

# Fundamentals of Water-wise Gardening

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Sponsored by City of Mountain View and BAWSCA (Bay Area Water Supply & Conservation Agency)

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**Lawns:** reduce size to what you really use, or replace with ground covers, herbal lawns, meadows, paths, seating areas, low shrubs, etc. Rebates available (up to \$3000) with a *Water Wise House Call* - free water assessment - [www.valleywater.org](http://www.valleywater.org).

**Care of lawns:** mow high, grass-cycle, top dress with compost and compost tea, use organic fertilizers, increase watering intervals, check controller timing often.

**Resilient, living soil** holds more water and has better percolation. Add compost, compost tea, avoid spraying chemicals or tilling and mulch!

**Mulch** protects soil, improves fertility, suppresses weeds, improves the soil biology, and can be free!

**Swales** slow and capture water on site. Create them on the contour. Could be a dry creek.

**The right plants:** natives, Mediterranean, succulents, and other drought tolerant plants like Ceanothus, Manzanita, Sage, Lavender, New Zealand Flax, and Lantana.

**Hydrozones:** group and irrigate plants with similar watering needs

**Irrigation:** change from spray to drip, water infrequently but deeply, check soil moisture and allow the surface to dry out, avoid the % feature on the controller. Check for leaks and overspray. Consider a smart (ET) controller or water sensor.

**Rainwater Harvesting :** plenty from the roof, but how much can you store ? Best quality irrigation water.

**Greywater re-use is** practical because it's generated all year. Need to use special bio-compatible soaps and cleaners. Flush salts out with the winter rains. Laundry to landscape easiest/ no permit necessary.

**Pervious surfaces** allow you to keep all your rainwater on site (no run-off to the Bay). Decomposed granite (DG or gold fines), gravel , mulch or pervious concrete.

**EarthCare's low-cost front lawn replacement** [www.naturalfrontyards.com](http://www.naturalfrontyards.com)

**Going Native Garden Tour – April** [www.goingnativegardentour.org](http://www.goingnativegardentour.org)

**Yerba Buena Demonstration Garden** [www.yerbabuenanursery.com](http://www.yerbabuenanursery.com)

**A local web site for Sustainable Landscaping with lists of professionals and pictures**

[www.landscapestandards.com](http://www.landscapestandards.com)

**Comparison of traditional and native landscaping in Santa Monica (garden/garden):**

<http://www.smgov.net/Departments/OSE/Categories/Landscape/Garden-Garden.aspx>

# FUNDAMENTALS



# OF WATER-WISE GARDENING

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# WHY DO WE CARE?

- Water may be our next “limiting factor”
- Drought is always a reality for California
- 18% of CA’s energy use is for water, so water is tied to global warming and peak oil
- 60% of our fresh water goes to landscaping, lawns being the largest part of that

# BASICS

- Lawn reduction or replacement
- Resilient, living soil
- Appropriate plants
- Separate hydrozones
- Irrigation types & timing
- Mulch



# ADVANCED

- Rainwater harvesting
- Swales
- Pervious surfaces
- Graywater irrigation

# SANTA MONICA DEMONSTRATION



Conventional Landscaping

California Natives



# CONVENTIONAL GARDEN ESTABLISHED



# CALIFORNIA NATIVE GARDEN ESTABLISHED



## California Natives compared to Conventional:

- 1/10 of the water
- 1/4 of the maintenance labor
- 3/5 of the green waste
- Increased habitat
- Lowered pollution

To view online:

[http://www.smgov.net/Departments/OSE/Categories/Landscape/Demonstration\\_Gardens.aspx](http://www.smgov.net/Departments/OSE/Categories/Landscape/Demonstration_Gardens.aspx)

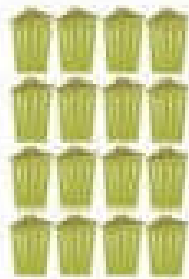
# Annual Comparison

## Sustainable Landscape



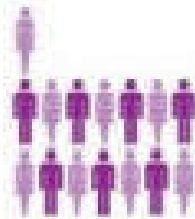
6,000 Gallons

WATER



250 Pounds

YARD WASTE



15 Hours

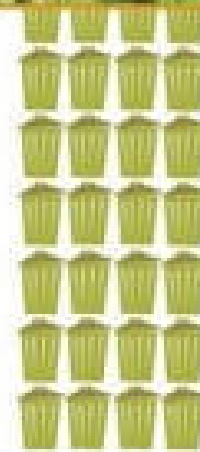
MAINTENANCE

## Traditional Landscape



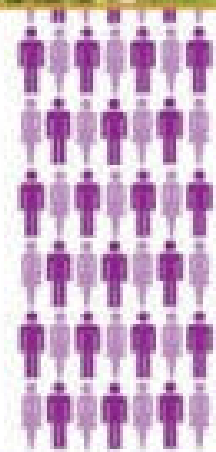
57,000 Gallons

WATER



670 Pounds

YARD WASTE



80 Hours

MAINTENANCE



# LAWNS

- Turf is the largest water user
- Reduce size to what you really use
- Rebates available (up to \$3000) with a *Water Wise House Call* - free water assessment - [www.valleywater.org](http://www.valleywater.org)
- Replace with ground covers, herbal lawns, meadows, paths, low shrubs, etc.
- EarthCare's low cost lawn replacement: [www.naturalfrontyards.com](http://www.naturalfrontyards.com)

# LAWN CARE

- Increase watering intervals
- Monitor controller often ( or get ET “smart” controller)
- Fix leaks, check for overspray
- Mow high
- Use organic fertilizers and topdress with compost annually (slower, healthier)
- Grass-cycle
- Spray with compost tea for deep roots



# Lawn alternative: *Carex pansa*

Design: Agi Kehoe

Installation: EarthCare Landscaping





Photo: Stephanie Morris

## Lawn alternative: Eco-lawn





**Eco-Lawn Close-ups**





Design: Agi Kehoe Photo: Deva Luna

**Lawn alternative: Meadow with wildflowers**



# THE RIGHT PLANTS

Drought tolerant plants use different strategies

- grey or fuzzy leaves (lavender, lamb's ear)
- waxy or fleshy water-holding leaves (succulents)
- bulbs for storage underground (iris)
- deep rooting (manzanita, persimmon)
- dormancy (buckeye, monkeyflower)



Mediterranean plants  
often have grey leaves

Photo: Deva Luna





California Natives

Design: Sherri Osaka, Installation: EarthCare Landscaping





Design: Stephanie Morris, Installation: EarthCare Landscaping



# HYDROZONE

## **Separate plants by water requirements – “Like with like”**

- Keep lush, high-maintenance, water-lovers in small areas close to the house
- Plants that can transition away from artificial irrigation
- Turf on separate valve
- Fruit trees on separate valve

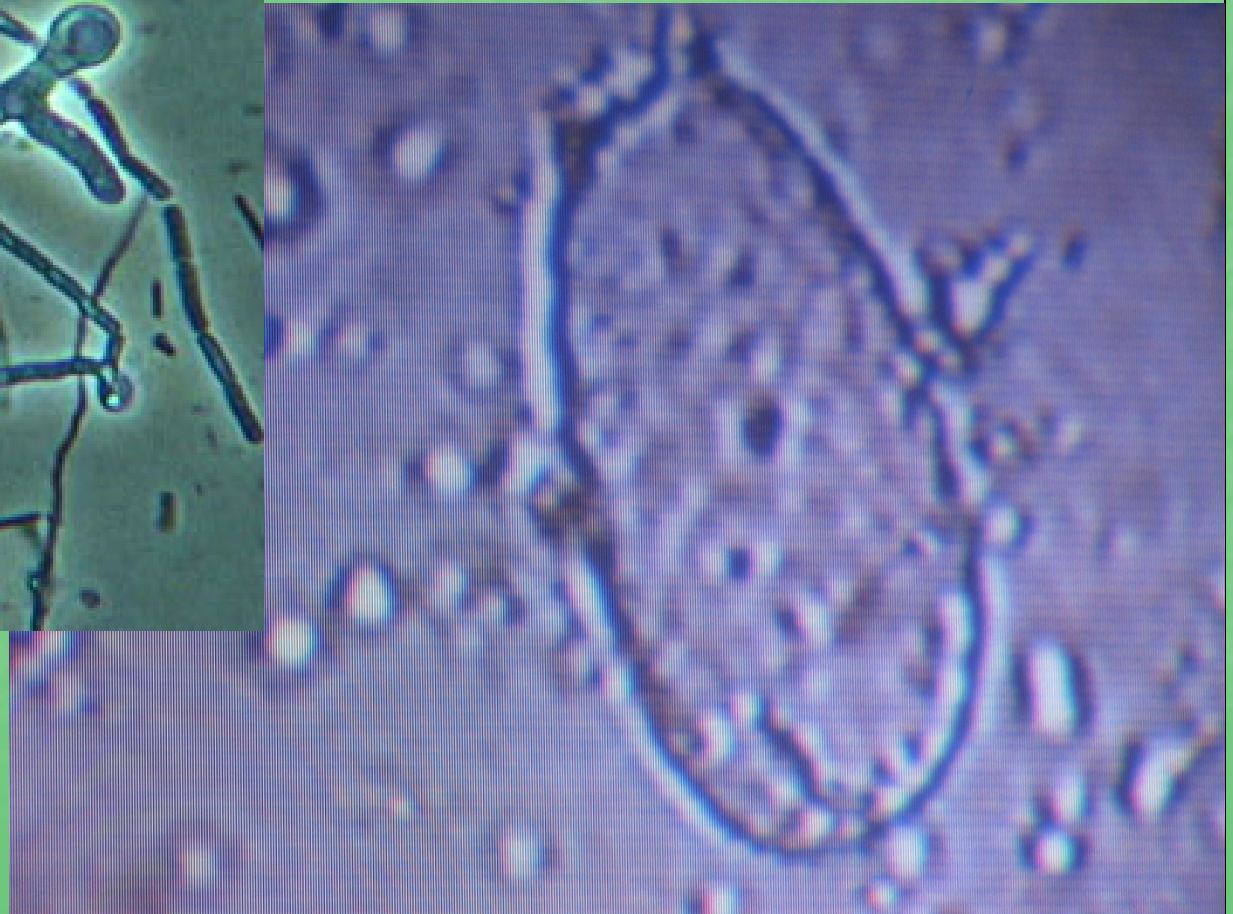
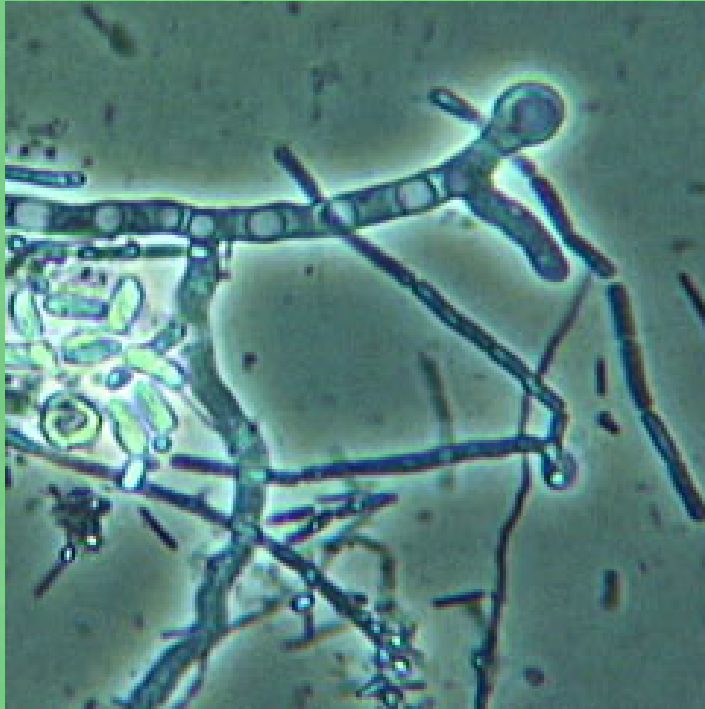
# RESILIENT SOIL

## **A biologically alive soil holds water well**

- Add organic matter (compost)
- AACT (Actively Aerated Compost Tea)  
purchase at Lyngso Garden Materials
- Don't compact (no digging when soggy)
- Don't poison the Soil Foodweb with pesticides, herbicides, or chemical fertilizers
- Protect the soil with organic mulch



# LIVING SOIL



# WATERING

After plants are established:

- Water infrequently but deeply
- Allow soil surface to dry out (check!)
- Increase the intervals between watering
- Hand watering is okay
- Don't use the % feature on the timer

# DRIP VS. SPRAY

- Drip is measured in gallons per HOUR
- Spray is measured in gallons per MINUTE
- Therefore drip needs to be on LONGER, but less often
- Never put drip and spray on the same line

# SMART CONTROLLERS

Also called "ET" (evapotranspiration) or weather- based controllers

- Connected to a satellite, receives local weather updates and automatically adjusts
- Monthly fee
- Rebates from SCV Water District
- Many brands



# MULCH

- Wood chips, not plastic
- Protects the soil from drying out
- Decomposes and improves soil
- Vibrant biology just underneath
- Suppress weeds
- Can get free "arbor chips"





## Three kinds of mulch





**Define paths with different colors of mulch**



A few favorite spreading  
drought tolerant  
**GROUND COVERS**





Design: Fran Adams Photo: Deva Luna

# Manzanita (Arctostaphylos)





# Salvia 'Bee's Bliss'

Design: Stephanie Morris    Installation: Curtis Horticulture





Design: Sherri Osaka Photo: Deva Luna

# Beach Strawberry Ground Cover





Design & Photo: Sherri Osaka

Installation: EarthCare Landscaping

# Ceanothus ~ California Lilac



# KEEP YOUR WATER ON SITE

- Downspouts to drywells, dry creeks or rain barrels
- Swales (contour lines of slopes)
- Pervious surfaces - no run-off



The diagram illustrates a cross-section of a permeable hardscape system. It features a central layer of light-colored, porous aggregate material. This aggregate is flanked by vertical green bars representing vegetation. The entire assembly is supported by a base layer, with a teal-colored band above the aggregate and a light blue band below it. The title 'Permeable Hardscape' is centered in the teal band.

# Permeable Hardscape





Pavers set in sand





# Decomposed granite path





Photo & Design: Deva Luna





Gravel used as mulch

Installation: EarthCare Landscaping





# PERVIOUS CONCRETE



# Swales slow & capture water



# GRAYWATER

## Laundry to Landscape



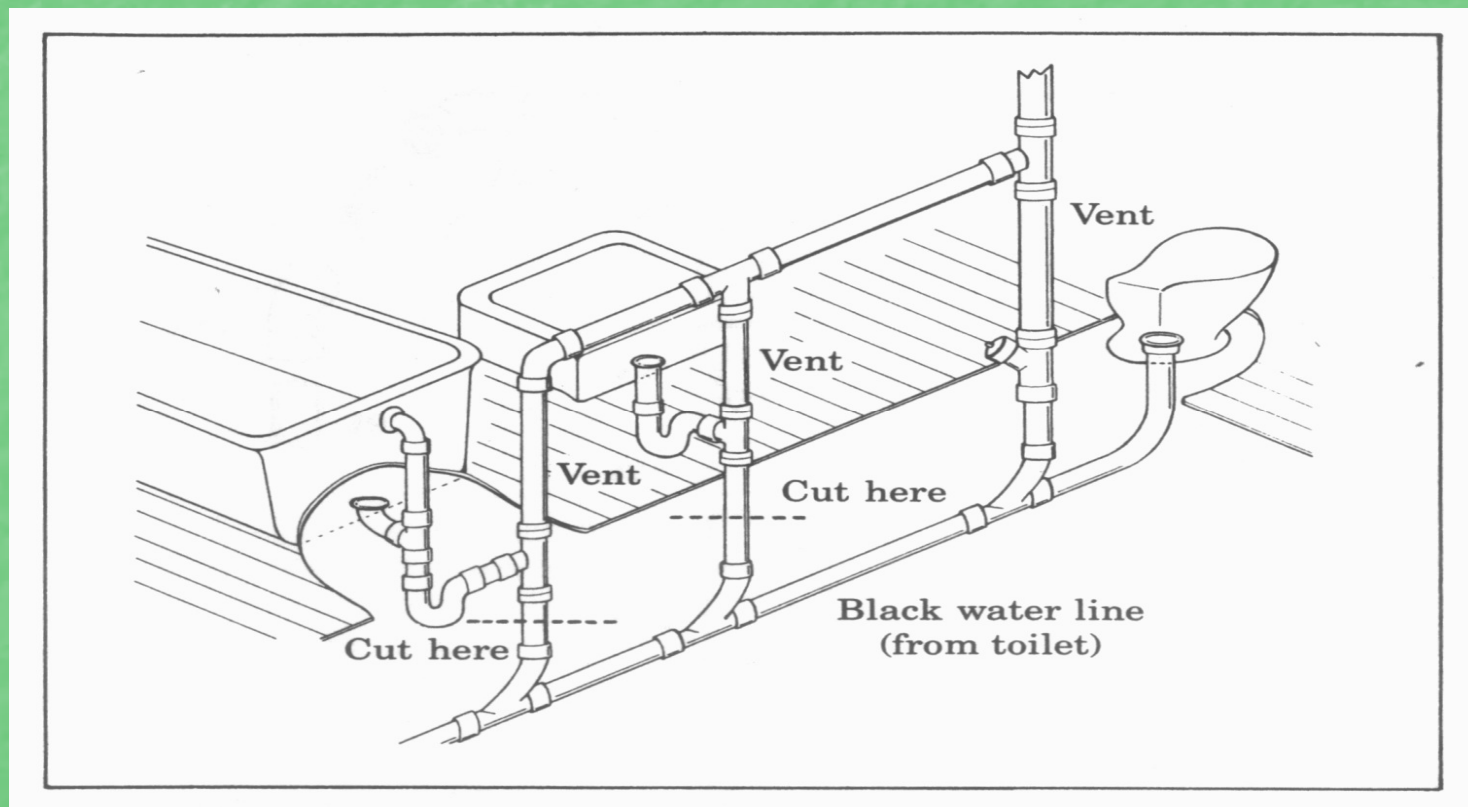


# MULCH BASINS



# Retrofitting for Graywater

## Step 1: Separate black and gray water



Drawing from: *Gray Water Use in the Landscape* by Robert Kourik, 1988



# Lawn Irrigation Installation



Photos from ReWater, Inc.



Lawn five years after installation

# Rain barrels





# Larger Rain Storage



Daisy chain barrels



[www.rainwaterpillow.com](http://www.rainwaterpillow.com)

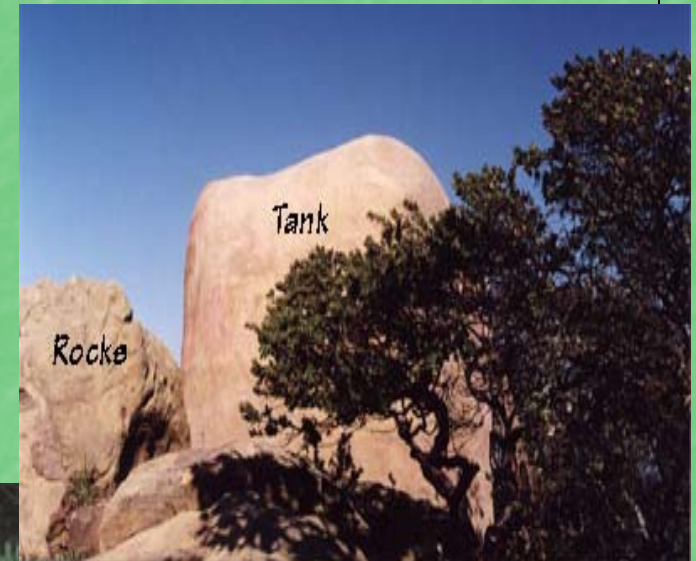


Photo courtesy of EarthCraft Design

**Remember “garden / garden”?**



**The choice is yours!**



# RESOURCES

[www.naturalfrontyards.com](http://www.naturalfrontyards.com)

**EarthCare's low-cost front lawn replacement**

[www.goingnativegardentour.org](http://www.goingnativegardentour.org)

**Going Native Garden Tour – April**

[www.cnps.org](http://www.cnps.org)

**California Native Plant Society**

[www.yerbabuenanursery.com](http://www.yerbabuenanursery.com)

**Yerba Buena Demonstration Garden**

[www.cngf.org](http://www.cngf.org)

**California Native Garden Foundation**

[www.landscapistandards.com](http://www.landscapistandards.com)

**A wiki site for Sustainable Landscaping with lists  
of professionals and pictures**





**THE END**