

**PUTNAM VALLEY  
CENTRAL SCHOOL  
DISTRICT  
PUTNAM VALLEY, NY**

**MS4PY3 STORMWATER  
PROGRAM**

**FACT SHEET # 1  
FEBRUARY 2013**

**ONGOING STORMWATER  
MANAGEMENT PROGRAM:  
WATER: A PRECIOUS COMODITY**

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**1. Water: A Precious Commodity**

Water is a unique commodity because nothing else can substitute for it. Indeed, nothing is as universal, and as necessary, as water. Because it is needed for virtually everything we produce and consume, its availability and its price are crucial to the global economy and to the livelihood of all humans, animals and plants. 75% of the earth is covered by water, of which only 1% is drinkable. Surface water, oceans, ponds rivers and lakes are held as public trust, however groundwater falls under rules, adopted in each state. The rights to groundwater are governed by state statutes that have evolved over time. In some states groundwater falls under the **absolute dominium rule**, which permits a landowner to intercept ground water that would otherwise have been available to a neighboring water user and even to monopolize the yield of an aquifer without incurring liability. On the other hand, some states utilize the **reasonable use rule**, which limits a landowner's use of water to those uses that have a reasonable relationship to the use of the overlying land. Owners of overlying land and non-owners or transporters have co-equal or correlative rights in the reasonable, beneficial use of groundwater.

**2. Excessive Groundwater Pumping**

Where surface water, such as lakes and rivers, are scarce or inaccessible, groundwater supplies many of the hydrologic needs of people everywhere. Groundwater depletion is primarily caused by sustained/excessive groundwater pumping. Some of the negative effects of excessive groundwater pumping include:

- Drying up of wells
- Reduction of water in streams and lakes
- Deterioration of water quality
- Increased pumping costs
- Land subsidence

**3. Onsite Stormwater Practices Help**

Onsite treatment practices not only reduce the quantity of offsite stormwater runoff but also improve groundwater recharge. The use of low impact, infiltration based, development in stormwater management can offset the losses due to excessive

groundwater pumping. Impervious surfaces like roads and roofs limit rainfall infiltration that would naturally recharge groundwater supplies and support stream flows during periods of low rainfall. Onsite stormwater practices, utilizing rain barrels, cisterns, and green roofs and the use of rain gardens and pervious paving surfaces increase rainfall infiltration and groundwater recharge.

#### 4. Bottled Water vs. the Environment

According to the National Resource Defense Council, and the USEPA, bottled water uses more resources and produces more waste. Bottled water:

- Increases **fossil fuel consumption** (the manufacturing of plastic bottles involves fossil fuels)
- Increases **air pollution and greenhouse gases** (water is trucked from factories to stores to consumer homes)
- Causes **increases waste in our landfills** (1 out of 5 bottled-water containers winds up in a landfill, approximately 3 billion pounds per year)
- Poses a **severe threat to marine life**, which consume ground up plastic pellets dumped in our oceans

#### 5. Bottled vs. Tap Water

Bottled water is depicted as natural and pristine but no research shows that it is better than tap water. The USEPA sets **tap water standards** in accordance with the **Safe Drinking Water Act**. Accordingly, tap water is monitored 24/7, 365 days per year. On the other hand, Federal Department of Agriculture (**FDA**) **regulates bottled water**. But when bottled water is packaged and sold within the same state, these **states, instead of the FDA take over regulatory responsibilities**, which because of budget shortfalls may lead to looser monitoring. To most of us, bottled water is easily accessible and convenient. Additionally, bottled water can filter out additives and chemicals, typically utilized in tap water to treat and disinfect the water and for most part is free of chlorine. However, because of bottled water filtering (membrane filtration) and packaging, **bottled water costs 300 times the cost of tap water**.

#### 6. Bisphenol A (BPA) Bottles

BPA is used in the production of epoxy resins and polycarbonate plastics. Note not all plastic bottles contain BPA. Plastic bottles free of BPA are labeled as such. A 2008 report from the National Toxicology Program, expressed concern about BPA's effects on development of the prostate gland and brain, and its behavioral effects in fetuses, infants and children.

#### 7. What Can You do to Help?

Water is a precious commodity and how we use it affects all of us. Plastic water bottles don't only contain chemicals such as **BPA's that cause long-term harmful health effects but are a huge burden on our environment**.

- Remember **green stormwater practices** such as rain gardens and pervious paving surfaces **increase rainfall infiltration and groundwater recharge, as well as** the recharge of our surface waters
- The next time you reach for a plastic bottle of water, think about how plastics can increase **fossil fuel consumption, air pollution and greenhouse gases, waste in our landfills and the threat to human and marine life**
- **BYOB**. Last year Americans went through 50 billion plastic water bottles. Fill up a reusable water bottle. Don't like the taste of tap water? Buy a filter. If you need to drink water out of a plastic bottle, **utilize tap water in a BPA free water bottle**.
- **Never accept plastic bags** at the grocery store. Bring your own reusable bags with your "Green Living" message on it, which will let other people know that you care and are a responsible being
- If you must buy consumable products, **choose paper, glass or bio-plastic**
- Lobby with your local politicians to **promote reasonable use rules** and to ban **BPA plastics!**

#### 8. References

The information in this fact sheet is primarily based literature prepared by Environmental Protection Agency and the National Resource Defense Council and several other internet articles.