



Virginia Green Industry Council

For Immediate Use

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The Impact of Bans on Watering Landscape Plants

"Americans are going to have to learn that the era of cheap, plentiful water is over." Says Lin Diacont, President of The Virginia Green Industry Council. That statement reflects a consensus among authorities on this vital resource. The problem is not a scarcity of water, but the fact that the nation's water resources are badly out of balance. Some sections of the country suffer from a surplus, while others are parched. In some areas citizens build dikes to halt floods and mud-slides, while elsewhere families wonder where they will find water for next week's baths and their communities report less than a month's supply of water in their reservoirs.

In the United States, 82 billion gallons of water are taken from groundwater supplies each day; and only 61 billion gallons are replaced through rain or run-off - a daily deficit of 21 billion gallons.

The problem is real. It is acute. It is permanent. And long-range solutions must be found.

The 0.089% Solution

In many areas where water scarcity exists, a first corrective measure (too often the only step taken) is to ban the use of water in caring for living plants in the landscape. Facts show this to be inappropriate.

Of the 82 billion gallons of water consumed each day in the U.S., just 7.3 billion gallons are for domestic use. And of that amount, only 1% is utilized in irrigating landscape plants. In other words, under nine-tenths of one percent of the nation's water is devoted to maintaining environmental quality through green, growing plants.

This document explores the impact of landscape watering bans ... on the environment ... on property owners ... and on the landscape industries.

Impact on the Environment

Recent studies have shown that energy savings from a properly landscaped home can be as great as 40%. Where winters are cold, a barrier of trees at the north and west sides of a building shield it from chilling winds to effect fuel savings up to that amount over the same house without the trees.

Trees and other living plants perform the same kind of energy-saving service in hot months, too. Planted on the west and south of the building where they shade walls and windows, they can make a cooling difference that averages about 8 degrees.

Vines growing on a masonry wall (or on a trellis if walls are wooden) achieve the same effects by providing insulation in cold months and intercepting the sun's heat in hot weather.

Living plants are nature's dust traps, with leaf surfaces that clutch a steady flow of filth from the

atmosphere and hold it until rain washes it back into the earth. And in the process of creating needed oxygen, those plants absorb huge quantities of carbon dioxide from the air - a process on which our lives depend.

Today's environmental condition calls for so much that is given through living plants - purification of the air, stabilization of the soil, clean waters, noise abatement, contributions to mental and emotional well-being, and more.

In return for all the benefits they bestow, however, living plants in the environment require a certain amount of water. Most of the recent drought-affected areas (chiefly the northern tier of the United States) have landscapes that require from one inch to two inches of rainfall every 10 days. When that does not occur, supplemental watering is necessary to sustain their life.

But only about 5% of the water taken in by the roots of trees and other outdoor woody plants is used for growth and development. The remainder is transpired into the atmosphere. It has been estimated the transpiration of a single mature tree can equal the atmospheric cooling effect of five average room air conditioners operating 24 hours a day.

Impact on Property Owners

In 1980 there were 48.2 million owner-occupied single family dwellings in the United States. 35.6% of these were in the Southern region; 28.8% in the North Central region; 17.3% in the Northeast, 9.2% in the Southwest; and 9.1% in the Northwest.

The average residential landscape today is valued at \$13,076 (based on the average U.S. home sale price of \$93,400).

This means the economic value of the 48.2 million residential landscapes in the US. is over \$630 billion.

Most of this economic value has been invested in deciduous and evergreen trees and shrubs. These investments were made as homeowners landscaped their yards to increase the economic value of their homes. (One study published by the U.S. Forest Service shows the presence of trees and other living plants on a property can increase its value from 5% to 30%)

Depending on the age, size, species, cultivar and root system of these plants, among other factors, they can and do suffer water stress during periods of drought. The damage that results can frequently be latent, but eventually will kill the plant.

Aside from all the environmental values and enhancements to the quality of life they provide, living plants in the landscape are a major financial investment for property owners - an investment at risk of needless loss with a ban on the limited watering they require.

Impact on the Landscape Industries

The landscape industries include firms that sell lawn and garden products, design and install landscapes, maintain and care for landscapes, and produce and sell nursery stock. These industries employ over half-a-million persons and sell nearly \$16 billion annually in products and services. In 1981, over 90% of those firms were located in drought-affected areas.

The limiting of water use in the landscape endangers the economic viability of not only nursery firms, lawn and garden retailers and landscape contractors, but all the service firms involved in landscape maintenance activities as well. Rather than risk an economic loss of plants that cannot be watered,

individuals and firms will forgo the investment - and the entire landscape industry will be damaged. It is of small benefit that nursery firms might be permitted limited watering during a ban, if the living plants cannot survive once installed in a landscape.

Recommendations

A ban on plant irrigation during a period of water stress has an unpredictable effect because of a number of variable factors - composition of the soil, total dissolved salts in the water, absolute amount of water, available oxygen, plant species, air and soil temperatures, air relative humidity, wind velocity, light intensity, and root/shoot ratios of the plants. Because this is true, each landscape must be judged independently of others as to its water requirements.

A uniform statewide - event county-wide ban on landscape watering does not distribute the risk in a reasonable manner. Each homeowner or landscape firm must make a watering decision depending on the area and the specific growing plants in questions. In view of the great environmental and financial values involved, this appears to represent the most practical approach.

But this must be accompanied by an extensive consumer education program on proper irrigating practices to conserve water. Some of the points important to property owners will be these:

- The irrigation of plants with less frequency but with heavy application is much better for the plants than more frequent but lighter application - saves water, too.
- Watering trees and shrubs should be accomplished with a hand-held hose or container in order to direct the water on the root area and not elsewhere.
- Water should be applied slowly, in a "trickle method, to avoid run-off.
- Make sure living plants are heavily mulched to avoid moisture loss through evaporation or run-off.
- Only those living plants requiring irrigation should receive it-and then only when the need truly exists. (Many consumers tend to water their lawns during drought conditions, even though lawns may turn brown but will survive for long periods without supplemental moisture-unlike woody plants in the landscape.)

Information of this nature is available through agricultural agents, the nursery industry, and numerous other sources. The same expenditure of time and money involved in announcing and enforcing a ban on watering of environmental plants could support its broad dissemination.

Summary

A uniform state or regional ban on irrigation of environmental plants may appear to save water in the short run; however, the amount of water usage devoted to this purpose is well under one-tenth of one percent of the nation's total consumption. Its limitation places a severe economic risk on a large number of property owners, commercial firms, and the landscape industry as a whole. The ecological impact from the loss of the living plants would be immeasurable.

Each landscape is different, and the property owner must make an independent decision to irrigate based on the needs of the area and the types of growing plants involved, the economic value of the landscape, and the availability of water. Property owners can be educated to make these water conservation decisions wisely.

The loss of landscape plants due to water stress will have an economic and environmental impact many times the importance of any water which might otherwise be saved.

Certainly, the risks are too great.

Provided by the American Nursery & Landscape Association, 1250 I Street, N.W. • Suite 500 • Washington, D.C. 20005 • 202/789-2900; IMP/689/2000

Go to our consumer website for additional gardening information at www.VirginiaGardening.com

The Virginia Green Industry Council is the voice of the horticulture industry in the Commonwealth and is dedicated to enhancing the beauty of the state's environment, the well-being of our citizens, improving our state's economy, and improving the health and wellness for everyone in Virginia. The Council is made up of providers and consumers of horticultural products and services. The Council works to provide public and industry education, environmental guidelines and other information that will keep Virginia green and growing. For more information, visit www.viriniagreen.org. 540-382-0943 FAX: 540-382-2716

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