# Maryland Phase II WIP Strategies

## TALBOT
## Agriculture - Annual Practices

| | | 2010 Progress | 2017 Interim Strategy | 2025 Final Strategy |
|---|---|---|---|---|
| **BMP Name** | **Unit** | | | |
| Conservation Tillage | Acres/Year | 64,635 | 68,340 | 68,334 |
| Cover Crop | Acres/Year | 22,318 | 39,336 | 40,000 |
| Cropland Irrigation Management | Acres/Year | 0 | 3,509 | 3,509 |
| Dairy Manure Incorporation | Acres/Year | 0 | 60 | 100 |
| Nutrient Management (All forms) | Acres/Year | 48,652 | 76,393 | 78,768 |
| Poultry Litter Incorporation | Acres/Year | 0 | 3,101 | 5,174 |
| Soil Conservation and Water Quality Plans | Acres/Year | 59,628 | 70,093 | 78,212 |

• 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)

## TALBOT
## Agriculture - Additional BMPs

| | | 2010 Progress | 2017 Interim Strategy | 2025 Final Strategy |
|---|---|---|---|---|
| **BMP Name** | **Unit** | | | |
| Barnyard Runoff Control | Acres | 6 | 11 | 15 |
| Forest Buffers | Acres | 821 | 851 | 871 |
| Grass Buffers / Vegetated Open Channel | Acres | 6,741 | 7,078 | 7,302 |
| Heavy Use Poultry Area Concrete Pads | Acres | 0 | 4 | 5 |
| Horse Pasture Management | Acres | 0 | 899 | 1,500 |
| Irrigation Water Capture Reuse | Acres | 0 | 29 | 48 |
| Land Retirement | Acres | 562 | 883 | 1,152 |
| Off Stream Watering Without Fencing | Acres | 30 | 30 | 30 |
| Prescribed Grazing | Acres | 0 | 150 | 250 |
| Stream Access Control with Fencing | Acres | 7 | 12 | 12 |
| Tree Planting / Vegetative Environmental Buffers | Acres | 693 | 743 | 776 |
| Water Control Structures | Acres | 0 | 602 | 1,003 |
| Wetland Restoration | Acres | 1,043 | 1,274 | 1,428 |
| Non Urban Stream Restoration / Shoreline Erosion Control | Linear Feet | 0 | 3,600 | 6,000 |

• 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.

# TALBOT
# Forest BMPs

| | | | 2010 Progress | 2017 Interim Strategy | 2025 Final Strategy |
|---|---|---|---|---|---|
| **BMP Name** | **Zone** | **Unit** | | | |
| Forest Harvesting Practices | harvested forest | Acres | 453 | 453 | 453 |

• 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)

# TALBOT
## Developed Land BMPs

| | | 2010 Progress | 2017 Interim Strategy | 2025 Final Strategy |
|---|---|---|---|---|
| **BMP Name** | **Unit** | | | |
| Bioretention / Raingardens | Acres | 0 | 0 | 2,000 |
| Dry Detention Ponds and Hydrodynamic Structures | Acres | 15 | 15 | 15 |
| Dry Extended Detention Ponds | Acres | 15 | 15 | 15 |
| Impervious Urban Surface Reduction | Acres | 0 | 6 | 305 |
| MS4 Permit Stormwater Retrofit | Acres | 773 | 773 | 630 |
| Stormwater Management Generic BMP (1985 to 2002) | Acres | 3,831 | 3,831 | 3,831 |
| Stormwater Management Generic BMP (2002 to 2010) | Acres | 5,597 | 5,597 | 5,105 |
| Urban Filtering Practices | Acres | 0 | 0 | 4,297 |
| Urban Forest Buffers | Acres | 2 | 2 | 291 |
| Vegetated Open Channels | Acres | 0 | 0 | 7,000 |
| Wet Ponds and Wetlands | Acres | 37 | 37 | 37 |
| Erosion and Sediment Control on Construction | Acres/Year | 225 | 225 | 234 |
| Erosion and Sediment Control on Extractive | Acres/Year | 0 | 0 | 123 |
| Forest Conservation | Acres/Year | 603 | 603 | 603 |
| Urban Nutrient Management | Acres/Year | 3,792 | 12,059 | 20,057 |

• 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)

# TALBOT
## Septic System BMPs

| | | | 2010 Progress | 2017 Interim Strategy | 2025 Final Strategy |
|---|---|---|---|---|---|
| **BMP Name** | **Zone** | **Unit** | | | |
| Septic Connection | Critical Area | Systems | 0 | 0 | 772 |
| | ***Septic ConnectionTotal*** | | ***0*** | ***0*** | ***772*** |
| | | | | | |
| Septic Denitrification | Critical Area | Systems | 86 | 86 | 3,089 |
| | Outside of the Critical Area, not within 1000 ft of a perennial stream | Systems | 50 | 50 | 0 |
| | Within 1000 ft of a perennial stream | Systems | 29 | 29 | 1,096 |
| | ***Septic DenitrificationTotal*** | | ***165*** | ***165*** | ***4,185*** |
| | | | | | |

• 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

## TALBOT
## 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 | 0.011 | 0.006 | 0.006 | 0.008 |
| | CAFO | 0.008 | 0.008 | 0.007 | 0.011 |
| | Crop | 0.916 | 0.713 | 0.688 | 0.564 |
| | Nursery | 0.006 | 0.003 | 0.002 | 0.006 |
| | Pasture | 0.011 | 0.009 | 0.009 | 0.008 |
| | ***Subtotal*** | ***0.952*** | ***0.739*** | ***0.712*** | ***0.596*** |
| | | | | | |
| Forest | Harvested | 0.005 | 0.005 | 0.005 | 0.005 |
| | Natural | 0.079 | 0.082 | 0.083 | 0.078 |
| | ***Subtotal*** | ***0.084*** | ***0.087*** | ***0.088*** | ***0.083*** |
| | | | | | |
| Non-Tidal Atm | Non-Tidal Atm | 0.017 | 0.017 | 0.017 | 0.017 |
| | ***Subtotal*** | ***0.017*** | ***0.017*** | ***0.017*** | ***0.017*** |
| | | | | | |
| Septic | Septic | 0.085 | 0.085 | 0.045 | 0.047 |
| | ***Subtotal*** | ***0.085*** | ***0.085*** | ***0.045*** | ***0.047*** |
| | | | | | |
| Stormwater | CSS | 0.000 | 0.000 | 0.000 | 0 |
| | Construction | 0.004 | 0.004 | 0.004 | 0.004 |
| | Extractive | 0.001 | 0.001 | 0.001 | 0.001 |
| | Non-Regulated Developed | 0.179 | 0.168 | 0.112 | 0.120 |
| | Regulated Developed | 0.002 | 0.002 | 0.002 | 0.002 |
| | ***Subtotal*** | ***0.186*** | ***0.176*** | ***0.118*** | ***0.127*** |
| | | | | | |
| Wastewater | CSO | 0.000 | 0.000 | 0.000 | 0 |
| | Industrial | 0.038 | 0.224 | 0.205 | 0.206 |
| | Municipal | 0.037 | 0.049 | 0.075 | 0.075 |
| | ***Subtotal*** | ***0.075*** | ***0.273*** | ***0.280*** | ***0.282*** |
| | | | | | |
| | ***Total*** | ***1.399*** | ***1.378*** | ***1.260*** | ***1.150*** |

• 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.

# TALBOT
## 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 | 0.001 | 0.001 | 0.001 | 0.001 |
| | Crop | 0.057 | 0.049 | 0.048 | 0.046 |
| | Nursery | 0.002 | 0.001 | 0.001 | 0.002 |
| | Pasture | 0.002 | 0.001 | 0.001 | 0.001 |
| | ***Subtotal*** | ***0.064*** | ***0.054*** | ***0.052*** | ***0.052*** |
| | | | | | |
| 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 | 0.001 | 0.001 | 0.001 | 0.001 |
| | Extractive | 0.000 | 0.000 | 0.000 | 0.000 |
| | Non-Regulated Developed | 0.010 | 0.010 | 0.006 | 0.005 |
| | Regulated Developed | 0.000 | 0.000 | 0.000 | 0.000 |
| | ***Subtotal*** | ***0.011*** | ***0.011*** | ***0.007*** | ***0.006*** |
| | | | | | |
| Wastewater | CSO | 0.000 | 0.000 | 0.000 | 0 |
| | Industrial | 0.004 | 0.007 | 0.006 | 0.006 |
| | Municipal | 0.003 | 0.005 | 0.007 | 0.007 |
| | ***Subtotal*** | ***0.007*** | ***0.012*** | ***0.013*** | ***0.013*** |
| | | | | | |
| | ***Total*** | ***0.087*** | ***0.080*** | ***0.076*** | ***0.075*** |

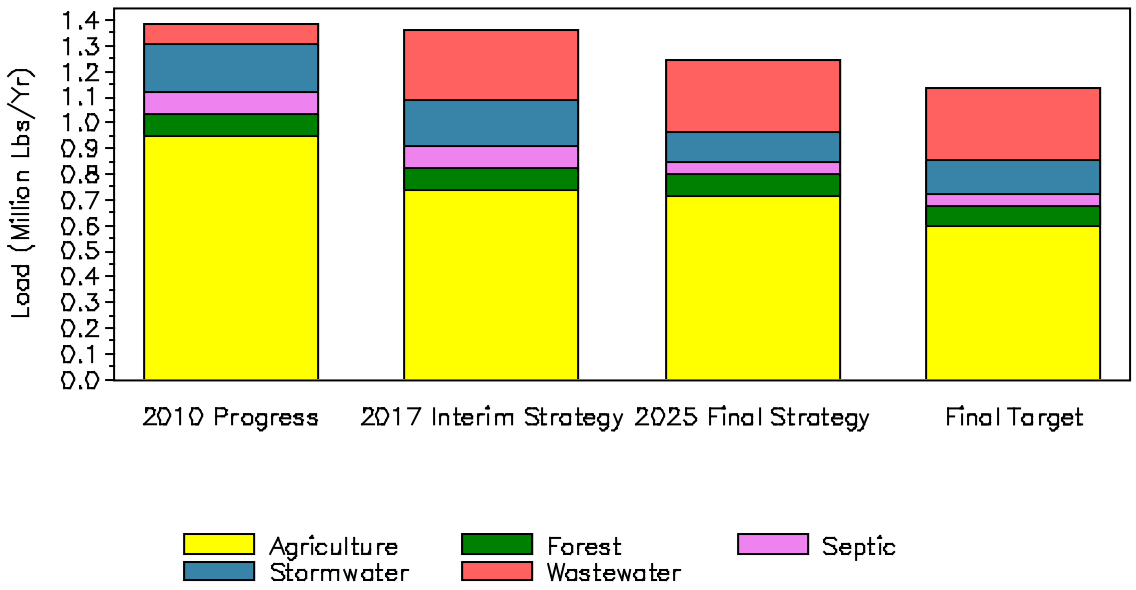
• The agricultural sector strategies were set to meet basin targets rather than county targets. Therefore, agricultural strategies are likely to overshoot or undershoot county targets, which can be reflected in the total countywide target results.
• Stormwater sector strategies may overshoot the county 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.

# TALBOT
## Total Sediment Loads

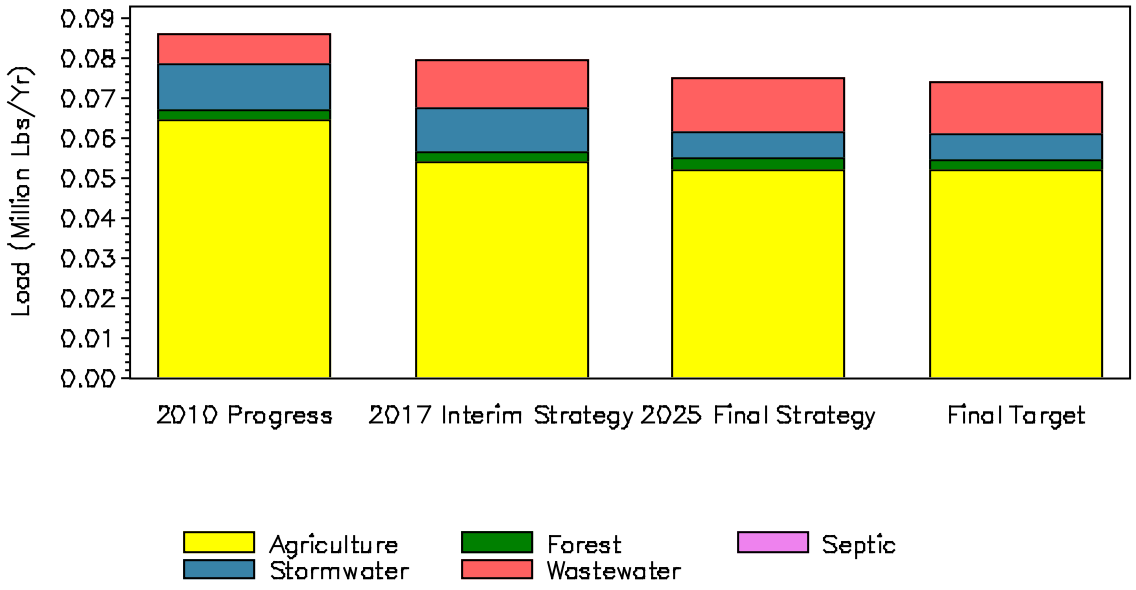
| | | 2010 Progress | 2017 Interim Strategy | 2025 Final Strategy |
|---|---|---|---|---|
| **Source Sector** | **Landuse** | **Million Lbs/Yr** | **Million Lbs/Yr** | **Million Lbs/Yr** |
| Agriculture | AFO | 0.000 | 0.000 | 0.000 |
| | CAFO | 0.000 | 0.000 | 0.000 |
| | Crop | 10.008 | 8.730 | 8.555 |
| | Nursery | 0.002 | 0.002 | 0.002 |
| | Pasture | 0.011 | 0.009 | 0.008 |
| | ***Subtotal*** | ***10.021*** | ***8.741*** | ***8.566*** |
| | | | | |
| Forest | Harvested | 0.104 | 0.116 | 0.116 |
| | Natural | 0.900 | 0.933 | 0.941 |
| | ***Subtotal*** | ***1.004*** | ***1.050*** | ***1.057*** |
| | | | | |
| 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 | 0.544 | 0.554 | 0.543 |
| | Extractive | 0.113 | 0.113 | 0.080 |
| | Non-Regulated Developed | 3.493 | 3.533 | 1.537 |
| | Regulated Developed | 0.040 | 0.039 | 0.018 |
| | ***Subtotal*** | ***4.191*** | ***4.240*** | ***2.178*** |
| | | | | |
| Wastewater | CSO | 0.000 | 0.000 | 0.000 |
| | Industrial | 0.042 | 0.315 | 1.349 |
| | Municipal | 0.038 | 0.307 | 0.477 |
| | ***Subtotal*** | ***0.080*** | ***0.622*** | ***1.826*** |
| | | | | |
| | ***Total*** | ***15.296*** | ***14.652*** | ***13.627*** |

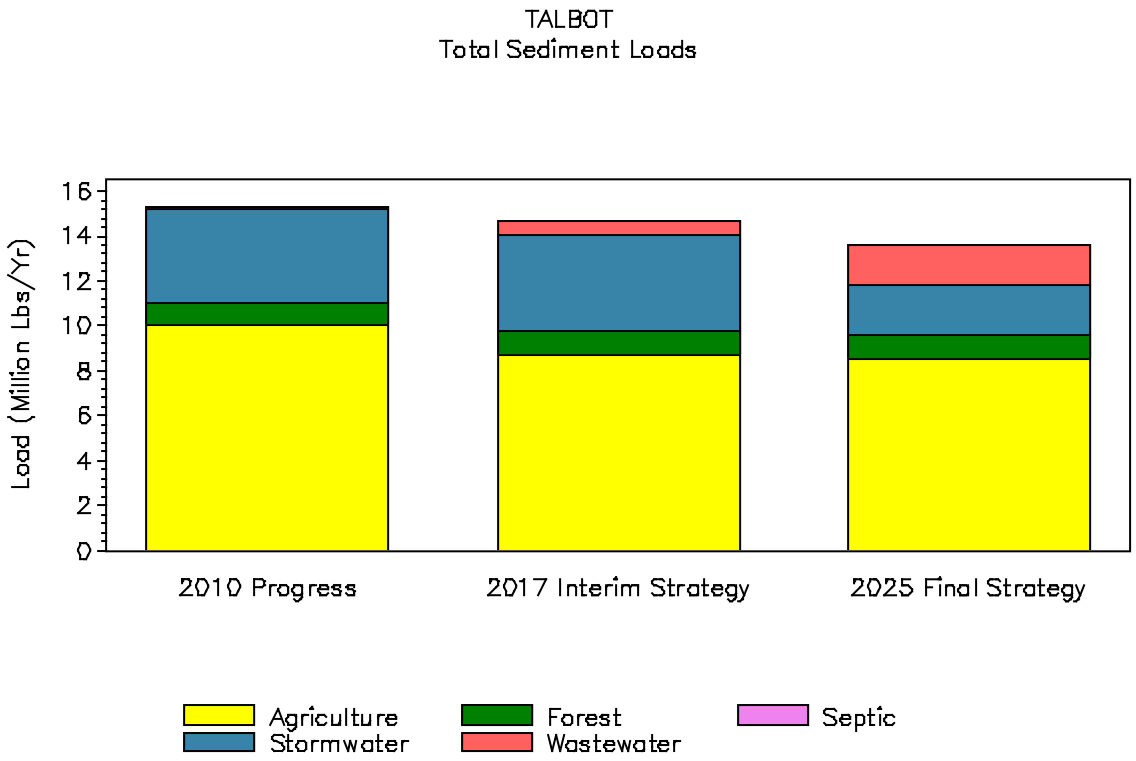
• The State did not distribute EPA's state and basin targets at the county or sector scale for sediment. Hence a Final Target column is not shown.

TALBOT
Total Nitrogen Loads




TALBOT
Total Phosphorus 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

## TALBOT
## 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 | 0 | 0 | 2,000 | 2,000 | 0 | -0 |
| Dry Detention Ponds and Hydrodynamic Structures | Acres | 15 | 15 | 15 | 15 | 15 | 0 | 0 |
| Dry Extended Detention Ponds | Acres | 15 | 15 | 15 | 15 | 15 | 0 | 0 |
| Impervious Urban Surface Reduction | Acres | 0 | 0 | 6 | 0 | 305 | 6 | 305 |
| MS4 Permit Stormwater Retrofit | Acres | 773 | 773 | 773 | 630 | 630 | 0 | 0 |
| Stormwater Management Generic BMP (1985 to 2002) | Acres | 3,831 | 3,831 | 3,831 | 3,831 | 3,831 | -0 | 0 |
| Stormwater Management Generic BMP (2002 to 2010) | Acres | 5,597 | 5,597 | 5,597 | 5,524 | 5,105 | -0 | -419 |
| Urban Filtering Practices | Acres | 0 | 0 | 0 | 1,800 | 4,297 | 0 | 2,497 |
| Urban Forest Buffers | Acres | 2 | 2 | 2 | 2 | 291 | 0 | 289 |
| Vegetated Open Channels | Acres | 0 | 0 | 0 | 7,000 | 7,000 | 0 | -0 |
| Wet Ponds and Wetlands | Acres | 37 | 37 | 37 | 37 | 37 | -0 | -0 |
| Erosion and Sediment Control on Construction | Acres/Year | 225 | 225 | 225 | 225 | 234 | 0 | 10 |
| Erosion and Sediment Control on Extractive | Acres/Year | 0 | 0 | 0 | 0 | 123 | 0 | 123 |
| Forest Conservation | Acres/Year | 603 | 603 | 603 | 603 | 603 | 0 | -0 |
| Urban Nutrient Management | Acres/Year | 3,792 | 3,792 | 12,059 | 19,895 | 20,057 | 8,268 | 162 |

• 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 intedend 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 precedance 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.

# TALBOT
## 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 | Critical Area | Systems | 0 | 0 | 0 | 772 | 772 | 0 | 0 |
| | ***Septic ConnectionTotal*** | | ***0*** | ***0*** | ***0*** | ***772*** | ***772*** | ***0*** | ***0*** |
| | | | | | | | | | |
| Septic Denitrification | Critical Area | Systems | 86 | 86 | 86 | 3,089 | 3,089 | 0 | 0 |
| | Outside of the Critical Area, not within 1000 ft of a perennial stream | Systems | 50 | 50 | 50 | 0 | 0 | 0 | 0 |
| | Within 1000 ft of a perennial stream | Systems | 29 | 29 | 29 | 1,096 | 1,096 | 0 | 0 |
| | ***Septic DenitrificationTotal*** | | ***165*** | ***165*** | ***165*** | ***4,185*** | ***4,185*** | ***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

## TALBOT
## 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 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 |
| | Extractive | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| | Non-Regulated Developed | 0.179 | 0.179 | 0.168 | 0.120 | 0.112 | 0.120 |
| | Regulated Developed | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| | ***Subtotal*** | ***0.186*** | ***0.186*** | ***0.176*** | ***0.128*** | ***0.118*** | ***0.127*** |
| | | | | | | | |
| Septic | Septic | 0.085 | 0.085 | 0.085 | 0.045 | 0.045 | 0.047 |
| | ***Subtotal*** | ***0.085*** | ***0.085*** | ***0.085*** | ***0.045*** | ***0.045*** | ***0.047*** |
| | | | | | | | |

• 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.

## TALBOT
## 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 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| | Extractive | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | Non-Regulated Developed | 0.010 | 0.010 | 0.010 | 0.006 | 0.006 | 0.005 |
| | Regulated Developed | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | ***Subtotal*** | ***0.011*** | ***0.011*** | ***0.011*** | ***0.007*** | ***0.007*** | ***0.006*** |
| | | | | | | | |
| 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.

# TALBOT
# 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 | 0.544 | 0.544 | 0.554 | 0.544 | 0.543 |
| | Extractive | 0.113 | 0.113 | 0.113 | 0.113 | 0.080 |
| | Non-Regulated Developed | 3.493 | 3.495 | 3.533 | 1.650 | 1.537 |
| | Regulated Developed | 0.040 | 0.040 | 0.039 | 0.040 | 0.018 |
| | ***Subtotal*** | ***4.191*** | ***4.193*** | ***4.240*** | ***2.348*** | ***2.178*** |
| | | | | | | |
| 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.