



STORMWATER BEST MANAGEMENT PRACTICES (BMPs)

Description: DelDOT is responsible for just under 800 stormwater best management practices (BMPs), also known as stormwater treatment facilities, that have been accepted into our maintenance responsibility, with another 200+ currently in design or construction. The BMPs provide water quality and/or quantity measures for our roadway improvement projects. The NPDES Program oversees the BMPs once a project is accepted by DelDOT Maintenance & Operations. Minor maintenance is performed by the Maintenance Districts and major maintenance and retrofits are contracted by the NPDES Program. The NPDES Program also contracts out the annual inspections of the BMPs.

Annual Budget: Funding varies by year. Average current funding allows for the annual inspections, minor maintenance, and approximately 1% of the BMPs to have major maintenance performed annually. As the **Performance Projections** show on the next page, ideal funding would be increased to maintain the overall BMP condition as an A average.

Asset Valuation: Using major maintenance costs as the replacement costs, the value of the current BMP inventory is approximately \$48.4M. Initial construction and right-of-way costs would enhance that value.

* Phase I and Phase II Municipal Separate Storm Sewer (MS4) Permits

STATE OF GOOD REPAIR

Annual Inspections are conducted for BMPs that are under DelDOT's maintenance obligation and the condition of the BMP is rated as A, B, C or D. A state of good repair may be considered an "A" or "B" and non-functional BMPs are considered a "D":

A (1.00-1.99): No maintenance, or minor observations.

B (2.00-2.99): Minor maintenance generally handled by Maintenance District staff

C (3.00-3.99): Major maintenance generally handled by a contractor

D (4.00+): Failing BMP in need of a retrofit

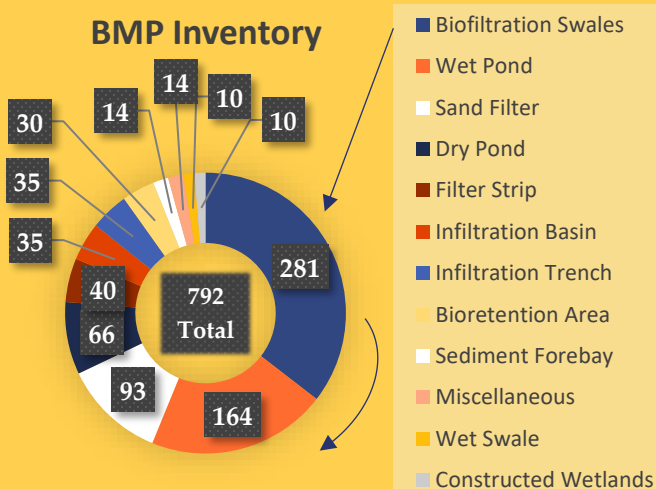
TARGETS AND MEASURES

BMP maintenance is regulated by the DNREC Sediment & Stormwater Program and our MS4 Permits* issued by DNREC. While there is no prescribed target to achieve, annual inspections and a maintenance program are required to keep the BMPs in a functional state.

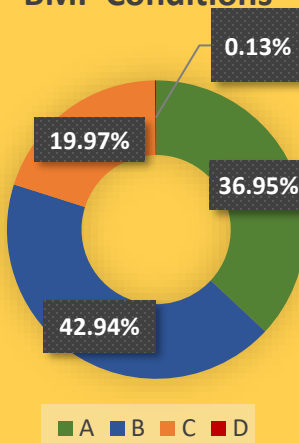
The **current condition average** for all our BMPs is an **A**. However current funding projections bring the **condition average to a B over 15 years**, as seen in **Performance Projections** on the next page.

INVENTORY & CONDITION

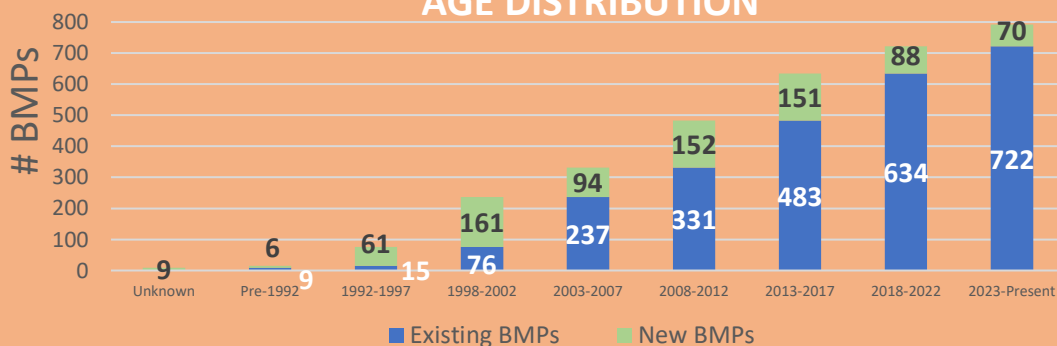
BMP Inventory



BMP Conditions



AGE DISTRIBUTION

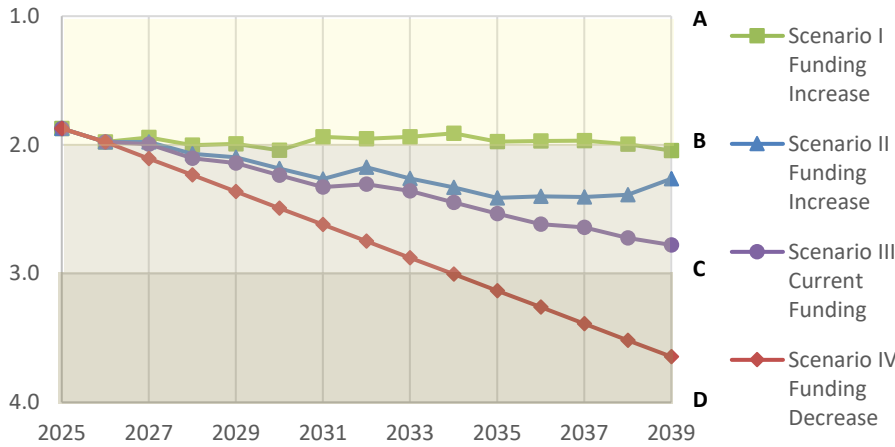




PERFORMANCE PROJECTIONS

The following charts look at four funding scenarios, two with an increase in funds (green & blue), one at our average current funding (purple), and the last with no maintenance funds (red). The charts track the overall BMP conditions over a 15-year period. The last full year of BMP inspection data is used as the starting point for the 15-year performance projections.

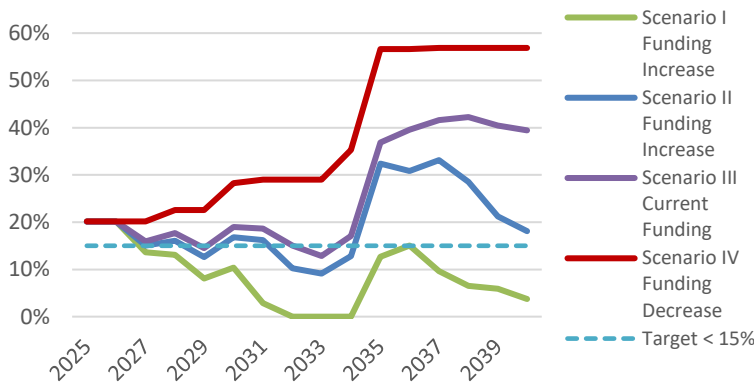
Projected Average Overall BMP Condition



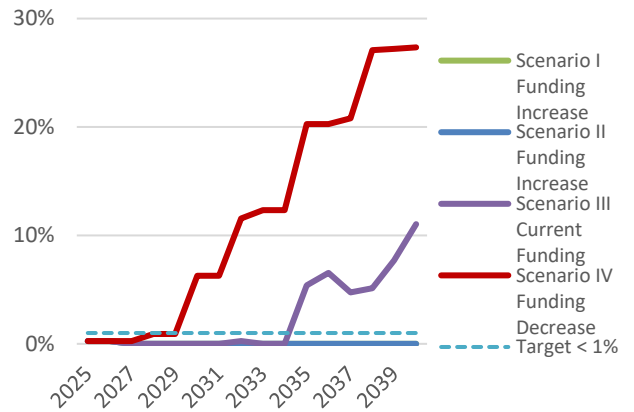
Legend

- Scenario I Funding Increase: **\$3.4M**
Present Day Funding (\$51M over 15 Years), with **5%** of BMPs Receiving Major Maintenance
- ▲ Scenario II Funding Increase: **\$2.2M**
Present Day Funding (\$33M over 15 Years), with **2.5%** of BMPs Receiving Major Maintenance
- Scenario III Current Funding: **\$1.5M**
Present Day Funding (\$22.5M over 15 Years), with **1.0%** of BMPs Receiving Major Maintenance
- ◆ Scenario IV Funding Decrease: **\$150k**
Present Day Funding (\$2.3M over 15 Years), with **0%** of BMPs Receiving Major Maintenance and **No** Minor Maintenance (Annual Inspections Only)

% C & D Rated BMPs



% D Rated BMPs



POTENTIAL IMPACTS & CONSEQUENCES

Impacts affecting the state of maintenance on DeIDOT's stormwater BMPs include:

- Natural Impacts due to flooding, rainfall, wind, beavers, and invasive species.
- Aging infrastructure and eventual loss of functionality causing failures.
- Political and public pressures can result in more frequent or additional maintenance than otherwise required, shifting maintenance priorities.
- Human impacts due to vehicular accidents, tire rutting, or excessive trash.
- Rising inventory of BMPs without an increase in maintenance staff and budget.

Consequences of DeIDOT's stormwater BMPs downgrading to a "D" Rating could result in the following:

- Failed or clogged pipes causing sinkholes and flooding, affecting driving conditions and/or adjacent properties.
- Poor stabilization leading to erosion, and the resulting excess sediment causing additional maintenance and downstream pollution.
- Increased maintenance costs due to more vegetation, soil, rock, pipes and other materials needing to be removed and replaced.
- Increased need for contracted work versus maintenance district staff, increasing costs.