WaterSmart Irrigation
~ It’s in Your Hands ~

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How we can influence water use

Sprinklers and Irrigation

- Understanding How We Use Water
- How Do We Waste Water
- Converting to Efficient Sprinklers and Drip
- Understanding Scheduling
Understanding how we use water

Where Does It All Go?

- Average household uses 380 gallons of water per day
- 30% of outdoor use is wasted
There are 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. of lawn
How much water?

25,848 gallons per year!
A 1,000 sq. ft. rose garden?

19,386 gallons per year!
1,000 sq. ft. of low-water-use plants

9,693 gallons per year!
What about trees... in turf?
Clear grass from beneath tree’s canopy
Where to water a tree
How do we waste water?
And what can I do?

• Pressure problems
• Inefficient sprinklers
• Run-off
• Maintenance
Pressure too high = misting
Incorrect Operating Pressure

12’ fixed  45 psi
Correct Operating Pressure

12’ fixed 30 psi
Pressure Regulation
Inefficient Fixed-Spray Sprinklers
Efficient Solution: Rotary Nozzles
Run-off
Check Your Irrigation System Often!
Broken and Clogged Nozzles
Efficient Sprinkler Nozzles

20% higher efficiency!
Efficient Nozzles for Lawn Sprinklers
Convert Sprinklers to Drip
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
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 retro 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/m)
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)
Hydrozones = sprinkler zones
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
- Tree Trunk
- Drip Line
- Drip Line of Immature Tree
- Drip Line of Mature Tree

New Tree Planting

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

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
- Drip Line
- Drip Compression Fitting "T"
- Blank Drip Tubing
- Drip Compression Fitting "End Cap"

New Shrub Planting

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

Welcome to the Sacramento Region Smart Irrigation Scheduler

Based on current weather

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.

City: Sacramento
Zip: 95816
Days per week allowed: 2

Set up Zone

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

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

- **Front Lawn**: Water 34 min, 4x per week applied in 1 cycle of 34 min
- **Perennial Bed**: Water 148 min, 1x per week applied in 2 cycles of 74 min
- **Backyard Drip**: Water 87 min, 2x per week applied in 1 cycle of 87 min

www.ETWaterGnome.com
Simple Method for Reducing Water Use by 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 Go Outside for Demonstrations

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