	0.14	0.05	0.06	0.18	0.19	0.22
DE	Septic	0.15	0.18	0.19	0.13	0.12	0.10
DE	Forest+	0.34	0.33	0.34	0.35	0.35	0.35
DE	AllSources	4.47	4.05	4.28	3.99	3.82	3.39
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DE	Agriculture	0.311	0.232	0.261	0.278	0.268	0.239
DE	Urban Runoff	0.0209	0.0191	0.0205	0.0197	0.0193	0.0183
DE	Wastewater+CSO	0.0055	0.0073	0.0099	0.0080	0.0088	0.0110
DE	Forest+	0.0081	0.0078	0.0083	0.0082	0.0083	0.0084
DE	AllSources	0.345	0.266	0.299	0.314	0.304	0.277
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DE	Agriculture	64	51	50	65	65	65
DE	Urban Runoff	29	28	31	28	28	27
DE	Wastewater+CSO	0.2	0.0	0.0	0.5	0.6	0.9
DE	Forest+	6.0	5.7	5.9	6.1	6.1	6.3
DE	AllSources	99	86	87	99	99	100

- Loads meet 2014 trajectory target
- Loads don't meet 2014 trajectory target.

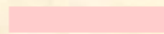


NY Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
NY	Agriculture	4.54	4.49	3.87	3.86	3.64	3.04
NY	Urban Runoff	1.24	1.27	1.26	1.20	1.18	1.14
NY	Wastewater+CSO	1.49	1.91	2.05	1.36	1.31	1.19
NY	Septic	0.32	0.36	0.39	0.32	0.32	0.32
NY	Forest+	3.13	3.20	3.19	3.15	3.15	3.16
NY	AllSources	10.72	11.23	10.76	9.88	9.60	8.85
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
NY	Agriculture	0.527	0.438	0.401	0.454	0.429	0.364
NY	Urban Runoff	0.122	0.109	0.108	0.111	0.107	0.098
NY	Wastewater+CSO	0.190	0.151	0.137	0.133	0.115	0.065
NY	Forest+	0.117	0.117	0.117	0.117	0.116	0.116
NY	AllSources	0.956	0.814	0.764	0.815	0.768	0.643
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
NY	Agriculture	132	130	113	118	113	100
NY	Urban Runoff	100	98	96	109	112	120
NY	Wastewater+CSO	2.6	3.6	3.1	2.7	2.8	2.9
NY	Forest+	97	97	98	90	88	82
NY	AllSources	332	328	310	320	315	304



Loads meet 2014 trajectory target

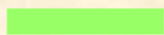


Loads don't meet 2014 trajectory target.

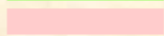


DC Loads and Goals

		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTN	TOTN	TOTN	TOTN	TOTN	TOTN
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DC	Agriculture	0	0	0	0	0	0
DC	Urban Runoff	0.204	0.207	0.215	0.192	0.188	0.178
DC	Wastewater+CSO	2.66	1.85	2.16	2.44	2.36	2.16
DC	Forest+	0.013	0.012	0.009	0.021	0.024	0.031
DC	AllSources	2.88	2.07	2.38	2.65	2.57	2.37
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TOTP	TOTP	TOTP	TOTP	TOTP	TOTP
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DC	Agriculture	0	0	0	0	0	0
DC	Urban Runoff	0.0166	0.0153	0.0154	0.0149	0.0144	0.0129
DC	Wastewater+CSO	0.054	0.055	0.112	0.078	0.085	0.106
DC	Forest+	0.0004	0.0004	0.0003	0.0006	0.0007	0.0009
DC	AllSources	0.071	0.070	0.127	0.093	0.100	0.120
		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
		TSS	TSS	TSS	TSS	TSS	TSS
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DC	Agriculture	0	0	0	0	0	0
DC	Urban Runoff	13.3	13.5	13.4	12.3	12.0	11.1
DC	Wastewater+CSO	3.2	3.3	6.4	3.8	4.0	4.5
DC	Forest+	0.5	0.4	0.2	1.0	1.2	1.8
DC	AllSources	16.9	17.1	20.0	17.1	17.2	17.4



Loads meet 2014 trajectory target



Loads don't meet 2014 trajectory target.



Change in Progress Phosphorus Load Without P Management Through Fertilizer Law

Jurisdiction	Increase in Previous Urban P Load	Increase in Urban P Load	Increase in P Load From All Sources
DE	23%	9%	0.6%
DC	43%	4%	1.0%
MD	35%	10%	2.2%
NY	36%	11%	1.5%
PA	25%	7%	1.0%
VA	37%	11%	2.0%
WV	27%	8%	0.9%
All Jurisdictions	33%	10%	1.7%

Model benefits of P management through the fertilizer law is scheduled to lapse in 2016 unless they are verified by reliable non-farm fertilizer statistics that measure actual nutrient reductions.



Milestone Evaluations

For 2015 Progress reporting, beginning Fall 2015:

- Should be reporting using the performance standards approaches:
 - New State Stormwater Performance Standards
http://www.chesapeakebay.net/documents/Final_CBP_Approved_Expert_Panel_Report_on_Stormwater_Performance_Standards_LONG.pdf
 - Urban Stormwater Retrofit Projects
http://www.chesapeakebay.net/documents/Final_CBP_Approved_Expert_Panel_Report_on_Stormwater_Retrofits--_long.pdf
 - Report approved by USWG April, 2012.
- Should consider differentiation in implementation between MS4 and non-MS4.



Milestone Evaluations

For future progress toward Milestone goals:

- Need to be sure that changes in implementation are supported by programmatic milestones = strong connection between numeric and programmatic.
- Where reporting fertilizer legislation and/or urban nutrient management, will need data to back up reported reductions in N and P → non-farm fertilizer sales.