PUTNAM VALLEY
CENTRAL SCHOOL DISTRICT
146 PEEKSKILL HOLLOW ROAD
PUTNAM VALLEY, NY 10579

MS4PY9 STORMWATER PROGRAM

FACT SHEET #2
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IMPACTS OF STORMWATER RUNOFF ON OUR DRINKING WATER

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1. IMPACTS OF STORMWATER ON OUR DRINKING WATER

Stormwater runoff is the leading cause of pollution to our drinking water sources. It runs off impervious surfaces such as rooftops, paved roofs, driveways and parking lots. Runoff may collect pollutants such as oil, pesticides, sediments, bacteria and other chemicals. Pollutants are carried into nearby rivers, lakes and streams as well as groundwater, which can result in contamination of our drinking water supplies.

2. DRINKING WATER: A PRIVILEGE

Safe drinking water is a privilege Americans often take for granted; until a health crisis like the one in Flint, Michigan happens that makes us think about where our water comes from and how we get it. Most of our drinking water comes from lakes, rivers and groundwater. For most Americans, our drinking water flows from these sources to a water treatment plant, a storage tank, and finally to our homes through various pipe systems.

3. HIGH LEVELS OF NITRATES FROM FARMING ACTIVITIES

Nitrate runoff in rivers and groundwater is common in places with high levels of farming activities. Fertilizers, manure storage and septic systems all contribute significant sources of nitrates to our drinking water. High levels of nitrate in our drinking water may cause the "blue-baby syndrome", where infants younger than six (6) months suffer from shortness of breath, or even death, if not medically treated promptly. Where high levels of nitrates are common in the rivers and groundwater, water utility companies treat the water sources

with an ion exchange process as part of the water treatment process.

4. LEAD IN DRINKING WATER

Lead pipes or fittings are a culprit in the current water crisis in Flint, Michigan. Many old pipes are made of lead, which may leach into the water supply if preventive measures are not taken. According to EPA, even low levels of lead can cause behavior problems, slow growth and may also affect IQ levels in children. While the most effective solution is to replace lead pipes entirely, most water utilities usually add some form of phosphates to the water supply. The phosphates form a protective film between the lead pipe and the water flowing through it. As has been reported in various findings, Flint failed to add phosphates to control corrosion when it switched its water source from the City of Detroit to the Flint River. The Flint River has eight (8) times more chloride than Detroit's water, making water from the Flint River highly corrosive to the pipes.

5. THE SAFE DRINKING WATER ACT

The best place to start learning about your drinking water source is through your local community. If you use a private well for your household, then you are responsible for maintaining the integrity of your well. The federal government does not regulate private wells, but your local community may do so. Check with your local town hall to learn the regulations that must be followed for private wells. If you do not have a private well, you probably get your water from a public water supply. Under the Safe Drinking Water Act (SDWA), EPA sets standards for drinking water quality to ensure drinking water safety. The SDWA requires water to be monitored and sometimes treated to remove contaminants, before it is delivered to your home. You can call your local water supplier and learn where your water comes from and ask for information about its quality. Public water suppliers are required by EPA to share information about their drinking water supply with their customers.

6. CONSERVATION MEASURES

The most efficient way to save water is to upgrade fixtures with newer and more efficient fixtures, such as toilets, dishwashers and laundry machines:

- **Low or Dual Flush Toilets:** Federal regulations require new toilets to use no more than 1.6 gallons per flush. Replacing an old toilet with a 1.6 - gallon toilet represents a 70% savings in water and will cut indoor water use by 30%. Alternatively, consider purchasing a dual flush converter that turns a standard toilet into a dual flush toilet, saving an average family 15,000 gallons of water each year
- **High Efficiency Washing Machine**: A traditional washing machine uses 54 gallons of water per load, whereas a new more efficient washing machine only utilizes 7 gallons per load. A high efficiency washer should easily pay for itself over its lifetime in water and energy savings. A new Energy Star rated washer uses 35% - 50% less energy per load. If you are in the market for a new clothes washer, you may also consider the new front-load washers, which are more efficient than the top-loading washers

- **In the Bathroom**:
  - Take short showers instead of baths
  - Turn off water to brush teeth, shave and soap up in the shower
- **In the Kitchen**:
  - Fill your sink or basin when rinsing dishes
  - Only run dishwasher when it is full
  - Only use garbage disposal when necessary
- **Laundry**:
  - Run full loads of laundry
  - Avoid the permanent-press cycle, which uses an added 5 gallons
  - For partial loads, adjust water levels to match the size of the load
- **Fit Faucets and Sinks with Aerators**
  - Fit faucets and sinks with low-flow aerators, which save water
- **Drought-Resistant Lawns, Shrubs and Plants**:
  - Plant drought-resistant lawns, shrubs and plants
  - Ask your local nursery for tips about plants and grasses with low water demand, such as creeping fescue
  - Consider planting more trees, shrubs, ground covers instead of grass
  - Use native plants in the flower bed that have adapted to your rainfall conditions
- **Efficient Outdoor Watering Systems:**
  - Only water the lawn when necessary, when the rainfall is not sufficient
  - You can greatly reduce the amount of water by utilizing soaker hoses, a rain barrel water catchment system or by installing a simple drip-irrigation system
  - Be sure to avoid over-watering plants and shrubs, since this will diminish plant health
- **Mulching Around Trees and Plants**:
  - Much will slow evaporation of moisture while discouraging weed growth
  - Adding 2 - 4 inches of organic compost or bark mulch will increase the ability of the soil to retain moisture
- **Mowing Your Lawn**:
  - Set the mower blades to 2 -3 inches high as longer grass shades the soil improving moisture retention

7. STORMWATER POLLUTANTS AND THEIR SOURCES

- **Sediment:** Sources may include construction sites, disturbed land areas, streambank erosion and alterations
- **Nutrients:** Sources may include fertilized lawns, leaky sewers and septic tanks
- **Bacteria:** Sources may include leaking sewers and septic tanks, organic matter and pet wastes
- **Trace Metals:** Sources may include automobiles wear and tear
- **Road Salt:** Sources may include application of salt and de-icing chemicals to snow and ice

SOURCES: The information in this fact sheet was extracted from various EPA publications