

# CONSERVATION FARMING IN A WATERSHED



Bulletins are a product of the partnership for successful public outreach & education of Providence Water & the Northern RI Conservation District



We all live  
in a watershed.



Everything that we do  
in our watershed affects  
the water, soil, air,  
plants, animals— *and*  
the quality of our life!

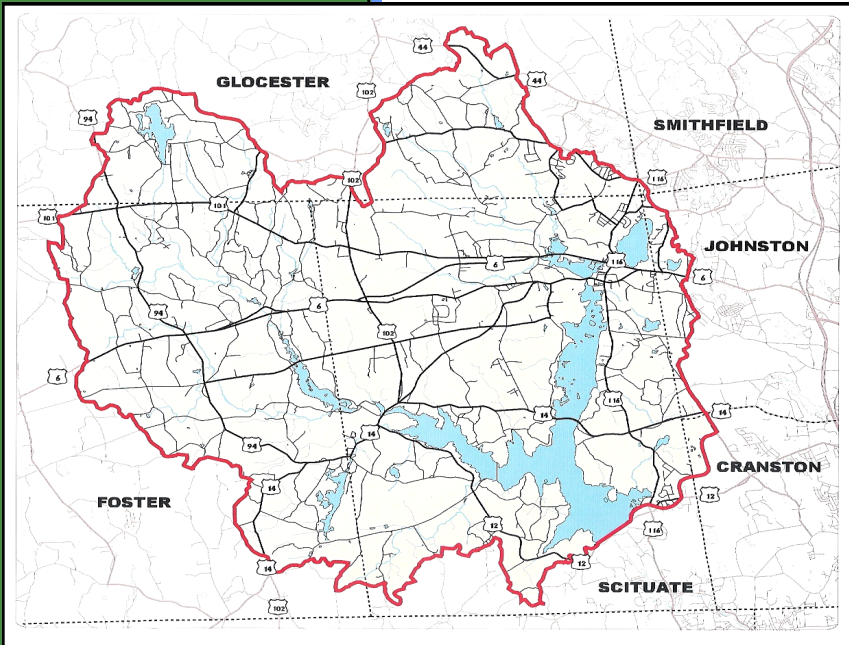
## What is a Watershed?

The true definition of a watershed is,  
“the land that water flows across or under on its way to  
a stream, river, or lake”.

Not every person or business is located near a pond, stream or river, but everyone lives or operates in a watershed. This issue of **CONSERVATION FARMING** will address resulting questions about surface water, ground water, pollution and water movement.

### The Scituate Reservoir Watershed...

A watershed is an area of land that is made of hills and valleys. When precipitation falls on that land area, ultimately, the water will drain to the lowest point, which is usually some water body. We need to be aware of the boundaries of our watershed, as well as the quality of land and life within that land area in order to maintain clean, drinkable water.



Within the Scituate Reservoir Watershed, the watershed area is made up of portions of the towns of Gloucester, Foster, Scituate and Johnston, along with small portions of Smithfield (please see the map to the left). The Scituate Reservoir lies in the lowest portions of that land area; acting as the catch basin for all of the precipitation.

Although water from the Scituate Reservoir provides over 60% of Rhode Island’s population with clean drinking water, private wells in our communities provide us with our own clean water to drink.

With increasing threats of pollution found in the air, in the water, and on the land, the quality of everyone’s water in RI is in danger. Watersheds (defined by the shape of the land) funnel all precipitation, as well as all other soluble and insoluble substances found on land (i.e. pollution) into the water that we drink from wells or from the Scituate Reservoir.

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**Gainer Dam, Scituate, RI**

The Scituate Reservoir, as a water body (surface water) is kept at high levels by inflowing groundwater from surrounding land.

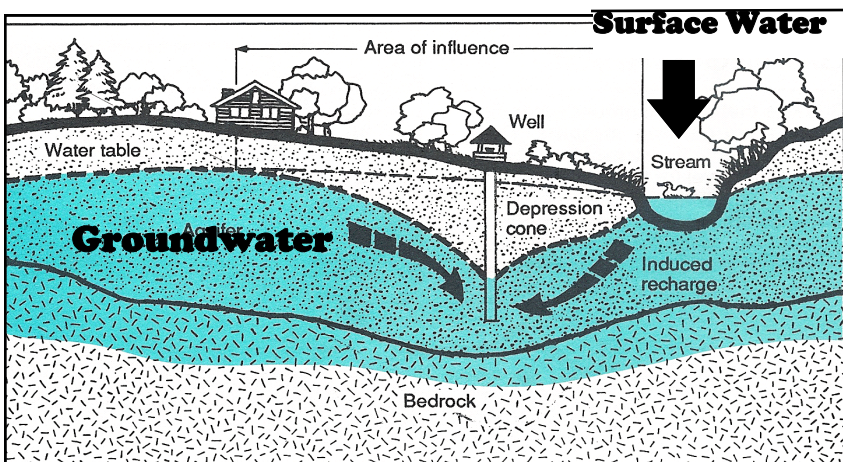
### The Groundwater/Surface water Connection

All water is part of the water cycle. The water cycle is the continuous circulation of water from the oceans to the atmosphere to the land and back to the oceans. This complex cycle provides us with a renewable supply of water on land.

Drinking water comes from two connected sources: water bodies seen on the surface of the land (*surface water*) and water that is stored underground in soil pores (*groundwater*). When precipitation occurs, both the surface water and the groundwater are influenced and recharged.

Pollution that is found on the ground moves with the precipitation into the surface water and groundwater within the watershed. Soluble substances, like fertilizers and pesticides, dissolve with the precipitation and move through the ground into the groundwater. Other non-soluble substances, like litter, oil, gas and other wastes, move over the land into surface water.

**Therefore, water quality in surface water and groundwater is determined by the land uses on the watershed.**



### Pollution Sources:

Non-Point Source Pollution is the entry of substances such as toxic chemicals, nutrients, bacteria or virus into water from *diffuse* origins.

**Pollution sources include...**

- *Stormwater runoff* (water flowing off of paved areas into drains that typically empty directly into a stream, river, reservoir or wetland.)
- *Failed septic systems*
- *Soil Erosion* (from unprotected construction sites or bare land)
- *Excess fertilizers, herbicides or insecticides*
- *Oil, Grease, Anti-freeze, etc. from roads, parking lots and other urban activities*
- *Bacteria & Nutrients from pet wastes, livestock, faulty septic systems*
- *Chemicals from leaking underground storage tanks*

### FOR MORE INFO

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