



**NASA Langley Research Center  
Municipal Separate Storm Sewer System (MS4)  
Annual Report**

**Covering the period of July 1, 2014 – June 30, 2015**



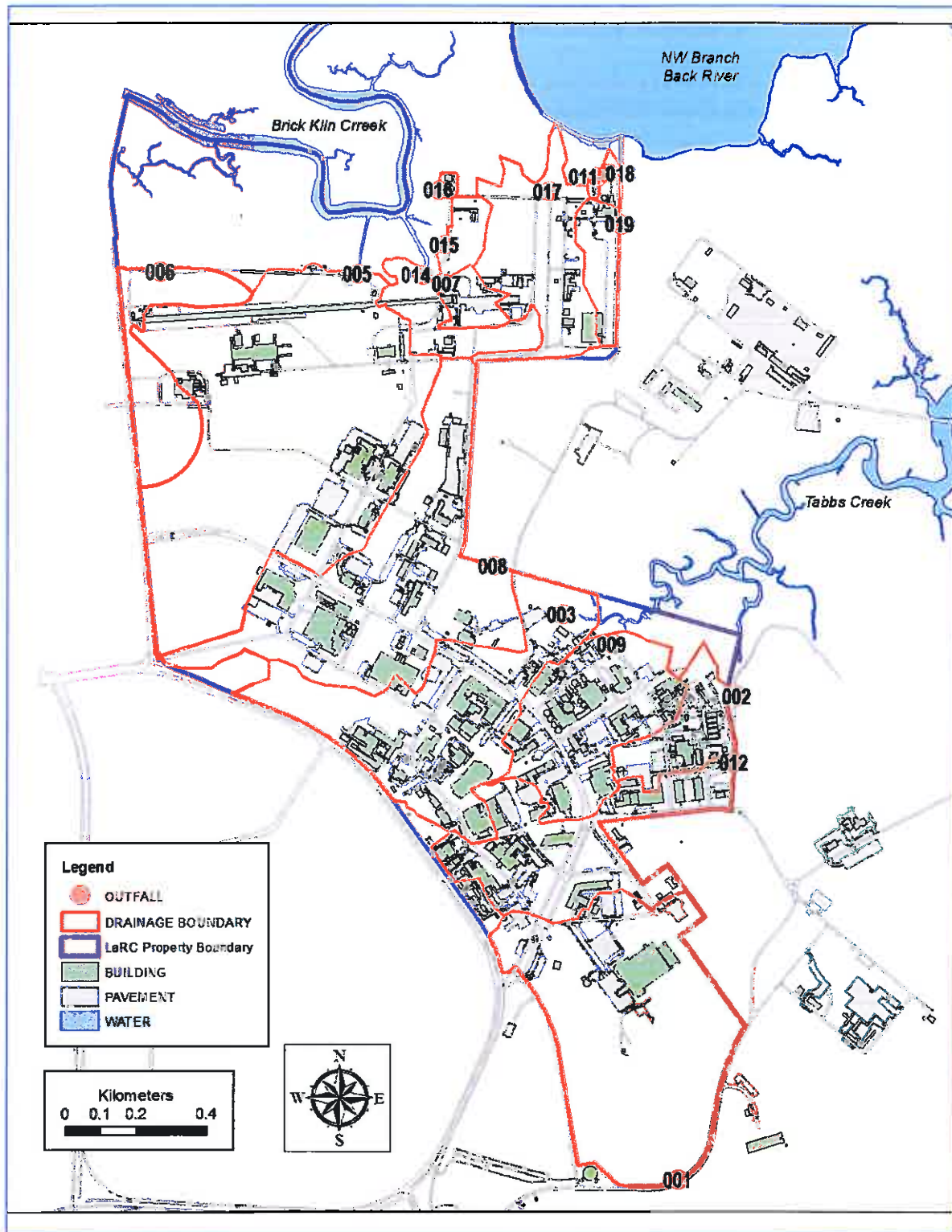
**Submitted to the Virginia Department of Environmental Quality (DEQ) in compliance with Permit No. VAR040092**

# NASA LaRC MS4 Annual Report

The following provides a summary of permit year (PY) two MS4 activities showcasing LaRC's compliance with the MS4 General Permit (VAR040092) and the Year Two Program Plan. An updated Program Plan covering PY 3 has been completed and is currently being implemented. A summary of the significant Program Plan updates can be found at the end of this Annual Report.

## Background Information

- (1) NASA Langley Research Center  
General Permit Registration Number VAR040092
- (2) Annual Report for PY 2 covering the period of July 1, 2014 – June 30, 2015.
- (3) There have been no major modifications to any operator roles and/or responsibilities. In the current MS4 Program Plan, the Standard Practice and Environmental Engineering Branch (SPEEB) (referred to as NASA Environmental) is responsible for ensuring implementation of the MS4 Program Plan and Annual Reporting.
- (4) A total of 16 outfalls exist (shown in Figure 1). No new MS4 outfalls have been added during the PY.
- (5) The signed Certification Statement can be found on the last page of this Annual Report.



**FIGURE 1 - LaRC OUTFALL AND OUTFALL DRAINAGE BASIN MAP**

**Minimum Control Measure One – Public Education and Outreach  
Annual Reporting Requirements – GP Section II B 1 (g)**

- (1) A list of the education and outreach activities conducted during the reporting period for each high-priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences that was reached.
- (2) A list of the education and outreach activities that will be conducted during the next reporting period for each high-priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.

(1) The following list details of last permit year's education and outreach activities:

High Priority 1: Construction Erosion and Sediment Control

Selected Audience: Center Operation Employees (93 total)

- An educational article titled, *Construction Stormwater Management at NASA Langley*, was published on 12/30/14, 12/31/14, and 1/2/2015 with 2221, 2158, 3093 visitors ("hits") respectively. This article focused on the importance of erosion and sediment control at LaRC and how the program operates.
- The Environmental Website's Construction and ESC section was reviewed and updated twice during the last Permit Year. The first update was a significant update that migrated the page to a public facing webpage. The second update was a routine update. An announcement of the major website update was made on 2/25/2015 and received 2,357 hits.
- Facility Environmental Coordinator (FEC) Training was held on 7/15/14, 7/17/14, 7/29/14, 7/30/14, 5/18/15, and 6/9/15 with 21, 5, 12, 11, 12 and 5 attendees respectively. The FEC training course goes into detail about stormwater pollution prevention and the importance of LaRC's erosion and sediment control program. FECs are asked to monitor their facilities for any erosion-related issues especially when maintenance, construction, and/or demolition activities are occurring. Many COD employees are classified as FECs.

The total number of estimated people reached was 9,895. This represents 100% of the total targeted audience.

High Priority 2: Illicit Discharge Detection and Elimination

Selected Audience: Employee Population (3000)

- An educational article, titled *Only Rain Down the Drain*, was published on 6/29/15 and 6/30/15, with 497 and 332 visitors ("hits") respectively.
- A special training session, titled *Learn about Water Quality and the Chesapeake Bay*, was held on Center 6/16/15 with 8 participants. This training focused on water quality, stormwater management, and LaRC's IDDE program.
- The Environmental Website's Public IDDE Page was reviewed and updated twice during the last Permit Year. The first update was a significant update that migrated the page to a public facing webpage. The second update was a routine update. An announcement of the major website update was made on 2/25/2015 and received 2,357 hits.
- A specific stormwater Grounds Management Training, titled *Stormwater and Grounds Maintenance Operations*, was held on 4/28/2015 and had 12 attendees. This training focused

on several stormwater issues included the importance of grounds personnel in identifying, reporting, and correcting illicit discharge.

- Facility Environmental Coordinator (FEC) Training was held on 7/15/14, 7/17/14, 7/29/14, 7/30/14, 5/18/15, and 6/9/15 with 21, 5, 12, 11, 12 and 5 attendees respectively. The FEC training course goes into detail about stormwater pollution prevention and LaRC's IDDE program.

The total number of estimated people reached was 3,272. This represent 100% of the total targeted audience.

**High Priority 3: TMDL Education**

Selected Audience: Employee Population (3000)

- An educational article, titled *Fall Lawn Care and Clean Water*, was published on 10/3/14 and 10/6/14, with 3583 and 3698 visitors ("hits") respectively.
- An educational article, titled *Clean Water Actions for the Bay*, was published on 3/24/15, 3/27/15, and 3/30/15 with 1386, 1191, and 1164 visitors ("hits") respectively.
- The Environmental Website's Public TMDL Page was reviewed and updated twice during the last Permit Year. The first update was a significant update that migrated the page to a public facing webpage. The second update was a routine update. An announcement of the major website update was made on 2/25/2015 and received 2,357 hits.
- A specific stormwater Grounds Management Training, titled *Stormwater and Grounds Maintenance Operations*, was held on 4/28/2015 and had 12 attendees. This training focused on several stormwater issues included the importance of grounds personnel and how their work (street sweeping, leaf collection, catch basin cleaning, etc.) helps to protect the Bay.
- A training class, titled *Learn about Water Quality and the Chesapeake Bay*, was held on Center 6/16/2015 and had 8 people in attendance. The training class was aimed at education covering water quality and stormwater management, including information on efforts to clean up the Chesapeake Bay and how this affects NASA LaRC. An overview of how NASA LaRC is taking steps to protect local waters and improve the health of the Chesapeake Bay was given.

The total number of estimated people reached was 13,399. This represent 100% of the total targeted audience.

- (2) The following is a list of education and outreach activities that will be conducted during the next reporting period including each high-priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached. Per DEQ guidance from the last annual report, existing MCMs were not selected as high priorities.

On 6/10/2015, 6/11/2015, and 6/12/2015 announcements were made for public input on selecting these education activities and high priorities. The announcements received 1515, 1516, 1506 hits respectively. No public comments were received.

High Priority	Target Audience	Outreach Goal	Outreach Activities Planned - Permit Year 3 (July 1, 2015 – June 30, 2016)
Proper Procedures for Vehicle and Power Washing	Facility Staff and Contractors -100	80% of audience annually	Educational Article - 1 x year Standard Operating Procedure or Educational Flyer – Annual Distribution to applicable audience

<b>High Priority</b>	<b>Target Audience</b>	<b>Outreach Goal</b>	<b>Outreach Activities Planned - Permit Year 3 (July 1, 2015 – June 30, 2016)</b>
			SPEEB Environmental Website's IDDE Section and Water Section -- Reviewed, Updated and Promoted via @LaRC 2 x year
Illegal Dumping	General Center Population - 3000	At least 25% of audience annually	Educational Article – 1 x year Standard Operating Procedure or Educational Flyer – Annual Distribution SPEEB Environmental Website's Public IDDE Section - Reviewed, Updated and Promoted via @LaRC 2 x year
TMDL Education	General Employee Population – 3000	At least 25% of audience annually	Educational Articles – 2 x year SPEEB Environmental Website's Public TMDL Website - Reviewed, Updated and Promoted via @LaRC 2 x year

**Minimum Control Measure One – Public Education and Outreach**  
Annual Reporting Requirements - GP Section II B 2 (d)

- (1) A web link to the MS4 Program Plan and annual report; and
- (2) Documentation of compliance with the public participation requirements of this section.

(1) Web link to the primary public MS4 webpage where the Program Plan and Annual Report can be viewed: <https://sites-e.larc.nasa.gov/environmental/water/ms4/>

(2) Documentation of compliance with the public participation requirements of this section:

The following events were promoted on Center through promotion, sponsorship and/or involvement:

**Annual Clean the Bay Day** - Clean the Bay Day is an annual stream and shoreline cleanup program where citizen volunteers come out to remove litter and debris from Virginia creeks, streams, rivers, and the Chesapeake Bay. This past year Langley Air Force Base (LAFB) did a large shoreline clean up and NASA LARC participated through promotion of the event. LaRC promoted this event via the @LaRC announcement page. The announcements were posted on 5/20/2015, 5/21/2015, and 5/22/2015 with 2046, 2082, and 2073 “hits” (visitors) respectively. LaRC coordinated interested parties with the LAFB point of contact.

**Chesapeake Rain Barrel Workshop** – The City of Chesapeake’s Public Works Department hosted several rain barrel making workshops. Rain barrel implementation has a positive effect on stormwater management and water conservation. LaRC received positive feedback from these events in the past and looks to continue supporting and promoting these workshops in the Hampton Roads community. LaRC promoted this event via posting to the @LaRC site. The announcement was posted on 10/8/2014 and received 4727 “hits” (visitors).

**LAFB Rain Barrel Workshop** - The 633d Civil Engineer Squadron, Hampton Clean City Commission, and Hampton Master Gardeners held a rain barrel workshop on Monday, April 20th at the JBLE-Langley Community Commons Center. This workshop provided the supplies, training, and expertise on how to build and maintain a rain barrel. LaRC worked with LAFB and had 8 spots held for LaRC employees. The event was promoted on 3/31/2015, 4/1/2015, 4/2/2015, and 4/3/2015 with 2200, 2113, 2069 and 2061 hits respectively.

**2014 VPPSA Household Chemical Collection** - York County, Hampton and Newport News hold household chemical, computer and electronics collections throughout the year. These events help to keep these types of products out of local waterways from improper disposal. LaRC promoted some of the collection events via the @LaRC announcement page and encouraged employees to attend their local municipality’s event. LaRC promoted this event via posting to the @LaRC site. The announcements were posted on 10/9/2014, 10/10/2014, and 2/15/2014 receiving 4737 and 4772 “hits” (visitors) respectively.

**My Green Home: 20 Years of Living Green** - NASA participated through promotion and sponsorship of this event. This local event highlighted a Center employee’s green home which includes solar PV panels, solar hot water, green (or living) roof, a 3000-gallon rainwater cistern, driveway permeable pavers, and a wetlands buffer area to limit runoff into the Chesapeake Bay. The focus was to provide education to other

employees on how they can green their own properties, including stormwater best management practices, in the Hampton Roads area. This event was held on October 21, 2014.

**NASA Langley's Earth Day/Arbor Day Event** - LaRC held an on-Center Earth Day/Arbor Day event on 4/22/2015. The event featured environmental education exhibits and displays included LaRC Environmental programs, Peninsula Master Naturalists, Hampton Roads Solar Group, Newport News Waterworks, Old Dominion University/Kaplan Orchid Society, and others. Exhibits featured information on Center programs for energy and water conservation, sustainable design including LaRC's Integrated Engineering Services Building, recycling, hazardous materials and waste management, stormwater pollution prevention, water and air quality, green purchasing, and cultural resources. Promotion of this event was done on the @LaRC page. The announcements were posted on 4/7/2015, 4/8/2015, 4/10/2015, 4/13/2015, 4/17/2015, 4/20/2015, 4/21/2015 and 4/22/2015 receiving 2038, 2038, 2007, 1988, 1964, 1942, 1936, and 1956 "hits" (visitors) respectively

**Additional documentation for these events can be found as an attachment to this Annual Report.**



**Minimum Control Measure Three – Illicit Discharge Detection and Elimination  
Annual Reporting – GP Section II B 3 b**

- (1) A list of any written notifications of physical interconnection given by the operator to other MS4s;
- (2) The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up actions necessitated by the screening results; and
- (3) A summary of each investigation conducted by the operator of any suspected illicit discharge. The summary must include: (i) the date that the suspected discharge was observed, reported, or both; (ii) how the investigation was resolved, including any follow-up, and (iii) resolution of the investigation and the date the investigation was closed.

- (1) Langley Air Force Base (LAFB) is the only downstream stormwater system that LaRC has interconnection with. Joint Base Langley-Fort Eustis is comprised of two geographically separate entities: LAFB in Hampton and Fort Eustis in Newport News. LAFB is not a regulated MS4 (to the best of our knowledge and communications they operate solely under a VPDES permit) so no formal (“written”) notifications were made. Fort Eustis does have an MS4 permit; however, is not physically interconnected to LaRC. Generally, NASA LaRC and LAFB do communicate regarding our interconnections and upcoming projects impacts.
- (2) NASA LaRC has 16 MS4 outfalls. The total number of outfalls screened during the reporting period included all 16 outfalls. Outfall inspections occurred weekly (VPDES permit requirement) for a total of 439 total screenings spread across the 16 outfalls. These inspections are recorded in a logbook and are kept on file with NASA Environmental.

Additionally, to best ensure MS4 permit compliance, LaRC completes an annual MS4 outfall screening of all 16 outfalls. This screening program utilizes a NASA developed MS4 screening form. The results of the specific MS4 screening program are summarized below:

<b>Outfall ID</b>	<b>Date</b>	<b>Screening Result</b>	<b>Follow-up</b>
001	11/19/2014	No issues.	--
002	11/19/2014	Sediment build-up in the bottom of the concrete channel at the outfall discharge point.	Grounds maintenance followed-up by clearing the sediment from the outfall discharge points and the concrete-lined ditch in this area on 12/12/14, 12/15/14, 12/16/14, 12/17/14, and 12/19/2014. All sediment was removed and properly disposed of.
003	11/19/2014	Absorbent pads in the Oil Water Separator (OWS) at the outfall (VPDES requirement) needed to be replaced.	New absorbent pads were installed on 11/21/2015 during weekly outfall maintenance.
005	11/19/2014	No issues.	--

<b>Outfall ID</b>	<b>Date</b>	<b>Screening Result</b>	<b>Follow-up</b>
006	11/19/2014	No issues.	--
007	11/19/2014	No issues.	--
008	11/19/2014	Significant erosion issues of the ditch walls surrounding the concrete pipe/discharge point were identified. Sediment build-up in the channel was observed.	NASA awarded a \$120k design and installation project to re-grade/armor the ditch walls and add a rock splash pool at the outfall discharge point to reduce discharge velocity. This project was designed and awarded in the PY. The project was recently completed and is now closed out. All issues have been resolved.
009	11/19/2014	Some trash debris was caught in the OWS unit prior to outfall discharge.	Environmental Staff cleaned out the trash debris (two plastic bottles) on 11/19/2015 immediately upon discovery.
011	11/19/2014	Sediment build-up inside the outfall pipe was discovered.	The sediment has not been removed in this area yet. It is a low finding priority because this outfall is dry 99% of the time.
012	11/19/2014	Sediment build-up in the bottom of the concrete channel at the outfall discharge point.	Grounds maintenance followed-up by clearing the sediment from the outfall discharge points and the concrete-lined ditch in this area on 12/12/14, 12/15/14, 12/16/14, 12/17/14, and 12/19/2014. All sediment was removed and properly disposed of.
014	11/19/2014	No issues.	--
015	11/19/2014	No issues.	--
016	11/19/2014	No issues.	--
017	11/19/2014	No issues.	--
018	11/19/2014	No issues.	--
019	11/19/2014	Concrete pipe has a broken section at the outfall point.	NASA is currently seeking funding for fixing this broken pipe.

- The following is a summary of each investigation conducted by the operator of any suspected illicit discharge. The summary includes: (i) the date that the suspected discharge was observed, reported, or both; (ii) how the investigation was resolved, including any follow-up, and (iii) resolution of the investigation and the date the investigation was closed.

A total of 2 illicit discharges were suspected and 2 were found to be actual illicit discharges.

### **Illicit Discharge Investigation #1: B1268 Roof Coating Discharge**

- (i) Date observed: 12/18/2014  
Date reported: NA
- (ii) How investigation was resolved, including follow-up: On 12/18/2014, a NASA Environmental staff member discovered a rubbery white material floating on the surface in the first compartment of the OWS at Outfall 003. The employee scooped out a sample and found it to be a white, hardened rubbery material. The employee, per LaRC's IDDE Handbook, began tracking down the source of the discharge and consulted maintenance personnel. Additionally, the maintenance contractor was tasked with cleaning all of the material out of the OWS immediately. It was a solid material and had not mixed with the water column, so clean-up was relatively easy. The material was removed and disposed of properly.
- (iii) Resolution of the investigation: NASA Environmental staff deemed this an illicit discharge. Per the Center's IDDE Handbook, personnel set out to identify the source of the material. It was discovered that the material was a roof coating from a nearby roofing project. The roof material had not cured properly in the cold temperatures and sections had flaked off and been washed down the roof drain and into a storm inlet during rain. Since the incident, Environmental and the Center's maintenance contractor have discussed improvements in project planning/timing (temperatures, expected rain, etc.). Additionally, it was found that the product was applied too thickly, which did not allow for proper curing. In the future when temperature and humidity will affect the curing process, the contractor has agreed to apply the product at a thinner rate and use multiple coats to provide the mill thickness specified.
- (iv) Date investigation was closed: 12/31/2014

### **Illicit Discharge Investigation #2: Custodial Contractor Floor Cleaner Discharge**

- (i) Date observed: 6/3/2015  
Date reported: NA
- (ii) How investigation was resolved, including follow-up: At about 4:45pm on 6/3/2015, a member of the Environmental staff observed one of the NSR-Integrity custodial workers draining a cleaning solution tank from a floor cleaning machine into the storm sewer inlet. The solution was sudsy. The Environmental staff member spoke with the employee and told him that any floor cleaning solution should be discarded in the utility sink inside the building and not to the storm sewer inlet.
- (iii) Resolution of the investigation: NASA Environmental deemed this to be an illicit discharge per LaRC policy and proceeded to ensure that this type of incident will not reoccur. Environmental took two major actions: (1) developed a one page guidance document targeted at custodial staff members on stormwater pollution prevention and had the employees sign the form. (2) Environmental held two special training sessions with all custodial employees to discuss the incident and remind them of LaRC's environmental policies. This training was held twice on 7/16/2015 with 20 employees trained (day and night shift).
- (iv) Date investigation was closed: 7/16/2015

**Minimum Control Measure Four – Construction Site Stormwater Management  
Annual Reporting - Section II B 4 (f)**

The operator shall track regulated land-disturbing activities and submit the following information in all annual reports:

- (1) Total number of regulated land-disturbing activities;
- (2) Total number of acres disturbed;
- (3) Total number of inspections conducted; and a summary of the enforcement actions taken, including the total number and type of enforcement actions taken during the reporting period.

- (1) The total number of regulated LDAS during the reporting year was six.
  - LTPT/1229 Demolition – VAR10C696
  - IESB Construction – VAR108257
  - 1213/1192 Demolition – VAR10G488
  - ALDF Demolition – VAR10G584
  - 1145/1231 Demolition – VAR10G966
  - CRF Construction – VAR10G999 (Coverage during the PY, but no land disturbance)
- (2) The total number of acres disturbed was 11.86 acres.
- (3) The total number of NASA (MS4 staff) inspections conducted was 92. The following is a summary of 12 issues that rose to the level of formal enforcement actions taken. All issues were closed once enforcement actions were taken. It should be noted that there were numerous minor issues noted in the field during the year. Per NASA Annual Standards and Specifications, for minor deficiencies with no environmental impacts the contractor may remedy the violation immediately and avoid a formal enforcement action (such as a signed *Corrective Action Notice or contract action*) being issued. Only issues that needed formal “enforcement” are reported below:

<b>Project</b>	<b># of Enforcement Actions</b>	<b>Type of Enforcement</b>	<b>Issues Driving the Enforcement</b>
VAR10C696	2	Both actions were formal written Corrective Action Notices submitted to the contractor and project team.	<ul style="list-style-type: none"> <li>- SWPPP documentation not adequate/poor recordkeeping.</li> <li>- Silt fence improperly installed.</li> </ul>

Project	# of Enforcement Actions	Type of Enforcement	Issues Driving the Enforcement
VAR108257	4	<p>1 - Formal written Corrective Action Notice to the contractor and project team</p> <p>1 – NASA Headquarters Environmental Findings submitted via Environmental Functional Review process to contractor.</p> <p>2 – Enforcement Emails</p>	<ul style="list-style-type: none"> <li>- Lack of maintenance of inlet protection devices and silt fence. Sediment migration off-site to a nearby grass ditch.</li> <li>- Lack of maintenance and recordkeeping. Coverage letter not posted on site.</li> <li>- Improper stabilization of swales.</li> <li>- Inlet protection and silt fence maintenance, trash debris on the ground that needed to be collected.</li> </ul>
VAR10G488	3	All three were formal written Corrective Action Notices submitted to the contractor and project team.	<ul style="list-style-type: none"> <li>- CPG letter not posted.</li> <li>- Repeated silt fence and ESC control maintenance issues.</li> <li>- SWPPP not amended to reflect changes on site.</li> <li>- Lack of good contractor inspection records and SWPPP upkeep.</li> </ul>
VAR10G584	2	Both were formal written Corrective Action Notices submitted to the contractor and project team	<ul style="list-style-type: none"> <li>- ESC BMPs not installed in accordance with approved SWPPP; coverage letter not posted.</li> <li>- Silt fence repair needed due to sediment undercutting (asked more than once for repair)</li> </ul>
VAR10G966	1	Formal written Corrective Action Notice submitted to the contractor and project team	<ul style="list-style-type: none"> <li>- CGP Coverage letter and SWPPP location were not posted. Also, site was missing an inlet protection that was indicated in the approved SWPPP/ESC Plan.</li> </ul>

**Minimum Control Measure Five – Post Construction  
Annual Reporting - Section II B 5 e**

- (1) The stormwater management facility type;
- (2) A general description of the facility's location, including the address or latitude and longitude;
- (3) The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
- (4) The date the facility was brought online (MM/YYYY). If the date is not known, the operator shall use June 30, 2005, as the date brought online for all previously existing stormwater management facilities;
- (5) The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
- (6) The name of any impaired water segments within each HUC listed in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report to which the stormwater management facility discharges;
- (7) Whether the stormwater management facility is operator-owned or privately-owned;
- (8) Whether a maintenance agreement exists if the stormwater management facility is privately owned; and
- (9) The most recent inspection of the stormwater management facility.

**This information is being provided in a spreadsheet as an attachment to this report.**

**Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping  
Annual Reporting - Measurable Goals - GP Section II B 6 g**

- (1) A summary report on the development and implementation of the daily operational procedures;
- (2) A summary report on the development and implementation of the required SWPPPs;
- (3) A summary report on the development and implementation of the turf and landscape nutrient management plans that includes:
  - (a) The total acreage of lands where turf and landscape nutrient management plans are required; and
  - (b) The acreage of lands upon which turf and landscape nutrient management plans have been implemented; and
- (4) A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.

- (1) LaRC was required to complete the development and implementation of written procedures designed to minimize or prevent pollution within 24-months of permit coverage. LaRC has completed this task. Operational procedures and good housekeeping practices have been summarized in the Program Plan and written descriptions of how the work is accomplished has been included. The updated Program Plan goes into more specific detail on LaRC's programs and procedures for street sweeping, ditch and outfall maintenance, equipment maintenance, salt storage, outfall maintenance (booms, pads, etc.), catch basin maintenance, leaf collection, spill containment, and application, storage, transport and disposal of pesticides, herbicides, and fertilizers.
- (2) NASA LaRC has assessed all facilities on Center for their potential of discharging pollutants. In general, LaRC has a low risk for facilities discharging pollutants due to current procedures in place and LaRC's practice of material storage with no exposure to stormwater. Additionally, many facilities that would be covered under this MCM are already covered under LaRC's VPDES Permit #VA0024741 or LaRC's General VPDES for Vehicle Wash Facilities (VAG750198). Facilities covered under a separate VPDES permit shall adhere to the conditions established in that permit and are excluded from this requirement. LaRC only identified one (1) area as high priority which is the composting facility/grounds maintenance area.

The Center operates an informal composting area and landscape material storage area in the fields near Building 1285. This area is primarily used for composting leaves and other landscaping debris (gumballs, small branches, etc.). The area selected is surrounded by grass and has no storm inlets or ditches nearby. The potential for any stormwater runoff is limited; however, this area could be improved. Additionally, LaRC is interested in expanding its composting operation, so the risk to the MS4 could grow. LaRC will develop and implement a specific stormwater pollution prevention plan (SWPPP) for this high priority facility. LaRC will development and implement this SWPPP within 48 months of coverage as required by Table 1.

- (3) LaRC will continue to strictly limit the use of nutrients and fertilizer application on pervious turf areas. LaRC's policy regarding the use of pesticides, herbicides and fertilizers is to follow Integrated Pest Management (IPM) practices whenever possible and to use the absolute minimum amount of pesticides, herbicides, and fertilizers on Center as necessary. LaRC has no applicable lands where nutrients are applied to a contiguous area of more than 1 acre. The total acreage of lands where turf and landscape nutrient management plans apply is zero. The acreage of lands upon which turf and landscape nutrient management plans have been implemented is zero.

(4) The following is a summary of completed training during the last PY:

Training Requirement	Applicable Audience(s)	Summary
Training for applicable field personnel in the recognition and reporting of illicit discharges	Facility Environmental Coordinators	FECs are asked to monitor their facilities for illicit discharge concerns and are the primary “eyes and ears” for the Environmental Branch. The FEC training course goes into detail about stormwater pollution prevention and the importance of LaRC’s IDDE program. It also discussed how to make proper reports to NASA Environmental. FEC training was held on 7/15/14, 7/17/14, 7/29/14, 7/30/14, 5/18/15, and 6/9/15 with 21, 5, 12, 11, 12 and 5 attendees respectively. A total of 66 FECs were trained.
Training for applicable employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance	Grounds Maintenance Contractor	The Grounds Maintenance Contractor is responsible for the road, street and parking lot maintenance on Center. A specific stormwater-focused Grounds Management Training titled, “Stormwater and Grounds Maintenance Operations” was held on 4/28/2015 and had 12 attendees. This training focused on several stormwater issues included the importance of grounds street sweeping program and the importance of personnel in identifying, reporting, and correcting illicit discharge.
Training for applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities.	Facility Environmental Coordinators	Certain FECs are employed to manage “public works-type” facilities on Center. The FEC training course goes into detail about stormwater pollution prevention and the importance of good housekeeping principles in and around facilities. FEC training was held on 7/15/14, 7/17/14, 7/29/14, 7/30/14, 5/18/15, and 6/9/15 with 21, 5, 12, 11, 12 and 5 attendees respectively.
Ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia).	Grounds Maintenance Contractor	The Grounds Maintenance Contractor is responsible for the minor amounts of pesticides and herbicides applied on Center. The program is primarily need-based and done via spot treatments (ex. Someone calls in a wasp nest to be sprayed). NASA has required, through specific contract language, that the Grounds contract operator carry all necessary state licenses. This contract language ensures that this



Training Requirement	Applicable Audience(s)	Summary
		requirement is met or the operator can't work at NASA LaRC.
Ensure that employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law	Standard Practice and Environmental Engineering Branch (SPEEB)	<p>Mr. Peter Van Dyke serves as LaRC's Water Program Manager. Mr. Van Dyke is in charge of all ESC and SWM Plan reviews and inspection programs. Mr. Van Dyke has both ESC and SWM Combined Administrator certifications.</p> <p>SWM Combined Administrator #SWCA0175 (Expires 4-17-2018)</p> <p>ESC Combined Administrator #6059 (Expires 5-31-2017)</p>
Training for applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities.	Grounds Maintenance Contractor	LaRC has very limited recreational facilities due to our small size. There are a few ball/soccer fields and tennis court areas, but no nutrients are applied. However, LaRC will incorporate some training information regarding recreational facilities into the annual Grounds Maintenance Stormwater Training. A training course with the Grounds Maintenance contractor (who maintains these areas) will be completed during Year 3 to meet the biennial training requirement of the permit.
Emergency response employees shall have training in spill responses.	Waste Handling Center Personnel	Any employees who handle or manage hazardous materials or oils are required to attend LaRC's Annual Waste Management/ Spill Response Training. This class goes into specific detail on LaRC's spill response and prevention program. This is an annual training requirement for waste handlers. Six training sessions were held during Year 2. Training sessions were held on 7/10/14, 7/16/2014, 7/22/2014, 5/13/2015, 5/19/2015, and 6/11/2015 with 131, 96, 145, 31, 176 and 150 attendees. A total of 729 employees were trained on Center spill response.

## Program Plan Modifications Summary

LaRC has updated the MS4 Program Plan in compliance with the General Permit. All of the necessary 24-month updates listed in Table I of the General Permit have been addressed. Implementation of the new Program Plan began on July 1, 2015. Below is a snapshot of Program Plan updates:

<b>24-Month MS4 Program Plan Update Summary</b>		
<i>Program Update Requirement</i>	<i>Permit Reference</i>	<i>Update Summary</i>
Updated TMDL Action Plans (TMDLs approved before July of 2008) – (Special Conditions for Approved Total Maximum Daily Loads (TMDL) Other Than Chesapeake Bay)	Section I B	LaRC currently has no waste load reductions associated with any TMDLs except the Chesapeake Bay TMDL. No additional TMDL Action Plans outside of the Chesapeake Bay Action Plan needed to be developed.
Chesapeake Bay TMDL Action Plan – (Special Condition for Chesapeake Bay TMDL)	Section I C	This Action Plan has been completed. The Chesapeake Bay TMDL Action Plan is a separate submittal along with this Year II Annual Report.
Stormwater Management Progressive Compliance and Enforcement – (Minimum Control Measure 4 - Construction Site Stormwater Runoff Control)	Section II B 5	NASA LaRC has chosen to utilize DEQ-approved Annual Standards and Specifications for SWM and ESC. As part of this DEQ submittal, NASA developed progressive compliance and enforcement program that adequately covers this requirement and have been approved by DEQ.
Daily Good Housekeeping Procedures (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 a	MCM 6 of the newest Program Plan has been updated and now adequately addresses Center procedures for good housekeeping practices. More details on this can be found on page 14 of the Annual Report.

*MCM 1* - Three new high priorities have been selected and an associated education and training plan was developed. LaRC moved away from existing MCMs serving as high priorities, and selected more targeted priorities. The three priorities for Year 3 are: (1) Vehicle and Power Washing Activities; (2) Illegal Dumping; and (3) the Chesapeake Bay TMDL. Prior to developing the Permit Year 3 Annual Outreach Plan LaRC solicited public comment via the employee @LaRC announcement system. Notices ran between 6/10/2015 and 6/12/2015. The call asked employees what they felt were the most pressing stormwater issues the Center faced and where NASA Environmental should focus educational efforts. No public comments were received regarding the Year 3 Outreach Plan.

*MCM 2* - This section was updated and better discusses the requirement for posting the Program Plan and Annual Reports on LaRC's new public facing website. Also, the Program Plan provides more information on LaRC's process for getting public feedback on Program Plan updates and Annual Reporting.

*MCM 3* – This section of the Program Plan had no significant changes. The Program Plan was updated to note several improvements LaRC has taken in stormwater mapping through the GIS system.

*MCM 4* – This section of the Program Plan had no significant changes. Environmental staff member Peter Van Dyke became a Combined Administrator for SWM during the PY. Mr. Van Dyke's certification information was updated in the Program Plan. Mr. Van Dyke now holds both Combined Administrator certifications.

*MCM 5* – This section of the Program Plan had no significant changes outside of updating the spreadsheet for new permanent stormwater facilities that came on-line during the PY.

*MCM 6* – A new training plan and schedule was incorporated into the Program Plan. The Program Plan was improved to better cover operational procedures and good housekeeping practices, including written descriptions of how the work is accomplished. The updated Program Plan goes into more specific detail on LaRC's programs and procedures for street sweeping, ditch and outfall maintenance, equipment maintenance, salt storage, outfall maintenance (booms, pads, etc.), catch basin maintenance, leaf collection, spill containment, and application, storage, transport and disposal of pesticides, herbicides, and fertilizer.

**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* 9/28/15  
Kristen Poultney, Environmental Branch Head Date

VAR040092 NASA Langley Research Center  
Permit Number MS4 Name

**MCM 2 – Public Participation  
Additional Documentation**

# Earth Day 2015











# MCM 2 Event Promotion

Environment - My Posts

More Blogs

All Posts By Brandon Todd Herbert

Publish Date	Title	Approved?	Published?	Visits	Comments
10-2-2015	<a href="#">Hampton Roads Solar Tour October 3rd - FREE!</a>	APPROVED	NOT YET PUBLISHED	3	N/A
10-1-2015	<a href="#">Hampton Roads Solar Tour October 3rd - FREE!</a>	APPROVED	NOT YET PUBLISHED	1	N/A
9-25-2015	<a href="#">Hampton Roads Solar Tour October 3rd - FREE!</a>	APPROVED	NOT YET PUBLISHED	1	N/A
9-18-2015	<a href="#">Hampton Roads Solar Tour October 3rd - FREE!</a>	APPROVED	NOT YET PUBLISHED	1	N/A
9-16-2015	<a href="#">Hampton Roads Solar Tour October 3rd - FREE!</a>	APPROVED	NOT YET PUBLISHED	1	N/A
9-11-2015	<a href="#">Hampton Roads Solar Tour October 3rd - FREE!</a>	APPROVED	PUBLISHED	286	N/A
6-16-2015	<a href="#">LEARN ABOUT WATER QUALITY AND THE CHESAPEAKE BAY</a>	APPROVED	PUBLISHED	1590	N/A
6-15-2015	<a href="#">LEARN ABOUT WATER QUALITY AND THE CHESAPEAKE BAY</a>	APPROVED	PUBLISHED	1611	N/A
4-22-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	1856	N/A
4-21-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	1836	N/A
4-20-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	1942	N/A
4-17-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	1864	N/A
4-13-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	1888	N/A
4-10-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	2007	N/A
4-8-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	2029	N/A
4-7-2015	<a href="#">Earth Day/Arbor Day 2015, April 22nd, IESB 11am -1pm</a>	APPROVED	PUBLISHED	2038	N/A
4-3-2015	<a href="#">Rain Barrel Workshop at Langley AFB, April 20th. Deadline to sign up is April 10th</a>	APPROVED	PUBLISHED	2061	N/A
4-3-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	79	N/A
4-3-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	APPROVED	PUBLISHED	2061	N/A
4-2-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	78	N/A
4-2-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	76	N/A
4-2-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	APPROVED	PUBLISHED	2069	N/A
4-1-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	76	N/A
4-1-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	76	N/A
4-1-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	APPROVED	PUBLISHED	2113	N/A
3-31-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	77	N/A
3-31-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	NOT YET APPROVED	NOT YET PUBLISHED	77	N/A
3-31-2015	<a href="#">Make your own Rain Barrel at Langley AFB, April 20th</a>	APPROVED	PUBLISHED	2200	N/A
3-30-2015	<a href="#">Clean Water Actions for the Bay</a>	APPROVED	PUBLISHED	2087	N/A
3-27-2015	<a href="#">Clean Water Actions for the Bay</a>	APPROVED	PUBLISHED	2114	N/A
3-24-2015	<a href="#">Clean Water Actions for the Bay</a>	APPROVED	PUBLISHED	2310	N/A
3-20-2015	<a href="#">Upcoming Events - Great American Cleanup Activities</a>	APPROVED	PUBLISHED	1980	N/A
3-13-2015	<a href="#">Upcoming Events - Great American Cleanup Activities</a>	APPROVED	PUBLISHED	2038	N/A
3-12-2015	<a href="#">Upcoming Events - Great American Cleanup Activities</a>	APPROVED	PUBLISHED	2080	N/A
1-2-2015	<a href="#">Stormwater Management at NASA Langley</a>	APPROVED	PUBLISHED	3192	N/A
12-31-2014	<a href="#">Stormwater Management at NASA Langley</a>	APPROVED	PUBLISHED	3268	N/A
12-30-2014	<a href="#">Stormwater Management at NASA Langley</a>	APPROVED	PUBLISHED	3307	N/A
11-14-2014	<a href="#">America Recycles Day, November 15</a>	NOT YET APPROVED	NOT YET PUBLISHED	193	N/A
11-14-2014	<a href="#">America Recycles Day, November 15</a>	APPROVED	PUBLISHED	4062	N/A
11-14-2014	<a href="#">York County and Newport News Electronics Recycling</a>	APPROVED	PUBLISHED	4091	N/A
11-13-2014	<a href="#">America Recycles Day, November 15</a>	APPROVED	PUBLISHED	4009	N/A
11-13-2014	<a href="#">York County and Newport News Electronics Recycling</a>	APPROVED	PUBLISHED	4033	N/A

[Home](#)  
[@LaRC Home](#)  
[Submit New Entry](#)  
[Moderator List](#)

[Help](#)

Search Blog:

Archive  
[September 2015](#)  
[August 2015](#)  
[July 2015](#)  
[June 2015](#)  
[May 2015](#)  
[April 2015](#)  
[March 2015](#)  
[February 2015](#)  
[January 2015](#)  
[December 2014](#)  
[November 2014](#)  
[October 2014](#)

11-13-2014	<a href="#">America Recycles Day, November 15</a>	APPROVED	PUBLISHED	3982	N/A
10-10-2014	<a href="#">Household Chemical and Electronics Collection Event This Saturday, Oct 11th</a>	APPROVED	PUBLISHED	4756	N/A
10-9-2014	<a href="#">Household Chemical and Electronics Collection Event This Saturday, Oct 11th</a>	APPROVED	PUBLISHED	4721	N/A
10-9-2014	<a href="#">Household Chemical and Electronics Collection Event This Saturday, Oct 11th</a>	NOT YET APPROVED	NOT YET PUBLISHED	195	N/A
10-8-2014	<a href="#">Rain Barrel Workshop, Oct 18th, Chesapeake, VA</a>	APPROVED	PUBLISHED	4711	N/A
10-6-2014	<a href="#">Stormwater Education Article - Fall Lawn Care and Clean Water</a>	APPROVED	PUBLISHED	4663	0
10-3-2014	<a href="#">Stormwater Education Article - Fall Lawn Care and Clean Water</a>	APPROVED	PUBLISHED	4778	0
6-27-2014	<a href="#">Identifying Illicit Discharges at LaRC</a>	APPROVED	PUBLISHED	6730	N/A
6-23-2014	<a href="#">Identifying Illicit Discharges at LaRC</a>	APPROVED	PUBLISHED	4522	N/A
6-18-2014	<a href="#">Stormwater Management and Erosion &amp; Sediment Control Training Opportunity, June 18th, 1pm, Reid Center B1222 RM117</a>	APPROVED	PUBLISHED	4850	N/A
6-16-2014	<a href="#">Stormwater Management and Erosion &amp; Sediment Control Training Opportunity, June 18th, 1pm, Reid Center B1222 RM117</a>	APPROVED	PUBLISHED	4733	N/A
6-13-2014	<a href="#">Stormwater Management and Erosion &amp; Sediment Control Training Opportunity, June 18th, 1pm, Reid Center, B1222 RM117</a>	APPROVED	PUBLISHED	4787	N/A
6-11-2014	<a href="#">Stormwater Management and Erosion &amp; Sediment Control Training Opportunity, June 18th, 1pm, Reid Center (1222) RM117</a>	APPROVED	PUBLISHED	4817	N/A
6-6-2014	<a href="#">26th Annual Clean the Bay Day on June 7th</a>	APPROVED	PUBLISHED	4547	N/A
5-30-2014	<a href="#">Changes to Regional Curbside Recycling Program Effective June 6th</a>	APPROVED	PUBLISHED	4851	N/A
5-30-2014	<a href="#">26th Annual Clean the Bay Day on June 7th</a>	APPROVED	PUBLISHED	4781	N/A
5-23-2014	<a href="#">26th Annual Clean the Bay Day on June 7th</a>	APPROVED	PUBLISHED	4886	N/A
5-16-2014	<a href="#">Changes to Regional Curbside Recycling Program Effective June 6th</a>	APPROVED	PUBLISHED	4941	N/A
5-16-2014	<a href="#">26th Annual Clean the Bay Day on June 7th</a>	APPROVED	PUBLISHED	4891	N/A
5-13-2014	<a href="#">Changes to Regional Curbside Recycling Program Effective June 6th</a>	APPROVED	PUBLISHED	5113	N/A
5-2-2014	<a href="#">Earth Day MT, Trashmore May 3rd</a>	NOT YET APPROVED	NOT YET PUBLISHED	195	N/A
5-2-2014	<a href="#">Upcoming Spring Native Plant Sales</a>	APPROVED	PUBLISHED	5289	N/A
4-25-2014	<a href="#">Upcoming Spring Native Plant Sales</a>	APPROVED	PUBLISHED	5574	N/A
4-22-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	APPROVED	PUBLISHED	5435	N/A
4-21-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	APPROVED	PUBLISHED	5595	N/A
4-18-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	APPROVED	PUBLISHED	5595	N/A
4-15-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	APPROVED	PUBLISHED	5519	N/A
4-12-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	APPROVED	PUBLISHED	5462	N/A
4-11-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	APPROVED	PUBLISHED	5589	N/A
4-11-2014	<a href="#">Upcoming Spring Native Plant Sales</a>	APPROVED	PUBLISHED	5701	N/A
4-10-2014	<a href="#">Earth Day/Arbor Day April 22nd 2014</a>	NOT YET APPROVED	NOT YET PUBLISHED	192	N/A
3-31-2014	<a href="#">Spring Greening: Protecting Water Quality at Home</a>	APPROVED	PUBLISHED	4682	N/A
3-28-2014	<a href="#">Spring Greening: Protecting Water Quality at Home</a>	APPROVED	PUBLISHED	4677	N/A
3-28-2014	<a href="#">Upcoming Spring Native Plant Sales</a>	APPROVED	PUBLISHED	4909	N/A
3-27-2014	<a href="#">Spring Greening: Protecting Water Quality at Home</a>	APPROVED	PUBLISHED	4894	N/A
3-18-2014	<a href="#">Upcoming Spring Native Plant Sales</a>	APPROVED	PUBLISHED	4942	N/A
12-16-2013	<a href="#">Clean Water for the Holidays</a>	APPROVED	PUBLISHED	7001	N/A
12-13-2013	<a href="#">Clean Water for the Holidays</a>	APPROVED	PUBLISHED	7167	N/A
11-18-2013	<a href="#">Caution: Deer Crossing</a>	APPROVED	PUBLISHED	6824	N/A
11-15-2013	<a href="#">Caution: Deer Crossing</a>	APPROVED	PUBLISHED	7158	N/A
11-14-2013	<a href="#">America Recycles Day Events Nov. 15,16</a>	APPROVED	PUBLISHED	7084	N/A
11-11-2013	<a href="#">America Recycles Day Events Nov. 15,16</a>	APPROVED	PUBLISHED	7409	N/A
11-11-2013	<a href="#">Caution: Deer Crossing</a>	APPROVED	PUBLISHED	7325	N/A
11-8-2013	<a href="#">America Recycles Day Events Nov. 15,16</a>	APPROVED	PUBLISHED	7481	N/A

11-4-2013	<a href="#">America Recycles Day Events Nov. 15,16</a>	APPROVED	PUBLISHED	7390	N/A
11-1-2013	<a href="#">America Recycles Day Events Nov. 15,16</a>	APPROVED	PUBLISHED	7448	N/A
10-28-2013	<a href="#">America Recycles Day Events Nov. 15,16</a>	APPROVED	PUBLISHED	7625	N/A
9-30-2013	<a href="#">Spill Response Procedures at NASA Langley</a>	APPROVED	PUBLISHED	6976	0
9-27-2013	<a href="#">Spill Response Procedures at NASA Langley</a>	APPROVED	PUBLISHED	7477	0
9-27-2013	<a href="#">Hampton Master Gardeners Plant Sale, Saturday Sept 28</a>	NOT YET APPROVED	NOT YET PUBLISHED	191	0
9-26-2013	<a href="#">Hampton Master Gardeners Plant Sale, Saturday Sept 28</a>	NOT YET APPROVED	NOT YET PUBLISHED	192	0
9-23-2013	<a href="#">Spill Response Procedures at NASA Langley</a>	APPROVED	PUBLISHED	7517	0
8-15-2013	<a href="#">Electronics Recycling Event August 15th in Newport News</a>	APPROVED	PUBLISHED	10526	N/A
8-12-2013	<a href="#">Electronics Recycling Event August 15th in Newport News</a>	APPROVED	PUBLISHED	10510	N/A
8-9-2013	<a href="#">Electronics Recycling Event August 15th in Newport News</a>	APPROVED	PUBLISHED	10706	N/A
8-8-2013	<a href="#">Electronics Recycling Event August 15th in Newport News</a>	APPROVED	PUBLISHED	10815	N/A
6-28-2013	<a href="#">Algal Blooms, Bacteria, &amp; Our Local Waters</a>	APPROVED	PUBLISHED	3859	N/A
6-27-2013	<a href="#">Algal Blooms, Bacteria, &amp; Our Local Waters</a>	APPROVED	PUBLISHED	4024	N/A
6-14-2013	<a href="#">Special Household Hazardous Waste and E-Cycling Collection Event for Newport News Residents on June 22nd</a>	APPROVED	PUBLISHED	3837	0
4-22-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Events 11am - 1pm</a>	APPROVED	PUBLISHED	3990	0
4-22-2013	<a href="#">Arbor Day 2013 at NASA Langley</a>	APPROVED	PUBLISHED	3947	0
4-19-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Events 11am - 1pm</a>	APPROVED	PUBLISHED	4101	0
4-19-2013	<a href="#">Upcoming Community Events to Celebrate Earth Day</a>	APPROVED	PUBLISHED	3930	0
4-19-2013	<a href="#">Arbor Day 2013 at NASA Langley</a>	APPROVED	PUBLISHED	3952	0
4-18-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Events 11am - 1pm</a>	APPROVED	PUBLISHED	3824	0
4-18-2013	<a href="#">Upcoming Community Events to Celebrate Earth Day</a>	APPROVED	PUBLISHED	3850	0
4-17-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Events 11am - 1pm</a>	APPROVED	PUBLISHED	4099	0
4-16-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Events 11am - 1pm</a>	APPROVED	PUBLISHED	3963	0
4-11-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Cafeteria 11am - 1pm</a>	APPROVED	PUBLISHED	4020	0
4-5-2013	<a href="#">Earth Day / Arbor Day April 22, 2013 LaRC Cafeteria</a>	APPROVED	PUBLISHED	3957	0
3-25-2013	<a href="#">"Let's Talk Dirt" - Construction Stormwater Management at LaRC</a>	APPROVED	PUBLISHED	4039	0
3-20-2013	<a href="#">"Let's Talk Dirt" - Construction Stormwater Management at LaRC</a>	APPROVED	PUBLISHED	3833	0
12-12-2012	<a href="#">Saving the Bay from Your Own Backyard</a>	APPROVED	PUBLISHED	4428	N/A

Responsible NASA Official: Kenneth M. Proctor  
 Page Creation: Larc-dl@arc-hq.nasa.gov

Last Updated: 9-11-2015 at 12:00 AM

## All Posts By Peter Ryan Van Dyke

Publish Date	Title	Approved?	Published?	Visits	Comments
6-25-2015	<a href="#">Public Input Request – Chesapeake Bay TMDL Action Plan</a>	APPROVED	PUBLISHED	1541	N/A
6-24-2015	<a href="#">Public Input Request – Chesapeake Bay TMDL Action Plan</a>	APPROVED	PUBLISHED	1865	N/A
6-23-2015	<a href="#">Public Input Request – Chesapeake Bay TMDL Action Plan</a>	APPROVED	PUBLISHED	1914	N/A
6-12-2015	<a href="#">Outreach Feedback Requested</a>	APPROVED	PUBLISHED	1886	N/A
6-11-2015	<a href="#">Outreach Feedback Requested</a>	APPROVED	PUBLISHED	1896	N/A
6-10-2015	<a href="#">Outreach Feedback Requested</a>	APPROVED	PUBLISHED	1895	N/A
5-22-2015	<a href="#">Clean the Bay Day - June 6th, 2015</a>	APPROVED	PUBLISHED	2073	N/A
5-21-2015	<a href="#">Clean the Bay Day - June 6th, 2015</a>	APPROVED	PUBLISHED	2082	N/A
5-20-2015	<a href="#">Clean the Bay Day - June 6th, 2015</a>	APPROVED	PUBLISHED	2046	N/A
3-17-2015	<a href="#">DOES YOUR BUILDING NEED A TREE?? VOTE NOW</a>	APPROVED	PUBLISHED	2240	N/A
3-12-2015	<a href="#">DOES YOUR BUILDING NEED A TREE?? VOTE NOW</a>	APPROVED	PUBLISHED	2340	N/A
3-10-2015	<a href="#">DOES YOUR BUILDING NEED A TREE?? VOTE NOW</a>	APPROVED	PUBLISHED	2402	N/A
3-9-2015	<a href="#">DOES YOUR BUILDING NEED A TREE?? VOTE NOW</a>	APPROVED	PUBLISHED	2464	N/A
2-25-2015	<a href="#">Water Quality Informational Webpages Updated - Check it out</a>	APPROVED	PUBLISHED	2739	N/A
12-12-2014	<a href="#">Drinking Water Quality Information</a>	APPROVED	PUBLISHED	3797	N/A
12-11-2014	<a href="#">Drinking Water Quality Information</a>	APPROVED	PUBLISHED	3694	N/A
9-26-2014	<a href="#">MS4 (stormwater) Annual Report Submitted to DEQ</a>	APPROVED	PUBLISHED	5332	N/A
9-25-2014	<a href="#">MS4 (stormwater) Annual Report Submitted to DEQ</a>	APPROVED	PUBLISHED	5375	N/A
8-26-2014	<a href="#">Remaining 2014 Household Chemical Collections</a>	APPROVED	PUBLISHED	6334	N/A
8-22-2014	<a href="#">Remaining 2014 Household Chemical Collections</a>	APPROVED	PUBLISHED	6390	N/A
3-4-2014	<a href="#">2014 Rain Barrel Workshop Schedule</a>	APPROVED	PUBLISHED	5049	N/A
2-26-2014	<a href="#">Hampton Rain Barrel Workshop - March 1st</a>	APPROVED	PUBLISHED	4624	N/A
2-25-2014	<a href="#">Hampton Rain Barrel Workshop - March 1st</a>	APPROVED	PUBLISHED	4636	N/A
2-24-2014	<a href="#">Hampton Rain Barrel Workshop - March 1st</a>	APPROVED	PUBLISHED	4697	N/A
2-20-2014	<a href="#">2014 Rain Barrel Workshop Schedule</a>	APPROVED	PUBLISHED	4690	N/A
2-18-2014	<a href="#">2014 Rain Barrel Workshop Schedule</a>	APPROVED	PUBLISHED	4659	N/A
2-15-2014	<a href="#">2014 VPPSA Household Chemical Collection</a>	APPROVED	PUBLISHED	4780	N/A
2-12-2014	<a href="#">2014 VPPSA Household Chemical Collection</a>	APPROVED	PUBLISHED	5578	N/A
2-10-2014	<a href="#">2014 VPPSA Household Chemical Collection</a>	APPROVED	PUBLISHED	5841	N/A
12-19-2013	<a href="#">Rabies - What You Need to Know</a>	APPROVED	PUBLISHED	6947	N/A
12-17-2013	<a href="#">Rabies - What You Need to Know</a>	APPROVED	PUBLISHED	6958	N/A
12-13-	<a href="#">Rabies - What You Need to Know</a>	APPROVED	PUBLISHED	7003	N/A

[Home](#)[@LaRC Home](#)[Submit New Entry](#)[Moderator List](#)[Help](#)

Search Blog:

Archive

[September 2015](#)[August 2015](#)[July 2015](#)[June 2015](#)[May 2015](#)[April 2015](#)[March 2015](#)[February 2015](#)[January 2015](#)[December 2014](#)[November 2014](#)[October 2014](#)

2013					
12-12-2013	<a href="#">Rabies - What You Need to Know</a>	APPROVED	PUBLISHED	7125	N/A
11-8-2013	<a href="#">***DO NOT FEED WILDLIFE ON CENTER***</a>	APPROVED	PUBLISHED	7360	N/A
11-7-2013	<a href="#">***DO NOT FEED WILDLIFE ON CENTER***</a>	APPROVED	PUBLISHED	7376	N/A
11-5-2013	<a href="#">***DO NOT FEED WILDLIFE ON CENTER***</a>	APPROVED	PUBLISHED	7671	N/A
11-4-2013	<a href="#">***DO NOT FEED WILDLIFE ON CENTER***</a>	APPROVED	PUBLISHED	7585	N/A
7-23-2013	<a href="#">Learn Why Feeding Animals on Center is a Bad Idea</a>	APPROVED	PUBLISHED	4284	N/A
7-17-2013	<a href="#">Learn Why Feeding Animals on Center is a Bad Idea</a>	APPROVED	PUBLISHED	4669	N/A
4-23-2013	<a href="#">Learn Why Feeding Animals on Center is a Bad Idea</a>	APPROVED	PUBLISHED	4127	N/A
4-19-2013	<a href="#">Learn Why Feeding Animals on Center is a Bad Idea</a>	APPROVED	PUBLISHED	4197	N/A
3-18-2013	<a href="#">TMDL Public Meeting - Water Quality Studies for Poquoson River &amp; Back River &amp; several tributaries</a>	APPROVED	PUBLISHED	3964	N/A
3-15-2013	<a href="#">TMDL Public Meeting - Water Quality Studies for Poquoson River &amp; Back River &amp; several tributaries</a>	APPROVED	PUBLISHED	3921	N/A
3-7-2013	<a href="#">Volunteers Needed to Plant Tree Seedlings at Bethel Landfill</a>	APPROVED	PUBLISHED	4046	N/A
3-7-2013	<a href="#">Volunteers Needed to Plant Tree Seedlings at Bethel Landfill</a>	APPROVED	PUBLISHED	3955	N/A
3-5-2013	<a href="#">Upcoming Local Events: Horticultural Extravaganza and Plant Sale</a>	APPROVED	PUBLISHED	4237	N/A
3-5-2013	<a href="#">Volunteers Needed to Plant Tree Seedlings at Bethel Landfill</a>	APPROVED	PUBLISHED	4056	N/A
3-4-2013	<a href="#">Rain Barrel Workshops</a>	APPROVED	PUBLISHED	4282	N/A
2-12-2013	<a href="#">Rain Barrel Workshops</a>	APPROVED	PUBLISHED	4098	N/A
2-8-2013	<a href="#">Rain Barrel Workshops</a>	APPROVED	PUBLISHED	4264	N/A
9-28-2012	<a href="#">Riparian Buffers: Protecting the Chesapeake Bay</a>	APPROVED	PUBLISHED	4597	N/A
9-20-2012	<a href="#">Hampton Roads Sustainable Expo</a>	APPROVED	PUBLISHED	4562	N/A
9-19-2012	<a href="#">Hampton Roads Premier Indoor Green Festival</a>	APPROVED	PUBLISHED	4428	N/A
9-13-2012	<a href="#">Hampton Roads Sustainable Expo</a>	APPROVED	PUBLISHED	4609	N/A
9-11-2012	<a href="#">Hampton Roads Premier Indoor Green Festival</a>	APPROVED	PUBLISHED	4697	N/A
7-11-2012	<a href="#">Local Event: Shred Day 2012 including free electronics recycling!</a>	APPROVED	PUBLISHED	1570	N/A
6-29-2012	<a href="#">Interested in learning more about water efficient landscaping?</a>	APPROVED	PUBLISHED	1802	N/A
6-20-2012	<a href="#">Don't throw away those packing peanuts!</a>	APPROVED	PUBLISHED	1810	N/A
4-23-2012	<a href="#">Arbor Day Proclamation 2012 - April 23, 2012</a>	APPROVED	PUBLISHED	1847	N/A
4-12-2012	<a href="#">Picture Yourself in a National Park - FOR FREE</a>	APPROVED	PUBLISHED	1297	N/A
4-11-2012	<a href="#">Picture Yourself in a National Park - FOR FREE</a>	APPROVED	PUBLISHED	1473	N/A
3-29-2012	<a href="#">The High Price of a Green Lawn</a>	APPROVED	PUBLISHED	1622	N/A
3-19-2012	<a href="#">Newport News 1st Annual Buy Green Expo</a>	APPROVED	PUBLISHED	1262	N/A
3-15-2012	<a href="#">Newport News 1st Annual Buy Green Expo</a>	APPROVED	PUBLISHED	1457	N/A
1-24-2012	<a href="#">Make and Take Rain Barrel Workshops Planned for 2012</a>	APPROVED	PUBLISHED	1429	N/A
1-20-2012	<a href="#">Make and Take Rain Barrel Workshops Planned for 2012</a>	APPROVED	PUBLISHED	1446	N/A
12-30-2011	<a href="#">Spill Response 101 - Do you know what to do?</a>	APPROVED	PUBLISHED	1211	N/A

12-29-2011	<a href="#">Spill Response 101 - Do you know what to do?</a>	APPROVED	PUBLISHED	1397	N/A
11-12-2011	<a href="#">Free Hampton Roads Electronics Event Announcement</a>	APPROVED	PUBLISHED	1397	N/A
11-3-2011	<a href="#">Free Hampton Roads Electronics Event Announcement</a>	APPROVED	PUBLISHED	1562	N/A
10-27-2011	<a href="#">Free Hampton Roads Electronics Event Announcement</a>	APPROVED	PUBLISHED	1813	N/A
10-24-2011	<a href="#">Free Hampton Roads Electronics Event Announcement</a>	APPROVED	PUBLISHED	1501	N/A
9-23-2011	<a href="#">Home Lawn Care: Simple Tips for a Cleaner Environment</a>	APPROVED	PUBLISHED	1808	N/A
9-9-2011	<a href="#">Remaining 2011 Household Chemical Collection Day - Get Rid of Those Old Chemicals at Home</a>	APPROVED	PUBLISHED	1608	N/A
9-8-2011	<a href="#">Remaining 2011 Household Chemical Collection Day - Get Rid of Those Old Chemicals at Home</a>	APPROVED	PUBLISHED	1682	N/A
8-18-2011	<a href="#">Headquarters Audit Preparation: The Water Quality Program</a>	NOT YET APPROVED	NOT YET PUBLISHED	216	N/A
6-17-2011	<a href="#">How urbanized areas affect water quality and what is LaRC doing about it...</a>	APPROVED	PUBLISHED	1478	N/A
6-16-2011	<a href="#">How urbanized areas affect water quality and what is LaRC doing about it...</a>	APPROVED	PUBLISHED	1759	N/A
4-22-2011	<a href="#">Arbor Day Proclamation 2011</a>	APPROVED	PUBLISHED	1317	N/A
4-21-2011	<a href="#">Earth Day/Arbor Day 2011 - Come Join the Fun.....Plus Free Trees!</a>	APPROVED	PUBLISHED	1071	N/A
4-20-2011	<a href="#">Earth Day/Arbor Day 2011 - Come Join the Fun.....Plus Free Trees!</a>	APPROVED	PUBLISHED	1016	N/A
4-19-2011	<a href="#">Earth Day/Arbor Day 2011 - Come Join the Fun.....Plus Free Trees!</a>	APPROVED	PUBLISHED	1276	N/A
4-4-2011	<a href="#">Show Off Your Fuel Efficient Vehicle at LaRC's Earth Day Event (4/22)</a>	APPROVED	PUBLISHED	1007	N/A
3-31-2011	<a href="#">Show Off Your Fuel Efficient Vehicle at LaRC's Earth Day Event (4/22)</a>	APPROVED	PUBLISHED	1042	N/A
3-29-2011	<a href="#">Show Off Your Fuel Efficient Vehicle at LaRC's Earth Day Event (4/22)</a>	APPROVED	PUBLISHED	1102	N/A
3-17-2011	<a href="#">2011 Rain Barrel Workshop Schedule</a>	APPROVED	PUBLISHED	1229	N/A
3-17-2011	<a href="#">I got this sinking feeling....</a>	APPROVED	PUBLISHED	1430	N/A
3-9-2011	<a href="#">2011 Rain Barrel Workshop Schedule</a>	APPROVED	PUBLISHED	1368	N/A
12-21-2010	<a href="#">Hey, it's just dirt on the road.</a>	APPROVED	PUBLISHED	1234	N/A
12-14-2010	<a href="#">Christmas Tree Recycling</a>	APPROVED	PUBLISHED	1104	N/A
12-13-2010	<a href="#">I'm dreaming of a....green.....Holiday?</a>	APPROVED	PUBLISHED	1092	N/A
11-15-2010	<a href="#">Happy America Recycles Day!</a>	APPROVED	PUBLISHED	1012	N/A
11-12-2010	<a href="#">Proper Segregation of Recyclables Makes a Difference</a>	APPROVED	PUBLISHED	1014	N/A
11-10-2010	<a href="#">Found: Cash in the trash</a>	APPROVED	PUBLISHED	1544	N/A
11-9-2010	<a href="#">Peanuts, Peanuts, Recycle Your Peanuts</a>	APPROVED	PUBLISHED	1280	N/A
11-5-2010	<a href="#">America Recycles Day is November 15th</a>	APPROVED	PUBLISHED	1050	N/A
10-13-2010	<a href="#">Free Residential Waste Disposal Events are coming soon!</a>	APPROVED	PUBLISHED	1364	N/A
9-9-2010	<a href="#">Local Beach Closings, Blame Fido's Owner</a>	APPROVED	PUBLISHED	1700	N/A
7-6-2010	<a href="#">The Chesapeake Bay is Going on a Diet...</a>	APPROVED	PUBLISHED	1040	N/A
7-2-2010	<a href="#">The Chesapeake Bay is Going on a Diet...</a>	APPROVED	PUBLISHED	900	N/A
5-4-2010	<a href="#">Free Trees! Dogwoods, Maples, Birches....</a>	APPROVED	PUBLISHED	1395	N/A
5-3-2010	<a href="#">Free Trees! Dogwoods, Maples, Birches....</a>	APPROVED	PUBLISHED	987	N/A
4-30-2010	<a href="#">Please Do NOT Use Mobile Car Wash Services at LaRC Front Gate</a>	APPROVED	PUBLISHED	1228	N/A

4-29-2010	<a href="#">EMB Now Recycles Tyvek Suits!</a>	APPROVED	PUBLISHED	935	0
4-29-2010	<a href="#">Please Do NOT Use Mobile Car Wash Services at LaRC Front Gate</a>	APPROVED	PUBLISHED	695	N/A
4-22-2010	<a href="#">LaRC Receives Two Environmental Awards</a>	APPROVED	PUBLISHED	724	N/A
4-22-2010	<a href="#">Earth Day/Arbor Day 2010</a>	APPROVED	PUBLISHED	759	0
4-22-2010	<a href="#">Arbor Day Proclamation</a>	APPROVED	PUBLISHED	699	N/A
4-21-2010	<a href="#">Arbor Day Proclamation</a>	APPROVED	PUBLISHED	729	N/A
4-21-2010	<a href="#">Earth Day/Arbor Day 2010</a>	APPROVED	PUBLISHED	735	0
4-20-2010	<a href="#">Earth Day/Arbor Day 2010</a>	APPROVED	PUBLISHED	792	0
4-19-2010	<a href="#">Earth Day/Arbor Day 2010</a>	APPROVED	PUBLISHED	862	0
4-12-2010	<a href="#">Earth Day/Arbor Day 2010</a>	APPROVED	PUBLISHED	842	0
2-10-2010	<a href="#">Stormwater Pollution Prevention Tips for the Homeowner</a>	APPROVED	PUBLISHED	888	0
12-4-2009	<a href="#">Good Housekeeping Makes for Cleaner Water?</a>	APPROVED	PUBLISHED	583	N/A
10-15-2009	<a href="#">Beware of the Vampires.....Energy Vampires.</a>	APPROVED	PUBLISHED	572	0
7-21-2009	<a href="#">Illicit Discharge Detection and Elimination - Stormwater Pollution</a>	APPROVED	PUBLISHED	799	0
5-12-2009	<a href="#">May is National Bike Month</a>	APPROVED	PUBLISHED	783	N/A
5-4-2009	<a href="#">May is National Bike Month</a>	APPROVED	PUBLISHED	616	N/A
4-13-2009	<a href="#">Proper Segregation of Recyclables Makes a Difference</a>	APPROVED	PUBLISHED	734	0
4-2-2009	<a href="#">Stormwater 101 - An Introduction to Stormwater Pollution Prevention</a>	APPROVED	PUBLISHED	880	N/A



## Environmental & Energy Program

NASA Langley Research Center

---

### Private: 2014 Energy Action Month Calendar of Events

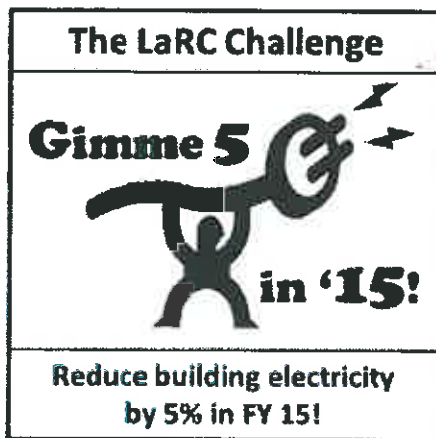
Posted on [September 25, 2014](#) by [Joan Hughes](#)

[EAM events calendar 2014](#)

Posted in [Uncategorized](#) | [Comments Off](#) |

### 2014 Building Energy Competition

Posted on [September 25, 2014](#) by [Joan Hughes](#)



As a kickoff for the Center's "Gimme 5 in '15!" energy reduction campaign, we are challenging building occupants to see how much they can reduce their electricity consumption.

The competition starts **October 17** and ends **November 16** (dates adjusted for government shutdown last year), and buildings in each [category](#) (Labs and Shops, Offices, Services and Storage) compete against others in their category.

Each building's electricity consumption for 10/17-11/16 will then be compared to its consumption during the same period in 2013. The building with the highest percentage reduction wins.

Winners in each category will receive special recognition from the Center and a spotlight in a special Energy Action Month series on the NASA Langley home page.

**For information on classes to figure out how to reduce your building's electricity consumption**, as well as more information on Energy Action Month activities, visit the [Energy Action Month calendar](#).

*(Note: the above link opens a PDF file. [Download Adobe Reader](#) if needed.)*

For more in-depth information on the Energy Competition, click [here](#) (may need to authenticate with Agency User ID).

Posted in [Energy](#) | [Comments Off](#) |

### Hampton Roads Solar Tour

Posted on [September 24, 2014](#) by [Joan Hughes](#)



Seeking shelter from falling temperatures and rising energy prices? Hit the trail of the 2014 Hampton Roads Solar Tour and you'll be in good company.

Presented by the Hampton Roads Solar Group and the Hampton Roads Green Building Council, the **Saturday, October 4th** event is part of the American Solar Energy Society's 2014 National Solar Tour.

Across South Hampton Roads, the Peninsula and the Eastern Shore, 27 homes and businesses will showcase resource-efficiency measures and energy-generating technologies during the free tour.

Some of the technologies showcased will include

- wind and passive and photovoltaic solar energy production
- recycled materials
- geothermal heat pumps
- green roofs
- rain-water harvesting
- LED lighting and more.

For more info, see the brochure [here](#).  
*PDF file. [Download Adobe Reader](#) if needed.)*

*(Note: the above link opens a*

Thanks to Virginia-Pilot correspondent Nora Firestone for much of the verbiage in this post!

Posted in [Energy](#) | Comments Off |

## Tour the new Integrated Engineering Services Building

Posted on [September 24, 2014](#) by [Joan Hughes](#)



**On Friday, October 17, starting at 12:30 p.m., LaRC personnel are invited to tour the newly completed Integrated Engineering Services Building (IESB).**

The tours will be self-guided, with maps and other materials provided, but there will be several interpretative stations set up throughout the building, with experts on various aspects of the building there to answer your questions.

More details to come...but be sure to mark your calendars for this event!

See more events at the [Energy Action Month calendar](#).  
*PDF file. [Download Adobe Reader](#) if needed.)*

*(Note: the above link opens a*

Posted in [Energy](#) | Comments Off |

## Got a “ghost” in your building? Who ya gonna call?

Posted on [September 24, 2014](#) by [Joan Hughes](#)

It’s that time of year again – October is fast approaching, and we all know what that means... tricks, treats and ghosts! **Did you know that many of LaRC’s buildings have ghosts?**

“Ghost loads,” or **unnecessary power consumption in buildings**, can be a big part of a building’s baseline energy usage. In one LaRC building, a diligent occupant recently discovered over 40 kilowatts of equipment running unnecessarily at night. Just by turning this equipment off overnight, LaRC was able to save approximately \$7000/year in wasted electricity.

Just think – if only 9 more similar “ghost loads” are corrected, the Center can save \$70,000/year....40 kW in 19 more buildings (a small fraction of our total building count) would save \$140,000....a little time and effort can save a lot when it comes to ghost loads.



**Sounds like a job for Ghostbusters!**



LaRC Energy Manager Bobby Charles and Energy Analyst Joan Hughes (Straughan Environmental) will be training LaRC personnel how to identify ghost loads in your building and what to do about it on

**Wednesday, October 8, 1-2 p.m. in B2102 (IESB), R203**

**Thursday, October 23, 1-2 p.m. in B2102 (IESB), R203**

This training is **targeted for Facility Coordinators, Environmental Coordinators, and Facility Managers, but all LaRC personnel are invited** to attend. In the class we’ll be doing actual analyses on your building, figuring out how to find the ghosts, and giving you a step-by-step process for busting those ghost loads.

Call 4-3493 or email [joan.m.hughes@nasa.gov](mailto:joan.m.hughes@nasa.gov) to sign up – **class is limited to 20** participants so everyone will have access to a computer for training.

See more events at the [Energy Action Month calendar](#).  
PDF file. [Download Adobe Reader](#) if needed.)

*(Note: the above link opens a*

Posted in [Energy](#) | Comments Off |

## My Green Home: 20 Years of Living Green

Posted on [September 24, 2014](#) by [Joan Hughes](#)



Ruth Amundsen stands on top of the green roof of her family's Norfolk home.

On Tuesday, October 21, at 2 p.m. in the new Pearl Young Theater in B2102, LaRC's own Ruth Amundsen will discuss her family's approach to green living, including cost analysis of several of the improvements they have made to their family home, as well as her approach to Political action and shareholder advocacy. The presentation will be followed by an open question and answer session.

Ruth Amundsen is a **thermal engineer in the Structural and Thermal Systems Branch in ED at NASA Langley**, where she has been for 24 years. She has worked on Hyper-X, Mars Odyssey, and Mars Reconnaissance Orbiter, Ares I-X and is currently working SAGE III.

In off-work hours, she has been involved with environmental issues for many years, and was one of the instigators of getting the Langley program for recycling bottles and cans started. Their family home has

- solar PV panels
- solar hot water
- a green (or living) roof
- a 3000-gallon rainwater cistern
- driveway permeable pavers
- and a wetlands buffer area to limit runoff into the Bay.

See pics and more at [www.the-mcelroys.com](http://www.the-mcelroys.com).

All LaRC personnel are invited to attend – there will be something for everyone in this thought-provoking presentation. We look forward to seeing you there!

See more events at the [Energy Action Month calendar](#).  
a PDF file. [Download Adobe Reader](#) if needed.)

*(Note: the above link opens*

Posted in [Energy](#) | Comments Off |

## Global Energy Trends and How They Impact You

Posted on September 24, 2014 by Joan Hughes



On Monday, October 6, at 1 p.m. in the new Pearl Young Theater in B2102, Dr. Eric Woodroof will discuss global energy trends and impacts to Americans and American businesses and government, as well as share case studies of best practices in energy conservation and facility management. The presentation will be followed by an open question and answer session.

Dr. Woodroof is a **dynamic and engaging speaker** and a recognized authority on energy management, carbon emissions, financing, and performance contracting for energy projects.

As lead instructor for the Association of Energy Engineer's (AEE) Certified Energy Manager (CEM) course, Dr. Woodroof has taught several LaRC personnel and thousands of other professionals in energy management, has served on the CEM Certification Board for 14 years, and is on the editorial board for two major publications regarding energy and has published several books and articles about energy management, energy financing and carbon reduction strategies. He has also served as President of the AEE, which is active in over 85 countries, with 17,000 members.

Please join us for this informative and inspiring event.

See more events at the [Energy Action Month calendar](#).  
PDF file. [Download Adobe Reader](#) if needed.)

*(Note: the above link opens a*

Posted In [Energy](#) | Comments Off |

## All that energy going down the drain....

Posted on [September 24, 2014](#) by [Joan Hughes](#)



Did you know that pumping, heating and treating **water** accounts for approximately **13% of America's electricity usage**? The distribution and use of water followed by the collection and pumping of wastewater for treatment require a lot of energy. That's one of the reasons why LaRC has implemented major overhauls of the Center's potable water and sanitary sewer systems.

Now LaRC personnel can literally see the energy going down the drain with a **tour of the award-winning Hampton Roads Sanitation**

**District's state-of-the-art York River wastewater treatment facility**, where LaRC's sanitary sewer discharge is treated.

Sign up for one of the following tour dates and times by calling 4-3493 or emailing [joan.m.hughes@nasa.gov](mailto:joan.m.hughes@nasa.gov).

**Wednesday, October 8, 9 – 10:30 a.m.**

**Wednesday, October 29, 9 – 10:30 a.m.**

The group will travel together by bus, departing B1222 at 8:30 a.m. and returning by 11 a.m.

**The group is limited to 20 people**, so reserve your spot today!

See more events at the [Energy Action Month calendar](#).  
PDF file. [Download Adobe Reader](#) if needed.)

*(Note: the above link opens a*

Posted in [Energy](#) | Comments Off |

## MS4 (Stormwater) Annual Report Submitted to VA DEQ

Posted on [September 23, 2014](#) by [pvandyke](#)

Annually, LaRC submits a report to the Virginia Department of Environmental Quality on the Center's stormwater-related efforts concerning public education, public participation, illicit discharge detection and elimination, construction pollution prevention, post construction stormwater management, and good housekeeping. The General Permit and Ms4 Program Plan guide the actions that are taken throughout the year.

You can learn more about the MS4 program, view the Program Plan, and view the Annual report at this site: <https://sites-e.larc.nasa.gov/environmental/water/ms4/>

Posted in [Water](#) | Tagged [Annual Report](#), [MS4](#) | Comments Off |

## Identifying Illicit Discharges at LaRC

Posted on [June 20, 2014](#) by [Tonya Kiefer](#)

It comes from the sewer. It comes from the street. It's not just staying down there anymore. It eventually makes it to our outfalls and discharges into our local waterways, affecting water quality and wildlife. Illicit discharge is a big problem in some areas because it is not always easy to detect and can often go unnoticed. It is also a large source of pollution from uncontrolled sources in the urban landscape. LaRC has worked diligently to develop an effective illicit discharge detection and elimination program over the last decade. Part of the solution to this problem comes from LaRC employees looking out for these discharges and helping the Center address these issues by reporting what they see. [Click here to read more.](#)

*Note: This post links to a PDF file. Use this link to [download Adobe Reader](#) if needed.*

Posted in [Water](#) | Tagged [outreach](#), [stormwater](#), [water](#) | Comments Off |

---

**Environmental & Energy Program**  
Proudly powered by [WordPress](#).

Stormwater Management Facility Type	Practice Description	Latitude	Longitude	Impervious Acres Treated	Pervious Acres Treated	Total Acres Treated	Date Installed	HUC	Impaired Water	Ownership	Maintenance Agreement	Inspect Date
B2101 Bioretention Cell #1	Bioretention/raingardens - A/B soils, no underdrain	37°05'21.5"N	76°22'49.0"W	0.3	0.45	0.75	3/25/2011	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
B2101 Bioretention Cell #2	Bioretention/raingardens - A/B soils, no underdrain	37°05'21.7"N	76°22'46.6"W	0.3	0.45	0.75	3/25/2011	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
B2101 Pavers	Pervious pavers	37°05'20.5"N	76°22'50.5"W	1	0	1	3/25/2011	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
B2101 Green Roof	Vegetated Roof Cover	37°05'20.3"N	76°22'48.2"W	0.75	0	0.75	2011	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
B1229 Parking Lot Rain Garden	Bioretention/raingardens - A/B soils, no underdrain	37°05'15.8"N	76°22'52.1"W	0.27	0.33	0.6	8/1/2011	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
B2102 Pavers (Main Site)	Pervious pavers	37 05' 24.4 N	76 22' 57.2 W	0.54	0	0.54	4/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
B2102 Bioretention Cell #1	Bioretention, underdrain, C/D soils	37 05' 24.5"N	76 23' 00.1 W	1.02	0.2	1.22	5/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
B2102 Bioretention Cell #2	Bioretention, underdrain, C/D soils	37 05' 25.9" N	76 22' 54.2" W	0.29	0.03	0.32	5/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
B2102 Pavers – Parking A	Permeable Pavement w/o Sand, Veg. - C/D soils, underdrain	37 05' 26.9" N	76 23' 01.1" W	0.85	0	0.85	4/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
B2102 Bioretention – Parking A	Bioretention, underdrain, C/D soils	37 05' 26.9" N	76 23' 01.1" W	0.47	0	0.47	4/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
B1212 Pavers Parking C	Permeable Pavement w/o Sand, Veg. - C/D soils, underdrain	37 05' 31.9" N	76 23' 05.9" W	1.33	0	1.33	5/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
B1212 Bioretention Parking C	Bioretention, underdrain, C/D soils	37 05' 31.9" N	76 23' 05.9" W	0.96	0.25	1.21	5/1/2014	CB22	Tabbs Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	3/23/2015
Tree Box Filter #1, 6'x8'	Urban Filtering Practices	37°05'46.1"N	76°23'03.5"W	0.29	0.26	0.55	3/11/2015	CB22	Brick Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
Tree Box Filter #2 4'x6'	Urban Filtering Practices	37°05'41.3"N	76°23'08.4"W	0.18	0.06	0.24	3/11/2015	CB22	Brick Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015

Stormwater Management Facility Type	Practice Description	Latitude	Longitude	Impervious Acres Treated	Pervious Acres Treated	Total Acres Treated	Date Installed	HUC	Impaired Water	Ownership	Maintenance Agreement	Inspect Date
Tree Box Filter #3, 4'x6'	Urban Filtering Practices	37°05'44.1"N	76°23'15.6"W	0.02	0.13	0.15	3/11/2015	CB22	Brick Kiln Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015
Tree Box Filter #4, 4'x6'	Urban Filtering Practices	37°05'46.9"N	76°23'05.4"W	0.09	0.03	0.12	3/11/2015	CB22	Brick Kiln Creek to Back River to Chesapeake Bay TMDL	Operator Owned	NASA Maintenance via contract	5/6/2015