

The Watering Can



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Water Management Practice on the Garden

Earth that is rich with compost, warmed from the sun, dry on top, and deep down moist provides a welcoming home to newly planted seeds. Followed by a soaking rain, germination will surely occur. In spring it is best if the ground is deeply irrigated from the winter and spring storms. Therefore, as we approach the growing season I wish you "a good soaking" for your garden! Sustainable gardens and healthy watersheds are built upon sufficient amounts of water of good quality. Water quantity is dependent upon the hydrologic cycle while water quality is dependent upon the health of the watershed. Each gardener has a role in the health of the watershed by the water management practices used in the residential landscape.

Every garden is located in a watershed, and every sustainable garden is based on an understanding of the hydrologic cycle. The hydrologic cycle is a continuous circulation of water from land and sea to the atmosphere and back again. The three main activities are precipitation, consumptive use, and evaporation/transpiration, and each gardener who applies this knowledge will create a more sustainable garden and contribute to the overall health of the watershed.

Precipitation can be rain, snow, or hail which falls from the sky upon the land to seep or infiltrate into the ground where it is taken up by the plants, trees, and shrubs in the landscape. What is not "consumed" is either absorbed into the ground and the aquifer below or becomes runoff and is transported over time throughout the watershed. In Rhode Island, annual precipitation is between 39 and 54 inches, with most precipitation falling in the winter and spring, for a monthly average of between 3 to 4 inches. Typically, the 3 to 4 inches will be distributed throughout the month in several rain events which most often result in less than one half an inch of rain per event. New England gardeners have a long history of weather watching and precipitation measuring resulting in successful farming and home gardening efforts. Remember – best practice for sustainable gardening recommends one inch of water per week for most plants.

During the warm summer months of June, July, and August monthly precipitation can decrease significantly, requiring the gardener to supply water from an alternative source. Summer thunder storms occur quickly and bring one half inch or more of rain causing runoff, erosion, and lack of infiltration of the water into the land. These large precipitation events can often be harmful to plants, gardens, and the watershed due to the amount of water "lost," the destructive force of rushing water, and the transport of chemicals, fertilizers, and toxins throughout the watershed. Rainwater can be harvested during these times to collect rain water which will then provide an excellent backup supply of water for gardening needs. Rain barrels, cisterns, and water tanks can collect harvested rainwater from your roof to be pumped to your garden at a later time.

Consumptive use includes the water consumed in homes, business, industry, farming, or government activities. Consumptive use results in what is called "wastewater" but not all wastewater is the same; some wastewater is perfectly acceptable for reuse. For example, water used to wash clothes and dishes (known as graywater) can be re-used to flush toilets. Water reuse may also have some application to gardening practices. For example, graywater could be used to water plants that will not be eaten by humans. Keep in mind some soap detergents can be harmful to plants.

Water evaporates from bodies of water and goes into the atmosphere where it condenses and forms clouds. Evaporation occurs as the sun shines on bodies of water – ponds, rivers, streams, reservoirs, and the ocean. When water becomes too heavy to hold all of the water collected through evaporation and transpiration, the clouds release the water across the watershed or waterbody – and the cycle begins again.

Transpiration is a similar process but it occurs as the heat of the sun warms plants and the water within the plant "transpires" as water into the atmosphere. This can be compared to the human body which "perspires" in the heat, frequently requiring water during the summer months in order to prevent dehydration. Remember to "irrigate" both yourself and your plants appropriately.

The best watering practice is to create a garden that is sustained by precipitation alone but this is not always possible. Group plants with high water needs together in an "oasis" area near your home. This will make it easier to support the supplemental water needs of your plants. Plant drought tolerant turf grass and limit the size to the footprint of your home. Keep in mind new plantings require an additional supply of water to help establish strong root systems and that every garden is a piece of the watershed.