

Back River TMDL Action Plan

2023 – 2028 PERMIT CYCLE

NASA Langley Research Center
MS4 PERMIT #VAR040092 | 04/01/2025

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Purpose:

In accordance with the requirements of Municipal Separate Storm Sewer System (MS4) Permit #VAR040092, NASA Langley Research Center (LaRC) is required to develop an action plan to address bacterial contamination in the Back River. The Virginia Department of Environmental Quality (Virginia DEQ) established Total Maximum Daily Loads (TMDL) for bacteria for the Back River in York County and the cities of Hampton, Poquoson, and Newport News, Virginia in 2018. The TMDL was approved by the Environmental Protection Agency (EPA) on February 9, 2018, and can be found on the Virginia DEQ's website at <https://www.deq.virginia.gov/our-programs/water/water-quality/tmdl-development/approved-tmdls>.

A copy of this LaRC TMDL Action Plan is stored within the LaRC Environmental Management Office (EMO) and can be found online at: <https://environmental.larc.nasa.gov/water/back-river-tmdl/>.

LaRC Background

NASA LaRC is situated near the southern end of the Lower Virginia Peninsula, southeast of Washington, D.C., by approximately 180 miles, and Richmond, Virginia, by 60 miles. The cities of Hampton, Poquoson, Newport News, and York County comprise a significant metropolitan statistical area surrounding LaRC. The Center features multiple wind tunnels, research facilities, and administrative offices, and it encompasses 764 acres of property. LaRC is located within proximity to several surface water bodies within the tidal zone of the Chesapeake Bay.

LaRC is in the York River drainage basin, specifically river segment YLO_7370_0000. This river segment is part of the Mobjack Bay segmentshed which is part of the overall York River basin. The Brick Kiln Creek runs along the western boundary of LaRC, joining the northwest branch of the Back River, and drains approximately 40 percent of the Center. Tabbs Creek, which drains most of the rest of the Center, flows in a northerly direction to join the Back River near the confluence of its northwest and southwest branches. A small portion of the property in the south drains to Tides Mill Creek. The local waterways are influenced by tides in the Chesapeake Bay. The waters in the local streams are designated by the State as Class IIa, estuarine waters where shellfish can be found.

LaRC has a robust stormwater management program that has the required regulatory mechanisms in place to ensure compliance with the MS4 General Permit, the Chesapeake Bay TMDL Special Condition, and this Action Plan. The following is a list of applicable mechanisms and a brief description:

- **Langley Procedural Requirements (LPR) 8500.1 “Environment and Energy Program Manual”** – This LPR sets forth procedural requirements and responsibilities to ensure LaRC personnel comply with the Center’s federal, state, and local regulations. This is the closest document LaRC has to a traditional “ordinance.” Chapter 5 of LPR 8500.1 covers the Water Quality Program, including Chesapeake Bay TMDL compliance and pollutant loading reduction to the maximum extent practicable. The document also details responsibilities for Center personnel to enforce water quality regulations.
- **Virginia DEQ-approved NASA LaRC Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM)** – LaRC has Standards and Specifications for ESC and SWM that are integral components of LaRC’s design, construction, maintenance, and management of the Center’s facilities and operations. The primary regulatory drivers for NASA LaRC Standards and Specifications are the Virginia Erosion and Stormwater Management Regulation (9 VAC 25-875), the General Virginia Pollutant Discharge Elimination System Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880/VAR10), and LaRC’s MS4 permit (VAR040092). The NASA LaRC Standards and Specifications for ESC and SWM have been developed to provide detailed information regarding LaRC’s compliance with all regulatory requirements. This document highlights certified staff and design standards, discusses how LaRC reviews and approves stormwater-related plan submittals, and explains how LaRC enforces its program.
- **LaRC Master Plan and Revitalization Plan** – LaRC is going through a significant transformation. Through long-term Master Planning, the Center is transforming and creating the LaRC of 2050. This transformation requires significant demolition of older, non-maintainable facilities. LaRC has planned to demolish over 100 structures throughout this process and is on target to meet this goal. Many of these demolished impervious areas are being returned back to open, vegetated space and the overall LaRC footprint is being pulled into a central campus concept. These reductions in impervious surface are an essential element to TMDL compliance for LaRC. In addition, any new construction under this revitalization program is required to follow Section 438 of the Energy Independence and Security Act of 2007 (EISA) and achieve Leadership in

Energy and Environmental Design (LEED) silver or greater rating per General Service Administration requirements. All new construction is required to meet Virginia water quality and quantity standards.

- **Environmental Management System (EMS)** – LaRC has an active EMS that: (1) incorporates people, procedures, and work practices into a formal structure to ensure that the most significant environmental risks and potential benefits of the Center are identified, prioritized, and addressed; (2) promotes continual improvement, including periodic evaluation of environmental performance; (3) involves all appropriate Center organizations; and (4) actively involves senior management in support of the EMS. LaRC senior management approved the creation of the Environmental Management Committee (EMC) in July 2009. The EMC meets quarterly and reports annually to the Center Leadership Council regarding the status, progress, and challenges of LaRC’s EMS. The EMS serves as an effective mechanism for ensuring compliance with applicable TMDL requirements.
- **Additional Guidance Documents – (NASA LaRC Design Standards FES-ENVENE; NASA LaRC Environmental Master SPEC Section 01 35 40.00 99)** – These two documents are incorporated by reference into the NASA LaRC Standards and Specifications for ESC and SWM. In combination, these documents outline proper ESC and SWM requirements for design and construction. The NASA LaRC Environmental Design Standards FES-ENVENE are implemented into project requirements and contract award packages to ensure projects are designed in accordance with all applicable requirements. The NASA LaRC Master SPEC Section 01 35 40.00 99 primarily applies to construction activities to ensure projects are constructed in compliance with all applicable requirements and that best management practices are utilized throughout the duration of the project.
- **EISA Section 438** – Section 438 states that federal projects exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature rate, volume, and duration of flow. This provision also serves as a key driver for projects aimed at supporting compliance with the Chesapeake Bay and Back River TMDLs.

Required TMDL Action Plan Elements (Requirements of Part II B 4)

Wasteload Allocation (WLA) (Part II B 4 c):

The fecal coliform existing and allowable loads are summarized in the following tables excerpted from “Total Maximum Daily Loads of Bacteria for Back River in York County and the Cities of Hampton, Poquoson, and Newport News, Virginia,” published on June 21, 2017, by Virginia DEQ.

Table E.5 provides daily waste load allocations for all MS4 permit holders in the watershed. NASA LaRC’s allowable daily waste load is 2.80E+10, requiring a reduction of 35.5%. Similarly, Table E.6 provides

annual waste load allocations per MS4 in the watershed. NASA LaRC's allowable annual load is 4.58E+12, requiring a reduction of 35.4%.

Table E.5: Existing and Allowable Maximum Daily Load by Jurisdiction: Combined WLA and LA

Jurisdiction	Existing Load (Counts/Day)	Allowable Load (Counts/Day)	Reduction (%)
York County	4.76E+11	3.72E+11	21.8%
City of Poquoson	9.66E+11	4.09E+11	57.7%
City of Hampton	6.36E+12	2.61E+12	59.0%
City of Newport News	4.34E+11	3.51E+11	19.1%
NASA Langley	4.34E+10	2.80E+10	35.5%
Langley AFB	2.10E+11	1.97E+11	8.1%
DOE-TJ Accelerator Facility	6.82E+09	6.82E+09	0.0%
TNCC	1.25E+10	1.25E+10	0.0%
VDOT	5.87E+10	5.87E+10	0.0%
Sum	8.57E+12	4.05E+12	52.8%

Table E.6: Existing and Allowable Annual Load by Jurisdiction: Combined WLA and LA

Jurisdiction	Existing Load (Counts/Year)	Allowable Load (Counts/Year)	Reduction (%)
York County	7.76E+13	6.07E+13	21.8%
City of Poquoson	1.57E+14	6.65E+13	57.6%
City of Hampton	1.04E+15	4.25E+14	59.1%
City of Newport News	7.08E+13	5.73E+13	19.1%
NASA Langley	7.09E+12	4.58E+12	35.4%
Langley AFB	3.51E+13	3.22E+13	8.3%
DOE-TJ Accelerator Facility	1.12E+12	1.12E+12	0.0%
TNCC	2.05E+12	2.05E+12	0.0%
VDOT	9.64E+12	9.64E+12	0.0%
Sum	1.40E+15	6.59E+14	52.9%

The fecal coliform estimated loads and load reductions by MS4 permit are summarized in Tables E.7 and E.8, respectively, for daily and annual loads for the Back River watershed. The total loadings comprise the total load in the entire watershed that includes non-listed segments. NASA LaRC's estimated daily waste load for fecal coliform is 1.82E+10, requiring a reduction of 35.00%, and NASA LaRC's estimated annual load is 2.98E+12, requiring a reduction of 34.93%.

Table E.7: Estimated Daily Loads and Load Reductions for Fecal Coliform by MS4 Permit¹

Watershed	Permit Number	MS4 Permit Holder	Existing Load (cfu/day)	Wasteload Allocation (cfu/day)	Percent Reduction(%) ²
Back River	VA0088633	City of Hampton	2.62E+12	1.65E+12	37.02
	VA0088641	City of Newport News	3.51E+11	2.68E+11	23.65
	VAR040024	City of Poquoson	4.09E+11	2.00E+11	51.10
	VAR040028	York County	3.72E+11	2.69E+11	27.69
	VAR040092	NASA Langley Research Center	2.80E+10	1.82E+10	35.00
	VAR040140	Langley Air Force Base	1.97E+11	1.85E+11	6.09
	VAR040079	DOE-TJ Accelerator Facility	4.77E+09	4.77E+09	0.00
	VAR040087	TNCC	1.04E+10	1.04E+10	0.00
	VAR040115	VDOT	5.87E+10	4.99E+10	14.99
	SUM		4.05E+12	2.66E+12	34.45

¹ MS4 permits may address the TMDL WLAs for stormwater through the iterative implementation of programmatic BMPs.

² Percent reduction is based on average annual WLA, and is computed as a reduction from the baseline existing load

Table E.8: Estimated Annual Loads and Load Reductions for Fecal Coliform by MS4 Permit¹

Watershed	Permit Number	MS4 Permit Holder	Existing Load (cfu/year)	Wasteload Allocation (cfu/year)	Percent Reduction(%) ²
Back River	VA0088633	City of Hampton	4.27E+14	2.69E+14	37.00
	VA0088641	City of Newport News	5.73E+13	4.38E+13	23.56
	VAR040024	City of Poquoson	6.65E+13	3.26E+13	50.98
	VAR040028	York County	6.07E+13	4.40E+13	27.51
	VAR040092	NASA Langley Research Center	4.58E+12	2.98E+12	34.93
	VAR040140	Langley Air Force Base	3.22E+13	3.02E+13	6.21
	VAR040079	DOE-TJ Accelerator Facility	7.83E+11	7.83E+11	0.00
	VAR040087	TNCC	1.71E+12	1.71E+12	0.00
	VAR040115	VDOT	8.20E+12	8.20E+12	0.00
	SUM		6.59E+14	4.33E+14	34.25

¹ MS4 permits may address the TMDL WLAs for stormwater through the iterative implementation of programmatic BMPs.

² Percent reduction is based on average annual WLA, and is computed as a reduction from the baseline existing load

Significant Sources of Bacteria Discharging to LaRC's MS4 (Part II B 4 d):

The following are sources of bacteria discharging to LaRC's MS4 that are not covered under a separate permit. While non-point sources are the primary contributors of pollution in the watershed, NASA LaRC does not have any of the common sources—such as septic systems, domestic pets, marinas, or livestock—within its property boundaries.

- **Urban Wildlife:** The predominant source of bacterial discharges at LaRC is attributed to wildlife. Common species observed on the Center include deer, racoon, muskrat, fox, ducks, geese, various bird species, and coyotes.

NASA acreage represents 1.14% of the watershed, as seen in Table E.2.

Table E.2: List of Municipal Separate Storm Sewer System Permits (MS4)

Watershed	Permit Number	MS4 Permit Holder	Phase	Regulated Service Area (Ac)	Percent of Watershed (%)
Back River	VA0088633	City of Hampton ¹	I	13,710.07	37.15
	VA0088641	City of Newport News ¹	I	2,531.01	6.86
	VAR040024	City of Poquoson ¹	II	1,250.14	3.39
	VAR040028	York County ¹	II	2,218.40	6.01
	VAR040092	NASA Langley Research Center ²	II	419.83	1.14
	VAR040140	Langley Air Force Base ²	II	1,903.36	5.16
	VAR040079	DOE-TJ Accelerator Facility ²	II	36.98	0.10
	VAR040087	TNCC ²	II	80.88	0.22
	VAR040115	VDOT ²	II	387.01	1.05
	SUM			22,537.68	61.08

¹ estimated based on regulated service area

² estimated based on urban land uses including (High Intensity, Medium Intensity, Low Intensity, Open Space)

It should be noted that a significant portion of LaRC's storm sewer system is tidal or tidally influenced. This means that the waters of the Back River are transported by the tide into LaRC's storm sewer system. Tidal waters may transport downstream pollutants, including those from other localities and sources, into LaRC's MS4 system. This impact to water quality is difficult, if not impossible, to quantify and may mean that flows through the drainage system could still contain bacteria, even if LaRC were to remove 100% of the upstream sources from its service area.

Best Management Practices Designed to Reduce Bacteria in Accordance with Parts II B 5, B 6, B 7, and B 8 (Part II B 4 e):

Urban Wildlife: The northern portion of LaRC's property is largely undeveloped forest, wetland, or grass fields and therefore is prime wildlife habitat. The following strategies will be used as Center-wide initiatives for bacteria reduction stormwater control/management, in accordance with Section II B 5 in the MS4 permit:

- Educate the public on how to reduce food sources accessible to urban wildlife.
 - At NASA LaRC, this effort will include targeted outreach for proper management of dumpsters, picnic areas, facilities, and recreational areas. Ongoing education about LaRC's policy prohibiting the feeding of wildlife at any location on the Center will remain an important component of future strategies to reduce bacteria loading.
- Clean out storm drains to remove waste from wildlife.
 - Continue cleaning out all LaRC storm drains at least twice per year to remove and properly dispose of organic debris and any waste from wildlife.
- Implement a program for removing animal carcasses from roadways and properly disposing of the same.
 - Maintain LaRC's program for removing and properly disposing of animal carcasses from roadways, building areas, and other personnel areas.
- Continue stormwater ditch cleaning and vegetation removal that attract wildlife and present safety concerns.
 - Continue habitat control under bird/animal aircraft strike hazard (BASH) initiatives along LaRC's aircraft taxiway to discourage bird nesting in stormwater ditches.
 - Proceed with the maintenance of both paved and unpaved ditches by regularly trimming vegetation and removing any accumulated trash or debris.
 - Maintain LaRC's policy that prohibits stormwater retention practices or ponds to discourage Canadian geese. All LaRC stormwater practices are required to have infiltration/bioretenion and hold water for less than 24-hours.

Note: Although illicit discharges to the MS4 are not a significant source of bacteria for LaRC, there is always a risk for sanitary sewer overflow or spills. These events may occur by blockages and/or breaks in the sewer lines and could release discharges of raw sewage from the sanitary sewer system. LaRC has a robust Illicit Discharge Detection and Elimination program and maintains a proactive outreach strategy. LaRC conducts dry-weather screening across the Center's outfalls beyond the requirements of the MS4 permit. LaRC will continue these actions, both through outreach and field inspections, in order to identify and eliminate illicit discharges, connections, and leaks infiltrating to the MS4. Furthermore, LaRC is improving its sanitary sewer system by repairing/replacing aged piping that may be of higher risk for failure. LaRC conducts annual maintenance on pump stations and closely monitors flows to minimize risks of overflows.

Calculations Required in Accordance with Parts II B 5, B 6, B 7, or B 8 (Part II B 4 f):

Not applicable.

Previous Action Plan Evaluation (Part II B 2 a):

Table 1 summarizes the outcomes of the previous action plan (2018-2023), detailing completion, objective, employee attendance, and, where relevant, published post views for each approved action.

Table 1. Actions for Previous Permit Cycle: Nov 1, 2018 through Oct 31, 2023

Planned Outreach Action		Planned Schedule/ Frequency	Completion	Evaluation of Effectiveness
Finalize and publish LaRC's Back River TMDL Action Plan to the public website; advertise to LaRC personnel via the @LaRC/Inside Langley employee notification system.		May 2021	May 25, 2021	Since its publication in 2013, the public webpage containing the TMDL Action Plan has experienced considerable site traffic, reflecting a strong level of public engagement and awareness. Following the publication of the TMDL Action Plan, LaRC personnel have had ongoing opportunities to provide comments on the document.
Complete the public website review to include information on the Back River TMDL.		June 2021	June 30, 2021	To ensure the dissemination of accurate information on the public website page, the EMO conducted a thorough review and update of all content.
Publish an educational article to the public website; advertise to LaRC personnel via the @LaRC/Inside Langley employee notification system.		At least one article annually.	One article posted annually.	On average, each Inside Langley post receives between 30 and 100 views, highlighting the effectiveness of communication in reaching and engaging personnel.
Complete training on stormwater and water quality, with added emphasis on pollutants and urban wildlife.	LaRC Facility Environmental Coordinator (FEC) Training	At least two "in person" classes annually; virtual training	Conducted a minimum of four FEC Trainings each year. A video version of the training is	This training is mandatory for all FECs, with approximately 50 to 70 FECs participating each year. The presentation includes a 15-minute segment that serves as a

		available anytime.	available upon request at any time.	reminder to FECs about water quality requirements and the proper measures for implementation.
	Illicit Discharge Specific Stormwater Management Training for the Center's primary maintenance contractor personnel and any interested LaRC personnel	Annually	Presented Illicit Discharge Specific Stormwater Management Training once a year to various maintenance groups.	This presentation offers an opportunity to share information and address questions with the maintenance teams on Center who are directly involved in daily processes related to water quality. Attendance varies based on team size, typically ranging from 10 to 200 individuals.
	LaRC Waste Management and Spill Response (WMSR) Training	At least three "in person" classes annually; virtual training available anytime.	Provided at least four WMSR Trainings annually. A video version of the training is available upon request at any time.	WMSR Training is a requirement for all personnel that use, handle, or request disposal of hazardous waste, hazardous materials, or oil. Yearly attendance is approximately 600 individuals. This training allows EMO to remind personnel about spill response measures to prevent illicit discharges.
	Grounds Maintenance Contractor Stormwater Management (Best Management Practices) Training	Biannually	Training on Stormwater Management is provided to LaRC's Grounds and Maintenance teams on a biannual rotating schedule.	These group sessions provide the EMO with an opportunity to present department-specific water quality and wildlife management requirements to personnel and address any questions related to stormwater management. Attendance varies depending on team size, typically ranging from 10 to 200 individuals.
	Maintenance-Specific Stormwater Management Training for maintenance	Biannually		

	personnel performing roadway and recreational area maintenance.			
Stormwater Action		Schedule/ Frequency	Completion	Effectiveness
Clean out storm drains to remove waste from wildlife.		At least twice annually.	Completed twice a year in the spring and winter.	The cleaning of storm drains has been effective in removing significant amounts of debris, thereby preventing its entry into local waterways.
Implement a program for removing animal carcasses from roadways and properly disposing of the same.		As reported.	This action was conducted as necessary.	The prompt removal of animal carcasses, as outlined in the Grounds Maintenance and Pest Control Services Contract Performance Work Statement, is overseen by NASA to ensure compliance with established policies. This has helped LaRC mitigate the risk of potential infections and ensure the continued protection of water quality.
Continue stormwater ditch cleaning and vegetation removal that attract wildlife and present safety concerns.	Continue habitat control under BASH initiatives along LaRC's aircraft taxiway to discourage bird nesting in stormwater ditches.	Ditch vegetation maintained at least quarterly.	Completed at least quarterly by LaRC's Grounds Maintenance and Pest Control Services contract	This method has proven effective in deterring birds from nesting in stormwater ditches, as nests are infrequently observed.
	Proceed with the maintenance of both paved and unpaved ditches by regularly trimming vegetation and removing any	At least annually for paved ditches and quarterly for unpaved ditches.	Conducted ditch cleaning once a year for paved and quarterly for unpaved.	

	accumulated trash or debris.			
	Maintain LaRC's policy that prohibits stormwater retention practices or ponds to discourage Canadian geese.	All LaRC stormwater practices are required to have infiltration/ bioretention and hold water for less than 24-hours.	Ensured compliance with requirements through proactive design review processes.	These measures prevent the establishment of a habitual presence by Canadian geese on Center, and assist in maintaining healthy population levels of other wildlife. They have proven essential in promoting public health and safety while maintaining water quality.
	Geese hazing and wildlife population culling (in partnership with JBLE-Langley).	As needed.	Completed multiple times consecutively prior to major public events at the Center.	

Documentation confirming the completion of the actions listed in Table 1 can be obtained from LaRC's EMO, upon request. Information on TMDL actions completed by the EMO during the previous permit cycle has been included in the corresponding MS4 Annual Reports.

Outreach Strategy, 2023-2028 (Part II B 4 g; Part II B 5 b)

Ensuring that LaRC conforms to its environmental policy requires the commitment of LaRC's senior leadership, the efforts of the environmental staff in the EMO, and the cooperation of the 3,000+ employees who work at the Center. LaRC relies on Center personnel to manage facilities, maintain equipment, and perform work activities in compliance with environmental requirements. Communication with Center personnel is key to ensuring their support and participation in the continual improvement of LaRC's environmental program. The goal is to encourage personnel to engage in educational initiatives, adhere to environmental requirements, understand how their actions impact operations, and ensure effective communication between the EMO and LaRC stakeholders. Communications from EMO should be clear, consistent, and aligned with the broader messages and mission statements of the Center Operations Directorate (COD), LaRC, and NASA. LaRC operates an internal website, Inside Langley, that features news, articles, and events. A daily digest email highlights the latest updates and announcements. In addition, the EMO maintains an internal and public website for environmental specific information. These digital platforms serve as a cornerstone of the outreach strategy, enabling the EMO to effectively reach all LaRC personnel.

Communication Objectives:

- 1) Increase employee knowledge about preventing stormwater pollution, placing priority on reducing food sources accessible to wildlife.
- 2) Increase employee knowledge about best management practices, including but not limited to, debris removal from storm drains, removal and disposal of animal carcasses, and

stormwater ditch maintenance.

Table 2 outlines the planned outreach to enhance education on methods to eliminate and reduce discharges of the pollutant, in accordance with Part II B 5 b:

Table 2. Planned Outreach

Mechanism	Distribution Details
Annual Training	<ul style="list-style-type: none"> Incorporation of stormwater and water quality requirements and practices, with an added emphasis on fecal bacteria pollution awareness, into EMO trainings with large audiences. Focused training for LaRC personnel directly involved in processes that have water quality implications (e.g., Grounds and Maintenance).
Educational Articles	<ul style="list-style-type: none"> Generate and distribute via Inside Langley and public environmental website.
Inside Langley Posts	<ul style="list-style-type: none"> Advertisements for new educational articles.
Website Update	<ul style="list-style-type: none"> Post updated TMDL Action Plans. Include information on LaRC's Back River TMDL Action Plan and management strategies to reduce fecal bacteria.

Schedule of Implementation (Part II B 4 h)

NASA LaRC will implement the fecal bacteria load reducing components described in this Action Plan. Planned actions for the current permit cycle are listed in Table 3 below.

Table 3. Actions for Current Permit Cycle: Nov 1, 2023 through Oct 31, 2028

Planned Outreach Action		Schedule/Frequency
Finalize and publish LaRC's updated Back River TMDL Action Plan to the public website; advertise to LaRC personnel via the Inside Langley employee notification system.		April 2025
Complete the public website review to update information on the Back River TMDL, as appropriate.		May 2025
Publish an educational article to the public website; advertise to LaRC personnel via the Inside Langley employee notification system.		At least one article annually.
Complete training on stormwater and water quality, with added emphasis	LaRC Facility Environmental Coordinator (FEC) Training	At least two hybrid classes annually; virtual training available anytime.
	Illicit Discharge Specific Stormwater Management Training for the Center's maintenance personnel and any interested LaRC personnel.	Annually

on pollutants and urban wildlife.	LaRC Waste Management and Spill Response Training	At least three hybrid classes annually; virtual training available anytime.
	Grounds Maintenance Contractor Stormwater Management (Best Management Practices) Training	Biannually
	Maintenance-Specific Stormwater Management Training for maintenance personnel performing roadway and recreational area maintenance.	Biannually
Stormwater Action		Schedule/Frequency
Clean out storm drains to remove waste from wildlife.		At least twice annually.
Maintain a program for removing animal carcasses from roadways and properly disposing of the same.		As reported.
Continue stormwater ditch cleaning and vegetation removal that attract wildlife and present safety concerns.	Continue habitat control under BASH initiatives along LaRC's aircraft taxiway to discourage bird nesting in stormwater ditches.	As needed.
	Proceed with the maintenance of both paved and unpaved ditches by regularly trimming vegetation and removing any accumulated trash or debris.	At least annually for paved ditches and quarterly for unpaved ditches.
	Maintain LaRC's policy that prohibits stormwater retention practices or ponds to discourage Canadian geese.	All LaRC stormwater practices are required to have infiltration/ bioretention and hold water for less than 24-hours.
	Geese Hazing and Population Culling (in partnership with JBLE-Langley).	As needed.

LaRC will maintain documentation of each training event conducted including the date of the event, the number of employees in attendance, the objective of the training, and the view count on published posts, as applicable, for a minimum of three years after the training event.

Public Comment Opportunity (Part II B 9):

In accordance with Section II B 9 of the MS4 permit, LaRC shall provide an opportunity for public comment proposed to meet the local TMDL action plan requirements for no fewer than 15 days. The public comment period shall be completed prior to the submittal of the action plan to the Virginia DEQ.

LaRC solicited input via the employee Inside Langley announcement system (accessible to all LaRC employees), from 04/xx/2025 to 04/xx/2025, for a total of xx days. The following is a summary of

public comment received on the Back River TMDL Action Plan.

Public Input Received	Response and Implementation
Pending end of 15 day period for public comment.	

Additionally, LaRC's Back River TMDL Action Plan will remain posted on the public environmental website and the public is invited to provide comments to the LaRC EMO at any time.

MS4 Program Implementation (Part II B 10, 11):

NASA LaRC's MS4 Program Plan incorporates this TMDL Action Plan by reference. Each annual Program Plan shall include the date of the most recent TMDL Action Plan and will identify the location where a copy of the local TMDL Action Plan may be obtained.

Additionally, LaRC's Annual Report for the MS4 Program, provided to the Virginia DEQ by October 1st of each year, will include a progress report of the previous year's actions and the planned actions for the upcoming permit year.

Signed Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Kristen Poultney, Head, Environmental Management Office

Date