

Watering Index

BeWaterwise » Toolkit » Watering Index

Metropolitan is offering tips on how you can use your sprinkler system more efficiently. The Watering Index, a scientifically based number will guide your watering schedule according to changes in the weather.

Q & A

Some landscape irrigation controllers (also called timers) have a “water budget adjustment” feature. A button or a dial on the controller can increase or decrease the amount of watering time for each station (or valve) by making only one adjustment. You can save a considerable amount of water by using the Watering Index to adjust your controller when the weather changes. Reducing your water use will reduce your water bill and help save a very precious and limited resource.

What is the Watering Index?

The Watering Index is a percentage that is calculated from scientific data and used to establish a recommended setting for the water budget adjustment feature. The Watering Index reports three percentages:

- Daily:** based on conditions the previous day
- Weekly:** based on average conditions over the previous 7 days
- Monthly:** based on average conditions over the previous 30 days

The index is normally 100 percent for the hottest time of the year in Southern California - much of July and August. Over the course of the year the Watering Index changes to reflect the landscape's changing need for water as climatic conditions change. As new Watering Index values are published, the controller's water budget adjustment feature should be changed to match the current Watering Index value. The watering times for all valves controlled by one landscape controller will change by the same percentage when the water budget adjustment feature settings are changed.

How do I start using the Watering Index

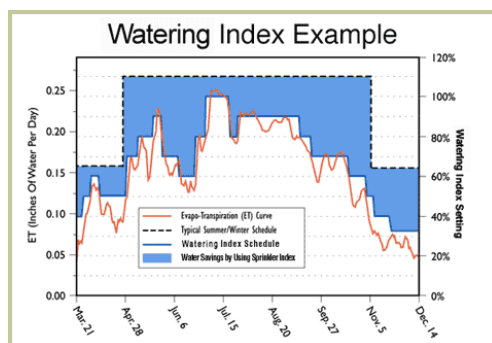
Set your controller run times to the highest number of minutes you want to water during the peak summer watering season. Then adjust the water budget adjustment feature to match the current published Watering Index value. Use the percentage – daily, weekly, or monthly – that most closely matches how often you adjust your controller. Change the adjustment feature to match the changing, published index values.

What is basis for the Watering Index

The Watering Index is based on ET data (evapotranspiration) that measures the loss of water evaporated from the soil and transpired by plants. ET is calculated from specialized weather stations that measure such information as solar radiation, air temperature, relative humidity and wind velocity. ET values are primarily dependent on the amount of solar radiation. A watering schedule should be designed to periodically replace the amount of water lost via ET.

The Watering Index compares current ET data with the highest average ET value recorded over the last 10 years. The historical high occurs in July and equals 100 percent on the Watering Index. The concept behind the Watering Index was developed by Mr. John Wynn, of the State of California Department of Water Resources.

The graph below shows the amount of water that could be saved if the controller is adjusted to match the Watering Index instead of just twice a year, which is typical for many people.



Where does the ET data come from that is used in the Watering Index?

Both the historical and actual ET data are collected from a weather station located at the University of California, Riverside. This station was selected because of its long history of data and its excellent maintenance provided by staff of the UC Cooperative Extension Service

What if my controller is set at the suggested Watering Index value and my plants looked stressed?

The Watering Index is not dependent on local conditions. Watering run times will be different to reflect your particular climate, but the Watering Index generally goes up or down by the same percentage throughout Metropolitan's entire service area. If you set your lawn valve for three minutes per day and someone else sets theirs for five minutes per day, using the Watering Index will increase or decrease that amount of time for both of you by the same percentage.

What if my controller is set at the suggested Watering Index value and my plants looked stressed?

The Watering Index is an estimate that can help you decide how long to water your plants during different times of year. Fine tuning must be done by paying attention to the health of your landscape. If your plants look stressed, increase the percentage adjustment by a notch. (Common signs of plant stress are droopy leaves, or a grayish blue tinge to your grass, or grass that stays flat after being stepped on.)

After making the adjustment, wait several days to see if the stress disappears. If signs of stress remain, increase the percentage up another notch. Make these periodic adjustments until the landscape appears healthy. (Note: for some controllers a "notch" represents one percent, for others it can represent 5 or 10 percent. For controllers with one percent increments, make notch adjustments of 5 percent.)

If your landscape looks healthy, the watering system may actually be applying more water than is necessary. To check if this is the case, reverse the process described above. Reduce the water budget adjustment feature, notch by notch, watching your landscape for several days between each change. Once you've reduced the percentage to a point where the plants are beginning to show signs of stress, increase the water budget adjustment feature by one notch and you will have customized your watering needs to suit your specific landscape, then increase or decrease as the weather dictates.

Is there anything else I can do to improve my watering practices and reduce my use of water?

In addition to having a good watering schedule and adjusting it as the Watering Index changes, it is important to periodically (at least monthly) turn on each irrigation valve to see how it is working. Look for sprinklers that are not popping up properly, shrubbery or grass that is interfering with the watering pattern, broken or clogged nozzles, sprinklers that are spraying sidewalks and driveways, etc.

If your water pressure is high, use pressure regulation devices to bring the sprinkler operating pressure down to the optimal pressure range specified by the manufacturer. Pressure that is too high causes the water exiting the sprinkler to turn to mist, which, can be blown away by even a gentle breeze.

Water in the early morning hours and when the air is still. Do not water in the afternoon, or much of your water will be lost to evaporation by the sun.

Watch for run-off. If you water for longer periods, water may run off and be wasted. Many controllers have a feature that allows for multiple start times so you can "cycle and soak". Watering for shorter periods allows the water to soak in. To prevent run-off, multiple start times of shorter duration may be set before and/or after any time restrictions in your area. Avoiding runoff not only reduces your water use and improves the appearance of your landscape, but, equally important, it avoids runoff that carries pollutants into our storm drains and onto our beaches

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