

The Watering Index Explained

What is the Watering Index?

The Watering Index (Index) is a guide to help people adjust watering schedules for irrigation controllers that include a water budget adjustment feature. This feature (either a button or a dial) eliminates the need to change the watering times one-by-one for each irrigation valve, and permits the watering run times for all valves to be increased or decreased with just one adjustment.

The Index represents the district's recommended percentage setting for the watering budget adjustment feature. During the irrigation season, the Index changes weekly to reflect the landscape's changing need for water. The controller's percentage adjust feature should be changed to match the current Index value.

How do I start using the Watering Index?

First, set your controller's run times at what you would normally set them during the peak summer watering season in July (100 percent watering time values – see suggested run times below). Next, set the controller's percentage adjust button to the current published Index value. Thereafter, change the adjustment feature to match the weekly, published Index values.

What should your 100 percent watering time values be?

	Northern Zone	Central Zone	Southern Zone
Spray Systems	Minutes (Weekly)		
Turf	53	48	32
High Water Use Plants	38	35	23
Low Water Use Plants	16	15	10
Drip System, High Water Use Plants	Minutes (Weekly)		
1 ft. Canopy	21	19	13
2 ft. Canopy	84	76	51
3 ft. Canopy	190	171	115
Drip System, Low Water Use Plants	Minutes (Weekly)		
1 ft. Canopy	9	8	6
2 ft. Canopy	36	33	22
3 ft. Canopy	82	74	49

Note: The watering times provided are for a full seven day period, so remember to divide the number of minutes provided by the number of days that you irrigate per week to get the minutes of run-time for each of your irrigation days (Example: Northern Zone - Turf = 60 minutes / irrigate 5 days per week = 12 minutes per irrigation day). The minutes of runtime provided are based on a 2 inch-per-hour precipitation rate for spray irrigation systems, and 2 gallons-per-hour per plant application rate for drip irrigation systems.

Why is it important to begin this weekly adjustment process?

Weather conditions change constantly and watering times should be changed accordingly. You can save a considerable amount of water by adjusting your controller via the Index. Reducing your water use will reduce your water bill and help us save our precious and limited water resources.

What is the basis for the Watering Index?

The Index is based on evapotranspiration data that measure the loss of water evaporated from the soil and transpired by plants. Evapotranspiration, or "ET," is calculated from specialized weather stations that measure and record information such 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 replace the amount of water lost via ET.

The Index compares the ET data for the most recent week with the highest weekly average ET value recorded over the last 10 years. The historical high occurs in July and equates to 100 percent on the Index. The concept behind the Index was developed by Mr. John Wynn, currently with the State of California Department of Water Resources.

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

Realize the Index value is only a guide. The Index provides you with data on the percentage adjustments; however, you have to be proactive by paying attention to the health of your landscape and the operation of your irrigation system (i.e. broken pipes or irrigation heads). If you have confirmed that your irrigation system is operating correctly and have set your percentage adjust feature at the weekly Index value and your plants still look stressed, increase the base runtimes (the "100%" value) for the individual stations that look stressed by 5 minutes. (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 adjust feature up another five minutes. **Note:** Be aware that plants suffering from overwatering may show signs similar to under watered plants – leaves will wilt and yellow and sometimes fall off.

Could the Watering Index ever be greater than 100 percent?

Yes. If the current year is hotter than the 10-year average, or if there are exceptionally hot and dry periods, the Index may exceed 100 percent. The percentage adjust feature can be set for values greater than 100 percent

Where will I find the latest weekly Watering Index?

Visit the "Weekly Watering Schedule" web page at our web site at marinwater.org. You can also sign up to receive the Weekly Watering Schedule via email along with helpful water-smart garden tips.

Can I adjust my irrigation schedule if I don't have an automatic timer with a percentage adjustment feature?

Yes! The Marin Municipal Water District calculates weekly irrigation run times based on current ET information. This information will allow you to manually change the run times on your controller based on plant type and irrigation method. The run times can be found on the "Weekly Watering Schedule" web page at marinwater.org.

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

• ***Periodically check each irrigation valve***

In addition to having a good watering schedule and adjusting it as the Index changes, it is important to periodically (twice a month or at a minimum 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 of a sprinkler, broken nozzles, clogged nozzles, sprinklers that are spraying sidewalks and driveways, etc.

• ***Reduce high pressure***

If your water pressure is high, use a pressure regulation device 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 just a gentle breeze.

• ***Avoid runoff***

It is very important to look for runoff, especially if you have a sloping landscape and clay soils. If runoff occurs before the appropriate watering time is completed, break the watering time into shorter increments that do not create runoff. Avoiding runoff not only reduces your water use and improves the appearance of your landscape, but, equally important, it helps prevent pollutants (fertilizers, pesticides, etc.) from being carried into storm drains and into our local streams, rivers and San Francisco Bay.

• ***Water in the morning, not afternoon***

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

If you have further questions, please contact the Water Conservation Department at (415) 945-1520 or conservation@marinwater.org.