WATER CONSERVATION CHECKLIST :

LANDSCAPING/IRRIGATION

EVERY DROP COUNTS!

GETTING STARTED WITH USER EDUCATION/AWARENESS

- Know the limits for landscape watering for your community during times of drought. Communities in North Carolina with water conservation measures can be found at http://dwr.ehnr.state.nc.us:81/drought/restrictions.php
- Know the water requirements for turf and plants.
- Keep track of the amount of water put onto plants/soil.

NO landscape irrigation is essential in severe droughts!

WATER REQUIREMENTS FOR LAWNS AND PLANTS

Lawns and Turf Grasses

- Most lawns need only one inch of water per week, either from sprinklers or rainfall. This should be accomplished with deep and infrequent waterings, which maintain a healthy root system and reduce weed infestation (as opposed to light and frequent irrigation, which promotes shallow roots and germination of weed seeds).
- Lawns that receive little to no water from irrigation or rainfall during summer months will go dormant; grass blade coloring will lighten. Most lawns will recover when water returns.
- A lawn that requires water will show signs of wilt. In these areas the grass blades will not spring back if you walk across the lawn and your footprints will be visible.
- Consider drought-tolerant warm-season grasses, such as Bermuda, Centipede, St. Augustine or Zoysia rather than cool season fescues; or consider fine fescues like creeping red fescue, chewings fescue, and hard fescue, which tolerate dry periods quite well due to their low water requirements.
- Remember that newly sodded or seeded lawns require more frequent watering (for the first 3-4 weeks) than do well-established (older than 12 months) lawns.
- Fertilizer application can encourage extensive blade growth in the spring; delay fertilizing until late summer or early fall to encourage more root growth for cool season grasses.
- Mow your grass at the right height during the summer. Longer grass blades increase the depth of the root system, shade the soil, and help drought tolerance.

Trees and Shrubs

- Trees and shrubs are most vulnerable in the first five years of planting and require more water than in subsequent years when they are usually more drought tolerant.
- When under drought stress, leaves curl, change color and fall off as a defense mechanism. When watering returns to normal, most established trees and shrubs return to normal cycles.
- Water trees and shrubs deeply and thoroughly to their roots, using soaker hoses, milk jugs or buckets with small holes to slowly drain the water into the soil, or a commercial drip irrigation product such as a Tree Gator® (http://www.treegator.com/), a type of plastic bag that wraps around the tree. The gator is filled from the hose or a watering can and the water seeps out slowly into the ground. These methods apply water directly to the soil rather than to the air, like an oscillating sprinkler.

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KNOW WATER USAGE

Overwatered lawns frequently lead to excess blade growth, summer fungal diseases and more frequent mowing. Excessive watering of lawnscaping also wastes water and increases the risk of fertilizer and pesticide run-off from the lawn to paved surfaces. This can negatively impact local water quality.

- ☐ Water the lawn, not paved surfaces, by adjusting sprinkler heads.
- ☐ For lawns, applying one inch of water per week is the recommendation during times of summer drought. An inch of water can be measured by marking the side of a tuna or pet food can placed in the lawn. Remember that irrigation is not needed following an inch of rainfall. One inch of water on a 1,000 sq. ft. yard equates to 625 gallons.
- ☐ Applying one inch of water can be difficult to achieve in a single watering given the slow infiltration rate on many clay soils. Therefore, a smaller amount of water applied every 3-4 days may be required to allow water to enter the soil without causing runoff. Annual core aeration can loosen compacted soil and allow water to infiltrate deeper into the ground.
- ☐ Water is best applied early in the day (4 a.m. to 8 a.m.) when evaporation loss is lowest. Night watering also minimizes evaporation. Remember that numerous automatic sprinklers all running during periods of high household use (early morning) may place extreme demands on a community's water system.
- ☐ Drip irrigation or soaker hose systems can reduce evaporative losses 20-50 percent and are an excellent way to apply water where it is needed, by avoiding watering sidewalks, streets or causing runoff.
- ☐ Consider adding a rain shutoff device, rainfall sensor or soil tensiometer (device that measures the amount of water in the soil) to an irrigation system to more accurately determine water needs.
- ☐ Use screened rain barrels to collect rainwater from rooftops, then use collected water to water plant, shrubs or other landscape. Soaker hoses can be attached to rain barrels for watering as well.

PLANNING FUTURE LANDSCAPES

When planning for landscaping, the choices made in site orientation, plant selection and irrigation system configuration all impact the amount of water necessary for sustaining the plantings. Consider plantings to reduce prevailing winds to reduce evaporative losses, trees and taller shrubs to provide shade during the heat of the day to reduce evaporation, and native plants that are more adaptive to drought conditions.

Naturescaping is a process of using native plants for landscaping. For a list of North Carolina native plants, see http://www.sustainablenc.org/thewaytogo/main/naturescaping.htm .

Plan your landscape so that plants with similar needs are planted together. This will allow for efficient irrigation.

Planning Irrigation Systems

Select proper equipment for automatic irrigation systems, considering the soil type and the landscape to be irrigated.

- M Rotary head sprinklers can operate longer without causing runoff, but may be susceptible to increased evaporative losses in high heat or windy conditions.
- M Spray head sprinklers use higher volumes of water, so should be run for shorter periods of time to avoid runoff from clay and slopes.
- M Zone the irrigation system to provide the proper amount of water for each landscape zone.

ATHLETIC FIELDS

Non-essential fields can be defined as fields that have been taken out of play or do not expect to receive play in the near future. Such fields should be irrigated lightly (1/4 inch of water per application). This light rate is required to prevent excessive plant loss and erosion and will not stimulate growth. Irrigation frequency will depend upon turf composition. In general, fields comprised of tall fescue should receive this light rate every two weeks, whereas bermudagrass and Kentucky bluegrass fields will go dormant or semi-dormant and can go without water for up to four weeks. When a non-essential field is returned to play, the irrigation practices discussed for essential fields should be implemented six weeks before play is scheduled.

Essential fields can be defined as fields that receive play or are expected to receive play in the near future. (Important note: Hard and dry fields are potentially unsafe and can increase the possibility of player injury.) Essential fields should be irrigated to moisten the soil to a depth of 6 inches each time the field is irrigated. This should require no more than an inch of water (625 gallons of water per 1,000 sq ft) per application. It is best to irrigate early in the morning (4-8 a.m.) when winds are calm and there is little evaporative loss. The field should not be irrigated again until symptoms of wilt (folded or curled leaves, footprinting, or bluish-green color) are apparent on 50 percent of the field. This will actually encourage deep rooting and result in more drought tolerant plants.

It is not essential to overseed most bermudagrass fields in the fall with ryegrass. Bermudagrass fields can often withstand moderate play even though the grass is dormant.

ADDITIONAL INFORMATION

For additional information, contact your local North Carolina Extension Service office; your local office can be found at http://www.ces.ncsu.edu/. You can also read "Carolina Lawns," a North Carolina Cooperative Extension Service publication, which is located online at http://www.turffiles.ncsu.edu/pubs/ag-69.pdf.

The Virginia Cooperative Extension also has important information on Creating a Waterwise Landscape, located at http://www.ext.vt.edu/pubs/envirohort/426-713/426-713.html.

For more information on water efficient landscaping, please view DPPEA's "Water Efficiency - Water Management Options: Landscaping" fact sheet at http://www.p2pays.org/ref/04/03102.pdf.