



Numeric Progress for the Urban Sector 2015 Progress – 2017 Milestones

Jeff Sweeney
Environmental Protection Agency
Chesapeake Bay Program Office
jsweeney@chesapeakebay.net
410-267-9844

Urban Stormwater Workgroup Meeting
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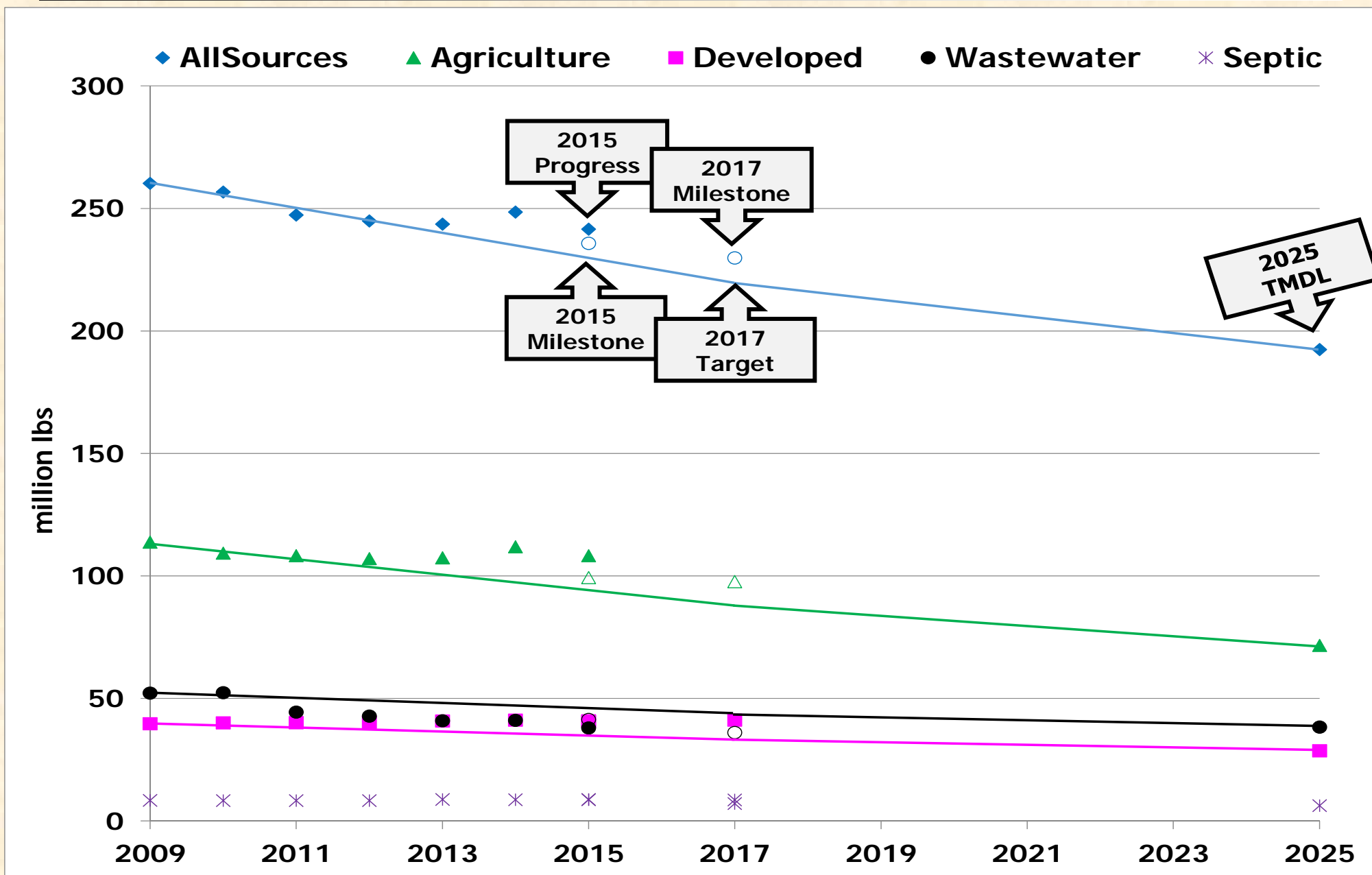
2015 Progress Numeric Evaluations

For the CB watershed as a whole:

- Jurisdictions' estimated 2015 urban loads are generally not on track to meet the 2017 60% reduction goals for N, P and TSS.
 - By 2015, should be at 45% of the reduction between 2009→2025. Urban loads show the following for 2015 for the CB watershed
 - -11% = increase for N
 - 34% reduction for TP
 - 14% reduction for TSS

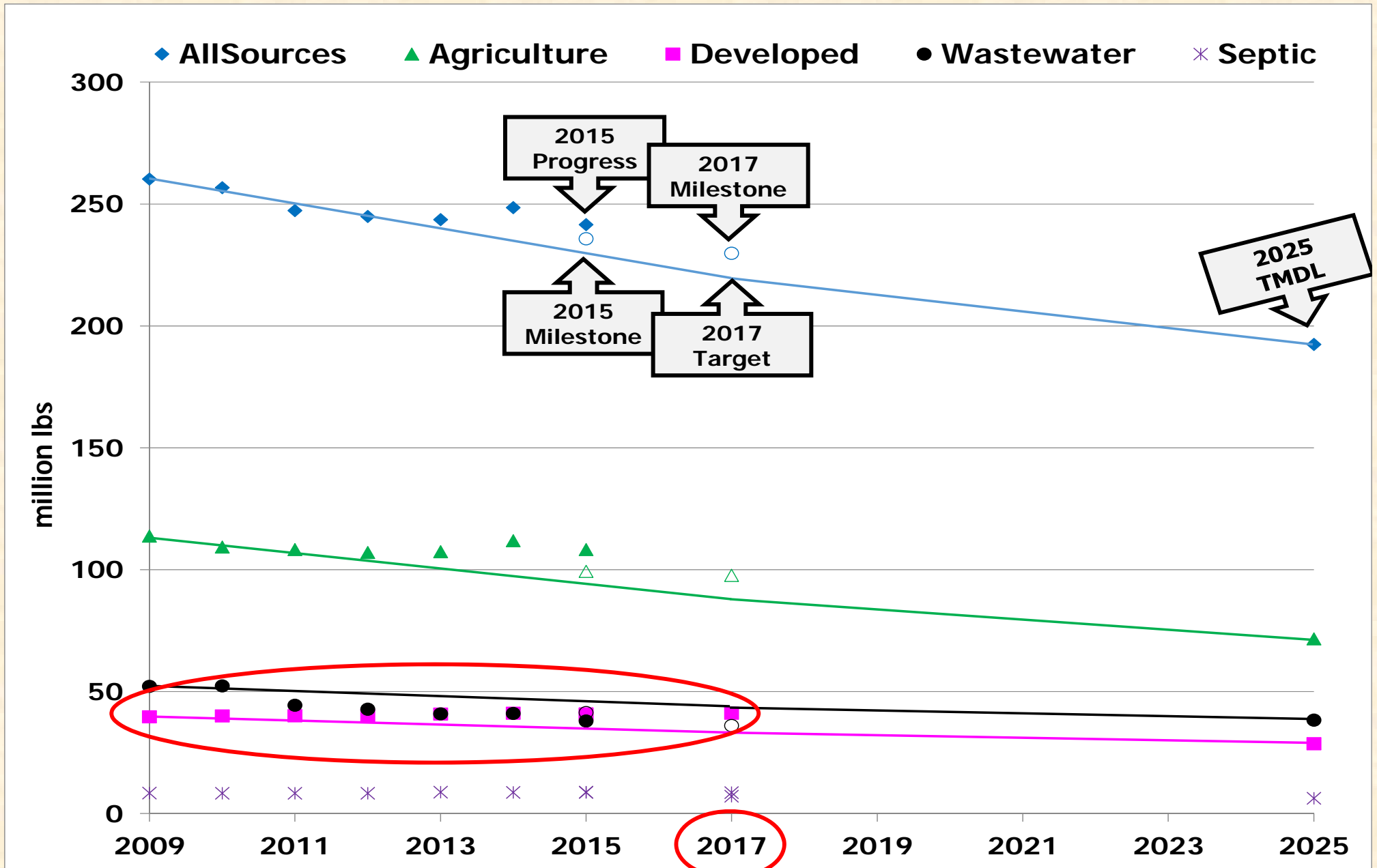


Nitrogen Loads and Goals



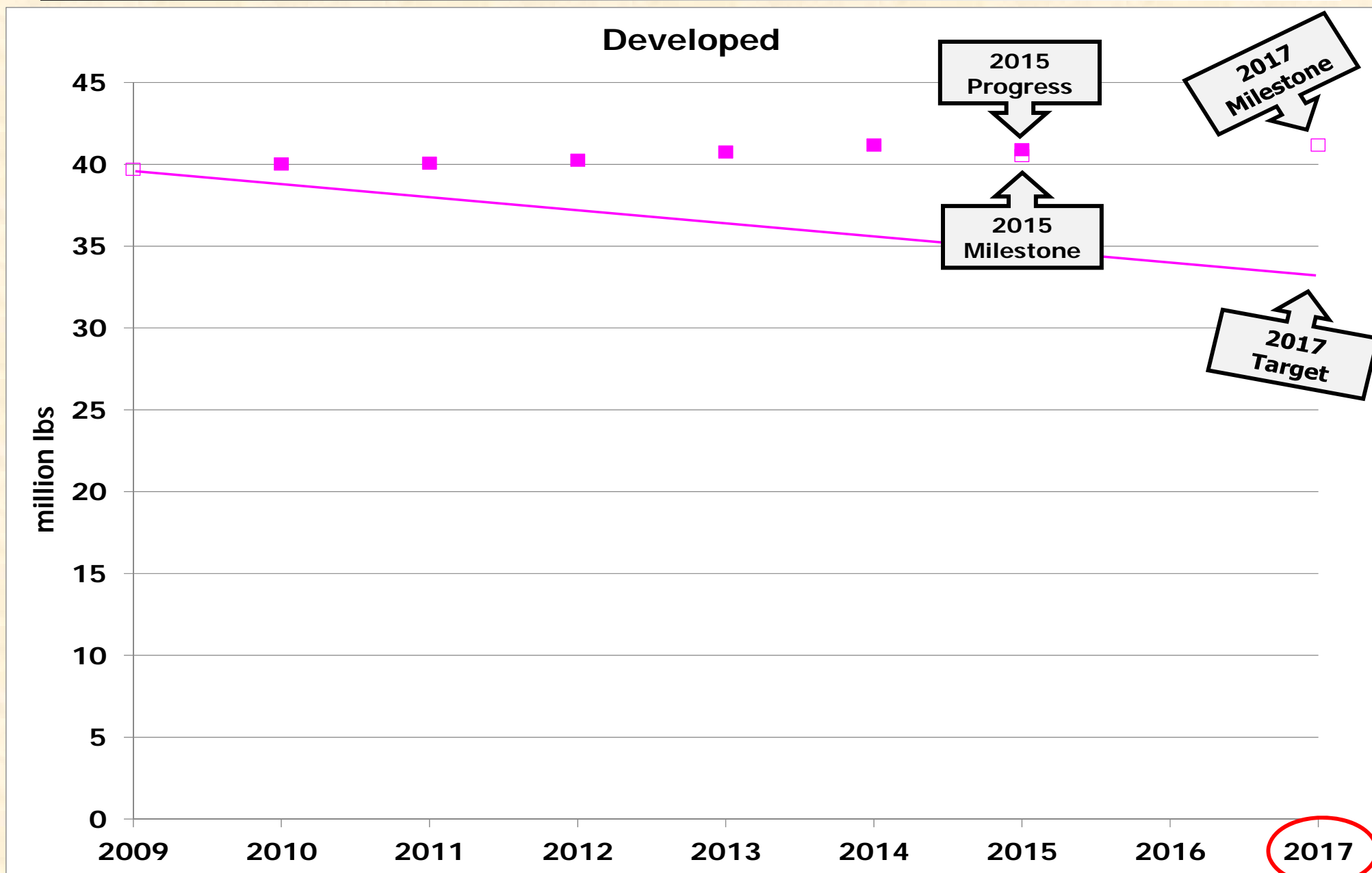


Nitrogen Loads and Goals



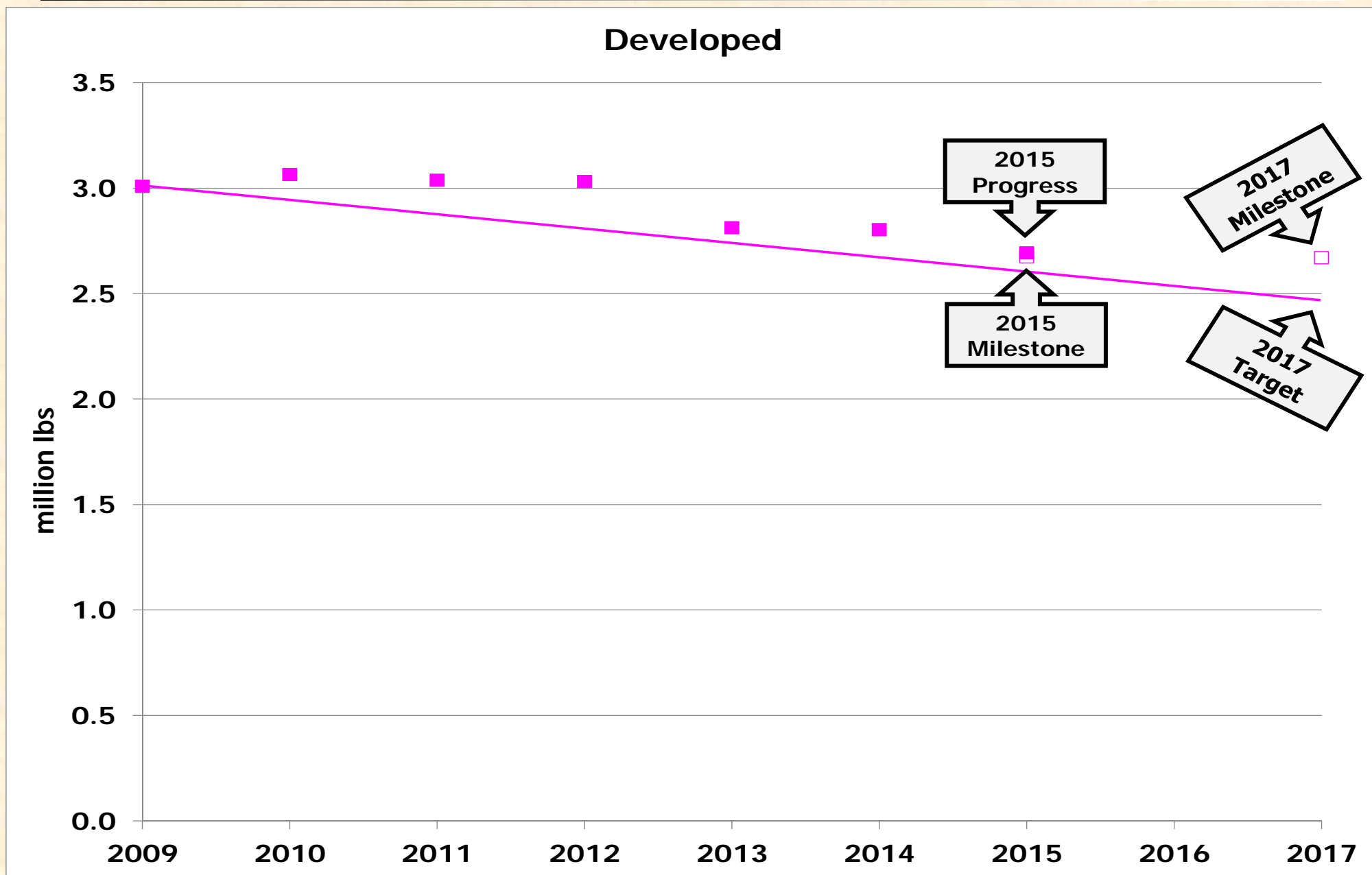


Nitrogen Loads and Goals



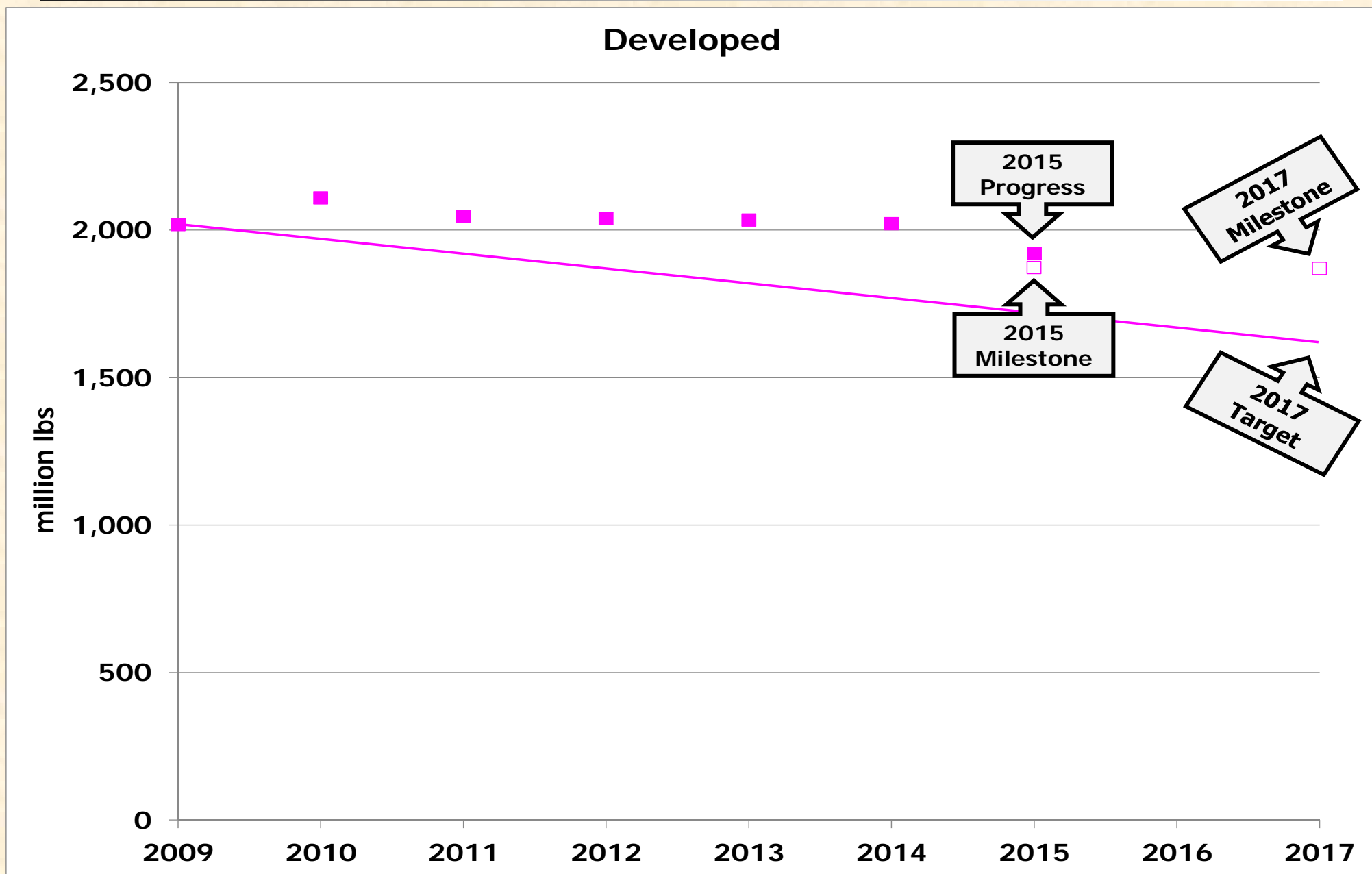


Phosphorus Loads and Goals



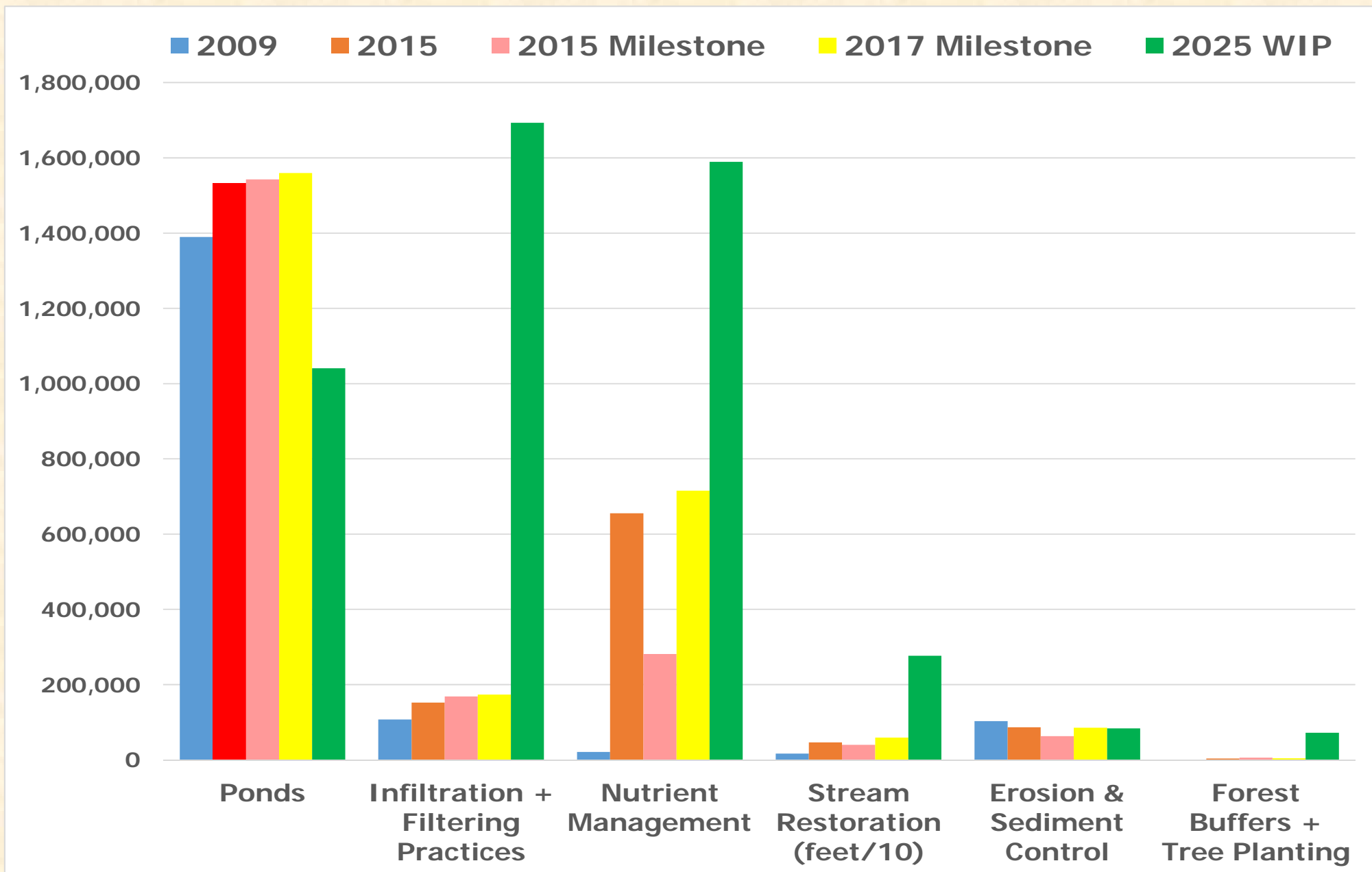


Total Solids Loads and Goals





Urban BMP Implementation





Chesapeake Bay Watershed Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
AllJurisdictions	Agriculture	113.80	108.28	99.24	94.96	97.65	88.68	71.93
AllJurisdictions	Urban Runoff	39.70	40.90	40.53	34.79	41.17	33.16	28.80
AllJurisdictions	Wastewater+CSO	52.18	37.98	41.31	45.73	36.04	43.59	37.86
AllJurisdictions	Septic	8.42	8.67	8.70	7.46	8.57	7.14	6.28
AllJurisdictions	Forest+	46.16	45.66	45.89	46.77	46.27	46.97	47.52
AllJurisdictions	AllSources	260.25	241.49	235.67	229.71	229.71	219.53	192.39
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
AllJurisdictions	Agriculture	10.546	8.517	9.678	9.143	8.021	8.675	7.428
AllJurisdictions	Urban Runoff	3.010	2.694	2.674	2.596	2.670	2.458	2.090
AllJurisdictions	Wastewater+CSO	3.972	2.482	2.813	3.512	2.410	3.359	2.950
AllJurisdictions	Forest+	1.701	1.666	1.693	1.831	1.696	1.874	1.990
AllJurisdictions	AllSources	19.229	15.358	16.858	17.082	14.796	16.366	14.457
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
AllJurisdictions	Agriculture	5,295	4,802	4,349	4,646	4,263	4,430	3,852
AllJurisdictions	Urban Runoff	2,019	1,921	1,873	1,708	1,870	1,604	1,327
AllJurisdictions	Wastewater+CSO	87	76	82	231	107	278	406
AllJurisdictions	Forest+	1,274	1,236	1,263	1,490	1,264	1,563	1,755
AllJurisdictions	AllSources	8,675	8,035	7,567	8,075	7,503	7,874	7,341

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



PA Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
PA	Agriculture	62.66	62.80	55.03	50.47	55.67	46.41	35.58
PA	Urban Runoff	17.41	17.10	16.68	14.19	17.41	13.12	10.26
PA	Wastewater+CSO	12.14	8.34	9.80	10.69	8.34	10.21	8.92
PA	Septic	2.33	2.55	2.13	2.07	2.40	1.98	1.74
PA	Forest+	22.10	22.12	22.00	22.27	22.22	22.33	22.49
PA	AllSources	116.64	112.91	105.64	99.70	106.04	94.05	79.00
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
PA	Agriculture	2.716	2.536	2.535	2.311	2.413	2.176	1.816
PA	Urban Runoff	0.767	0.651	0.602	0.613	0.665	0.561	0.424
PA	Wastewater+CSO	1.071	0.653	0.750	0.992	0.653	0.966	0.897
PA	Forest+	0.431	0.421	0.430	0.433	0.428	0.433	0.435
PA	AllSources	4.984	4.261	4.317	4.348	4.160	4.136	3.571
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
PA	Agriculture	1,677	1,573	1,398	1,414	1,293	1,326	1,092
PA	Urban Runoff	560	482	436	433	492	391	278
PA	Wastewater+CSO	21	25	16	96	25	121	187
PA	Forest+	386	378	378	387	381	388	389
PA	AllSources	2,644	2,459	2,229	2,330	2,191	2,225	1,945

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



MD Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
MD	Agriculture	19.76	18.04	16.37	17.71	16.64	17.03	15.21
MD	Urban Runoff	9.53	9.83	9.70	8.53	9.80	8.20	7.31
MD	Wastewater+CSO	13.75	11.67	11.84	12.32	9.56	11.84	10.56
MD	Septic	2.97	2.83	2.95	2.47	2.86	2.30	1.85
MD	Forest+	5.92	5.72	5.98	6.07	5.87	6.11	6.24
MD	AllSources	51.95	48.09	46.85	47.10	44.72	45.48	41.17
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
MD	Agriculture	1.613	1.398	1.624	1.548	1.301	1.526	1.468
MD	Urban Runoff	0.712	0.662	0.647	0.610	0.648	0.577	0.487
MD	Wastewater+CSO	0.787	0.557	0.600	0.729	0.494	0.710	0.659
MD	Forest+	0.190	0.186	0.193	0.193	0.190	0.194	0.196
MD	AllSources	3.301	2.803	3.064	3.080	2.633	3.006	2.810
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
MD	Agriculture	744	593	608	773	590	782	808
MD	Urban Runoff	514	521	494	440	496	415	348
MD	Wastewater+CSO	12	14	10	35	41	42	63
MD	Forest+	125	119	127	127	125	128	131
MD	AllSources	1,395	1,247	1,240	1,375	1,252	1,368	1,350

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



DC Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(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	0
DC	Urban Runoff	0.204	0.203	0.215	0.192	0.199	0.188	0.178
DC	Wastewater+CSO	2.66	1.28	2.16	2.44	1.28	2.36	2.16
DC	Forest+	0.013	0.012	0.009	0.021	0.013	0.024	0.031
DC	AllSources	2.88	1.50	2.38	2.65	1.50	2.57	2.37
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
DC	Agriculture	0	0	0	0	0	0	0
DC	Urban Runoff	0.0166	0.0146	0.0154	0.0149	0.0135	0.0144	0.0129
DC	Wastewater+CSO	0.054	0.048	0.112	0.078	0.048	0.085	0.106
DC	Forest+	0.0004	0.0004	0.0003	0.0006	0.0004	0.0007	0.0009
DC	AllSources	0.071	0.063	0.127	0.093	0.062	0.100	0.120
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
DC	Agriculture	0	0	0	0	0	0	0
DC	Urban Runoff	13.28	12.74	13.38	12.31	12.15	11.99	11.14
DC	Wastewater+CSO	3.2	3.0	6.4	3.8	3.0	4.0	4.5
DC	Forest+	0.5	0.4	0.2	1.0	0.4	1.2	1.8
DC	AllSources	16.9	16.1	20.0	17.1	15.5	17.2	17.4

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



VA Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
VA	Agriculture	20.73	17.64	18.31	17.45	15.84	16.36	13.45
VA	Urban Runoff	10.12	11.21	11.36	9.52	11.20	9.32	8.79
VA	Wastewater+CSO	21.73	14.59	14.98	18.51	14.59	17.44	14.58
VA	Septic	2.47	2.59	2.79	2.30	2.62	2.24	2.09
VA	Forest+	13.08	12.73	12.83	13.35	13.08	13.44	13.68
VA	AllSources	68.13	58.76	60.26	61.13	57.33	58.80	52.59
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
VA	Agriculture	4.824	3.494	4.400	4.066	3.220	3.813	3.139
VA	Urban Runoff	1.255	1.166	1.203	1.134	1.143	1.093	0.985
VA	Wastewater+CSO	1.757	1.045	1.123	1.494	1.045	1.406	1.173
VA	Forest+	0.836	0.816	0.828	0.957	0.835	0.997	1.105
VA	AllSources	8.672	6.521	7.554	7.650	6.242	7.310	6.402
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
VA	Agriculture	2,410	2,256	1,977	2,050	2,003	1,929	1,609
VA	Urban Runoff	698	725	734	605	687	574	491
VA	Wastewater+CSO	47	30	44	92	30	107	146
VA	Forest+	587	564	583	775	584	838	1,005
VA	AllSources	3,743	3,574	3,339	3,522	3,305	3,448	3,251

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



WV Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
WV	Agriculture	2.66	2.42	2.43	2.48	2.38	2.43	2.27
WV	Urban Runoff	0.80	0.86	0.87	0.79	0.87	0.78	0.77
WV	Wastewater+CSO	0.262	0.25255	0.43	0.25106	0.24	0.25	0.24
WV	Septic	0.17	0.16	0.25	0.18	0.16	0.18	0.18
WV	Forest+	1.57	1.55	1.53	1.57	1.54	1.57	1.56
WV	AllSources	5.47	5.23	5.51	5.27	5.19	5.20	5.02
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
WV	Agriculture	0.556	0.432	0.457	0.487	0.439	0.464	0.402
WV	Urban Runoff	0.116	0.071	0.078	0.093	0.072	0.086	0.065
WV	Wastewater+CSO	0.109	0.051	0.081	0.077	0.039	0.067	0.039
WV	Forest+	0.118	0.117	0.116	0.123	0.117	0.124	0.128
WV	AllSources	0.899	0.671	0.733	0.780	0.666	0.740	0.635
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
WV	Agriculture	268	207	202	227	207	214	178
WV	Urban Runoff	105	56	67	81	55	73	52
WV	Wastewater+CSO	0.8	0.7	2.2	1.4	2.3	1.6	2.1
WV	Forest+	72	71	70	103	70	113	140
WV	AllSources	445	335	341	413	334	402	373

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



DE Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
DE	Agriculture	3.45	3.06	3.24	2.97	2.80	2.81	2.38
DE	Urban Runoff	0.39	0.42	0.44	0.37	0.43	0.36	0.34
DE	Wastewater+CSO	0.14	0.03	0.06	0.18	0.03	0.19	0.22
DE	Septic	0.15	0.17	0.19	0.13	0.18	0.12	0.10
DE	Forest+	0.34	0.34	0.34	0.35	0.33	0.35	0.35
DE	AllSources	4.47	4.03	4.28	3.99	3.78	3.82	3.39
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
DE	Agriculture	0.311	0.235	0.261	0.278	0.225	0.268	0.239
DE	Urban Runoff	0.0209	0.0196	0.0205	0.0197	0.0202	0.0193	0.0183
DE	Wastewater+CSO	0.0055	0.0054	0.0099	0.0080	0.0054	0.0088	0.0110
DE	Forest+	0.0081	0.0080	0.0083	0.0082	0.0079	0.0083	0.0084
DE	AllSources	0.345	0.268	0.299	0.314	0.259	0.304	0.277
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
DE	Agriculture	64	45	50	65	43	65	65
DE	Urban Runoff	29	27	31	28	30	28	27
DE	Wastewater+CSO	0.20	0.01	0.01	0.50	0.01	0.60	0.87
DE	Forest+	6.0	6.0	5.9	6.1	5.6	6.1	6.3
DE	AllSources	99	78	87	99	79	99	100

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



NY Loads and Goals

		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	2015	Milestone	2017	2025
		TOTN	TOTN	TOTN	Target	TOTN	Target	Target
Jurisdiction	Source	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)	(M lbs/year)
NY	Agriculture	4.54	4.33	3.87	3.86	4.32	3.64	3.04
NY	Urban Runoff	1.24	1.27	1.26	1.20	1.27	1.18	1.14
NY	Wastewater+CSO	1.49	1.81	2.05	1.36	1.99	1.31	1.19
NY	Septic	0.32	0.36	0.39	0.32	0.35	0.32	0.32
NY	Forest+	3.13	3.20	3.19	3.15	3.22	3.15	3.16
NY	AllSources	10.72	10.97	10.76	9.88	11.15	9.60	8.85
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TOTP	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)	(M lbs/year)
NY	Agriculture	0.527	0.422	0.401	0.454	0.422	0.429	0.364
NY	Urban Runoff	0.122	0.109	0.108	0.111	0.108	0.107	0.098
NY	Wastewater+CSO	0.190	0.122	0.137	0.133	0.126	0.115	0.065
NY	Forest+	0.117	0.117	0.117	0.117	0.118	0.116	0.116
NY	AllSources	0.956	0.771	0.764	0.815	0.774	0.768	0.643
		2009	2015	2015	2015	2017	2017	2025
		Progress	Progress	Milestone	Target	Milestone	Target	Target
		TSS	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)	(M lbs/year)
NY	Agriculture	132	128	113	118	127	113	100
NY	Urban Runoff	100	98	96	109	96	112	119
NY	Wastewater+CSO	2.6	3.3	3.1	2.5	5	2.5	2.4
NY	Forest+	97	98	98	90	98	88	82
NY	AllSources	332	327	310	320	326	315	304

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



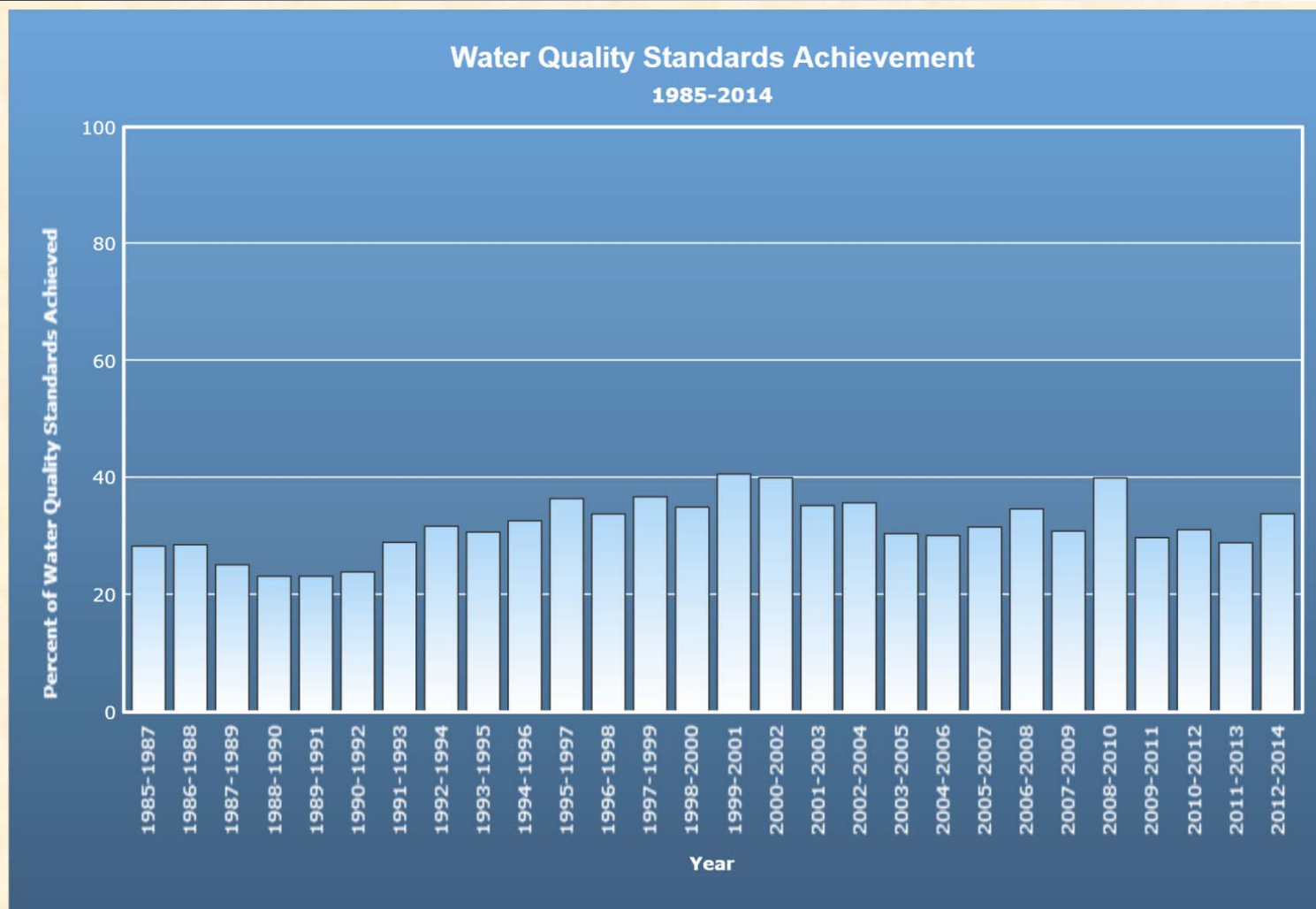
Milestone Evaluations

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.
- EPA evaluations will be made public in June, 2016.
- 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.



Water Quality Standards Achievement



The Bay's water quality remains very poor.

Results of the 2012-2014 assessment period indicate that 34 percent of the water quality standards for dissolved oxygen, water clarity/underwater grasses and chlorophyll a for the Chesapeake Bay were met during this time.



Questions and Comments?