Fall 2018
Water-Wise Landscaping
Workshop Series

Presented By:

September 12
Smart Watering Strategies
AGENDA

6:30 pm   Welcome and Introduction
          Patrick Costello, Water Resources Analyst, City of Napa

6:35 pm   Smart Irrigation Scheduling
          Patrick Costello, Water Resources Analyst, City of Napa

6:45 pm   Drip Irrigation for Gardens and Landscapes
          Patricia Hamilton, Certified Irrigation Designer

7:35 pm   BREAK

7:45 pm   Drip System Parts Assembly
          Patricia Hamilton, Certified Irrigation Designer

8:25 pm   Door Prizes, Upcoming Workshops

8:30 pm   Goodbye*

* Presenters will remain available briefly after the workshop.

SBx7-7 Compliance

GPCD Path to 2020

Pre-MOU
Avg 170 gpcd

Post-MOU

2020 Target = 132 gpcd

Gallons Per Capita Per Day

100 110 120 130 140 150 160 170 180 190 200


Projection
Post-2020:
SB 606 and AB 1668
Urban Water Use
Typical Single-Family Residence

Smart Irrigation Scheduling

Patrick Costello
Water Resources Analyst
City of Napa
Evaporation + Transpiration = Evapotranspiration (ETo)

Tendency to Overwater
“Set it and Forget it”
Take **CONTROL** of Your Landscape Water Use

- open/closed
- when
- how long
- how often
Controller Features

- **Station or Valve Circuit** - a single irrigation valve and the area irrigated by that valve (a 6 station controller can hold up to 6 valves)

![Diagram of irrigation system](image)

Controller Features

- **Start Time** - the time the first station in a program begins irrigating; all other stations in the program follow in sequence (e.g., 6 am)

- **Run Time** - the length of time a station irrigates (e.g., 5 minutes)

- **Program** - a set of watering instructions including start time, run times, and watering days for a station or group of stations (e.g., 6 am, 5 minutes, M,W,F)

- **Cycle** - the completion of watering all stations in a program in sequence
Controller Features

- "Weekly" or "Interval" Calendar - allows the operator to determine which days of the week to water (e.g., Tue, Thu, Sat) or to water a fixed number of days apart (e.g., every other day, every third day)

Controller Features

- Water Budget - lets you change all your run times with one button, rather than resetting each station’s run time individually
  (Run times are increased/decreased as percentages of the existing program, usually in 10% increments)
Runoff Due to Excessive Valve Run Times

Controller Features

- **Multiple Start Times** - allows you to irrigate more than once per irrigation day
  - avoids runoff
  - reduces “ponding”

- **Multiple Programs** - allows different **hydrozones** to be irrigated on different day and time schedules
  - typically, an “A”, “B”, and “C” program
  - each program will have two to four individual start times
  - each valve can be operated by one or all programs

Helps Avoid Water Waste Violation!
Rotating Stream Nozzles

A new-tech way to avoid runoff and water waste violations

- Low application rate
- Streams cut through wind
- Improved distribution uniformity
Rain Shut-off Devices

- Prevent irrigation system from watering when sufficient water is supplied by rainfall
- Increase system efficiency and conserve water

Helps Avoid Water Waste Violation!

Schedule Irrigation Wisely

- Adjust Standard Controller watering schedule to match the changing weather – Don’t just “set and forget”
- Early morning is best time
- Infrequent deep watering is generally best strategy
- Consider a Weather-Based Smart Controller
“Smart” aka “Weather-Based” Irrigation Controllers

After initial set-up and monitoring, controller is self-adjusting, automatically changing irrigation schedule throughout the year based on local weather, plant types, and site conditions.

Minutes are the Output, not the Input.

The real “SET IT AND FORGET IT” with potential 20-40% water savings!

Tendency to Overwater “Set it and Forget it”

More frequent adjustment ...or a “Smart” Controller
www.sprinklertimes.com

- Easy-to-use web tool and smartphone app
- Customized watering schedules for your lawn & garden
- Monthly schedule change reminders
- Visit the Sprinkler Times page at www.cityofnapa.org/water to get your FREE promo code with instructions

or Water By The Holidays

- Easter - 40%
- Cinco de Mayo - 60%
- Fourth of July - 100%
- Labor Day - 60 %
- Halloween - 30 % (or OFF!)
**Lawn: Drought Survival**

- Aeration!
- Irrigation System Tune-Up
- Water in early A.M. to minimize evaporation
- One or Two Deep Irrigations per Week (Cycle/Soak)
  
e.g., Run for 5 minutes at 4 am, 6 am, 8 am
  
  instead of 15 minutes at 8 am
- Don’t Fertilize!
- Mow higher (3”) and keep mower blades sharp
  
  Taller grass shades the soil, promotes deeper roots
- Minimize foot traffic
- Be willing to accept a less than lush lawn!

- Visual signs of drought stress in turf:

  - The color of the turf will start to tone on a
    
    new green cast; swinging your blades higher than normal can help to
    
    reduce stress.
  
  - Most lawn species can survive at 30%
    
    to 50% of reference evapotranspiration 
    
    (e.g., reference ET is 2” per week.
    
    apply 0.6” to 1” of water.)

  - Expect the overall appearance and color of
    
    your turf to look similar to this...

  - Keeping your lawn from now on. This
    
    drought zone is not likely to require
    
    replacement in most cases when
    
    conditions improve.
Questions?
DRIP IRRIGATION
FOR
GARDENS
AND
LANDSCAPES

Presented By:
Patricia Hamilton
Certified Irrigation Designer

LOW VOLUME
DRIP IRRIGATION
SPRINKLER IRRIGATION

DRIP EMITTERS

DBK04
NB4
NWB4
NPC4
NWPC4
DPJ04
DRIP HOSE IN GARDEN

SPAGHETTI TUBING TO PLANTS
ONLINE EMITTERS AT EDGE OF ROOT BALL

EMITTERS AT END OF SPAGHETTI TUBING
INLINE EMITTERS
IN VEGETABLE BED

1/4" COUPLER CONNECTION
INLINE TO 1/2" DRIP HOSE
STRAWBERRY PLANT AT INLINE EMITTER

MICRO SPRINKLERS “TRIM THE EDGES”
MICROJET WITH RISER AND RISER SUPPORT

MICROJET: TWO PARTS, BASE & CAP
DIG MINI-SPRINKLER COMPLETE ASSEMBLY

DIG MINI-SPRINKLER: 5 PARTS
MICROJET WITH COMBO STAKE & SPAGHETTI

SPOT SPITTER FOR CONTAINERS
ANTI-SIPHON VALVE
DRIP ASSEMBLY

RP DOUBLE CHECK
WITH FILTER
UNDERGROUND
DRIP VALVE ASSEMBLY

UNDERGROUND BOX
WITH LID DOWN
IRRIGATION TIMER IN EXTERIOR CASE

MULTI-PROGRAM DIAL CONTROLLER
DRIP FILTERS: SCREEN AND DISK

CENTRIFUGAL SAND SEPARATOR FOR WELLS
PRESSURE REGULATORS:
FIXED & ADJUSTABLE

CHOOSE CORRECT FLOW RANGE FOR REGULATOR
DRIP HOSE & SPAGHETTI
WHAT SIZE?

SPIN LOC FITTINGS
COMPRESSION FITTINGS

PVC UNDERGROUND TO DRIP SYSTEM
FLEXIBLE PVC TO RISER PREVENTS DAMAGE TO MAIN

SCH80 RISER UP TO BED
RISER FROM UNDERGROUND PVC IN LANDSCAPE

HOSE THREAD CONNECTION WITH VALVE
ESTABLISHED DRIP IRRIGATED LANDSCAPE

NEWLY PLANTED DRIP IRRIGATED LANDSCAPE
DRIP IRRIGATED BORDER

DRIP IRRIGATED SHADE GARDEN
BREAK

Presentation continues
in a few minutes
with hands-on practice.

DRIP SYSTEM PARTS
ASSEMBLY

“PLAYING WITH GARDENER’S TINKER TOYS”
DRIP HEAD ASSEMBLY
APART

DRIP HEAD ASSEMBLY
TOGETHER
DRIP EMITTERS APART

DRIP EMITTERS TOGETHER
DIG MINI-SPRINKLER CLOSEUP TOGETHER

MICRO-JET CLOSEUP APART
JET-RISER BARB CLOSEUP APART

JET-RISER BARB CLOSEUP TOGETHER
MICRO-JET COMPLETE

O-JET APART
O-JET TOGETHER

SOAKER DRIP WITH 1/4” CONNECTOR
SOAKER DRIP WITH END PLUG

DRIP END CAP APART
Contact Info:
Harmony Farm Supply & Nursery
3244 Hwy 116 North, Sebastopol
707-823-9125
www.harmonyfarm.com
info@harmonyfarm.com
QUESTIONS?

Upcoming Workshops

Wednesday, September 19
SOILS, MULCHES, and MORE

Wednesday, September 26
CHOOSING THE RIGHT PLANTS

Same Time/Same Place
DOOR PRIZES!

THANK YOU FOR COMING!

For more info, visit www.cityofnapa.org/water