Smart Irrigation Seminar

February 24, 2021 | 12:00 PM

SCWA Education Center

260 Motor Parkway, Hauppauge

SUFFOLK COUNTY SCWA WATER AUTHORITY

Irrigation ASSOCIATION

LICAP Long Island Commission for Aquifer Protection

IANY

Seth Wallach

SUFFOLK COUNTY
SCWA
WATER AUTHORITY

SCWA.COM

LICAP
Long Island Commission for Aquifer Protection

LICAPonline.com

Who is SCWA?

- The Suffolk County Water Authority is an **independent public-benefit corporation** operating under the Public Authorities Law of the State of New York.
- SCWA serves approximately **1.2 million** Suffolk County residents.
- Beginning operations in 1951, SCWA operates without taxing power on **a not-for-profit** basis.
- SCWA is one of the largest **groundwater suppliers** in the country.

SCWA by the Numbers

- 633 total wells (587 active) at 240 pump stations.
- 68 Storage Tanks with 71.6 Million Gallons (MG) of storage.
- Avg Daily Pumpage: 210 MG.
- Avg Peak Pumpage: 470 MG.

What is LICAP?

- The Long Island Commission for Aquifer Protection (LICAP) is a **bi-county** entity, formed to address both **quality and quantity issues** facing Long Island's aquifers **on a regional scale.**
- LICAP was created through legislation passed by the Nassau and Suffolk legislatures in 2013, and **re-authorized** in 2018.
- Two major deliverables - **State of the Aquifer Report** (annual) and **Groundwater Resources Management Plan**.

LICAP members include representatives of:

- Water providers in Nassau and Suffolk.
- Nassau and Suffolk County Executive, Legislature, Depts. of Health.
- Nassau and Suffolk Soil and Water Conservation Districts.
- New York State Department of Environmental Conservation.
- United States Geological Survey.

Why is Water Conservation Important?

- Long Island has a sufficient, but not limitless supply of groundwater.
- Higher water usage means more SCWA infrastructure, which means more costs that are passed along to our customers.
- Higher peak water usage (3:00 – 7:00 AM) impacts water pressure and fire protection.
- Over-pumping can have negative water quality impacts.

Residential Water Use

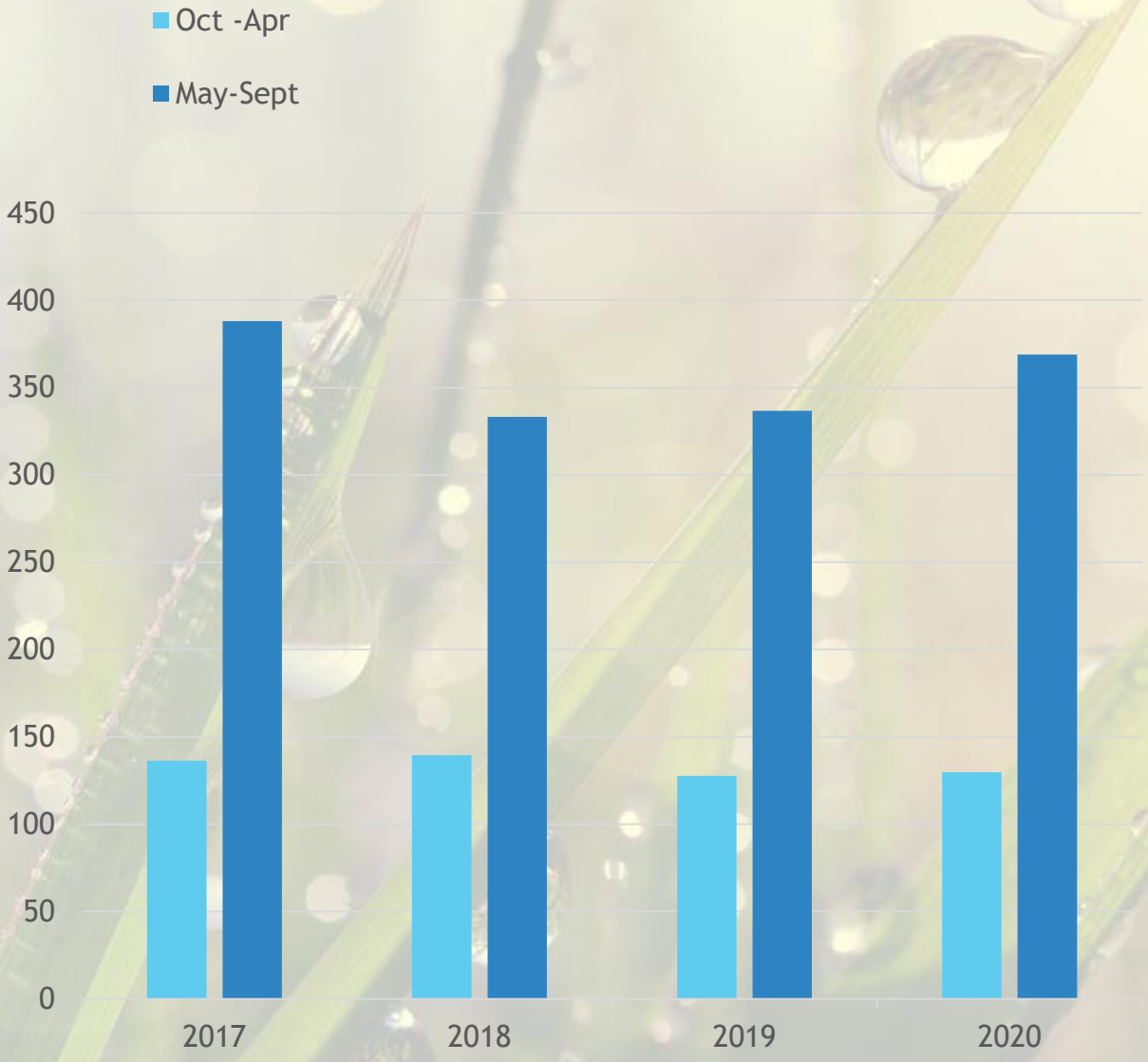
- Residential outdoor water use in the United States accounts for more than 9 billion gallons of water each day, mainly for landscape irrigation.
- Experts estimate that as much as 50% of this water is wasted due to overwatering caused by inefficiencies in irrigation methods and systems.
- Irrigation control technologies can significantly reduce overwatering by applying water only when plants need it.

Source: EPA

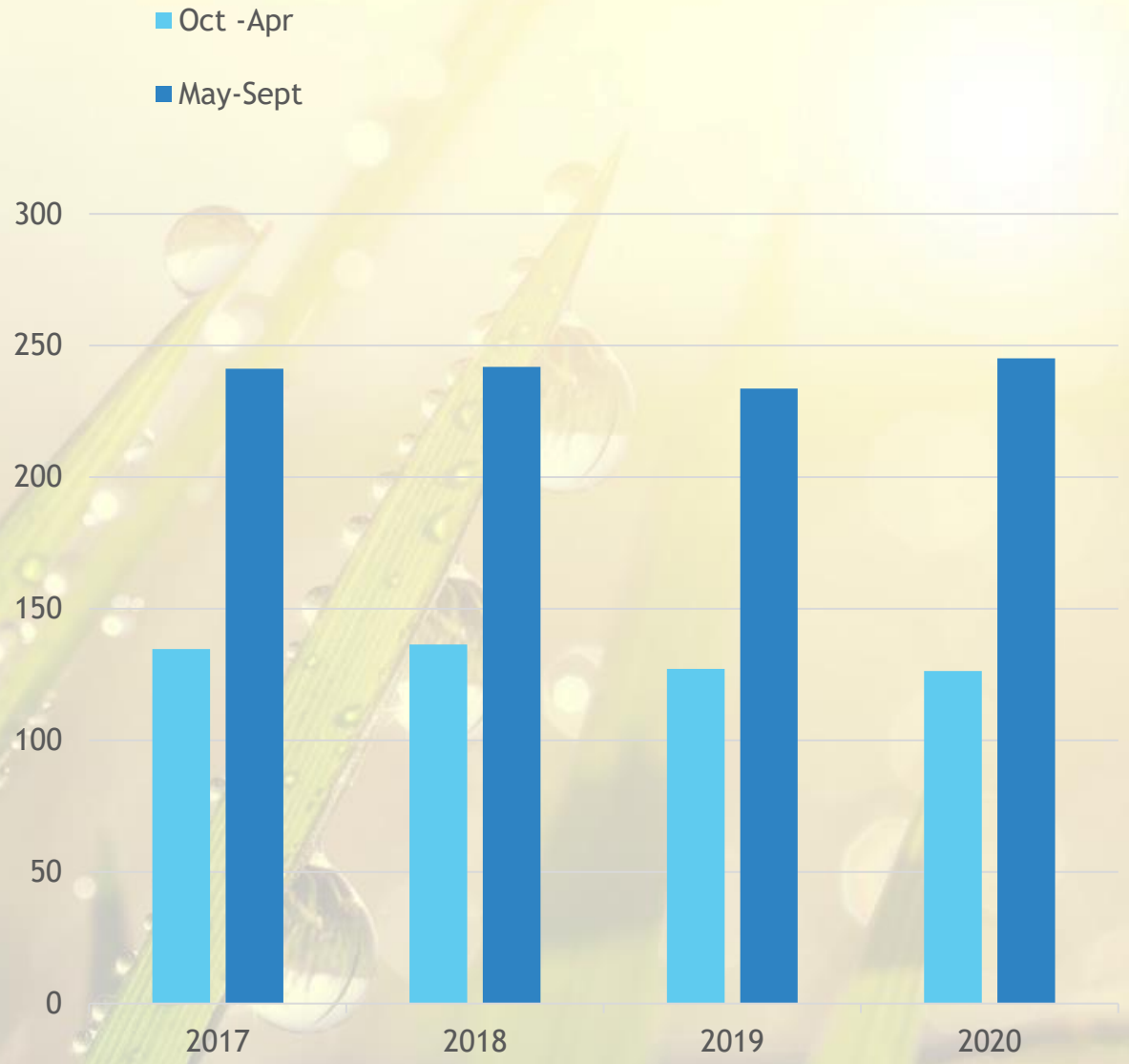
Residential Water Use

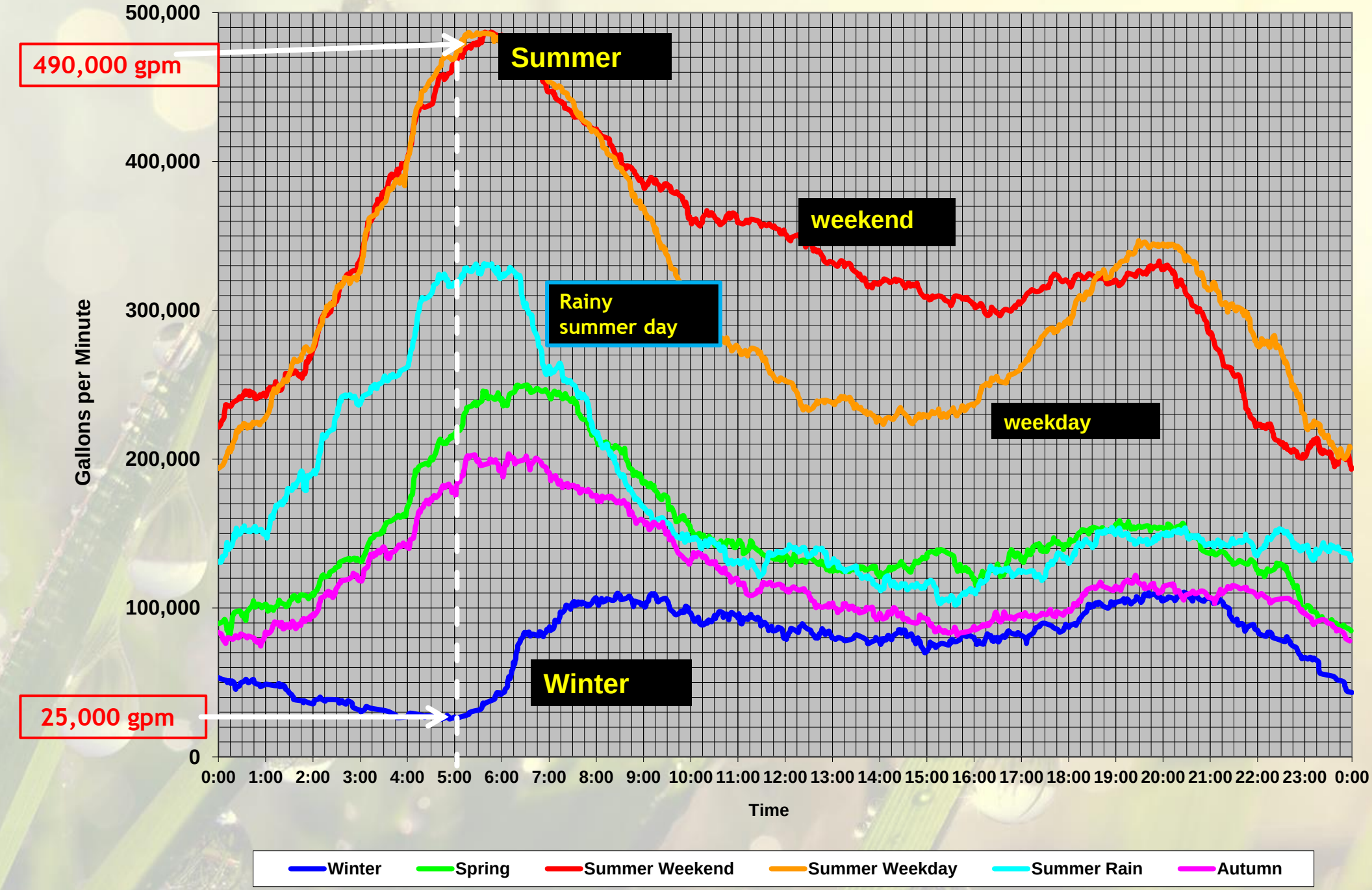
- In Suffolk County, about 70% of all water pumped by SCWA is used for outdoor purposes like landscape irrigation.
- SCWA turns off nearly three quarters of its wells in the winter months.
- Increased demand means more infrastructure must be built to keep up. An average well costs SCWA over $1 million to install.

Suffolk County Pumpage (MGD)



Nassau County Pumpage (MGD)




490,000 gpm
Summer
weekend
Rainy
summer day
weekday
Winter
25,000 gpm
500,000
400,000
300,000
200,000
100,000
0
Gallons per Minute
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time
Winter
Spring
Summer Weekend
Summer Weekday
Summer Rain
Autumn

Encouraging Our Customers

- Avoid watering during peak times (3:00 - 7:00am) whenever possible.

- Consider an odd/even watering schedule.

- Install a smart irrigation timer that uses water more efficiently (and get $50 off your next SCWA bill just for purchasing a smart controller).

Average User vs. Water Waster

- Average residential customer uses just under 130,000 gallons annually.
- Largest residential user consumed approximately 22 million gallons over a recent year. *(Primarily Irrigation and Geothermal HVAC system)*
- A hospital in the same community used approximately 14.5 million gallons in 2018.

Smart Irrigation Controllers

- Studies show most smart controllers will save up to 20% of the water applied by a traditional controller. This is a significant water savings because, on Long Island, roughly 70% of household water use is outdoors.

- The average yearly SCWA bill comes to about $360, which means installing a smart controller alone can save the average SCWA customer $72 a year.

- Smart irrigation controllers pay for themselves in water savings after just a couple of years. For high users, they’re even more cost effective.

A Win-Win-Win

- When customers use smart irrigation controllers to avoid over-watering, they are:

  1) Helping protect and preserve our sole source aquifer.

  2) Keeping costs down for SCWA, which keeps cost down for our customers.

  3) Saving money on their water bill.

- Smart controllers are easy to control from any internet-enabled device, and users can easily set schedules for optimal watering practices.

Water Wise Programs

- **SCWA water wise account credits-** up to $50 for the purchase of water-saving devices. Apply today at SCWA.com/WaterWise

- The **Water Wise Checkup program** is a free service. One of our water experts will come to your home for a one-on-one consultation and develop a personalized plan to help you save water.

Sign up or learn more at SCWA.com/WaterWise

Call: (631) 292-6101

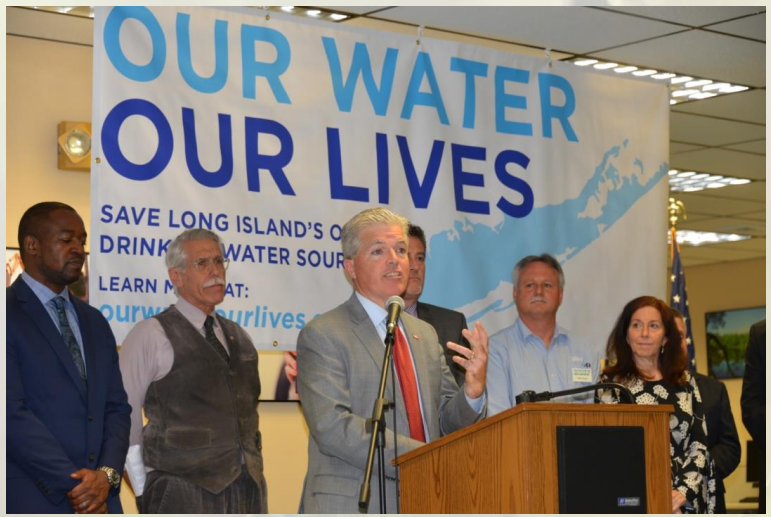
Email: WaterWiseCheckup@SCWA.com

Direct Message us on:

Facebook @SCWAwater

Twitter @SuffolkWater

Our Water Our Lives



Take the pledge or share ideas at:

WWW.OurWaterOurLives.com

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Michael Dwyer, CIC

Irrigation Association®

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Reducing the impact of irrigation on water supply infrastructure

How Can We Help?

- Alter start times
- Install or test existing rain sensor
- Check head spacing
- Check head for matched precipitation nozzles
- Separate Lawn from shrub and flower areas
- Use a Smart controller

Altering Start Time

- How many clients do you have in SCWA?
- Divide in half if you program odd/even
- What is the impact if they all start at the same time?

Spread out your start time

House numbers ending with:

- 0,1,2 - start at midnight
- 3,4,5 – start at 1:00am
- 6,7,8,9 – start at 2:00am

How We Think Rain Falls…

Rain Sensor

Look for umbrellas…

What's an Umbrella?

Anything that covers or obstructs rain from getting to a rain sensor:

- *Chimney*
- *Roof overhang*
- *Tall Building*
- *Tree branches*


AUTO REPAIR
AMAP
AmeriCar
Auto Painting

Where do I put the Rain Sensor?

- Install at roof Line
- Use a Wireless and install on Fence
- Install on or above rain gutter (never inside)
- Place on storage shed

Why use a rain sensor?

Typical house

5 zones Rotors (5 x 45= 225)

3 zones Mist (3 x 15= 45)

Total Run time = 270 Minutes(4 1/2 hours)

Average volume of water use is 10 gpm.

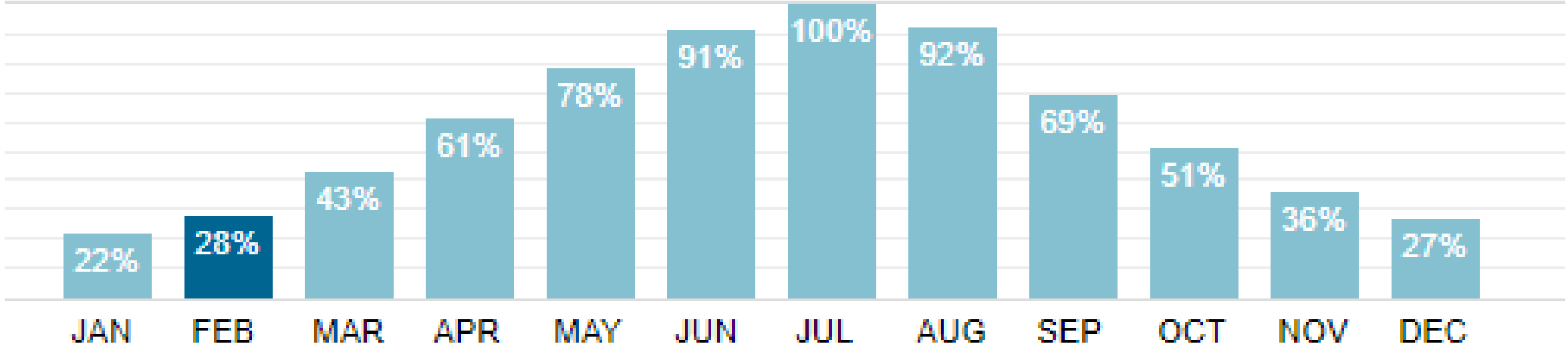
10 x 270= 2,700 gallons

Number of Rainy Days

- How Many Rain Days in a Sprinkler Season?
- 20 days, 30 days
- Generally we water on odd/even days
- Lets take 15 Days
- 15 x 2,700 gallons =40,500 gallons saved

How much water do you need?

Climate data for Hauppauge



For instance, during hotter times of the year, the landscape may require a bit more water. Seasonal Adjust can be increased so the stations run longer than the programmed time. Conversely, as fall approaches the Seasonal Adjust can be reduced to allow for short watering durations. This overall percentage based change applies globally to all Run Times on the controller. For example: If your Run Times in the summer are set for 1 hour and you adjust the Seasonal Adjust to 50%, your Run Times will now change to 30 minutes.

- April 61% x 2,700 = 1,674 x 15 = 24,705 gal
- May 78% x 2,700 = 2106 x 15 = 31,590 gal
- Jun 91% x 2,700 = 2,457 x 15 = 36,855 gal
- Jul 100% x 2,700 = 2,700 x 15 = 40,500 gal
- Aug 92% x 2,700 = 2,484 x 15 = 37,260 gal
- Sep 69% x 2,700 = 1,863 x 15 = 27,945 gal
- Oct 51% x 2,700 = 1,377 x 15 = 20,655 gal
- Nov 36% x 2,700 = 972 x 15 = 14,580 gal

Total **234,090 gal**

Volume of Water Used

- 2,700 gallons per cycle (100%)
- 40,500 x 8 = 324,000
- April-November (100%) gallons 324,000
- Seasonally adjusted gallons 234,090
- 89,910 gallons saved(more with a rain sensor)

Sounds Great Doesn't It?

- Requires monthly adjustment of run cycles
- Customer or You reprogram controller
- Time and money to save water
- Is there an easier way?

Smart Controllers

Types of Smart Controllers

- Location based et sensor
- Cloud based

AIRPORT UTILITY

https://www.gotostage.com/channel/hunterfxmidwest

- Wi-Fi for Green Industry Professionals

Advantages

- Don’t need to enter house
- Remote programming
- Offsite monitoring
- Catch problems early
- Respond to customer faster
- Healthier landscape
- Save WATER !!!!

Maximizing Benefits

- Rotate areas that are irrigated
- Use cycle and soak
- Use rain sensor
- Use in head check valves
- Flow sensing(use shielded wire)
- Pressure regulated bodies

Frustrations

- Learning something new
- How to program(phone a friend)
- Explaining controller to end user
- Brown spots(sales opportunity)

Questions?


Thank You!