Drip Irrigation

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Drought emergency declared January 17th, 2014

20% voluntary cutback in water use requested

April 2015
25% Mandatory Cutback

How we **can** influence water use

- Plant selection, and how they are grouped in irrigation zones
- Efficiency of irrigation components
- Proper scheduling

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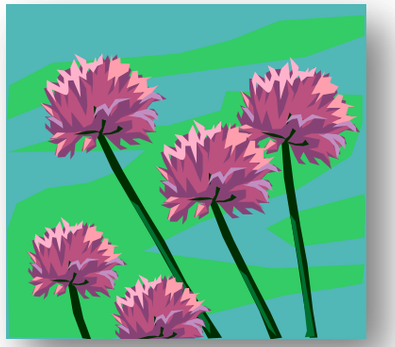
Learn from nature

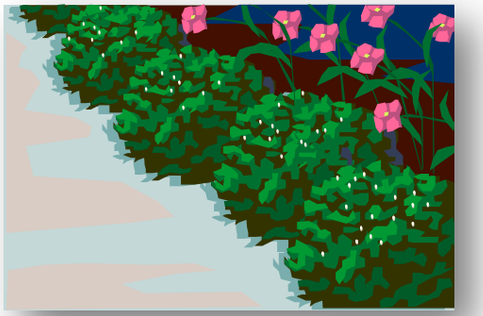
Hand watering **is** an option

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

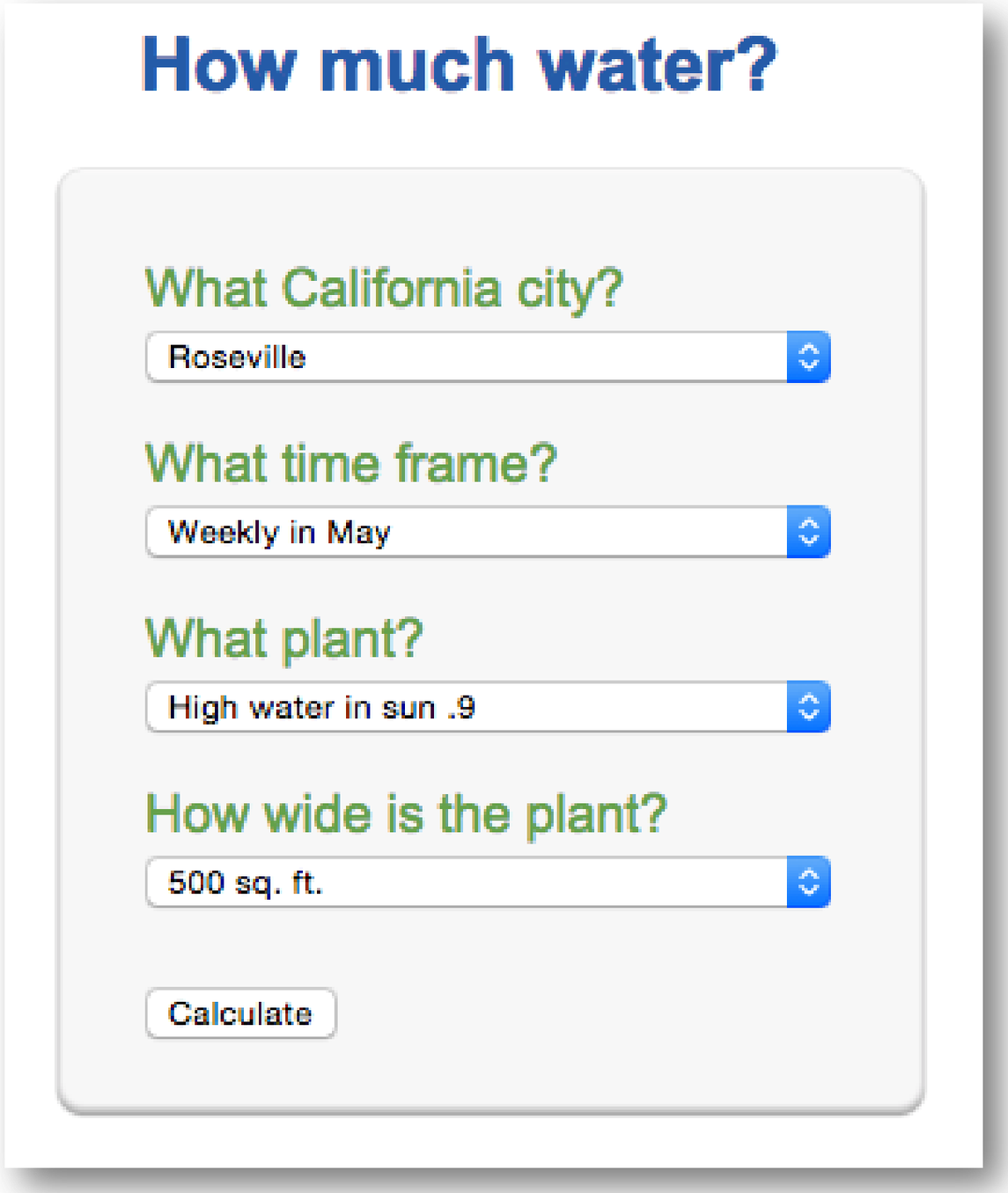
How can you know how much water plants need?

How Much Water Do My Plants Need?





www.WaterWonk.us/how-much



How much water:

Any incorporated CA city

Any time frame

Any plant material

Various sizes of plants and planted areas

Water needs of plants

How do I know

High

Moderate

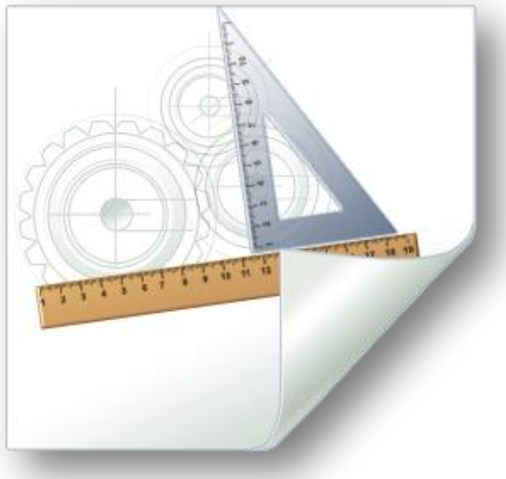
Low

Very Low

How do we know how much water?

Weather

Plants



Area

Weather x Plants x Area x .62 = gallons per period

www.WaterWonk.us

Lori | Choose city ► Plant search ► My Plant List: 1 | Logout | More

Plant Search

American Canyon, CA

WUCOLS Region 1

Choose new city

Botanical name begins with [ ] Find

Common name begins with [ ] Find

Plant Type

- [ ] **Ba** Bamboo
- [ ] **Bu** Bulb
- [ ] **G** Grass
- [ ] **Gc** Groundcover
- [ ] **P** Perennial
- [ ] **Pm** Palm
- [ ] **S** Shrub
- [ ] **Su** Succulent
- [ ] **T** Tree
- [ ] **V** Vine

Water use

- [ ] Very Low
- [ ] Low
- [ ] Moderate
- [ ] High
- [ ] Unknown
- [ ] Not appropriate for this region

Find

- [ ] California Native

Go to WUCOLS list for all 6 regions — All plants for this region Find

New Search — California Native

Go to list

Search Results

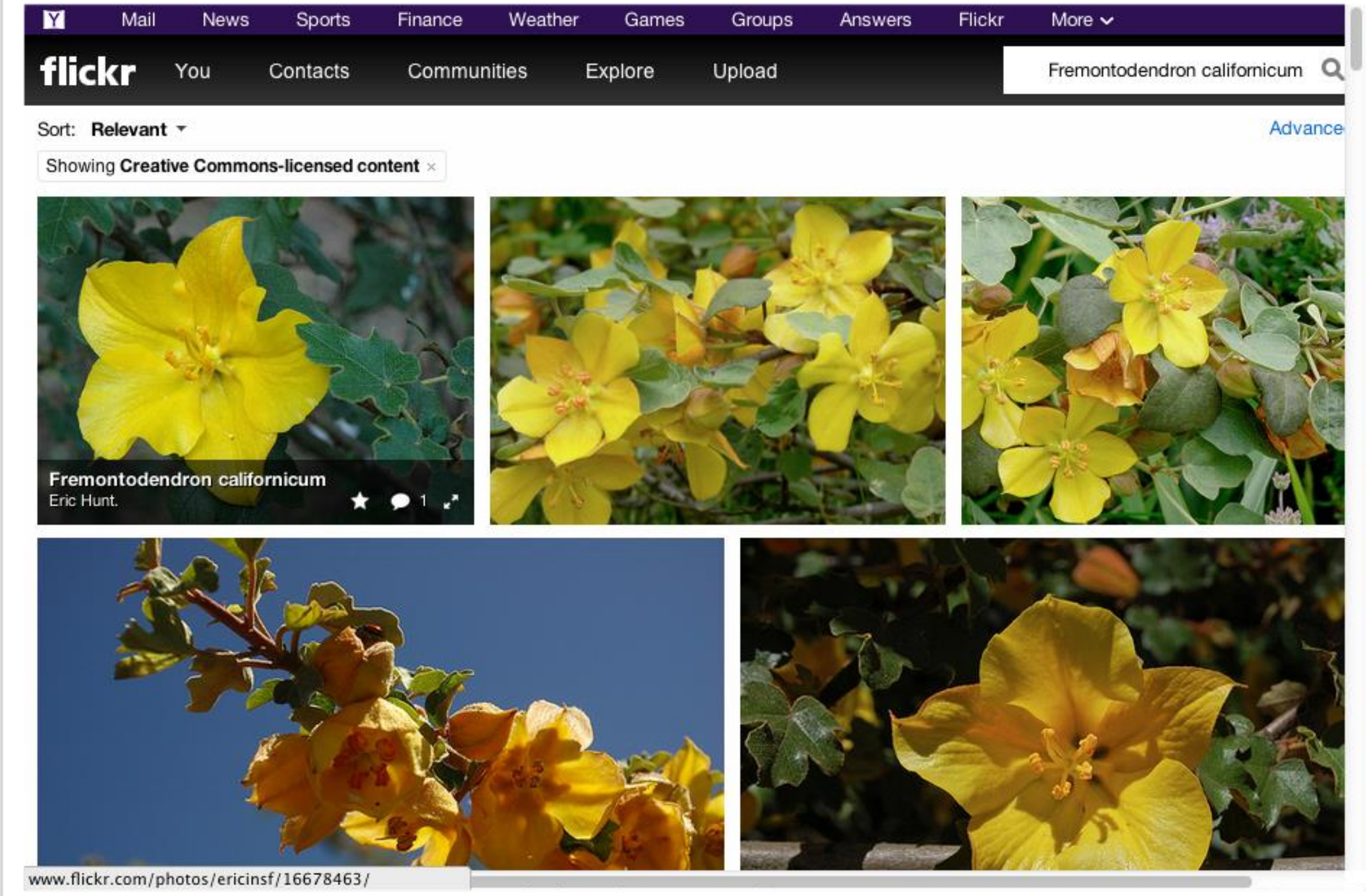
34 plants:

Type-Grass

Water use-Low

Type	Botanical Name	Common Name	Water Use	Flickr Photos	Select for My List
G	Aristida purpurea	purple three-awn	Low	See it	Add
G	Arundinaria gigantea	cane reed	Low	See it	
G	Bothriochloa barbinodis	cane bluestem	Low	See it	
G	Bouteloua gracilis and cvs.	blue grama	Low	See it	

Flickr Plant Search at WaterWonk.us



WaterWonk phone app
m.WaterWonk.us

What about trees in turf?

Clear grass from beneath tree’s canopy

Best Watering Strategies for the Landscape

How we **can** influence water use

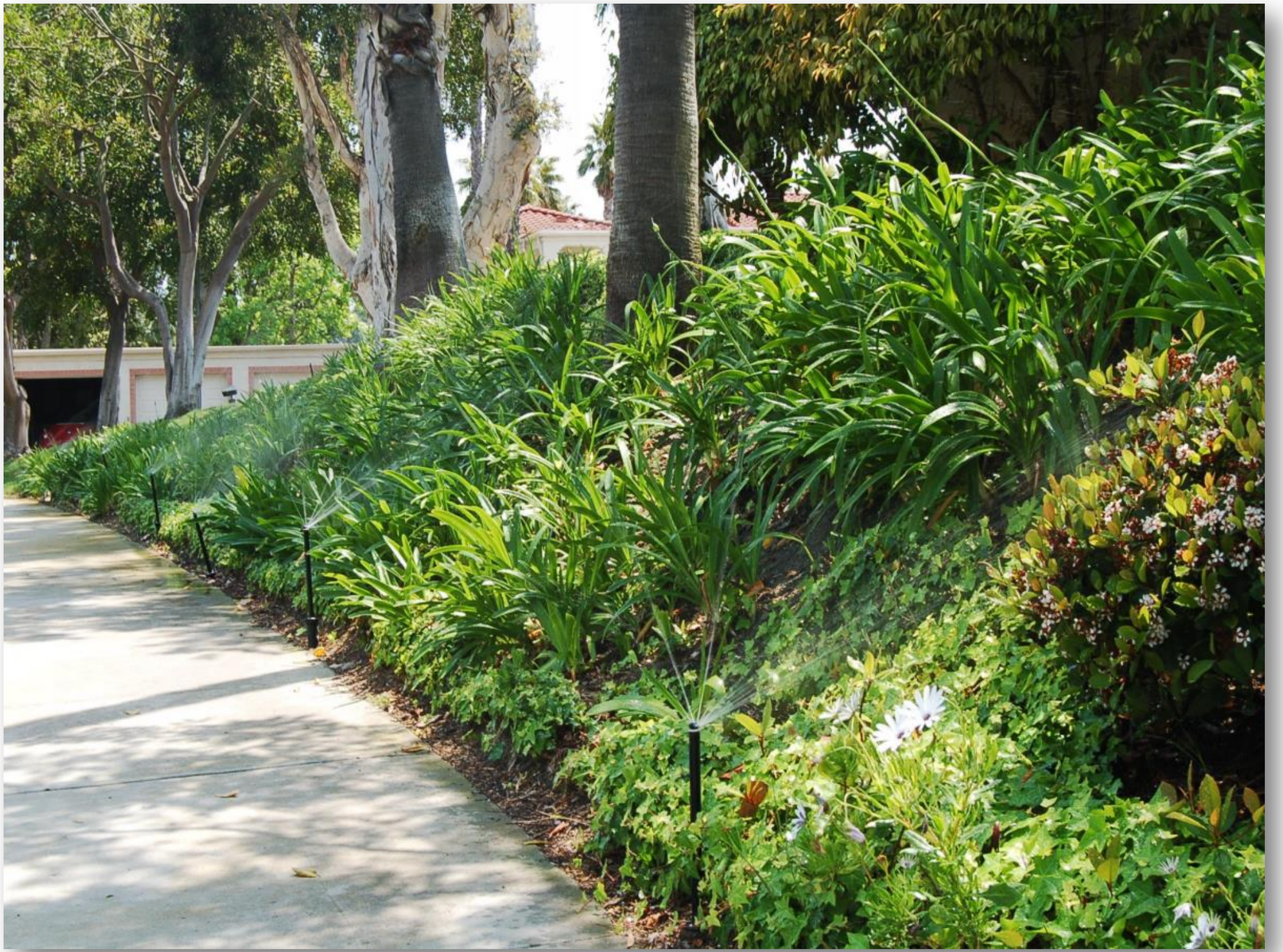
- Plant selection, and how they are grouped in irrigation zones
- **Efficiency of irrigation components**
- Proper scheduling

Efficient sprinkler nozzles

20% higher efficiency!

Inefficient fixed spray sprinklers

Efficient solution: rotary nozzles



Efficient nozzles for lawn sprinklers

Benefits and drawbacks of drip

Discussion:

Benefits of drip

Drawbacks of drip

Sprinkler–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)

Sprinkler–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

PRF-100-RBY

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)

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

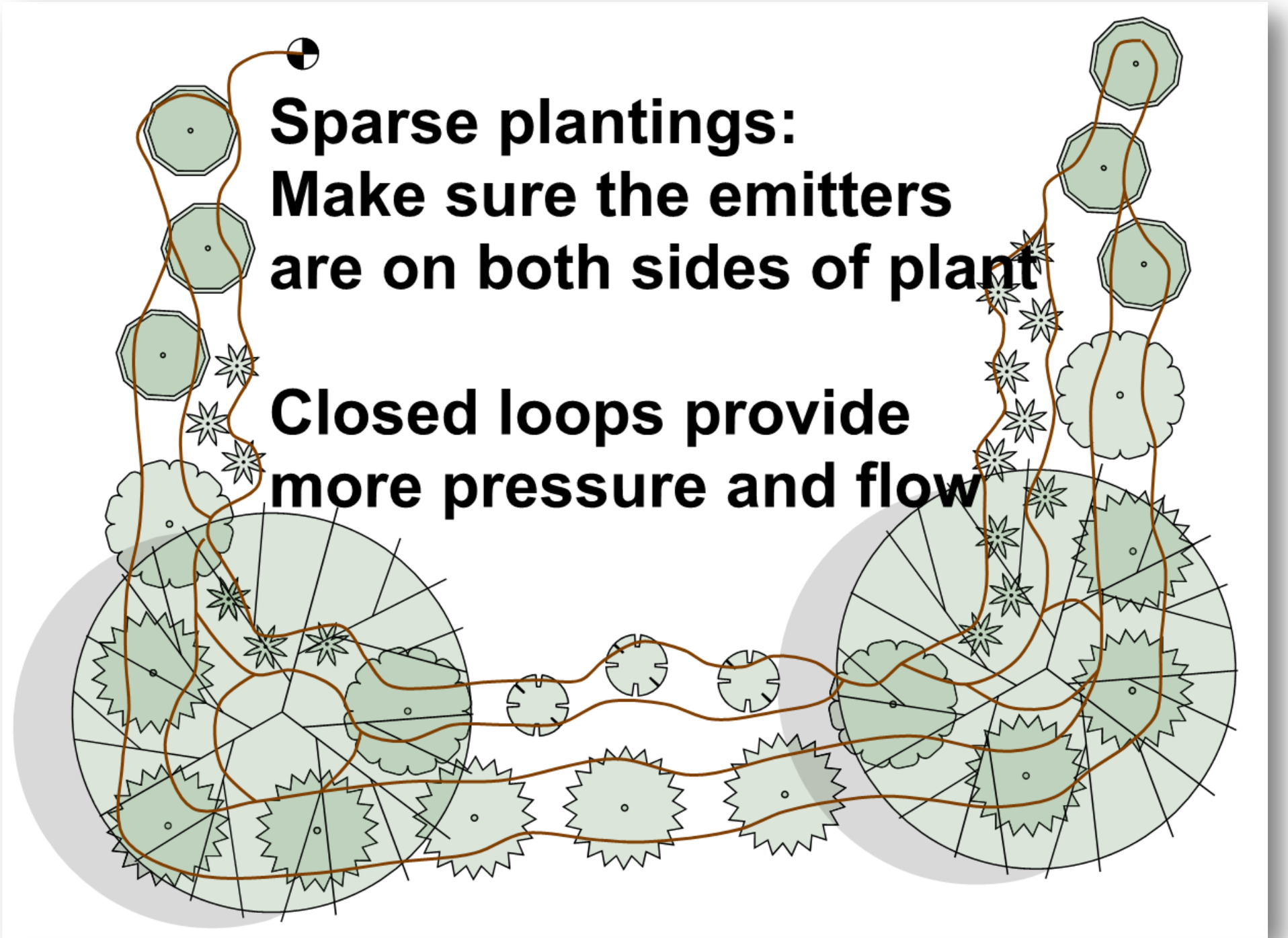
Drip for dense plantings

Drip grid for dense plantings

Drip for sparse plantings

Example of sparse plantings

Drip for sparse plantings



Do not mix these on same zone

Microsprays

Drip emitters

Drip guidelines

- Use .5 gph emitters in clay or clay loam
- 240 gph capacity per valve zone (4 gpm)
- 480 emitters capacity per valve zone

- Use plant sizes to determine number of emitters, and add more if plants appear to need more water

Rule of thumb: Number of emitters

- Plants 1 - 2 feet in diameter: 2 emitters
- Plants 3 – 4 feet in diameter: 4 emitters
- Plants 5 – 6 feet in diameter: 8 emitters

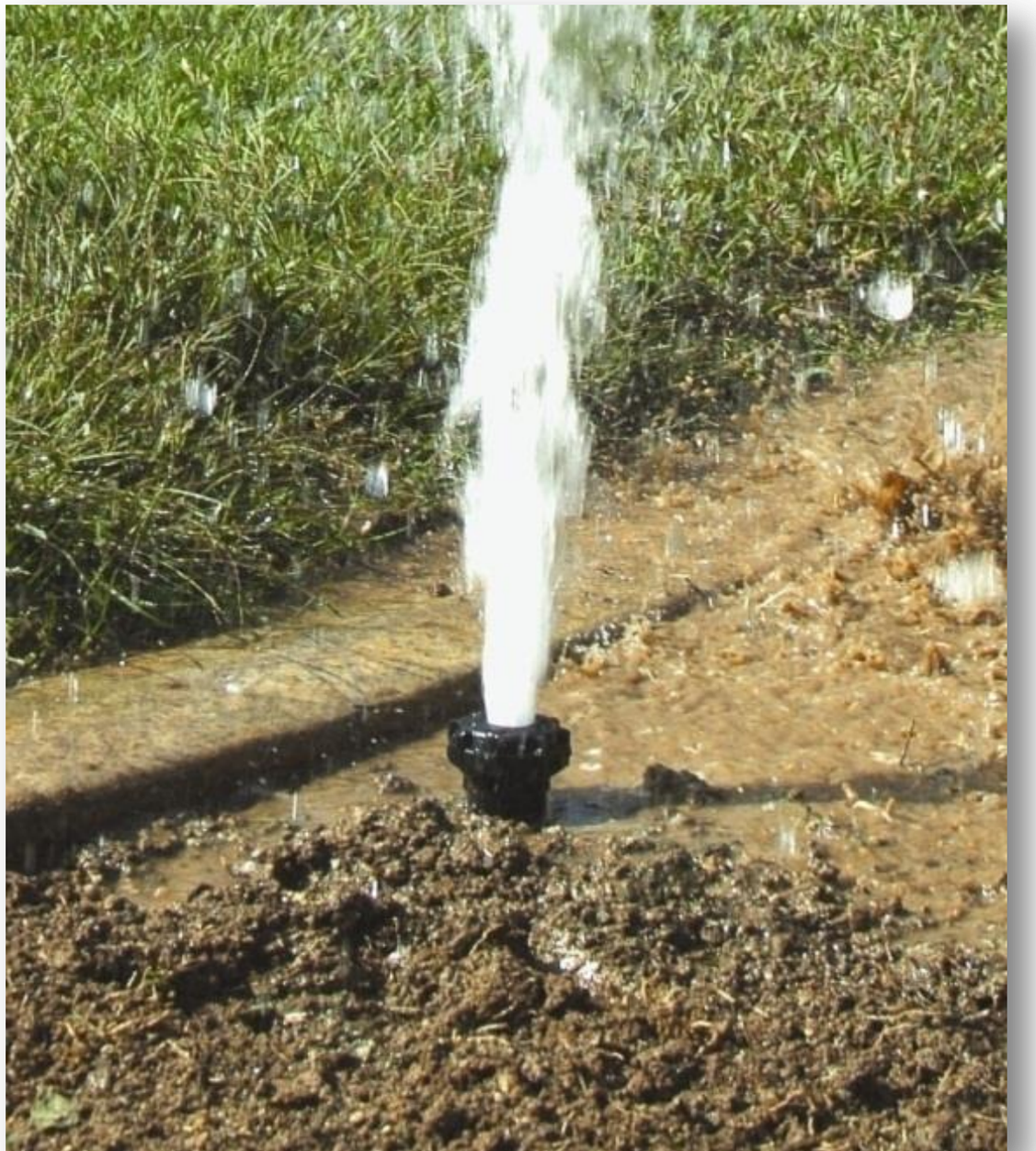
Remember:

- Make sure to install pressure reg. and filter
- Make sure to flush system regularly
- Make sure the application rate of the emitters matches infiltration rate of soil
- Use tubing with check valves on slopes to avoid runoff

Mulch for soil water retention

2 – 3 inches of mulch

Check your irrigation system often!



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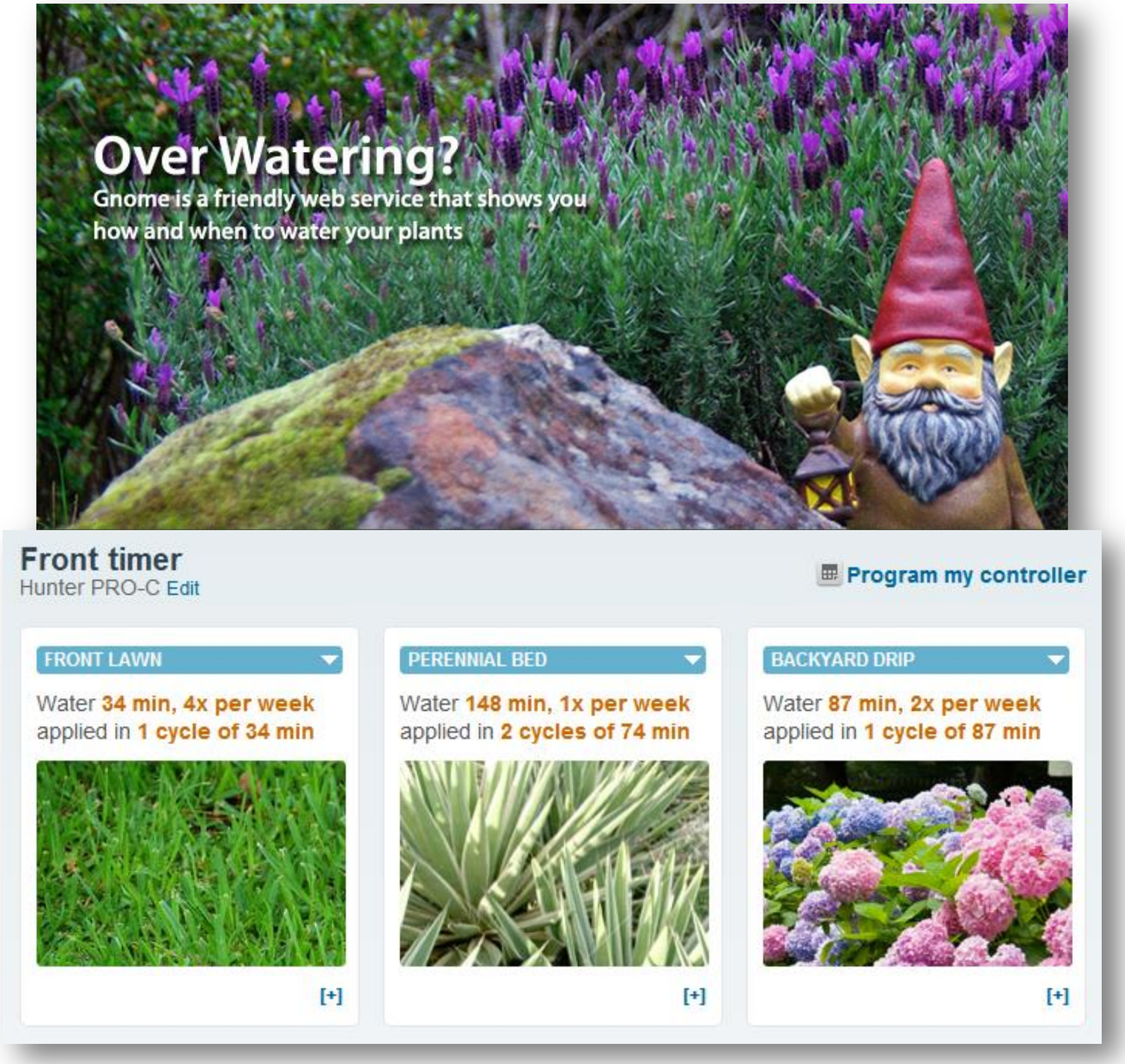
How Long and How Often to Water the Landscape?

Smart controllers can lower water use significantly

Hunter Solar Sync

Free help with timer scheduling



www.ETWaterGnome.com

Help with timer scheduling
(reasonably priced)

www.SprinklerTimes.com

Simple method for cutting back 20%

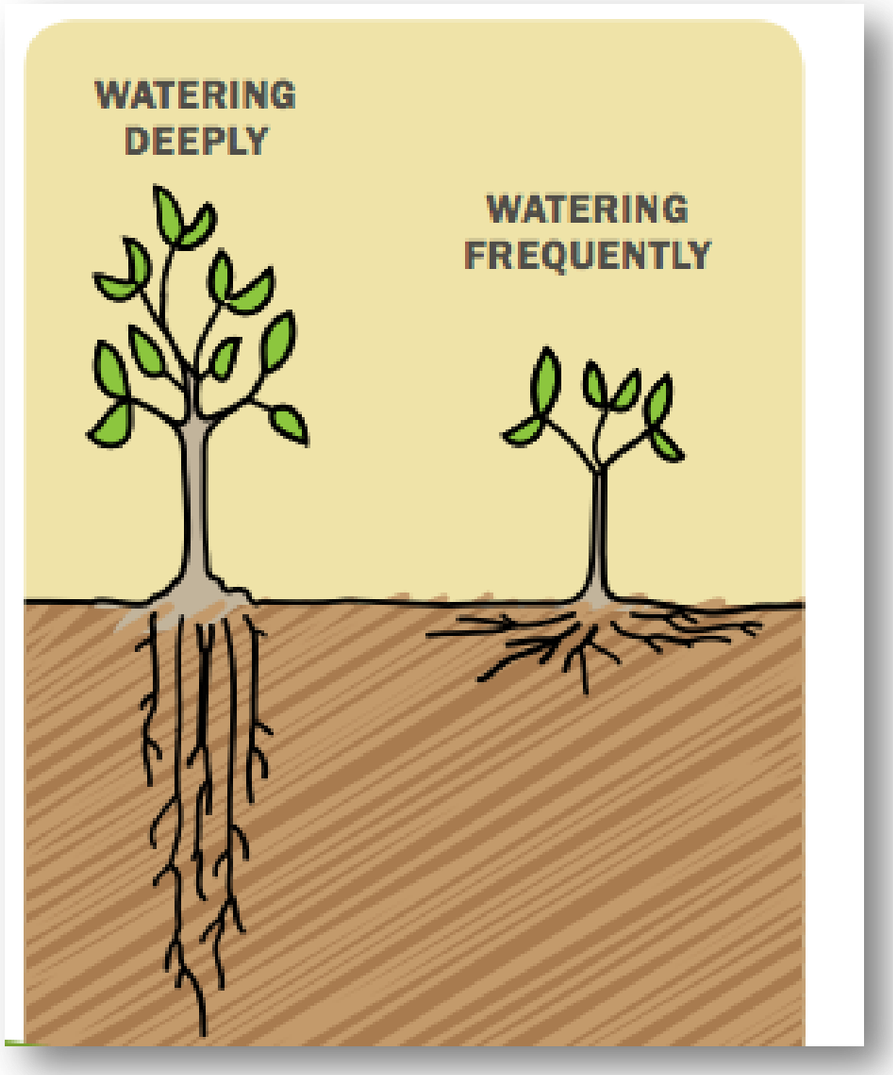
1. Turn down your run times by 10%
2. Observe for a couple of weeks
3. Turn down your run times by 10%

When does the lawn need water?

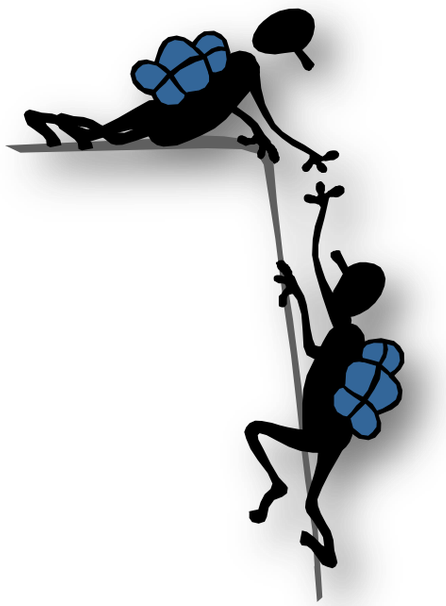
You can cut back on lawn water 30% – 40%

Don’t let the lawn go this far

Water only when soil is dry enough



Courtesy of SFPUC



Who can assist you?

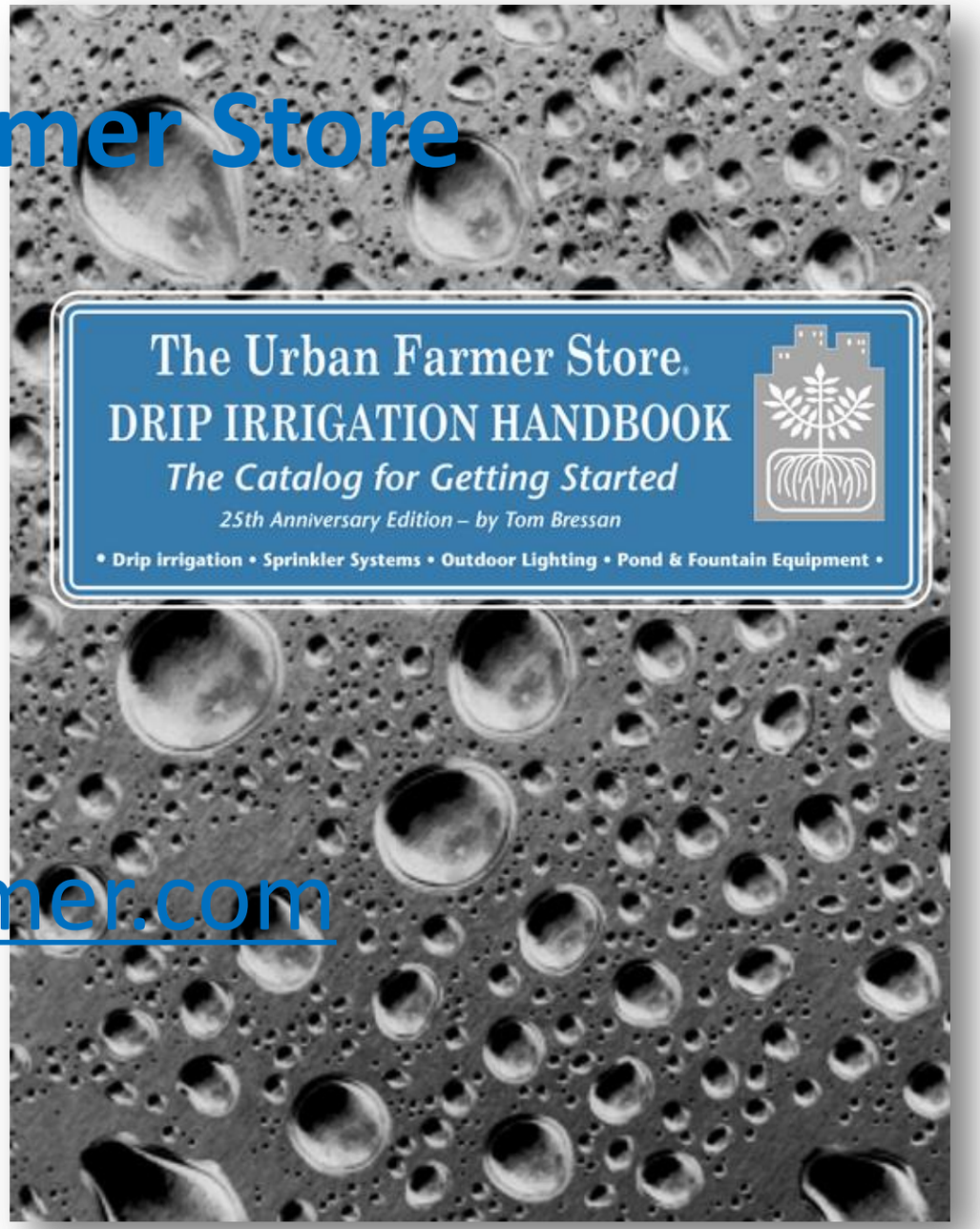
- Irrigation stores and manufacturers
- Urban Farmer Store
  www.UrbanFarmerStore.com
- Hunter Industries www.HunterIndustries.com
- Rain Bird Corp. www.RainBird.com

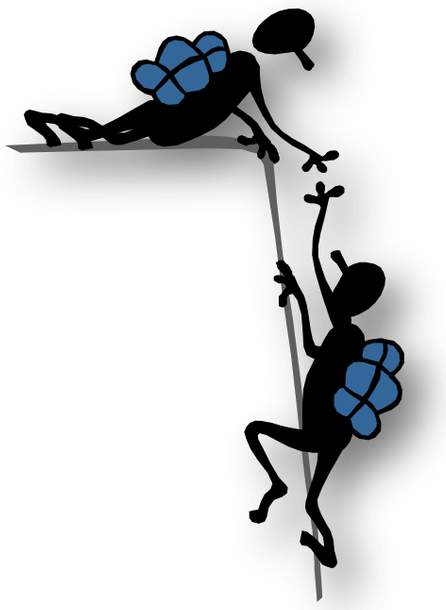
DIY - friendly irrigation store

The Urban Farmer Store

San Francisco
Mill Valley
Richmond

www.UrbanFarmer.com

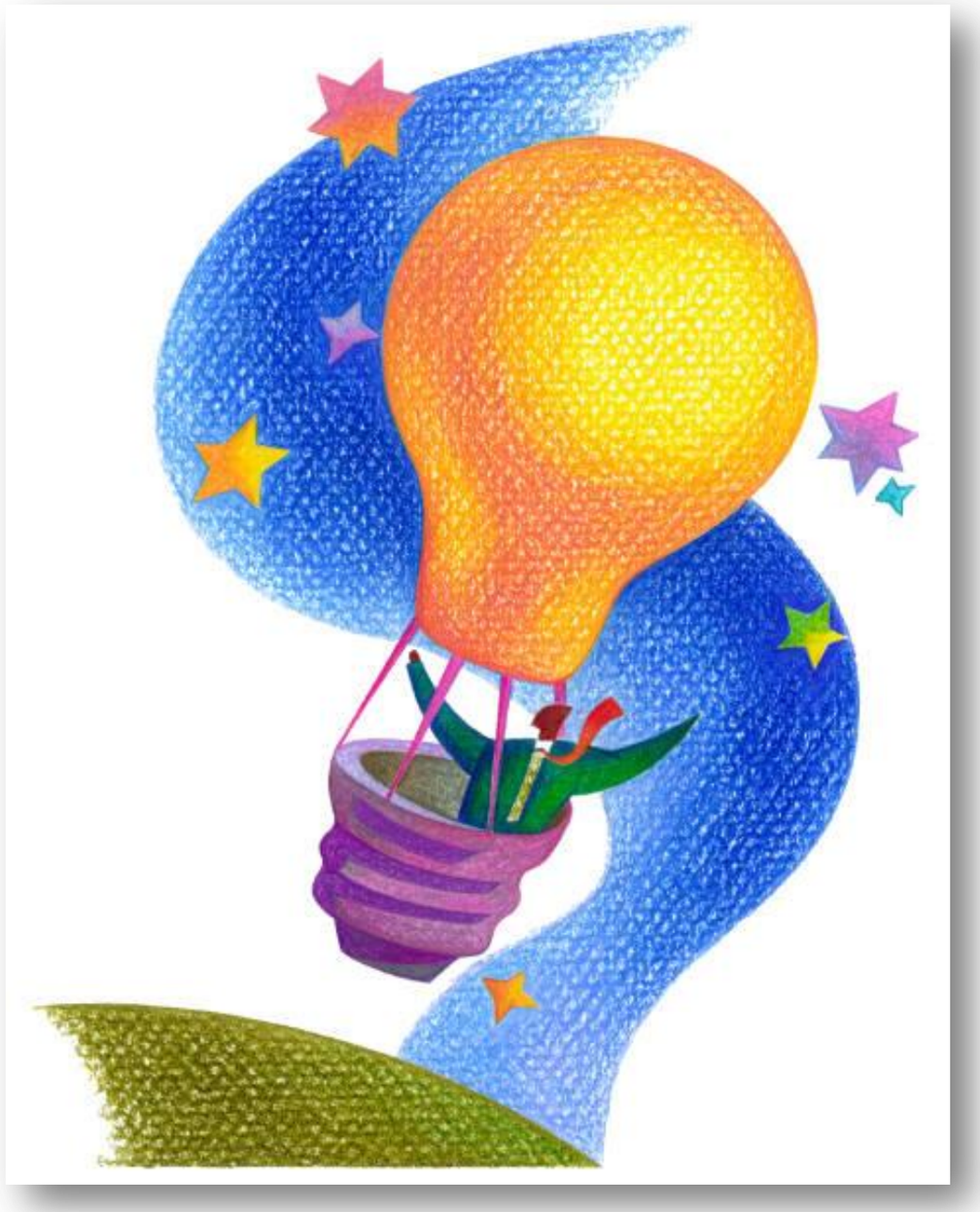




Who can assist you?

- Landscape Designers
  www.apld.org/FindADesigner.aspx
- CLCA Water Managers www.CLCA.org
- QWEL qualified professionals www.qwel.net
- Master Gardeners
  www.MasterGardeners.org
- Your water company

Today's take-away message



Using water wisely is not a compromise... it's an upgrade.

Keep asking yourself what you have done, and what more you can do to be the solution for water waste in the landscape.

That’s all, folks!