

Maryland Phase II WIP Strategies

PRINCE GEORGES Agriculture - Annual Practices

		2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Unit			
Conservation Tillage	Acres/Year	2,811	5,872	5,872
Cover Crop	Acres/Year	857	1,966	2,000
Cropland Irrigation Management	Acres/Year	0	726	726
Dairy Manure Incorporation	Acres/Year	0	60	100
Nutrient Management (All forms)	Acres/Year	7,596	16,587	16,082
Poultry Litter Incorporation	Acres/Year	0	15	24
Soil Conservation and Water Quality Plans	Acres/Year	14,142	16,534	18,450

- 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)

PRINCE GEORGES Agriculture - Additional BMPs

		2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Unit			
Barnyard Runoff Control	Acres	34	35	35
Forest Buffers	Acres	130	133	135
Grass Buffers / Vegetated Open Channel	Acres	159	169	176
Horse Pasture Management	Acres	0	79	131
Irrigation Water Capture Reuse	Acres	0	120	200
Land Retirement	Acres	525	1,244	1,872
Loafing Lot Management	Acres	0	0	0
Off Stream Watering Without Fencing	Acres	1,218	1,399	1,519
Precision Intensive Rotational Grazing	Acres	0	60	100
Prescribed Grazing	Acres	10	120	200
Stream Access Control with Fencing	Acres	13	13	13
Tree Planting / Vegetative Environmental Buffers	Acres	1,699	1,699	1,699
Water Control Structures	Acres	0	88	147
Wetland Restoration	Acres	24	27	29

- 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.

**PRINCE GEORGES
Forest BMPs**

			2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Zone	Unit			
Forest Harvesting Practices	harvested forest	Acres	1,058	1,064	1,064

- 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)

PRINCE GEORGES Developed Land BMPs

		2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Unit			
Bioretention / Raingardens	Acres	0	2,275	5,854
Bioswale	Acres	0	65	175
Dry Detention Ponds and Hydrodynamic Structures	Acres	1,087	534	509
Dry Extended Detention Ponds	Acres	1,395	266	254
Impervious Urban Surface Reduction	Acres	4	1,347	5,180
MS4 Permit Stormwater Retrofit	Acres	2,952	3,238	3,299
Stormwater Management Generic BMP (1985 to 2002)	Acres	13,108	13,261	13,081
Stormwater Management Generic BMP (2002 to 2010)	Acres	2,799	3,125	3,073
Urban Filtering Practices	Acres	191	15,984	43,825
Urban Forest Buffers	Acres	51	1,448	4,479
Urban Infiltration Practices	Acres	397	6,269	9,754
Urban Tree Planting / Urban Tree Canopy	Acres	0	350	748
Vegetated Open Channels	Acres	0	1,006	959
Wet Ponds and Wetlands	Acres	7,226	7,839	8,618
Erosion and Sediment Control on Construction	Acres/Year	6,886	6,886	6,886
Erosion and Sediment Control on Extractive	Acres/Year	0	0	519
Forest Conservation	Acres/Year	19,867	18,683	18,858
Urban Nutrient Management	Acres/Year	24,273	14,224	26,536
Street Sweeping Pounds	Lbs/Year	0	1,122,792	1,122,792
Urban Stream Restoration / Shoreline Erosion Control	Linear Feet	0	71,539	237,572

- 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)

PRINCE GEORGES Septic System BMPs

			2010 Progress	2017 Interim Strategy	2025 Final Strategy
BMP Name	Zone	Unit			
Septic Denitrification	Critical Area	Systems	0	12	222
	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	8	9	3,449
	Within 1000 ft of a perennial stream	Systems	4	4	3,970
	<i>Septic Denitrification Total</i>		12	25	7,641

- 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

PRINCE GEORGES 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	0.012	0.003	0.003	0.008
	CAFO	0.000	0.000	0.000	0.000
	Crop	0.127	0.104	0.097	0.093
	Nursery	0.050	0.037	0.029	0.047
	Pasture	0.025	0.024	0.025	0.020
	Subtotal		0.213	0.168	0.155
Forest	Harvested	0.010	0.010	0.010	0.012
	Natural	0.232	0.235	0.242	0.223
	Subtotal	0.242	0.245	0.252	0.234
Non-Tidal Atm	Non-Tidal Atm	0.009	0.009	0.009	0.009
	Subtotal	0.009	0.009	0.009	0.009
Septic	Septic	0.094	0.094	0.062	0.063
	Subtotal	0.094	0.094	0.062	0.063
Stormwater	CSS	0.000	0.000	0.000	0
	Construction	0.075	0.075	0.075	0.085
	Extractive	0.009	0.009	0.008	0.008
	Regulated Developed	0.731	0.666	0.546	0.579
	Subtotal	0.815	0.750	0.629	0.671
Wastewater	CSO	0.000	0.000	0.000	0
	Industrial	0.004	0.004	0.004	0.004
	Municipal	1.444	1.274	1.686	1.685
	Subtotal	1.448	1.278	1.690	1.689
Total		2.822	2.545	2.797	2.834

- 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.

**PRINCE GEORGES
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	0.002	0.001	0.001	0.001
	CAFO	0.000	0.000	0.000	0.000
	Crop	0.012	0.011	0.011	0.010
	Nursery	0.022	0.016	0.013	0.020
	Pasture	0.003	0.003	0.003	0.002
	Subtotal		0.039	0.030	0.027
Forest	Harvested	0.000	0.000	0.000	0.000
	Natural	0.007	0.008	0.008	0.007
	Subtotal	0.008	0.008	0.008	0.008
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	0.018	0.019	0.019	0.022
	Extractive	0.003	0.003	0.002	0.002
	Regulated Developed	0.075	0.067	0.052	0.047
	Subtotal	0.096	0.088	0.073	0.072
Wastewater	CSO	0.000	0.000	0.000	0
	Industrial	0.015	0.011	0.006	0.006
	Municipal	0.051	0.071	0.093	0.093
	Subtotal	0.066	0.082	0.099	0.099
Total		0.210	0.209	0.208	0.213

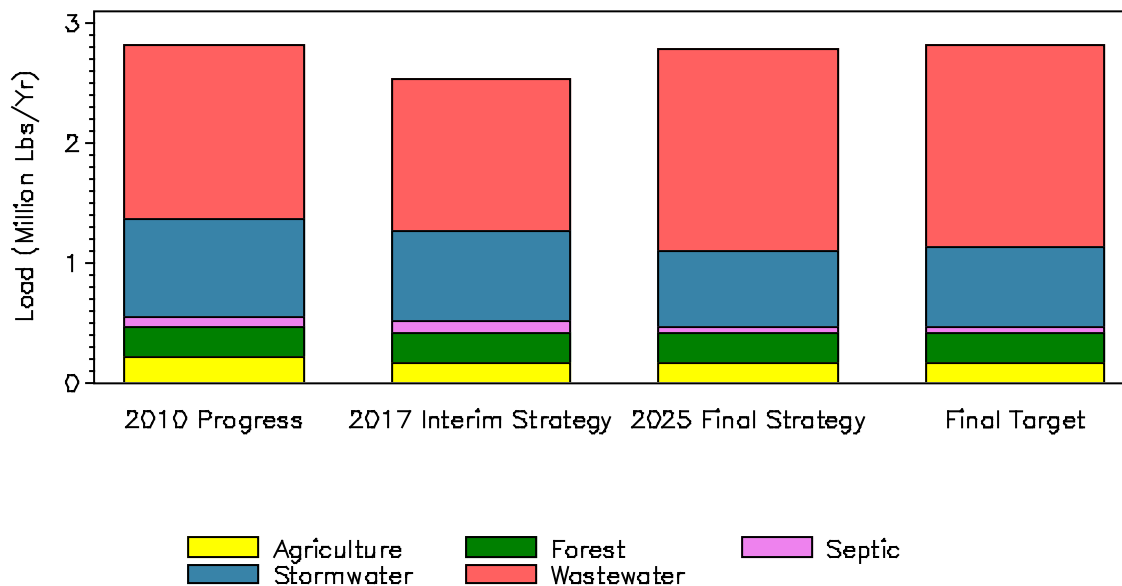
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- Stormwater sector strategies may overshoot the county target for nitrogen (N) to meet the phosphorus (P) target, or vice versa. This is because the N and P reduction targets differ and the same BMP has different effects on the reduction of N and P.

**PRINCE GEORGES
Total Sediment Loads**

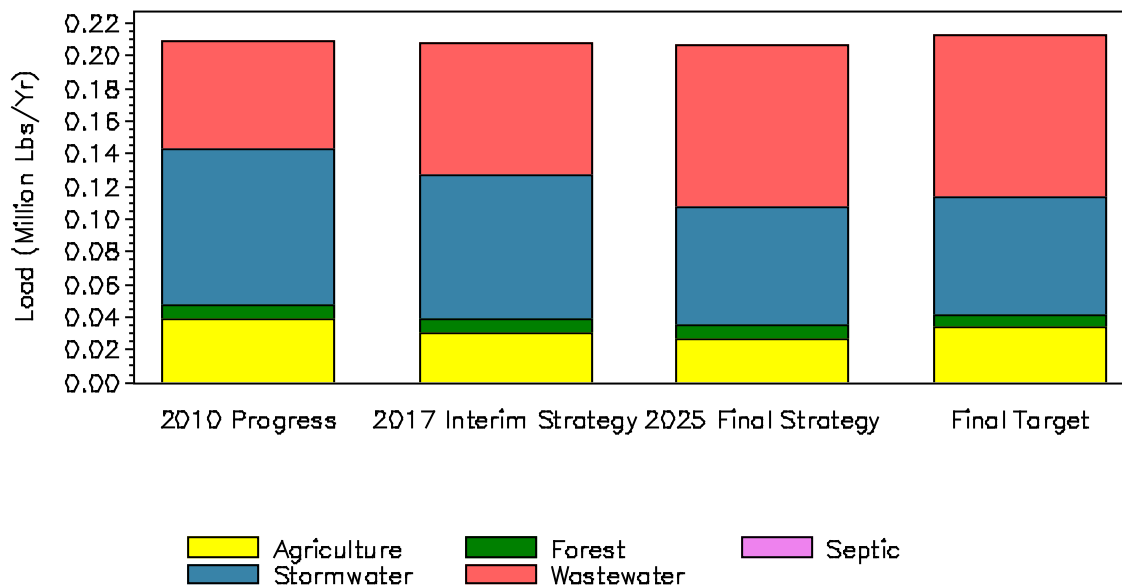
		2010 Progress	2017 Interim Strategy	2025 Final Strategy
Source Sector	Landuse	Million Lbs/Yr	Million Lbs/Yr	Million Lbs/Yr
Agriculture	AFO	0.073	0.072	0.072
	CAFO	0.000	0.000	0.000
	Crop	23.092	18.483	17.416
	Nursery	1.283	1.148	1.132
	Pasture	2.016	2.026	2.173
	Subtotal		26.464	21.729
Forest	Harvested	0.295	0.336	0.336
	Natural	6.112	6.197	6.407
	Subtotal	6.407	6.533	6.743
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	14.782	15.176	15.176
	Extractive	2.095	2.095	1.769
	Regulated Developed	49.178	39.803	28.305
	Subtotal	66.055	57.074	45.250
Wastewater	CSO	0.000	0.000	0.000
	Industrial	0.230	0.306	0.306
	Municipal	0.556	6.580	8.890
	Subtotal	0.786	6.886	9.196
Total		99.712	92.222	81.983

• 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.

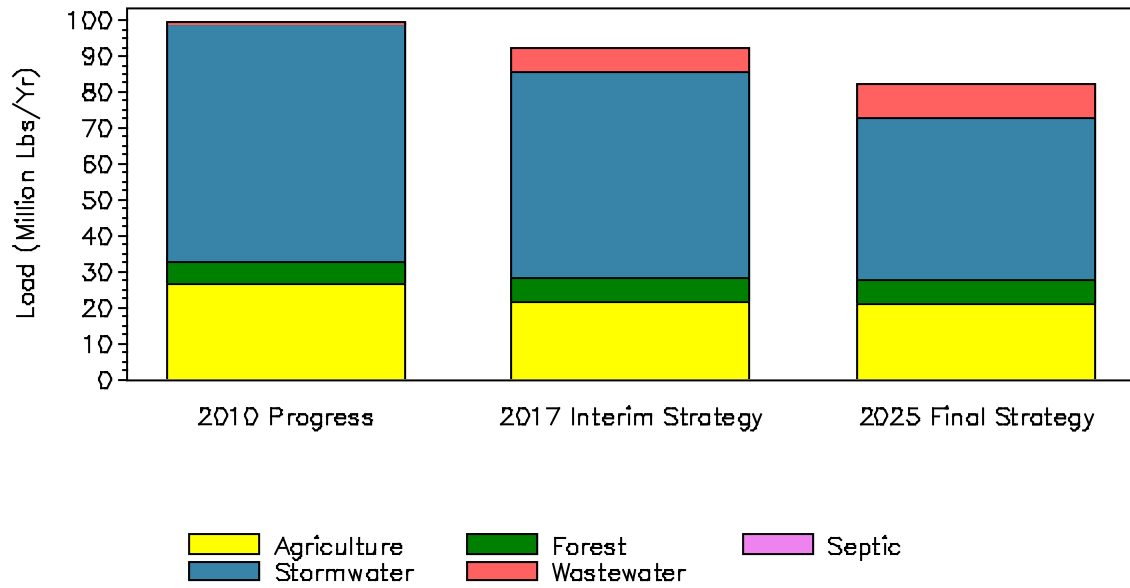
PRINCE GEORGES
Total Nitrogen Loads



PRINCE GEORGES
Total Phosphorus Loads



PRINCE GEORGES
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

PRINCE GEORGES 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	2,275	2,275	5,854	5,854	0	0
Bioswale	Acres	0	65	65	175	175	0	-0
Dry Detention Ponds and Hydrodynamic Structures	Acres	1,087	534	534	509	509	0	0
Dry Extended Detention Ponds	Acres	1,395	266	266	254	254	0	-0
Impervious Urban Surface Reduction	Acres	4	1,121	1,347	2,322	5,180	226	2,858
MS4 Permit Stormwater Retrofit	Acres	2,952	3,238	3,238	3,299	3,299	-0	0
Stormwater Management Generic BMP (1985 to 2002)	Acres	13,108	13,261	13,261	13,081	13,081	-1	0
Stormwater Management Generic BMP (2002 to 2010)	Acres	2,799	3,125	3,125	3,073	3,073	-0	0
Urban Filtering Practices	Acres	191	15,984	15,984	29,492	43,825	-0	14,333
Urban Forest Buffers	Acres	51	1,448	1,448	2,887	4,479	0	1,592
Urban Infiltration Practices	Acres	397	6,269	6,269	9,754	9,754	0	-0
Urban Tree Planting / Urban Tree Canopy	Acres	0	350	350	748	748	0	-0
Vegetated Open Channels	Acres	0	1,006	1,006	959	959	0	0
Wet Ponds and Wetlands	Acres	7,226	7,840	7,839	8,618	8,618	-0	-0
Erosion and Sediment Control on Construction	Acres/Year	6,886	6,886	6,886	6,886	6,886	0	0
Erosion and Sediment Control on Extractive	Acres/Year	0	0	0	0	519	0	519
Forest Conservation	Acres/Year	19,867	18,642	18,683	18,858	18,858	41	0
Urban Nutrient Management	Acres/Year	24,273	12,240	14,224	12,199	26,536	1,984	14,337
Street Sweeping Pounds	Lbs/Year	0	1,122,792	1,122,792	1,122,792	1,122,792	0	-0
Urban Stream Restoration / Shoreline Erosion Control	Linear Feet	0	71,539	71,539	237,572	237,572	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.

PRINCE GEORGES 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 Denitrification	Critical Area	Systems	0	12	12	18	222	0	204
	Outside of the Critical Area, not within 1000 ft of a perennial stream	Systems	8	9	9	9	3,449	0	3,441
	Within 1000 ft of a perennial stream	Systems	4	4	4	4	3,970	0	3,966
Septic DenitrificationTotal			12	25	25	31	7,641	0	7,610

- 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

PRINCE GEORGES 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	0.075	0.075	0.075	0.075	0.075	0.085
	Extractive	0.009	0.009	0.009	0.009	0.008	0.008
	Regulated Developed	0.731	0.670	0.666	0.600	0.546	0.579
	Subtotal	0.815	0.754	0.750	0.685	0.629	0.671
Septic	Septic	0.094	0.094	0.094	0.094	0.062	0.063
	Subtotal	0.094	0.094	0.094	0.094	0.062	0.063

- 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.

PRINCE GEORGES 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	0.018	0.018	0.019	0.018	0.019	0.022
	Extractive	0.003	0.003	0.003	0.003	0.002	0.002
	Regulated Developed	0.075	0.067	0.067	0.058	0.052	0.047
	Subtotal	0.096	0.088	0.088	0.079	0.073	0.072
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.

**PRINCE GEORGES
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	14.782	14.782	15.176	14.782	15.176
	Extractive	2.095	2.095	2.095	2.095	1.769
	Regulated Developed	49.178	39.424	39.803	32.633	28.305
	Subtotal	66.055	56.301	57.074	49.510	45.250
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Septic	Septic	0.000	0	0.000	0	0.000
	Subtotal	0.000	0	0.000	0	0.000
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- 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.