



While park budgets and staffing decrease, the expectations of the visitors do not. It is necessary to identify practices where effort can be reduced while maintaining functional and aesthetic standards.

One aspect of park management with potential for effort savings is the mowing and trimming of the landscape. By considering how grass grows, and how the visitors interact with it, you will be able to find significant savings in effort while maintaining a pleasing appearance.

### How Grass Grows

The grasses that make up lawn areas of the vast majority of Pennsylvania parks are perennial, cool-season grasses, such as Kentucky bluegrass, perennial ryegrass, and tall and fineleaf fescues. These grasses have two peak periods of growth. The prominent period of growth is in the spring, with a lull in growth during summer, followed an increase in the fall (Figure 1). The spring flush is the most challenging because the overwintered grass stems elongate to form seedheads. This results in taller, uneven turf. Once the seedhead has elongated and been clipped, it will not regrow. Cool-season grass growth after seedhead production is strictly leaves growing from unelongated stems at the base of the plant, so the growth is shorter and not stemmy.

The reduction in growth over the summer is weather dependent. During drought, growth can stop altogether.

### Mowing Effects on Grass

Words to live by:

*Mowing is Stress.*

Grasses do not thrive under mowing – they tolerate

it. The less mowing we do, the less we stress the grass. Mowing removes leaf tissue. Less leaf tissue means less photosynthesis, and less photosynthesis means less energy to feed the roots. The result is a reduced root system, and a grass that will go dormant and turn brown much sooner during drought than unstressed grass with a vigorous root system.

### Qualities of an Attractive Turf

The features of a desirable turf boil down to uniformity – of color, texture, density, and height. The ‘ideal’ turf is dark green, fine-textured and soft, and under-foot rather than brushing your shins. This turf is largely mythical, and people will settle for less. The key is uniformity, and one of the easiest ways to maintain uniformity of color, texture, density, and height is to mow as high as practical. As long as turf is not alarmingly high, the fact that it is green, uniform, with an even height will be pleasing to almost everyone.

### Steps to Reduce Mowing Effort

The steps to reducing mowing start with determining where most of your mowing is done, then evaluating what your visitors *need* in the areas you are mowing, and finally developing a program that matches visitor needs, current growth of the grass, and your available resources.

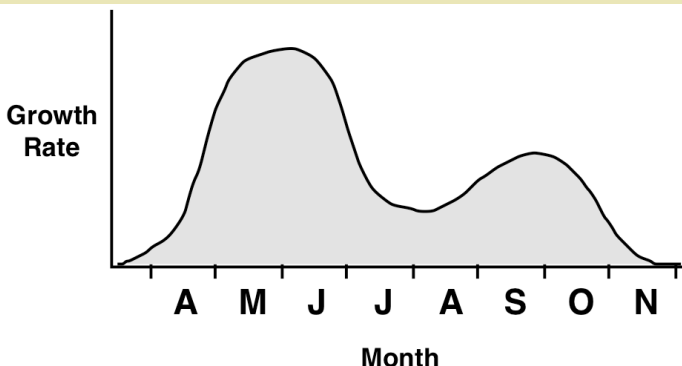
### The Landscape Audit

The objective of the landscape audit is to see where you are spending your time in the landscape. Track mowing by distinct tracts in the park, noting the mower, cutting height, number of people, hours, number of cycles per growing season (approximate) and calculating the total time in work-days. At completion, your audit will reveal the areas of greatest effort. In practical terms, it is easier to find reductions where you are spending the most time.

### Increase Mowing Height

Even if you change nothing else about the mowing program, raising the mowing height will reduce effort and improve turf quality. How? Grass grows from the base of the plant, so if you raise cutting height and maintain frequency, you are removing the tips, rather than cutting through the denser growth closer to the base. You are also scalping less and hitting (and throwing) less debris. The higher cut puts less stress on the turf, it maintains color and competes with weeds better. Setting the mowing deck so that there is *at least* 3.5-inches of uncut turf after mowing is a good start towards balancing

Figure 1. General growth pattern for cool-season grasses. The spring flush is when seedheads elongate, producing tall, stemmy growth. The summer and fall growth is strictly leafy.



reduced stress and aesthetics. Measure the turf to set the mower deck, rather than relying on the indicated height settings on the mower.

### **Increase Mowing Quality**

Increasing height is the easiest way to improve quality of cut because less of the irregularities at ground level will be scalped. Use zero-turn and front-deck mowers to improve efficiency. Mow with sharp blades. Keep two sets of blades for each turf mower, and change them weekly. During the week, sharpen the other set so it's ready. Change the cutting pattern each cycle to minimize wheel track wear.

### **Is this Amenity Turf?**

Categorize turf as 'amenity' or 'utility'. Think of amenity turf as where visitors spend significant time on the grass – where they lay their blankets. Amenity turf is the 'lawn'. If turf is outside of heavy use areas, regard it as utility turf.

Utility turf can be cut higher and less often. For the visitor, proximity influences their aesthetic. If they are close to it, it needs to be a lawn. If it is far away, it only has to look like a lawn, and it can actually be cut higher and less frequently while still being green and uniform in appearance. Utility turf can be mowed on a two- to four-week cycle, depending on weather and how 'utilitarian' it is.

You can maintain utility turf so that it can be returned to amenity status for special events where more lawn space may be needed. Transition utility turf over a two- to three-week period by mowing on the amenity frequency and gradually decreasing the cutting height.

### **Identify Focal Points**

You can reduce scrutiny of the landscape as whole by creating a favorable first impression. If everybody entering the park views the same area, make sure that finite area is well manicured. Once the landscape is viewed positively, it won't be viewed negatively unless there are highly noticeable problems to draw the eye. An

investment in small areas of 'really nice' allow for the landscape in general to be 'not bad', while maintaining visitor satisfaction and reducing your effort.

### **Reduce Mowing Frequency**

Plan cycles based on how turf grows (Figure 1). During active growth in the spring, a weekly cycle will likely be needed for amenity turf. As weather warms and growth slows, increase the cycle length towards two weeks, and don't mow at all during drought periods.

### **Control Weeds as Needed**

As you alter mowing to reduce stress on turf, there is less opportunity for weed growth. However, established weeds will persist, and may need to be controlled if they are primarily what you are mowing. The weeds most easily removed from turf are 'broadleaf' weeds such as dandelion and plantains. Spot-treat where needed, using a backpack sprayer, using common broadleaf herbicides that can be readily purchased in small quantities. Reduce weeds such as crabgrass by maintaining turf vigor through higher cut and reduced mowing frequency. As soon as turf goes into drought stress, crabgrass will likely appear, and it is not useful to try to remove it.

### **Reduce Trimming**

Trimming can be greatly reduced by chemical trimming (herbicides) instead of mechanical trimming ('weed whacking'). Operationally, it takes about the same amount of time to complete a cycle of chemical trimming as mechanical trimming, but you only need to do it two to three times per season. Additionally, chemical treatment will reduce injury to trees and shrubs from mower collision and bark damage from string trimming ('mower blight').

### **Visitor Outreach**

When visitors do question changes, make sure staff are 'on board' and provided the talking points to explain the changes in the mowing regime. Present the changes as an overall improvement, not a temporary reduction in mowing.

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