Campbell Natural Landscape Design

Why Change From a Traditional to a Natural Landscape Design?

Gary P. Campbell, April 1998, rev. July 2001

Suburban environs are a huge and increasingly dominant feature of the landscape in many areas of the country. In 1980 60% of the nation's human population lived in suburbs, the majority in single-family homes. (Daniels 1995) Estimates of the amount of lawn in the United States vary from 31,250 to 50,000 square miles. For comparison, the entire state of Pennsylvania is 45,300 square miles; the amount of land devoted to lawns and accompanying foundation plantings is enormous. Lawns offer very little in the way of habitat, and foundation plantings are based on a relatively small and uniform palette of exotic shrubs. When you consider that a standard landscape is for all intents a "desert" regarding habitat and plant species diversity, it becomes obvious that there is tremendous potential to alter in a favorable manner the biodiversity, beauty and health of the residential landscape.

Compelling reasons to adopt a natural landscape style are easy to find. The following are just highlights:

Decrease water consumption

The average lawn requires about 100,000 gallons of water over the course of a summer to remain green (Daniels 1995). For comparison, the average American uses approximately 40,000 gallons annually. (Consumer Reports 1994) On average, U.S. homeowners pour 40-60% of their household water on their yards. (Wasowski 2001) The need for large amounts of water for lawns, stems in part from the fact that few regions in this country duplicate the climate of Great Britain, where the turfgrass lawn originated. This region's rainfall pattern is not conducive to maintaining turfgrass during the summer months. Natural landscapes minimize this type of lawn and maximize other planting types that are able to easily survive this region's weather.

Improve hydrology

A major concern regarding development of land is increased water runoff. There are serious negative ramifications to watersheds due to increased runoff, including decreased stream health and biodiversity, increased pollutant loads in streams, lower water tables and increased erosion. While grass is clearly better than blacktop in terms of water infiltration, it is at the bottom of the list of vegetation types in this regard. In general, the more complex the plant community is that exists on a piece of land, the higher the infiltration. Thus a natural landscape can have a positive effect on local hydrology.

Decrease pollution

Currently, about 67 million pounds of pesticides are used on lawns each year, about 5 to 9 pounds per treated acre (Daniels 1995). A properly executed natural landscape can virtually eliminate the need to apply pesticides, fertilizers and herbicides. A typical lawnmower creates as much air pollution in one hour of runtime as does an average automobile driven 350 miles. Gas-powered string trimmers and blowers pollute at even higher rates. Approximately 10% of annual municipal solid waste is grass clippings. (A Gardener's Guide To A Healthier Environment 1998) Reducing the size of regularly mowed lawns could significantly reduce air pollution and the burden on landfills (since homeowners with natural landscapes should recycle their organic debris). Another benefit of natural landscaping derives from the increased photosynthesis and phytoremediation of increased plant densities. Increased photosynthesis has many benefits including the potential to mitigate increasing levels of CO_2 in the atmosphere. Many plants effectively function to clean up pollution in soil through a process called phytoremediation. The more complex the planting is, the greater the chance that this kind of cleanup will occur. High-density plantings typical of natural landscapes also function to reduce noise and visual pollution from the surrounding environments.

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Reduce maintenance time and costs

Natural landscapes can dramatically reduce the time and money spent maintaining a suburban landscape, primarily through the reduction in size of regularly mowed lawn. Lawns are typically the most maintenance intensive landscape element. Daniels (1995) reports that $7.5 billion dollars are spent annually on lawn care in the United States.

Provide habitat

The basic habitat needs of all wildlife are food, water, cover and places to raise young. The traditional suburban landscape offers very little in these regards. According to Adams (1994), large-lot residential zoning on the order of 2 to 3 acres is particularly destructive to wildlife. Such development sprawls structures over the landscape, fragmenting natural habitats and lessening their value to regional native species. In addition, Adams goes on to confirm from his research that wide expanses of lawn, perhaps with a few scattered trees and shrubs, have little value for wildlife. In addition to areas suitable as habitat, wildlife also require corridors to allow movement from one area to another. Such movement is crucial to maintain gene flow and healthy gene pools. Natural landscapes have the potential to create more wildlife corridors connecting the remaining large natural areas.

Promote native plants

One of the premises of natural versus traditional and naturalistic landscaping is the use of a preponderance of native plant species. Defining "native" is a function of two factors: location and time. A much used criteria is that of belonging to a particular ecological region approximately 150 to 200 years ago, before plants were massively displaced or introduced by European immigrants to this continent. Planting natives can help to restore biological diversity and can improve genetic diversity through providing a seed source for dissemination into surrounding natural areas. Another reason to use natives is to avoid contributing to the growing problem of invasive alien plants. Conservationists now estimate that in the last ten years, invasive aliens have destroyed more habitat than development has. (Stein 1997) Native plants are beneficial from a practical standpoint as well. Through evolutionary processes, they are well adapted to their region and need very few inputs in order to flourish. The benefit to the homeowner is that properly sited native plants will thrive without the need for expensive maintenance and will last in the landscape without need for frequent replacement.

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