

Maryland Phase II WIP Strategies

KENT Agriculture - Annual Practices

		2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Unit			
Conservation Tillage	Acres/Year	38,992	77,248	77,251
Cover Crop	Acres/Year	26,052	44,248	45,001
Cropland Irrigation Management	Acres/Year	0	7,899	7,899
Dairy Manure Incorporation	Acres/Year	0	1,200	2,000
Nutrient Management (All forms)	Acres/Year	66,163	93,387	97,774
Poultry Litter Incorporation	Acres/Year	0	9,549	15,911
Soil Conservation and Water Quality Plans	Acres/Year	61,855	81,468	90,906

- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)

KENT Agriculture - Additional BMPs

		2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Unit			
Alternative Crops	Acres	0	360	600
Barnyard Runoff Control	Acres	6	15	21
Forest Buffers	Acres	742	749	753
Grass Buffers / Vegetated Open Channel	Acres	2,317	2,418	2,484
Heavy Use Poultry Area Concrete Pads	Acres	0	1	2
Horse Pasture Management	Acres	0	60	100
Irrigation Water Capture Reuse	Acres	0	1,200	1,478
Land Retirement	Acres	926	1,078	1,219
Loafing Lot Management	Acres	0	3	5
Off Stream Watering Without Fencing	Acres	59	77	89
Precision Intensive Rotational Grazing	Acres	0	120	200
Prescribed Grazing	Acres	165	240	400
Stream Access Control with Fencing	Acres	3	37	37
Tree Planting / Vegetative Environmental Buffers	Acres	519	569	602
Water Control Structures	Acres	0	62	100
Wetland Restoration	Acres	509	573	616
Non Urban Stream Restoration / Shoreline Erosion Control	Linear Feet	0	600	1,000

- The BMP values represent the total amount of implementation in place.
- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)

Please note: The Agricultural BMP tables represent Land BMPs that can be shown as acres or feet and do not show those BMPs that are based on percentages such as Animal Waste Storage and Poultry Litter Treatment (Alum). Manure Transport is also not represented in these tables.

**KENT
Forest BMPs**

			2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Zone	Unit			
Forest Harvesting Practices	harvested forest	Acres	444	444	444

- The BMP values represent the total amount of implementation in place.
- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)

**KENT
Developed Land BMPs**

		2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Unit			
Bioretention / Raingardens	Acres	0	107	80
Bioswale	Acres	0	45	34
Dry Detention Ponds and Hydrodynamic Structures	Acres	73	124	116
Dry Extended Detention Ponds	Acres	192	217	208
Impervious Urban Surface Reduction	Acres	0	0	735
MS4 Permit Stormwater Retrofit	Acres	150	146	116
Stormwater Management Generic BMP (1985 to 2002)	Acres	2,198	3,284	2,874
Stormwater Management Generic BMP (2002 to 2010)	Acres	1,924	2,229	1,630
Urban Filtering Practices	Acres	30	53	5,967
Urban Forest Buffers	Acres	0	2	656
Urban Infiltration Practices	Acres	9	9	8
Urban Tree Planting / Urban Tree Canopy	Acres	0	336	499
Wet Ponds and Wetlands	Acres	47	86	73
Erosion and Sediment Control on Construction	Acres/Year	10	10	37
Erosion and Sediment Control on Extractive	Acres/Year	0	0	118
Forest Conservation	Acres/Year	519	571	629
Street Sweeping Mechanical Monthly	Acres/Year	0	150	512
Urban Nutrient Management	Acres/Year	2,257	2,186	8,114
Urban Stream Restoration / Shoreline Erosion Control	Linear Feet	0	6,488	8,888

- The BMP values represent the total amount of implementation in place.
- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)

KENT Septic System BMPs

			2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Zone	Unit			
Septic Connection	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	0	66	66
	Septic ConnectionTotal		0	66	66
Septic Denitrification	Critical Area	Systems	39	180	1,673
	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	39	31	1,024
	Within 1000 ft of a perennial stream	Systems	17	17	710
	Septic DenitrificationTotal		95	227	3,407
Septic Pumping	Critical Area	Systems	0	344	502
	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	0	324	473
	Within 1000 ft of a perennial stream	Systems	0	146	213
	Septic PumpingTotal		0	813	1,188

- The BMP values represent the total amount of implementation in place.
- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)

Maryland Phase II WIP Strategies

KENT Total Nitrogen Loads

		2010 Progress	2017 Interim Strategy	2025 Final Strategy	Final Target
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Agriculture	AFO	0.035	0.008	0.008	0.010
	CAFO	0.018	0.013	0.012	0.014
	Crop	1.277	1.025	0.981	0.666
	Nursery	0.197	0.078	0.050	0.183
	Pasture	0.023	0.020	0.019	0.015
	Subtotal		1.551	1.144	1.070
Forest	Harvested	0.005	0.005	0.005	0.005
	Natural	0.089	0.093	0.095	0.088
	Subtotal	0.094	0.098	0.099	0.093
Non-Tidal Atm	Non-Tidal Atm	0.019	0.019	0.019	0.019
	Subtotal	0.019	0.019	0.019	0.019
Septic	Septic	0.042	0.040	0.022	0.022
	Subtotal	0.042	0.040	0.022	0.022
Stormwater	CSS	0.000	0.000	0.000	0
	Construction	0.001	0.001	0.000	0.000
	Extractive	0.001	0.001	0.001	0.001
	Non-Regulated Developed	0.113	0.106	0.075	0.072
	Regulated Developed	0.001	0.001	0.001	0.001
	Subtotal		0.115	0.108	0.077
Wastewater	CSO	0.000	0.000	0.000	0
	Industrial	0.044	0.012	0.012	0.012
	Municipal	0.028	0.034	0.050	0.048
	Subtotal		0.072	0.046	0.062
	Total	1.892	1.454	1.349	1.155

- The agricultural sector strategies were set to meet basin targets rather than county targets. Therefore, agricultural strategies are likely to overshoot or undershoot county targets, which can be reflected in the total countywide target results.
- Stormwater sector strategies may overshoot the county target for nitrogen (N) to meet the phosphorus (P) target, or vice versa. This is because the N and P reduction targets differ and the same BMP has different effects on the reduction of N and P.

KENT Total Phosphorus Loads

		2010 Progress	2017 Interim Strategy	2025 Final Strategy	Final Target
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Agriculture	AFO	0.006	0.001	0.001	0.001
	CAFO	0.003	0.002	0.002	0.002
	Crop	0.066	0.055	0.054	0.050
	Nursery	0.061	0.024	0.016	0.054
	Pasture	0.002	0.002	0.002	0.001
	Subtotal		0.138	0.084	0.075
Forest	Harvested	0.000	0.000	0.000	0.000
	Natural	0.003	0.003	0.003	0.003
	Subtotal	0.003	0.003	0.003	0.003
Non-Tidal Atm	Non-Tidal Atm	0.001	0.001	0.001	0.001
	Subtotal	0.001	0.001	0.001	0.001
Septic	Septic	0.000	0.000	0.000	0.000
	Subtotal	0.000	0.000	0.000	0.000
Stormwater	CSS	0.000	0.000	0.000	0
	Construction	0.000	0.000	0.000	0.000
	Extractive	0.000	0.000	0.000	0.000
	Non-Regulated Developed	0.007	0.006	0.004	0.003
	Regulated Developed	0.000	0.000	0.000	0.000
	Subtotal		0.007	0.006	0.004
Wastewater	CSO	0.000	0.000	0.000	0
	Industrial	0.005	0.003	0.003	0.003
	Municipal	0.003	0.004	0.007	0.006
	Subtotal		0.008	0.007	0.009
Total		0.157	0.102	0.092	0.124

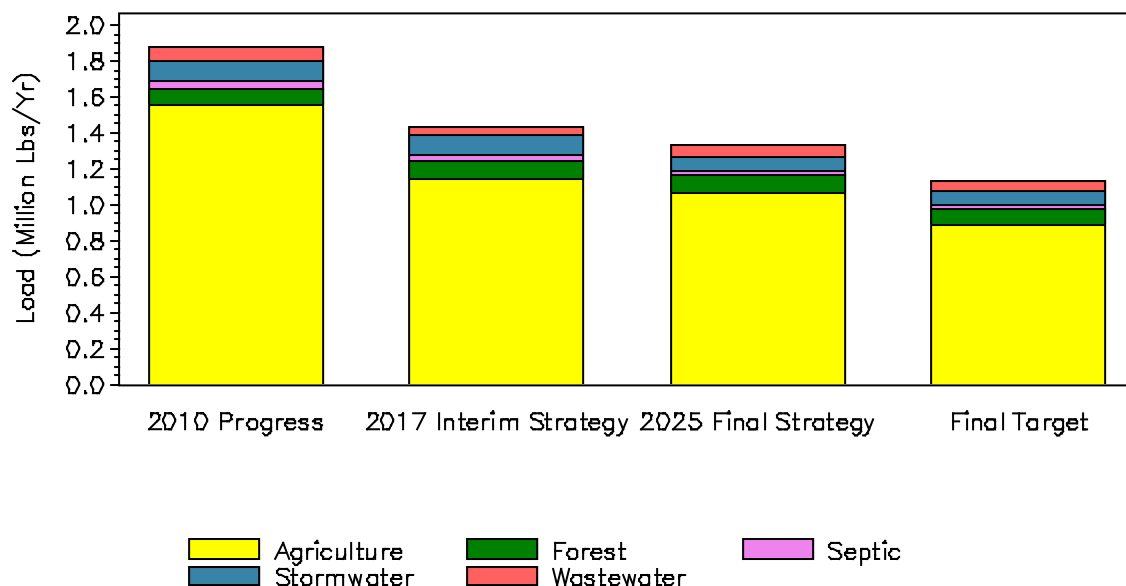
- The agricultural sector strategies were set to meet basin targets rather than county targets. Therefore, agricultural strategies are likely to overshoot or undershoot county targets, which can be reflected in the total countywide target results.
- Stormwater sector strategies may overshoot the county target for nitrogen (N) to meet the phosphorus (P) target, or vice versa. This is because the N and P reduction targets differ and the same BMP has different effects on the reduction of N and P.

**KENT
Total Sediment Loads**

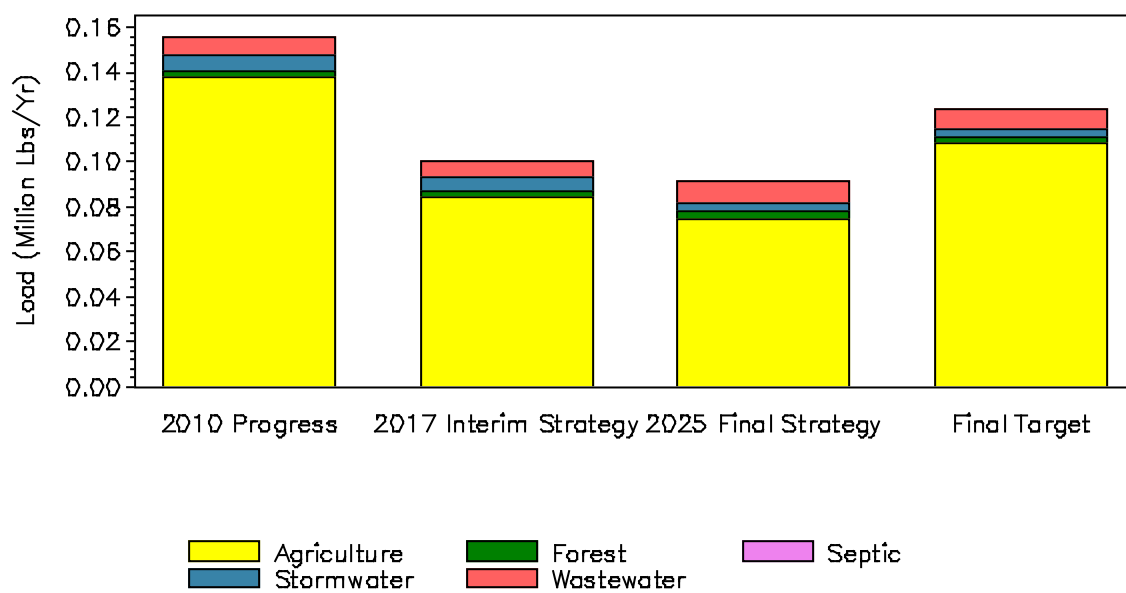
		2010 Progress	2017 Interim Strategy	2025 Final Strategy
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Agriculture	AFO	0.018	0.017	0.015
	CAFO	0.018	0.017	0.015
	Crop	35.397	28.104	27.783
	Nursery	1.801	1.801	1.801
	Pasture	0.732	0.610	0.596
	Subtotal		37.967	30.549
Forest	Harvested	0.112	0.139	0.139
	Natural	1.189	1.233	1.254
	Subtotal	1.301	1.372	1.393
Non-Tidal Atm	Non-Tidal Atm	0.000	0.000	0.000
	Subtotal	0.000	0.000	0.000
Septic	Septic	0.000	0.000	0.000
	Subtotal	0.000	0.000	0.000
Stormwater	CSS	0.000	0.000	0.000
	Construction	0.102	0.103	0.071
	Extractive	0.120	0.120	0.081
	Non-Regulated Developed	2.384	1.800	1.114
	Regulated Developed	0.021	0.022	0.010
	Subtotal		2.628	2.044
Wastewater	CSO	0.000	0.000	0.000
	Industrial	0.020	0.035	0.035
	Municipal	0.028	0.130	0.244
	Subtotal		0.047	0.165
	Total	41.943	34.131	33.158

• The State did not distribute EPA's state and basin targets at the county or sector scale for sediment. Hence a Final Target column is not shown.

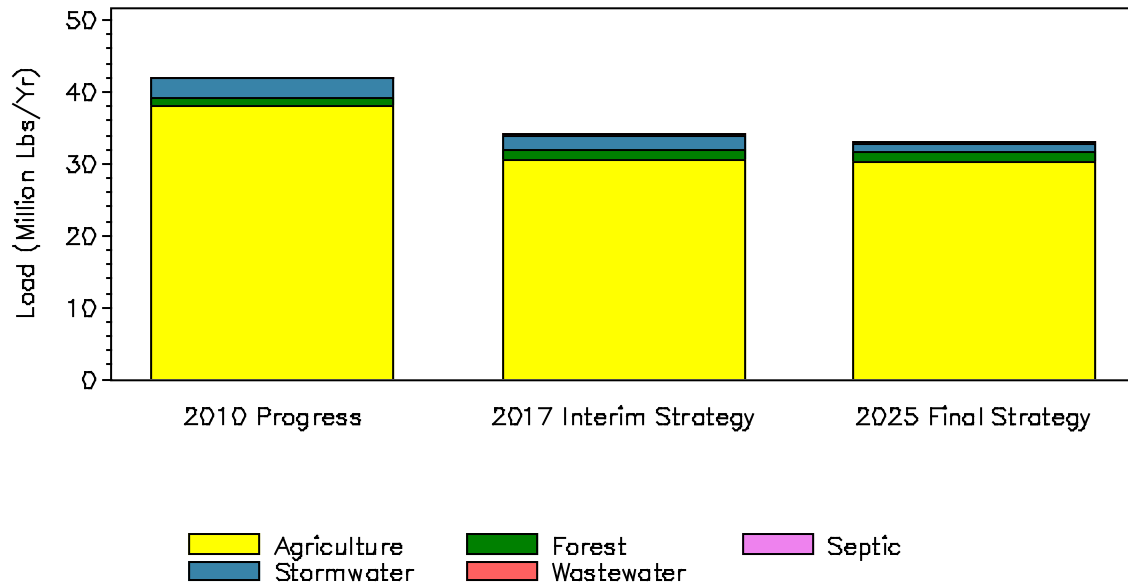
KENT Total Nitrogen Loads



KENT Total Phosphorus Loads



KENT
Total Sediment Loads



• The State did not distribute EPA's state and basin targets at the county or sector scale for sediment. Hence a Final Target bar is not shown.

Maryland Phase II WIP Team MAST Submittals

KENT Developed Land BMPs

		2010 Progress	2017 WIP Team	2017 Interim Strategy	2025 WIP Team	2025 Final Strategy	Change in 2017 Submittal	Change in 2025 Submittal
BMP Name	Unit							
Bioretention / Raingardens	Acres	0	107	107	107	80	0	-27
Bioswale	Acres	0	45	45	45	34	0	-11
Dry Detention Ponds and Hydrodynamic Structures	Acres	73	124	124	135	116	0	-19
Dry Extended Detention Ponds	Acres	192	217	217	227	208	0	-19
Impervious Urban Surface Reduction	Acres	0	0	0	0	735	0	735
MS4 Permit Stormwater Retrofit	Acres	150	146	146	144	116	0	-28
Stormwater Management Generic BMP (1985 to 2002)	Acres	2,198	3,284	3,284	3,257	2,874	0	-383
Stormwater Management Generic BMP (2002 to 2010)	Acres	1,924	2,229	2,229	2,206	1,630	0	-576
Urban Filtering Practices	Acres	30	53	53	76	5,967	0	5,890
Urban Forest Buffers	Acres	0	2	2	2	656	0	653
Urban Infiltration Practices	Acres	9	9	9	9	8	0	-0
Urban Tree Planting / Urban Tree Canopy	Acres	0	336	336	497	499	0	2
Wet Ponds and Wetlands	Acres	47	86	86	86	73	0	-12
Erosion and Sediment Control on Construction	Acres/Year	10	10	10	10	37	0	27
Erosion and Sediment Control on Extractive	Acres/Year	0	0	0	0	118	0	118
Forest Conservation	Acres/Year	519	571	571	594	629	0	35
Street Sweeping Mechanical Monthly	Acres/Year	0	150	150	683	512	0	-171
Urban Nutrient Management	Acres/Year	2,257	2,186	2,186	2,153	8,114	0	5,962
Urban Stream Restoration / Shoreline Erosion Control	Linear Feet	0	6,488	6,488	8,888	8,888	0	0

- The BMP values represent the total amount of implementation in place.
- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)
- Acres of BMPs might be observed to decrease in subsequent scenarios for several reasons:
 - To meet the countywide sector target, the State supplemented the Team scenarios with a generic set of BMPs.
 - Some aspects of the State strategies were automated, such that BMP levels were computed as a percentage of available acres. The application of some BMPs convert the acres of developed land to forest land, or impervious to pervious. This reduces/increases the available acres so that, if the same percentage level of other BMPs is applied to these lands, then a decrease/increase in BMP acreage might be observed even though the implementation level was intended to remain equal.
 - Because the Bay watershed model is not able to account for BMPs that treat overlapping areas (nested BMPs), the acreage available for BMPs can be used up before the Final Target is achieved. In such cases the State gave precedence to the more effective BMPs.
- The columns labeled Team include the State Highway Administration (SHA) strategies as well as 2010 Progress levels for other entities.
- The columns for Interim and Final strategies include numbers for SHA, federal facilities, State lands, industrial facilities, Phase I and II MS4 and non-regulated stormwater where applicable. They also reflect changes made by the State.

KENT Septic System BMPs

			2010 Progress	2017 WIP Team	2017 Interim Strategy	2025 WIP Team	2025 Final Strategy	Change in 2017 Submittal	Change in 2025 Submittal
BMP Name	Zone	Unit							
Septic Connection	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	0	66	66	66	66	0	0
Septic ConnectionTotal			0	66	66	66	66	0	0
Septic Denitrification	Critical Area	Systems	39	180	180	268	1,673	0	1,406
	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	39	31	31	31	1,024	0	993
	Within 1000 ft of a perennial stream	Systems	17	17	17	17	710	0	693
Septic DenitrificationTotal			95	227	227	315	3,407	0	3,092
Septic Pumping	Critical Area	Systems	0	344	344	502	502	0	0
	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	0	324	324	473	473	0	0
	Within 1000 ft of a perennial stream	Systems	0	146	146	213	213	0	0
Septic PumpingTotal			0	813	813	1,188	1,188	0	0

- The BMP values represent the total amount of implementation in place.
- The BMP values are the amount credited in the Bay watershed model. It is the amount of BMP submitted minus the amount not given credit for (e.g., due to overlapping with other BMPs)

Maryland Phase II WIP Team MAST Submittals

KENT Total Nitrogen Loads

		2010 Progress	2017 WIP Team	2017 Interim Strategy	2025 WIP Team	2025 Final Strategy	Final Target
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Stormwater	CSS	0.000	0.000	0.000	0.000	0.000	0
	Construction	0.001	0.001	0.001	0.001	0.000	0.000
	Extractive	0.001	0.001	0.001	0.001	0.001	0.001
	Non-Regulated Developed	0.113	0.106	0.106	0.104	0.075	0.072
	Regulated Developed	0.001	0.001	0.001	0.001	0.001	0.001
	Subtotal	0.115	0.108	0.108	0.107	0.077	0.074
Septic	Septic	0.042	0.040	0.040	0.039	0.022	0.022
	Subtotal	0.042	0.040	0.040	0.039	0.022	0.022

- The columns labeled Team include the State Highway Administration (SHA) strategies as well as 2010 Progress levels for other entities.
- The columns for Interim and Final strategies include numbers for SHA, federal facilities, State lands, industrial facilities, Phase I and II MS4 and non-regulated stormwater where applicable. They also reflect changes made by the State.

KENT Total Phosphorus Loads

		2010 Progress	2017 WIP Team	2017 Interim Strategy	2025 WIP Team	2025 Final Strategy	Final Target
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Stormwater	CSS	0.000	0.000	0.000	0.000	0.000	0
	Construction	0.000	0.000	0.000	0.000	0.000	0.000
	Extractive	0.000	0.000	0.000	0.000	0.000	0.000
	Non-Regulated Developed	0.007	0.006	0.006	0.006	0.004	0.003
	Regulated Developed	0.000	0.000	0.000	0.000	0.000	0.000
	Subtotal	0.007	0.006	0.006	0.006	0.004	0.003
Septic	Septic	0.000	0	0.000	0	0.000	0.000
	Subtotal	0.000	0	0.000	0	0.000	0.000

- The columns labeled Team include the State Highway Administration (SHA) strategies as well as 2010 Progress levels for other entities.
- The columns for Interim and Final strategies include numbers for SHA, federal facilities, State lands, industrial facilities, Phase I and II MS4 and non-regulated stormwater where applicable. They also reflect changes made by the State.

KENT Total Sediment Loads

		2010 Progress	2017 WIP Team	2017 Interim Strategy	2025 WIP Team	2025 Final Strategy
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Stormwater	CSS	0.000	0.000	0.000	0.000	0.000
	Construction	0.102	0.102	0.103	0.102	0.071
	Extractive	0.120	0.120	0.120	0.120	0.081
	Non-Regulated Developed	2.384	1.767	1.800	1.717	1.114
	Regulated Developed	0.021	0.021	0.022	0.021	0.010
	Subtotal		2.628	2.010	2.044	1.960
Septic	Septic	0.000	0	0.000	0	0.000
	Subtotal	0.000	0	0.000	0	0.000

- The columns labeled Team include the State Highway Administration (SHA) strategies as well as 2010 Progress levels for other entities.
- The columns for Interim and Final strategies include numbers for SHA, federal facilities, State lands, industrial facilities, Phase I and II MS4 and non-regulated stormwater where applicable. They also reflect changes made by the State.