



Water, Water Everywhere . . .

More than 70% of the earth's surface is covered by water but only 2.5% is considered fresh water and of the available fresh water on the earth's surface only 3/10 of 1% is readily available for consumption (WSU Extension Watershed Stewards). The increase of stream, river, and lake pollution as well as pollution of groundwater sources is requiring more thought and responsibility by homeowners. Homeowners are becoming major contributors of non-point source pollution. Non-point source pollution can not be directly linked to one source like a specific manufacturer or a drainage pipe. Non-point source pollution is a cumulative effect of everyday activities by the community, such as fertilizing a lawn with synthetic chemicals.

Simple things in the yard and garden environment can have a large impact in the health and availability of local water sources. In the Pacific Northwest there is an ample amount of water readily available most of the year, rain. Utilizing this source for the yard and garden as well as practicing responsible methods with other water sources can lead to a healthier garden and a healthier community.

Rain barrels are a technique used by people throughout the world and has been documented as an effective water retention system for more than 2,000 years in civilizations world-wide.

The popularity of rain barrels has increased dramatically in the last few years. Diverting water from rooftops into rain barrels can provide water in the yard and garden through hot summer months in areas where public water is restricted during the summer. Water collected from rain barrels is "soft water." This water is devoid of the minerals, chlorine, fluoride, and other chemicals found in municipal water. Addition of these minerals and chemicals to the garden environment often leads to an imbalance in the soil. This imbalance can lead to an increase of disease due to the weakening of plant and tree roots from the effects of additives from municipal water on the micro-organisms within the soil environment.

Rain barrels in the retail industry are selling for \$50 to \$200 dollars apiece. Buying a rain barrel is a viable option. Make sure the rain barrel you purchase has a child-proof lid and screen for the top, a hose spigot at the bottom for easy use, and an overflow outlet in case the barrel overfills during a heavy rain event. It is also easy and inexpensive to make your own rain barrel.

Soaker Hoses and Drip Irrigation

Watering is part of a gardener's life. Responsible watering isn't part of every gardener's life but watering methods can easily be adjusted to serve the gardener, the garden, and the

water supply well. There are three components to responsible watering in the garden: plants and soil, efficient watering systems, and how much and how often to water.

Plants and Soil

Creating healthy soil by the addition of compost and mulch is a vital component to water conservation as well as plant health in the garden. Supplementing the yard and garden with a three inch layer of compost incorporated six to 12 inches deep not only increases microbial activity but allows the soil to absorb water and drain easily as well as retain moisture for availability to plant roots. The addition of compost to the soil allows for less watering and healthier plants. Using a three inch layer of mulch in conjunction with compost retains more water, insulates plants from extreme hot and cold conditions, and deters weeds and weed seed establishment.

Plant choice and plant placement in the yard and garden is crucial for water conservation. Group plants with similar water needs together, high water need plants in rain gardens or near water sources and drought tolerant plants along fences and the garden perimeter where it is more difficult to water. Remember that watering plants according to their needs is important in their health and development. Over-watering or under-watering leads to weak plants that are susceptible to pests and disease.

Lawns are the garden's water hog. Typically, more water is used on lawns than any other part of the yard or garden. Most lawns are over-watered resulting in run-off. As most lawns are also the area where the most chemicals are used over-watering the lawn results in large amounts of toxic runoff acting as one of the largest contributors to non-point source pollution. Lawns require one inch of water a week including summer months. Adding a 1/4 inch layer of compost in the spring and autumn helps lawns retain moisture and stay healthy.

Efficient Watering Systems

There are two types of water systems that are preferred for efficient water usage in the yard and garden landscape, drip irrigation and soaker hoses. Utilizing one or both of these methods in the urban landscape conserves water by 1) only watering specific, desired areas, 2) minimizes or eliminates water runoff, 3) use less water than overhead systems because of less evaporation, 4) help decrease weeds because water is not distributed to large areas, and 5) saves time, money, and energy compared to hand or overhead watering.

How Much and How Often to Water

All plants need water to thrive, depending on the species water amounts vary greatly. The most important thing to remember is that water must be available to the roots of a plant for it to effectively absorb the water and the nutrients it carries. Annuals should have available moisture within the top 12 inches of the surface as most annuals' root systems are fairly shallow. If the top two inches of soil are dry it is time to water. Perennials vary as widely as the species available. Some require very little water after being established. It is best to investigate the particular plant and its water needs and water accordingly. Remember that perennials' roots are typically deep and the root system spans not only downward but outward as well, especially shrubs and trees. Lawns

need an inch of water a week and using the tuna or cat food can test is an effective method of measuring. The natural cycle of grass is dormancy in the Pacific Northwest's summer months. Watering the lawn an inch once a month during the dry season ensures a healthy lawn during the rest of the year.

Utilizing rain gardens, rain barrels, and efficient watering systems in the backyard environment creates a healthier, more cost effective, and often easier way to conserve and responsibly use water. Creating a healthy water microcosm in the backyard environment helps support the larger health of waterways in the community and can significantly decrease non-point source pollution.

For more information on water gardens and rain barrels contact the Watershed Stewards at 397-6060 ext.7703 or visit them at <http://clark.wsu.edu/volunteer/ws>