1 National Park Service

1.1 Location and description of federal agency land and facilities

The Northeast Region (NER) of the National Park Service (NPS) owns and manages numerous parks and park units within the Chesapeake Bay watershed. Table 1 summarizes the name and approximate acreage of each park unit in Pennsylvania. The group names are administrative units within the NER and within each group are units including memorials, park land, parkways and historic sites. Together these NPS lands consist of approximately 57 square miles. These parks encompass a variety of uses such as national monuments, scenic trails, historical parks, battlefield parks, and national parkways. These acreages were obtained from GIS layers maintained by the NER (NER Park Unit Boundaries, dated March 2019).

Table 1 – NPS Land and Acreage in Pennsylvania – Chesapeake Bay Watershed

Group Name	Acreage
Allegheny Portage Railroad National Historic Site	1,914
Appalachian National Scenic Trail	27,531
Eisenhower National Historic Site	1,175
Gettysburg National Military Park	5,753
Steamtown National Historic Site	97
Total Chesapeake Bay NPS Lands in Pennsylvania	**36,470**

The Appalachian National Scenic Trail accounts for 75% of the NPS lands in the Chesapeake Bay watershed in Pennsylvania.

1.2 Description and estimate of anticipated pollutant load and growth

NPS does not anticipate significant development on its Pennsylvania properties in the Bay through 2025. NPS used the Chesapeake Assessment Scenario Tool (CAST) to evaluate pollutant loads from its lands. NPS plans to review the land area assigned to NPS in CAST and to submit corrections, as needed. Table 2 summarizes estimates of anticipated nitrogen, phosphorus and sediment loads from CAST without existing BMPs included. Natural sources account for 70-90% of the NPS pollutant loads.

Table 2 – NPS Pollutant Load Summary*

Source	Nitrogen (lb/year)	Phosphorus (lb/year)	Sediment (lb/year)
Developed: MS4	2,210	157	116,390
Developed: Non-Regulated	12,778	916	713,787
Natural	34,957	5,368	7,327,501
Total	49,945	6,441	8,157,678

* 2018 Progress, Edge of Stream CAST scenario

1.3 Verified records of existing BMPs

NPS is in the process of verifying its existing BMPs. Park superintendents were requested to verify information gathered in 2015 for existing BMPs and provide information on new projects. Currently, NPS staff have not identified any existing BMPs at its national parks in Pennsylvania. However, the majority of NPS lands in Pennsylvania are rural areas consisting of meadows or forest. It was conservatively estimated that 20% of NPS non-regulated developed areas reflected in CAST are not connected to stormwater infrastructure and drain through natural areas such as meadow or forest. This percentage is reflected as treated by filter strips in CAST and this percentage may be adjusted by NPS in the future after further evaluation.

Table 3 summarizes estimates of anticipated nitrogen, phosphorus and sediment loads from CAST with existing BMPs included.

Table 3 – NPS Pollutant Load Summary with Existing BMPs*

Source	Nitrogen (lb/year)	Phosphorus (lb/year)	Sediment (lb/year)
Developed: MS4	2,210	157	116,390
Developed: Non-Regulated	12,267	817	633,843
Natural	34,959	5,370	7,268,551
Total	49,436	6,344	8,018,784

* 2025 Base Year, Edge of Stream with 2018 Progress BMPs CAST Scenario

1.4 Inventory of NPDES permits

The Pennsylvania Department of Environmental Protection's (PADEP) NPDES Permitted Facilities Report was searched for permits issued to NPS and none were found.

1.5 Planning Targets and Local Planning Goals

Per Section 6 of Pennsylvania's draft WIP III, the NPS local area planning goals are summarized in Table 4.

Table 4 – NPS Local Area Planning Goals in Pennsylvania, Edge of Stream

Source	Nitrogen Reduction (lb/year)	Phosphorus Reduction (lb/year)
2017 Load	49,939	6,412
2025 Target	41,425	5,434
Reduction	8,515	977

The reduction goals in Table 4 represent 60% and over 100% of the developed nitrogen and phosphorus loads shown in Table 3, respectively. NPS plans to focus its efforts on BMPs to improve stormwater quality in its developed areas while conserving land and forest in its natural areas.

1.6 Strategies to Meet Pollutant Reduction Targets

1.6.1 Planned pollutant reduction targets

Table 5 provides shows the 2018 progress loads and Pennsylvania local planning area targets with the resulting planned pollutant target.

Table 5 – NPS Planned Pollutant Target and Gap (Edge of Tide)

	Nitrogen (lb/year)	Phosphorus (lb/year)
Target Pollutant Load	41,425	5,434
Pollutant Load with Existing BMPs*	49,436	6,344
Pollutant Reduction Gap	8,011	910

* See Table 4

1.6.2 BMP implementation scenarios

To reduce nutrients to the planning goal, NPS is proposing to implement additional stormwater projects through 2025. NPS is currently evaluating specific stormwater project opportunities and hopes to partner with Pennsylvania on project opportunities in the future. For planning purposes, NPS is proposing to implement a variety of stormwater projects on park properties. NPS must consider constraints in implementation of structural BMPs on properties such as battlefield and historical parks, which are maintained to reflect the important historical conditions of the sites.

Table 6 provides a summary of potential BMPs and treatment area.

Table 6 – Potential BMP Types and Treatment Areas

BMP Type	Load Source	Amount	Unit
Permeable Pavement	Impervious Developed	2	acres
Impervious Surface Reduction	Impervious Developed	2	acres
Bioretention	Developed	10	acres
Bioswale	Developed	10	acres
Conservation Landscaping	Turfgrass in Developed	20	acres
Forest Planting	Turfgrass in Developed	20	acres
Forest Buffer	Turfgrass in Developed	20	acres
Stream Restoration	Stream Bed and Bank	3,000	feet

CAST was used to evaluate pollutant loads with existing and potential BMPs. See Table 7 for a summary of potential pollutant reductions.

Table 7 – NPS Pollutant Reductions Summary (2025 Base Year with 2018 Progress BMPs, Edge of Stream)

	Nitrogen (lb/year)	Phosphorus (lb/year)
2018 Progress Pollutant Load	49,945	6,441
2018 Progress Developed Pollutant Load	14,988	1,073
Target Pollutant Load	41,425	5,434
Pollutant Load with Existing BMPs	49,436	6,344
Pollutant Load with Existing and Potential BMPs	48,605	6,091
Pollutant Load Reduction Achieved from 2018 Progress with Existing and Potential BMPs	1,340	350
% Reduction from 2018 Developed Pollutant Load with Existing and Potential BMPs	9%	33%
Gap to Target Pollutant Load	7,180	657

As reflected in Table 7, the existing and potential BMPs represent a substantial reduction of the developed pollutant loads. NPS will continue to evaluate potential project opportunities to meet the Chesapeake Bay pollutant reduction goals and to close the pollutant reduction gap. The pollutant reduction goals require large reductions in natural load. NPS welcomes the opportunity to discuss the target load reductions with Pennsylvania to assess possible approaches. Detailed calculations of pollutant reductions for future projects will use the Chesapeake Bay Expert Panel stormwater treatment/runoff reduction curves and stream restoration protocols that will be incorporated into milestone reporting.

The NPS is currently evaluating site modifications or projects that could present opportunities for potential stormwater BMPs or land use changes that include the following:

- Gettysburg National Military Park: Little Round Top Rehabilitation

Progress updates on these projects and newly identified projects will be documented in NPS two-year milestone reporting.

1.6.3 Existing programs and planned actions

NPS is currently evaluating and prioritizing opportunities for stormwater projects and program modifications to meet the pollutant reduction goal.

NPS will continue to participate in the Chesapeake Bay Federal Agency workgroup. Furthermore, NPS will continue to implement best management stormwater practices as an instrumental component of park facility or site rehabilitation or new construction projects.

1.7 Crediting, Tracking, Reporting, and Verification

NPS is in the process of developing a method for tracking and reporting BMP implementation, inspection, and maintenance activities. The goal is to create a process that NPS staff can use to generate Chesapeake Bay compliance documents and to track progress toward meeting pollutant reduction goals.