WaterSmart Irrigation
~ It’s in Your Hands ~

Lori D. Palmquist, CID, CIC, CLWM, CLIA
How we *can* influence water use

- Plant selection, and how they are grouped in irrigation zones
  - Efficient irrigation components
- Proper scheduling
Ways you can use water more efficiently
Hand watering is an option

Hand watering is said to be an efficient way of watering landscapes.

How can you know how much water plants need?
How much water:

Any incorporated CA city

Any time frame

Any plant material

Various sizes of plants and planted areas
1,000 sq. ft.
How much water?
A 1,000 sq. ft. rose garden?
500 sq. ft. of low-water-use plants
What about trees in turf?
Clear grass from beneath tree’s canopy
Correct Operating Pressure

12’ fixed  30 psi

Hunter®
Incorrect Operating Pressure

12’ fixed  45 psi
Pressure too high = misting
Pressure regulation
Inefficient Fixed Spray Sprinklers
Efficient Solution: Rotary Nozzles
Efficient Nozzles for Lawn Sprinklers
Efficient Sprinkler Nozzles

20% higher efficiency!
Check your irrigation system often!
Two types of drip

Emitters placed at the plants – **Point Source** for sparse plantings

Built-in emitters in a grid formation – **Line Source** for dense plantings
Convert Sprinklers to Drip Grid
Drip grid for dense plantings
Point-source Drip
Spray–to–drip Conversions

Spray-to-Drip Retrofit Kits

Convert Any Spray Zone to a Drip Zone!
The easiest and fastest way to convert a conventional spray zone to a low-volume irrigation zone.

1800-Retro
1800 Series Spray Body that contains a filter, pressure regulator, and 1/2” male threaded outlet

Installation
- Simply remove the top of any 1800 and remove the internal assembly (On the 1806 and 1812, leave the spring in the body)
- Remove the internal assembly of the retrofit kit and drop into the existing body
- Tighten the cap
- Use Easy Fit Fittings or a female adapter to connect to drip tubing or other 1/2” FPT devices

Features
- Can be installed above or below grade
- Provides 30 psi (2.1 bar) pressure regulation and 200-mesh (75 micron) screen
- Flow rate 0.50 to 4.00 GPM (1.9 to 15.1 l/min)
Spray–to–drip Conversions

**RBY Pressure-Regulating Filter**

*Unique, compact unit that combines filtration and pressure regulation in one compact piece for protection of downstream components*

**Installation**
- Simply connect the RBY Pressure-Regulating Filter into the water line
- Use Easy Fit Fittings or a female adapter to connect to drip tubing
- Install a valve or emitter box over the filter for easy access during cleaning

**Features**
- Comes in 3/4” MPT (model PRF-075-RBY, not shown) or 1” versions (model PRF-100-RBY).
- 3/4” MPT (PRF-075-RBY) regulates pressure at 30 psi (2,1 bar) and flows 0.20 to 5.0 GPM (0.8 to 18.9 l/m).
- 1” MPT (PRF-100-RBY) regulates pressure at 40 psi (2,8 bar) and flows 3.0 to 15.0 GPM (11.4 to 56.8 l/m).
- Can be installed above or below grade.
- Robust body and cap are made of glass-filled polypropylene and provide 150 psi (10,3 bar) pressure rating.
- 200 mesh stainless steel filter (75 micron).
Do Not Mix These on Same Zone

Sprinklers

Drip emitters
Do Not Recommend Using…

Microsprays

Soaker hoses
Drip Guidelines

• Use .5 gph emitters in clay or clay loam

• 240 gph capacity per valve zone (4 gpm)

• Use plant sizes to determine number of emitters, and add more emitters if plants appear to need more water
Number of Emitters: Plants with same water needs

- Plants 1 - 2 feet in diameter: 2 emitters
- Plants 3 – 4 feet in diameter: 4 emitters
- Plants 5 – 6 feet in diameter: 8 emitters
TREE EMITTERS - EXAMPLE PLACEMENT

- In-line / Dripperline Emitters

New Tree Planting

Tree Trunk

As tree matures, add emitters depending on tree water requirements (e.g., low or moderate water use).

Drip Line

Drip Line of Immature Tree

Drip Line of Mature Tree

NOTE:
- The spacing and number of emitters are examples.
- Specific spacing and number of emitters will depend on plant size at installation, plant water requirements, soil type, and emitter flow rate.

SHRUB EMITTERS - EXAMPLE PLACEMENT

- Point-Source Emitters
- Wetting Pattern

New Shrub Planting

As shrub matures, add and/or move emitters depending on shrub water requirements (e.g., low or moderate).

Drip Line

Drip Compression Fitting "T"

Blank Drip Tubing

Drip Compression Fitting "End Cap"

Flush End Cap Assembly
Remember:

• Install pressure regulator and filter

• Flush system regularly

• Match application rate of emitters to infiltration rate of soil

• Avoid runoff by using tubing with check valves on slopes
How we can influence water use

- Plant selection, and how they are grouped in irrigation zones
- Efficiency of irrigation components
- Proper scheduling
Smart Controllers Can Lower Water Use Significantly

Hunter Solar Sync
Welcome to the Sacramento Region Smart Irrigation Scheduler

Calculates run-time minutes per week for a single sprinkler or drip zone. See videos

NEW
• Scheduling for drip zones is included.
• Register to save multiple zones & controllers.

Set up Zone
City: Sacramento edit
Zip: 95816 edit
Days per week allowed: 2 edit

Plant Material Choose one
Low Water Use  Moderate Water Use  Mixed Plants  Warm Season Turf  Cool Season Turf

Exposure Choose one
Shade  Part Sun  Full Sun

Wind Choose one
Very Little  Moderate  High

What are my city's restrictions?

Provided with the generous support of Water Forum

www.beyondthedrought.com
Free help with timer scheduling

Over Watering?
Gnome is a friendly web service that shows you how and when to water your plants

www.ETWaterGnome.com
Simple Method for Cutting Back 20%

Turn down your run times by 20%: For every 10 minutes of run time, reduce 2 minutes.
When does the lawn need water?
You can cut back on lawn water 30% – 40%

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

Courtesy Delta Bluegrass Company
Don’t let the lawn go this far

Keeping your lawn from reaching this drought stage is critical to ensure replacement is not necessary when conditions improve.

Courtesy Delta Bluegrass Company
Water Only When Soil is Dry Enough

Courtesy SF Public Utilities Commission
Let’s Get Our “Hands On” Irrigation

- Retrofitting sprinklers with rotary nozzles
- Converting sprinklers to drip
- Grouping & spacing plants
- Installing drip lines for plants
- Troubleshooting the system