

# Why Greywater?



**Jillian Steinberger, The Garden Artisan, 8/25/12**

# What is Greywater?

- Household wastewater from laundry, bathtub, BR sink piped directly out to garden while the fixtures are in use

# What is blackwater?

- Water from toilets, kitchen sink, dishwasher which must go to sewer

# Do's and Don'ts

- Don't site it within 100' of a creek, wetland, waterway or well
- No hazardous chemicals, toxins or washwater from diapers
- Don't store greywater over 24 hours (turns to blackwater, ick!)
- Test backflow device annually and stay on top of maintenance

# Health and Safety

- Don't allow GW to pool or run off (gravel or mulch pit is essential)
- Don't drink; wash hands after contacting; don't swim in it
- Not for use in playgrounds or recreation areas
- Don't wash pets in it or let them drink it
- Use eco-friendly non-phosphate cleansers; salts/boron bad for soil)
- Visit [cosmeticsdatabase.com](http://cosmeticsdatabase.com) (Environmental Working Group)

# #1: Laundry to Landscape

## EcoHouse Installation Workshop (Berkeley)





# EcoHouse Constructed Wetland



Water is purified by plants such as taro and canna lilies

When water is clean, ducks will swim in it

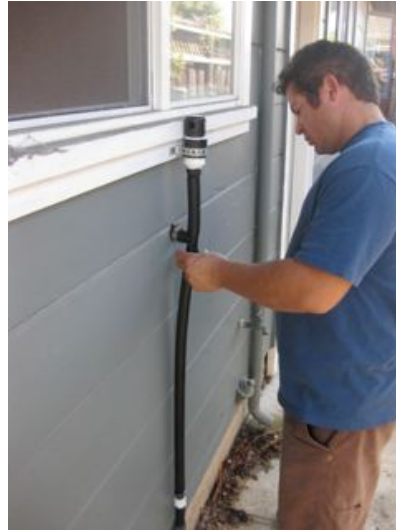
# Laundry to Landscape

## 3-Way Valve w/Clear Labelling



# Laundry to Landscape Workshop

## Ecology Action Workshop w/ Terra Nova Ecological Landscaping (Santa Cruz)



Note: Permit is unnecessary for L-to-L as of July 2009  
w/change in California Plumbing Code. Historic event.



# Laundry to Landscape Workshop

## Ecology Action Led by Terra Nova Ecological Landscaping (Santa Cruz)



Mulch is very important! 2" deep minimum per safety and health code.

# #2: Branched Drain System – Bathroom Greywater Action Workshop (Oakland)



- Requires simple permit (building dept)
- Installation is more involved
- Notice on off switcher

# Residential Landscapes

## Watersprout (Berkeley)











# Sunset Idea House (SF Mission)

## Watersprout





# GW & Aquaponics

## Watersprout (Oakland)



# High Tech, High End Installations

## Hyphae Design Lab – GW & RW + Controller

OPERATION AND MAINTENANCE MANUAL  
FOR RAINWATER AND GREYWATER  
HARVESTING SYSTEMS

PRIVATE RESIDENCE Berkeley, CA



DESIGNED AND INSTALLED BY:





# Water Catchment

## Park Day School & Watersprout (Oakland)



# GW Facts

- **No known documented illnesses caused by GW**
- Soil microorganisms gobble up pathogens
- Average family of four produces 38,000 gals. GW/year!
- A simple L-to-L system can save typical homeowners 15,000 to 50,000 gals. of water/year
- GW may be more important than water tanks: keeps impure water out of the estuaries / ocean while providing soil nutrients and decreasing irrigation; lightens use of public utilities (WW treatment plants)

# Which Plants?

- Great for most fruit trees and vines
- Great for many ornamentals, especially native plants which tend to like alkaline soil (e.g., serpentine)
- Don't use on acid loving plants (rhodies, camellias, azaleas, blueberries)
- Lawns not best to water with greywater – not good for sprinkler systems
- Suited to bioswale plantings – plants cleanse the water – constructed wetlands

## WETLAND GRASSES=



Juncus effusus

common rush



Scirpus microcarpus

Panicked bulrush



Juncus xiphioides

Iris-Leafed Rush



Juncus patens

gray rush



Eleocharis palustris

Spikerush



Carex Aquaticus

Water Sedge



Cyperus haspensis

Dwarf Papyrus



## BULBS & PERENNIALS



Euthamia occidentalis western goldenrod



Achillea millefolium yarrow



Epipactis gigantea Giant Stream Orchid



Lilium pardalinum, Leopard Lily



Sisyrinchium californica, Yellow eyed grass

## SHRUBS



Mimulus cardinalis Scarlet monkeyflower



Baccharis douglasii Marsh baccharis



Mimulus guttatus Seep Monkeyflower

# Resources

## How To:

- Greywater Action - statewide classes ([greywateraction.org](http://greywateraction.org))
- EcoHouse – Berk. ([www.ecologycenter.org/ecohouse/](http://www.ecologycenter.org/ecohouse/))
- Ecology Action – Santa Cruz ([ecoact.org](http://ecoact.org))

## Policy / Advocacy:

- Greywater Alliance ([greywateralliance.org](http://greywateralliance.org))

## All Things Greywater, Including Products / Packages:

- Oasis Design – Art Ludwig ([oasisdesign.net](http://oasisdesign.net))