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Water Conservation in Connecticut Landscapes

Part 1 of 5 in the series "Water Conservation in Connecticut Landscapes"

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Water is essential for all life. Good water quality and adequate quantities are needed to sustain both terrestrial and aquatic life. Beyond the everyday needs for human consumption and aquatic life, water also is used for many other purposes, including irrigation, transportation, cooling, and recreation. It also functions as a power source.

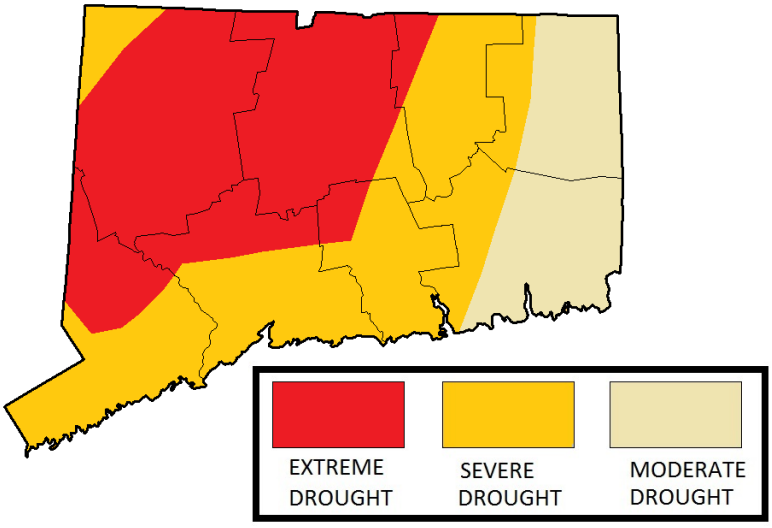
Persistent dry weather conditions in recent years have made water conservation in Connecticut landscapes a priority. Changing weather patterns have led to increased instances of drought, warmer winters, and increasingly intense rainstorms. The demand for potable water is expected to increase in the future, while the supply of water in the environment remains unchanged. **Connecticut residents can be part of the solution by using simple and smart water conservation strategies.**

WHY IS IT IMPORTANT TO REDUCE WATER USAGE IN CONNECTICUT HOME LANDSCAPES?

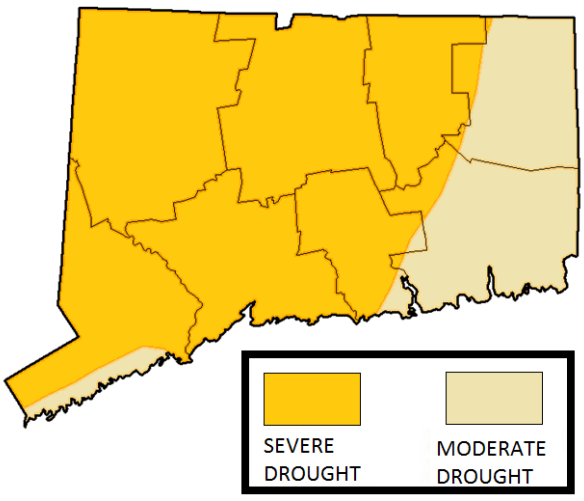
A typical Connecticut residential household uses over 100 gallons of water a day,[i] with over 50-70% of household water used outdoors.[ii] While conservation efforts have led to slight decreases in rates of per-person water usage, increasing population has kept the overall water usage rates relatively consistent. Although Connecticut usually receives ample rainfall over the course of a season, individual rainfall events are not evenly distributed though the year. During the dry months of summer, it is sometimes necessary to provide supplemental irrigation to lawns, landscape plantings, and gardens. **Outdoor irrigation systems can account for 40 percent of household water use during the summer.**

In 2016, many areas of Connecticut experienced severe to extreme drought conditions. For the first time in state history, Connecticut state government asked residents and businesses for a voluntary 10-15% reduction in water. Some towns (Greenwich, Stamford, New Canaan, and Darien) implemented a mandatory ban on the use of outdoor watering devices. A press release from Governor Malloy explains, "Paired with historically warm temperatures, precipitation in Connecticut ranged from 60% to 73% of normal conditions between June and September (2016). Drinking water reservoirs have continued to decline, and average levels statewide were at less than 80 percent of normal as of the end

Connecticut Drought Monitor, November 20, 2016



Connecticut Drought Monitor, March 14, 2017



Melting winter snowpack has attributed to the temporary relief and less severe drought monitor reporting this March. Whether the drought will continue this year will depend on the amount of rainfall Connecticut receives over the course of the next several seasons. Adapted from NCE/NOAA http://droughtmonitor.unl.edu

of September, with some reservoirs less than half full."[iii] While New London and Windham Counties have only been designated as Drought Advisory areas, all other Connecticut counties are **categorized as Drought Watch areas, after three years of precipitation shortfalls**. A Drought Watch is issued when the state is experiencing moderate to severe drought conditions, based on an assessment of indicator data monitored by state and federal agencies. Precipitation, stream flows, groundwater levels, reservoirs status, soil moisture, vegetation, and fire danger conditions are evaluated.[iv]

There is reason to be concerned about the future availability of adequate groundwater supplies in Connecticut. Each year, more land area is covered with buildings, sidewalks, driveways, parking lots, and other impervious surfaces. Groundwater supplies are threatened by increasing impervious cover of the land surface. **Every acre of land that is covered with an impervious surface generates 27,000 gallons of surface runoff instead of groundwater recharge** during a one-inch rainstorm.[v]

- Between 1985 and 2010, **Connecticut lost 190 mi^2, or 6.5%, of its forest land**.[vi] Forested areas are critical natural resources that perform important ecological functions. They absorb and process natural pollutants from rainfall and surface waters, store carbon, and provide habitat for wildlife.
- Between 1985 and 2010, **Connecticut lost 39.5 mi^2 of natural vegetation in its streamside corridors** (areas within 300 feet of a stream, river, pond, or lake). The loss of this critical vegetation translates to increased erosion, less habitat for wildlife, greater potential for reduction of animal populations, and reduced area for penetration of rainwater into the soil.

Due to these land use changes, increasing local use of groundwater may outpace the amount of recharge that supplies the aquifer. **When groundwater and surface water extraction exceeds replenishment, aquifers are threatened with depletion.**

Water conservation strategies yield multiple benefits:

- Conserving resources saves money while maintaining healthy turf and landscape plants. Dense, healthy turfgrass absorbs and filters water, reduces runoff, and helps to recharge groundwater aquifers.
- Proper watering improves the health of turfgrass and plants in the landscape. Watering deeply and infrequently encourages deeper and more extensive root growth and improves the overall turfgrass health. **Overwatering of plants and lawns can be more detrimental to plant health than underwatering.** Overwatering encourages shallow rooting, often causing turgrass plants to be more prone to disease and stress injury.
- Improving soil structure by adding organic matter to landscape or turf areas can reduce irrigation needs and yield economic benefits, as less time and money is spent on correcting problems created by poor soils.
- Preventing erosion reduces contamination of water resources by nutrient, pesticide, and sediment run-off, contributing to healthier, cleaner water resources.

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[i] http://ir.ctwater.com/investors/financial-releases/financial-release-details/2016/Connecticut-Water-Urges-Voluntary-Water-Conservation/default.aspx

[ii] http://www.ct.gov/dph/lib/dph/drinking_water/pdf/27_ic_water_facts.pdf

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