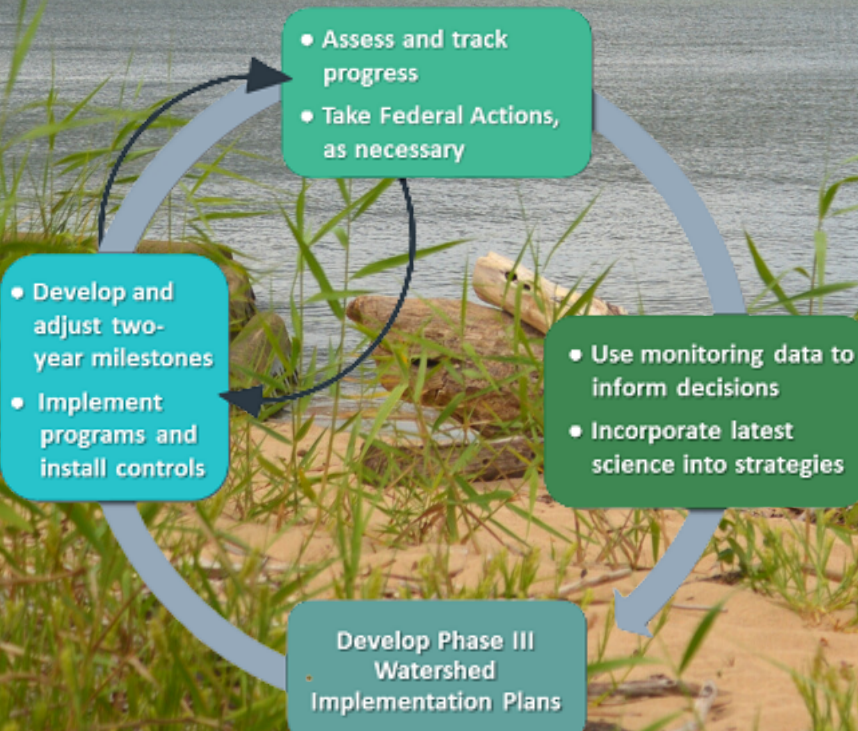


# The Chesapeake Bay & Back River Waterways

NASA Langley is located along the Back River which flows directly into the Chesapeake Bay. The Back River is a small 2-mile long tributary located between Hampton and Poquoson. The Chesapeake Bay is a 200-mile long estuary that flows from Maryland to Norfolk, Virginia.

## Ensuring Progress

In 2010, the Chesapeake Clean Water Blueprint was established to restore the Bay's water quality. The Blueprint requires for all Bay jurisdictions to have implemented the practices necessary to achieve the Bay's pollution limits by 2025. They are currently advancing with the final Clean Water Blueprints (Phase III WIPs) to meet the remaining pollution reductions.



## Total Maximum Daily Loads

In 2010, the Environmental Protection Agency (EPA) established the Chesapeake Bay Total Maximum Daily Load (TMDL) which identifies the overall amount of nitrogen, phosphorus, and sediment that can be present in the Chesapeake Bay to maintain water quality standards.

The TMDL set the Chesapeake Bay watershed (New York, Pennsylvania, West Virginia, Maryland, Delaware, Virginia, and the District of Columbia) limits to:



**185.9**  
million pounds  
of nitrogen



**12.5**  
million pounds  
of phosphorus



**6.45**  
billion pounds  
of sediment



## Watershed Implementation Plans

The Watershed Implementation Plans - Pases I, II, III (WIPs) are documents that detail all the practice and policies the Bay jurisdictions will implement to meet and maintain the TMDL limits by 2025.

Information collected from the [Environmental Protection Agency](#) & [Chesapeake Bay Foundation](#). Graphic created by the [Environmental Protection Agency](#).

# VIRGINIA

Are we on track to meet our TMDL limits by 2025?

	 NITROGEN	 PHOSPHORUS
AGRICULTURE	OFF TRACK	OFF TRACK
URBAN/SUBURBAN POLLUTED RUNOFF	OFF TRACK AND INCREASING	OFF TRACK
SEPTIC	OFF TRACK	N/A
WASTEWATER & COMBINED SEWER OUTFALL	ON TRACK	ON TRACK
OVERALL	ON TRACK	ON TRACK

According to the 2021 State of the Blueprint report, Virginia is mostly on track to reach its 2025 pollution reduction targets (see above figure).

# NASA LANGLEY

At NASA Langley, we help Virginia reach the state's TMDL goals by implementing Best Management Practices (BMPs) and maintaining stormwater quality by remaining compliant with our permits. This means that when reimagining an operation or planning a new project, the Center thinks about how to minimize discharge of pollutants into the local waterways. This is continuously monitored through the Center's Municipal Separate Storm Sewer System (MS4) Permit.

## BMP Examples



### Reforestation

(reforestation areas in the North 40)



### Green Infrastructure

(B2101 green roof, permeable pavers, tree filter boxes, bioretention units, etc.)



### Sediment Control

(street sweeping, inlet protection, etc.)



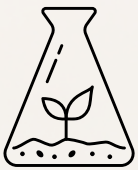
### Spill Response

(quick response to prevent pollutants from reaching drains)



# AT HOME

You can help meet TMDL goals this planting season by:



## 1. Testing Your Soil

Test your soil nitrogen levels before adding fertilizer. Tests can be found at your local garden center.



## 2. Planting Native Species

Native grasses and plants do not require frequent water or fertilizing.



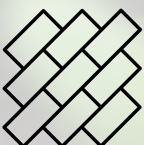
## 3. Reducing Use of Pesticides/Herbicides

These toxic chemicals are eventually transported into our local waterways.



## 4. Collecting Rainwater

Use collected water for your yard/garden during drier months.



## 5. Using Permeable Materials

These materials allow for water to soak the ground instead of causing runoff.

## Have Ideas?

Provide us with feedback on our [MS4 Program Plan](#) and outreach activities as they relate to stormwater and water quality issues. Let us know:

- the types of outreach that you find most effective;
- what outreach messages you would like to receive, or;
- what our general outreach priorities should be

by contacting Ande Remington at [ande.remington@nasa.gov](mailto:ande.remington@nasa.gov).

## LaRC Environmental Office Contacts

Ande Remington

757 864-8332

[ande.remington@nasa.gov](mailto:ande.remington@nasa.gov)

Sarat Calamur

757 864-4791

[sarat.c.calamur@nasa.gov](mailto:sarat.c.calamur@nasa.gov)