Water Conservation Gardening

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Why Do We Want to Conserve Water?

- (Audience Participation)

Saving 'Lost' Water

- Rain Barrels
- Rain Gardens
- Drip Irrigation
- Plants for Water Saving Gardens
- Other Ways

Rain Barrels:

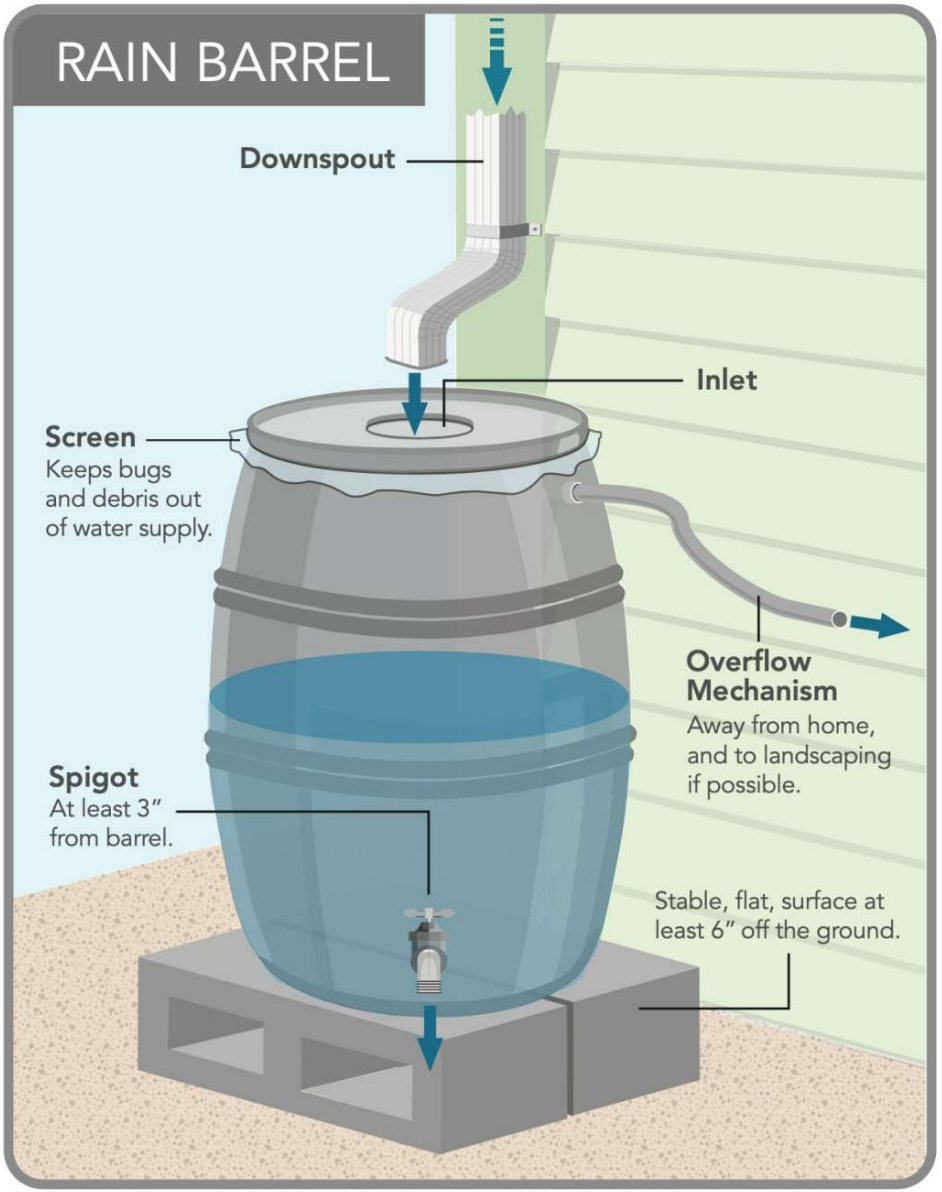
Saves Water
for a “non rainy” day

- Collect water from downspouts
- Reduce storm water run off
- Reduce water bill as rain water is free
- Great source of water for home gardens
- Better for plants than city water, no chemicals

Rain Barrel Parts

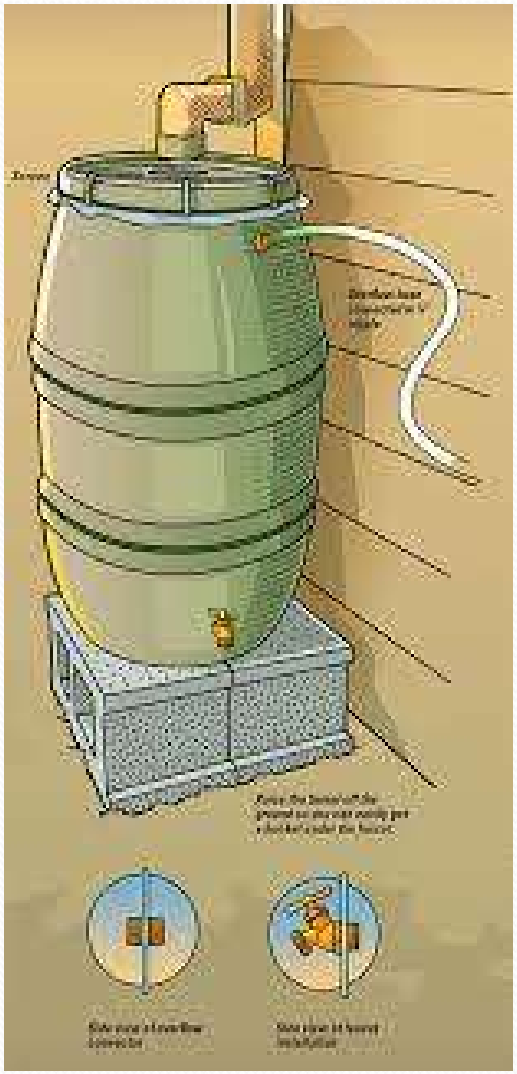
- Purchase kits or complete barrels
- DIY from large food grade container (50-55 gallons)
- Opaque container helps to prevent algae growth
- Mesh screen over opening to prevent mosquitoes and roof debris from getting into barrel water
- A downspout diverter can be a flexible one or rain chain
- Brass or plastic fixtures
- An overflow hose at lease 1-2 inches in diameter
- Divert overflow to other rain barrels or to rain garden
- Cinder blocks to elevate barrel

Rain Chain


RAIN BARREL
Downspout
Inlet
Screen
Keeps bugs and debris out of water supply.
Overflow Mechanism
Away from home, and to landscaping if possible.
Spigot
At least 3" from barrel.
Stable, flat, surface at least 6" off the ground.

Rain Barrel: More Info

- Use caution when using harvested rain water for edible plants
- Water can contain roofing materials, tree debris, dust, and other contaminants
- Direct overflow hose away from house
- Consider strapping down barrel to prevent wind from toppling it over when empty or near empty
- Add a short hose to spigot for ease in filling watering cans



My Rain Barrels

Rain Garden: What is it?

- A rain water containment & filtration technique
- A slightly sunken area landscaped with plants (native) that tolerate occasional flooding
- Well positioned to collect rain water from downspouts, driveways, and any other water shedding surface
- Designed to hold water for no longer than 24 hours
- Provides time for plants to slowly filter contaminants from rain water into soil
- Reduces run-off into storm drains

Rain Garden: Purpose

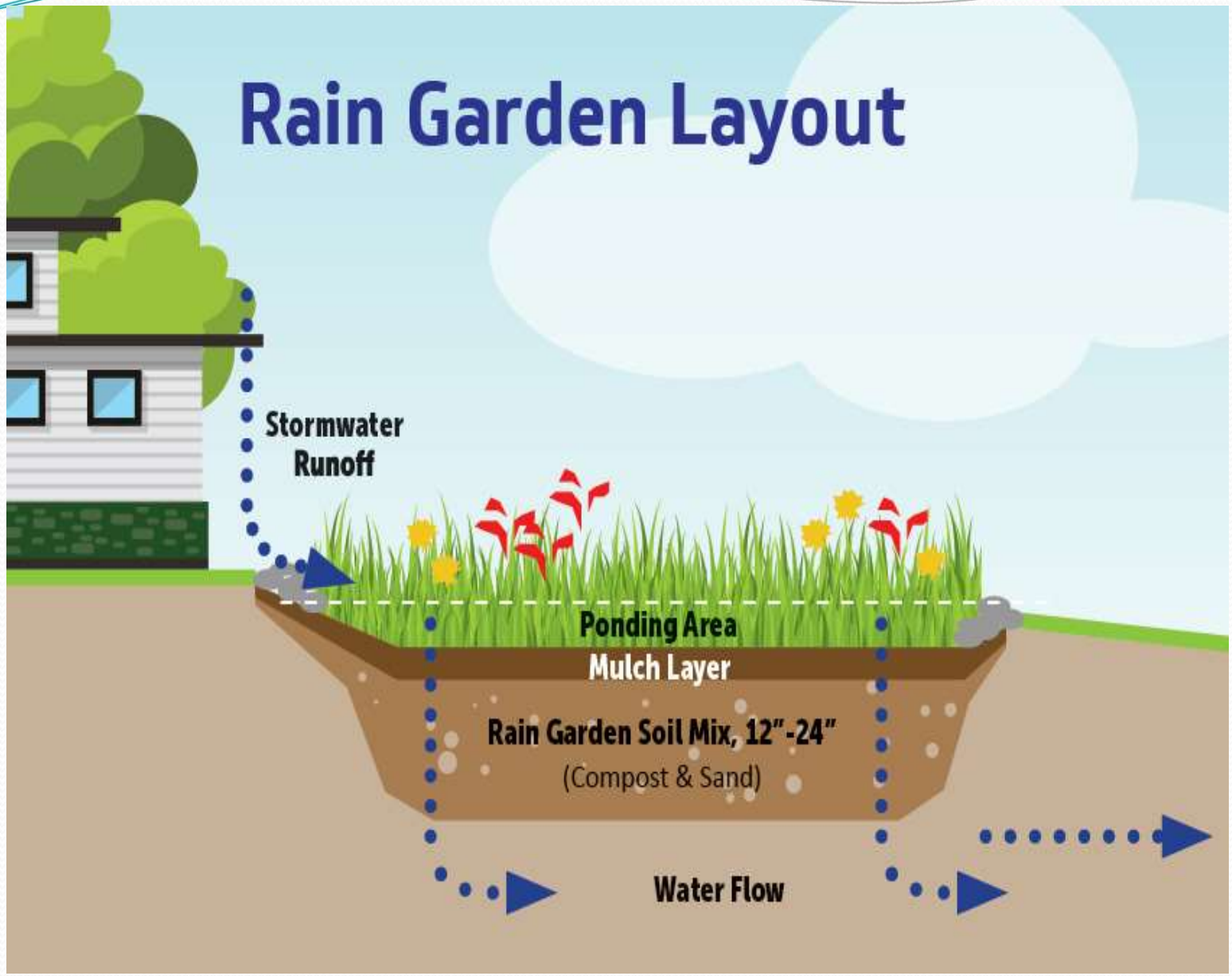
- Slows the flow of rain water from landscape
- Help keep waterways clean by-
  - Reducing motor oils and other contaminants from driveways and streets that could enter our waterways
  - Minimizing fertilizers, pesticides, and animal wastes from our lawns that could enter our waterways
- Keeps rain water on property
- Plants filter out pollutants
- Saved, cleaned water works its way to ground water and aquifers

Rain Garden: Benefits

- Makes a beautiful, hardworking accent to your property
- Looks good in the front yard and the back yard
- Provides valuable habitat for birds, butterflies and other beneficial creatures
- Enjoy watching “visitors” to your rain garden

Rain Garden : How to construct

- Locate at least 10-15 feet from house, 50 feet from septic system
- Don't automatically choose an already low spot in yard
- Instead consider a higher, better draining spot
- Do a 'perk test': 12" deep hole filled with water which drains in 24 hours or less is good
- A small sized rain garden is good but a larger one will hold more rain
- Aim downspout to go over rocks or lawn to slow flow of rain and prevent washing away the mulch
- Call before you dig (811 or local utilities)


Rain Garden Layout
Stormwater
Runoff
Ponding Area
Mulch Layer
Rain Garden Soil Mix, 12"-24"
(Compost & Sand)
Water Flow

Rain Garden : How to construct

- Avoid placing under the canopy of a tree
- Dig 4-6 inches deeper to make room for adding compost and sand
- Add 3-4 inches of compost to loosened soil
- Use removed excess soil to create a berm to hold the rain
- Finished garden will be 4-8 inches deep above mulch
- Shallow gardens need to be larger to hold the rain
- Oval or kidney shaped gardens look more natural


This is a Rain Garden . . . .
...it reduces flooding and filters polluted rain runoff from the street.
Rainwater running off hard surfaces contains pollutants such as oil, pet waste, heavy metals, and fertilizer. Without this rain garden, water would carry these contaminants into storm drains that discharge to nearby waterways.
INFLOW
PONDING AREA
MULCH LAYER
RAIN GARDEN SOIL MIX, 12" - 24"
(COMPOST & SAND)
EXISTING SOIL
EXISTING SOIL
1 Rain runoff is directed to the rain garden from roof-tops, roads, and driveways.
2 Water collects in the garden, then slowly seeps through a special soil mix that absorbs and filters out pollutants.
3 Clean water filters into the ground and eventually reaches Puget Sound.

Rain Garden : Planting

- Choose grasses, perennials and shrubs that can handle occasional periods of standing water (24 hours)
- Avoid plants that won't like dry periods between rains
- Use deep-rooted grasses and native perennials
- Don't try to establish from seed, which can be washed away
- Use larger plants that are pre-started or from division
- Water during dry periods
- Mulch with 2 inches non-floating wood mulch
- Weed for first couple of years until well established


How does a rain garden work?
Native Plants
Native plants are adapted to local conditions and are easy to maintain once established. Plus, they attract birds, butterflies and other pollinators.
Gutters & Down Spouts
Assist with directing rain water from your roof to your rain garden.
Deep Roots
Plants with a deep root system encourage infiltration and help absorb nutrients.
Berm
A berm holds water in the garden during heavy rains.

Irrigating Wisely

- Keep a rain gauge near garden and adjust watering as needed
- Use finger test: poke finger into soil, if dry, soak deeply
- Avoid overhead watering: water loss to evaporation & wind
- Water deeply (3 inches), avoiding frequent, shallow watering, except when plants are young (1st few weeks)
- Water in the morning, not in heat of day
- Water soil not foliage to prevent diseases
- Group plants according to water needs

- Add organic matter to increase soil's water holding capacity
- Use Drip Irrigation systems

Soaker Hose Irrigation

- Easiest, Cheapest, Least Technical
- Prevents run-off & evaporation because no spraying water

- Place hoses within drip-line of plants
- Handy for difficult-to-water areas
- Cover with layer of mulch to prevent degrading from sunlight
- Water seeps out slowly, so will take more time to water deeply

Drip Irrigation:

Benefits

- Inexpensive, convenient, and easy to assemble & disassemble
- Efficient: 90-95% of the water goes into the soil
- Less water required to fully wet the root zone
- Foliage stays dry, minimizing plant disease problems
- Easily & inexpensively controlled with mechanical or battery-operated automatic timers
- Pathways stay dry, allowing work in the garden without mud
- Reusable if stored out of sunlight and away from rodents
- Less weeds, as only the desired plants get watered

Drip Irrigation :
Components

- Pressure regulator : system requires low water pressure 8-10 psi (pounds per square inch)
- A simple filter, with removable strainer
- Backflow check-valve to prevent contamination to water source
- Length of flexible ¾ inch diameter plastic tubing
- Individual drip-lines and emitters
- Or drip-tape
- Mulch to cover lines and drip-tape to protect from sun

Plants for Water Saving Gardens:

Native Plants

- Butterfly weed
- Prairie coneflower (Mexican Hat)
- Purple coneflower
- Blue Gamma grass
- Little Blue Stem Grass
- Prairie Drop Seed Grass
- Sedges

Plants for Water Saving Gardens:

Non-Native Plants

- Blue-false Indigo
- Catmint
- Penstemon
- Russian Sage
- Threadleaf Coreopsis
- Yarrow
- Sedums
- Hens & Chicks
- Yucca
- Lamb's Ear
- Dianthus

Other Ways to Find Lost Water

- Save that first water from a shower that is too cold; mine amounts to about one gallon of clean water, which can be used on edibles
- Water from your dehumidifier; use for non-edibles only as could contain metals
- Air conditioning system condensate; same caution as dehumidifier condensate

Other Ideas for Finding "Lost" Water?

- (Audience Participation)

- Questions?

Resources

- 'The Water Saving Garden' by Pam Penwick
- University of Maryland Master Gardener Handbook
- https://www.cedarfalls.com/DocumentCenter/View/10977/All-Chapters-Rain-Garden-Manual-2020-21?bidId=