

LOCAL GOVERNMENT'S ROLE IN WATER EFFICIENT LANDSCAPING

Atlanta Regional Commission Policy on Water-Efficient Landscaping

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INTRODUCTION

The Atlanta Regional Commission's (ARC) Water Supply Plan assumes water conservation will be implemented; therefore, it is important to continually promote water conservation. A successful water conservation program should consider several elements, including education programs, water rate structures which encourage water savings, the use of water-saving plumbing fixtures and the promotion of water-efficient landscaping, also known as xeriscaping.

The Atlanta Regional Commission has adopted updated water conservation policies regarding ultra-low-flow plumbing fixtures and water pricing. In the interest of continuing to work toward the achievement of water conservation goals, this paper reports on water-efficient landscaping as a water conservation measure and makes recommendations for implementation.

THE NEED FOR WATER-EFFICIENT LANDSCAPING PRACTICES

The droughts of the past few years have focused attention on the need for water conservation. The recent lawsuit filed by Alabama against the proposed reallocation of Lake Lanier, as well as the water distribution problems experienced during the hot, dry spell in June and July have intensified that concern. Water use outdoors to water lawns and plants is a major contributor to high demand in spring and summer months. Water can be wasted by improper watering methods and ignorance of plants' true water requirements. For example, in the 1988 drought, some plants were killed by overwatering. Modification of watering methods as well as the use of plants appropriate to the Atlanta Region's climate which are able to withstand its extremes of rainfall and temperature, could help reduce summer water demands and place less stress on the Region's water supply systems.

WATER-EFFICIENT LANDSCAPING (XERISCAPING)

Water-efficient landscaping focuses on minimizing outdoor water demands by using native and drought-tolerant plant species and by confining areas of turf and other water-intensive plants to limited areas of the landscape plan. Water-efficient landscapes have existed for years, but

landscapes designed specifically for water conservation first appeared in Colorado and California in the late 1970's and early 1980's as a response to recurring droughts and increasing water demand. The term "xeriscape" or "dry landscape" was applied to these landscape designs to indicate their low water demands. Interest in the concept has spread to other areas of the country, such as Texas and South Florida as their water demands increased.

Despite the term "xeriscape" and its place of origin, water-efficient landscaping does not require desert or arid-land plants. Instead, it utilizes plants suitable to local conditions that, once established, can survive in the local climate and rainfall. The advocates of xeriscaping have developed seven principles that describe and explain the techniques used. The principles listed here have been adapted by ARC staff to more appropriately reflect the needs and conditions of the Atlanta Region:

1. Proper Planning and Design - using plants where they will naturally thrive and not require excessive water and maintenance to survive, as well as grouping plants by water needs, and limiting and concentrating high water using plants.
2. Practical Turf Areas - using warm season turf grasses (such as bermuda, centipede grass and zoysia) that can survive the variable rainfall conditions in the Region, and limiting turf areas. In shaded areas, cool season grasses (such as fescue) can also be used.
3. Efficient Watering - once plants are established, avoid watering during periods of normal rainfall and during droughts, watering every week to ten days or less depending on the drought tolerance of the plants.
4. Soil Improvements - loosening and breaking up the soil beyond the immediate planting area to allow better water absorption and to promote deep roots.
5. Mulching - mulch helps hold moisture in the soil, maximizing the benefits of watering as well as preventing weeds.
6. Plant Selection - choosing plants according to their watering requirements and optimum locations.

7. Maintenance - maintaining the landscape to maximize water conservation, such as increasing mowing heights and avoiding fertilizing during dry spells.

IDENTIFIED WATER SAVINGS:

Studies in Georgia and other parts of the country have shown that large reductions in outdoor water use can occur when water-efficient landscaping is used, as compared to more traditional landscapes in similar settings. Although the results in reduction in Georgia will vary from California and Florida due to differences in climate and vegetation, they are included as examples of reduction.

- In 1988, the Cobb County-Marietta Water Authority built a new administration building on Barnes Mill Road in Cobb County. An initial landscape plan was modified to provide a water-efficient landscape. The modified design, as installed, reduced water demand on the site by fifty (50) percent of the original plan, based on the water needs of the plants selected for each plan. The savings were achieved by replacing high-water demand trees and shrubs with similar, but low-water demand specimens and by reducing turf areas (Ferguson, et.al., 1989).
- The Southface Energy Institute in Atlanta, in cooperation with the Georgia Extension Service, has installed a low-water using landscape at their headquarters on Moreland Avenue.
- A 1985 study of seven planned unit developments in Marin and Sonoma Counties in California north of San Francisco showed water savings of between forty-nine (49) and fifty (50) percent for water efficient landscapes compared with traditional landscaping. Further cost savings were realized in labor, fuel, fertilizer and herbicide use (Nelson, 1987).
- The East Bay Municipal Utility District in Oakland, California converted three house lots to water efficient landscapes in the early 1980's. Water savings have ranged between forty-five (45) and sixty (60) percent (The Front Range Xeriscape Task Force, 1987).
- Test sites in Port Charlotte, Florida have shown savings of up to eighty (80) percent for water-efficient landscaping versus traditional methods (National Xeriscape News, 1989).

LOCAL APPLICATIONS:

In addition to the Cobb-Marietta Water Authority Headquarters and the Southface Energy Institute, other examples of water-efficient landscapes exist in the Atlanta Region. Post Properties has used such landscapes in its projects for years, minimizing turf areas and irrigation, using low water demand and low maintenance plantings throughout most of the property, grouping plants according to their water demands, and placing plants appropriately to minimize their water needs.

The Cobb County School System is investigating water-efficient landscaping and the City of Alpharetta is developing a water-efficient landscape plan for its new fire station.

Public awareness in the Region is increasing through the activities of the Georgia Water Wise Council, including recent articles in the Atlanta papers and a news story on an Atlanta television station.

ARC RECOMMENDATIONS

Local governments can take action to help promote water-efficient landscaping in the Atlanta Region. While proposals for landscape ordinances are being put forth, requiring such ordinances for all local governments may overburden some jurisdictions, given the extra time, materials and staff needed to administer and enforce such an ordinance effectively. Our experience indicates that a more effective method would be the implementation of pricing surcharges as an incentive to reduce water use and an educational program on watering and landscaping techniques to show the public how to use less water. Although "xeriscape" landscape ordinances may be appropriate in some cases, requiring ordinances of all jurisdictions is not an efficient or effective approach to the problem. Other alternatives promoting water-efficient landscaping are available.

On August 22, 1990, the Atlanta Regional Commission amended the ARC Regional Water Supply Plan to include the following policy recommendations for local governments to support water-saving landscape techniques in the Atlanta Region:

Education Recommendations:

- In cooperation with the Georgia Extension Service, local governments should sponsor xeriscape seminars and presentations at garden clubs, community and neighborhood meetings, and business and professional meetings. The Extension Service's scripted slide show could be purchased and used. Local government personnel could be trained to do these presentations.
- Promote and disseminate the forthcoming xeriscape workbook by the Extension Service which is expected to be published early in 1991.
- Promote a landscape awards program for water-efficient landscapes.
- Establish a model low-water using/xeriscape at a government facility with interpretive displays as an educational exhibit.
- Establish liaisons with the public school systems to develop water conservation education programs within schools.

Other Recommendations:

- Structure water rates to promote outdoor watering conservation, through surcharges on peak use or on second meters as described in the amended ARC Regional Water Supply Plan and July 1990, ARC Briefing Paper on Rate Setting for Water Conservation.
- Develop more specific guidelines for water-efficient landscapes and water practices.
- Offer a one-time water fee rebate or discount on hook-up fees to those who install a water-efficient landscape.
- Require that all new local government owned facilities use water-efficient landscapes and stage replacement of landscapes at existing facilities.

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