

**Soil School**  
**April 13, 2024**



# **Simple Landscaping Practices for Managing Rainwater**

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Stormwater Stars Program**



Catch rain. Clean water. Build community.

# STORMWATER STARS

## What we do:

Workshops demonstrating simple practices to help manage rainfall



Photo By Corey Shelton

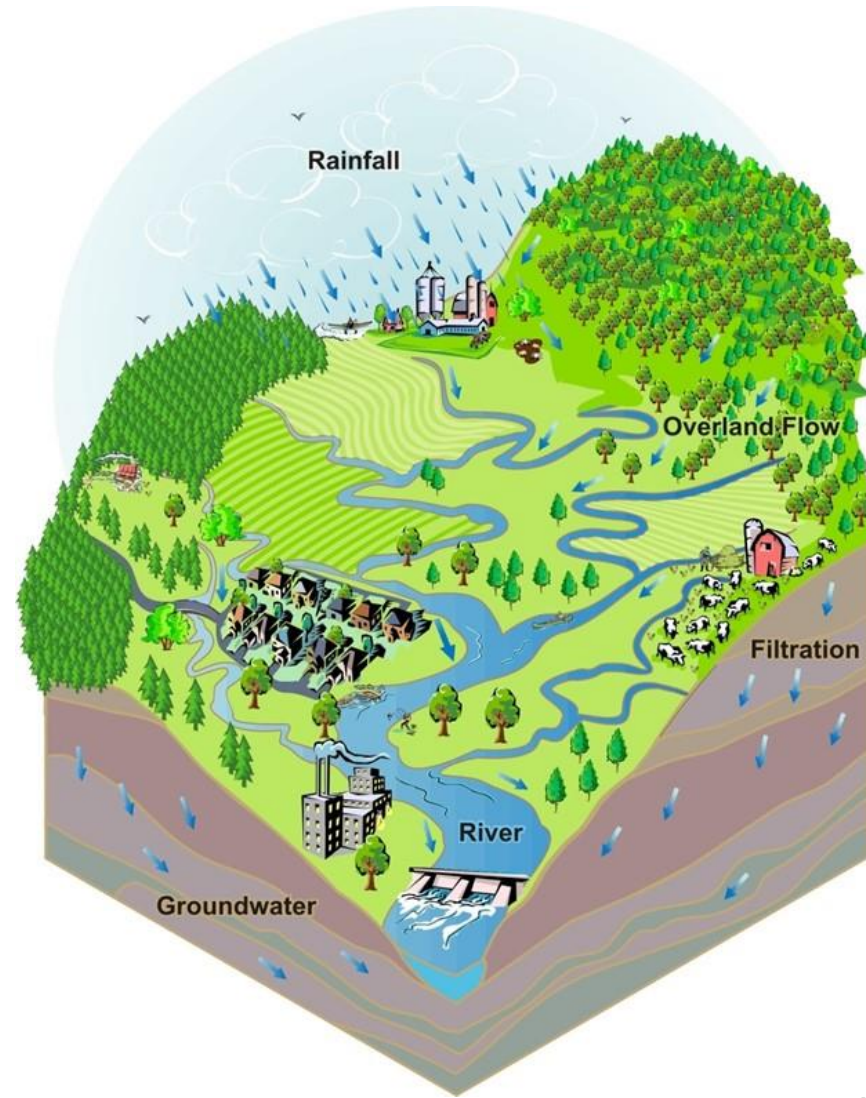
## Our Goals:

- Reduce the volume of stormwater runoff
- Reduce sediment export generated
- Improve habitat
- Reduce the need for toxic lawn and garden chemicals
- Provide a supportive community to help get the job done at a workshop site

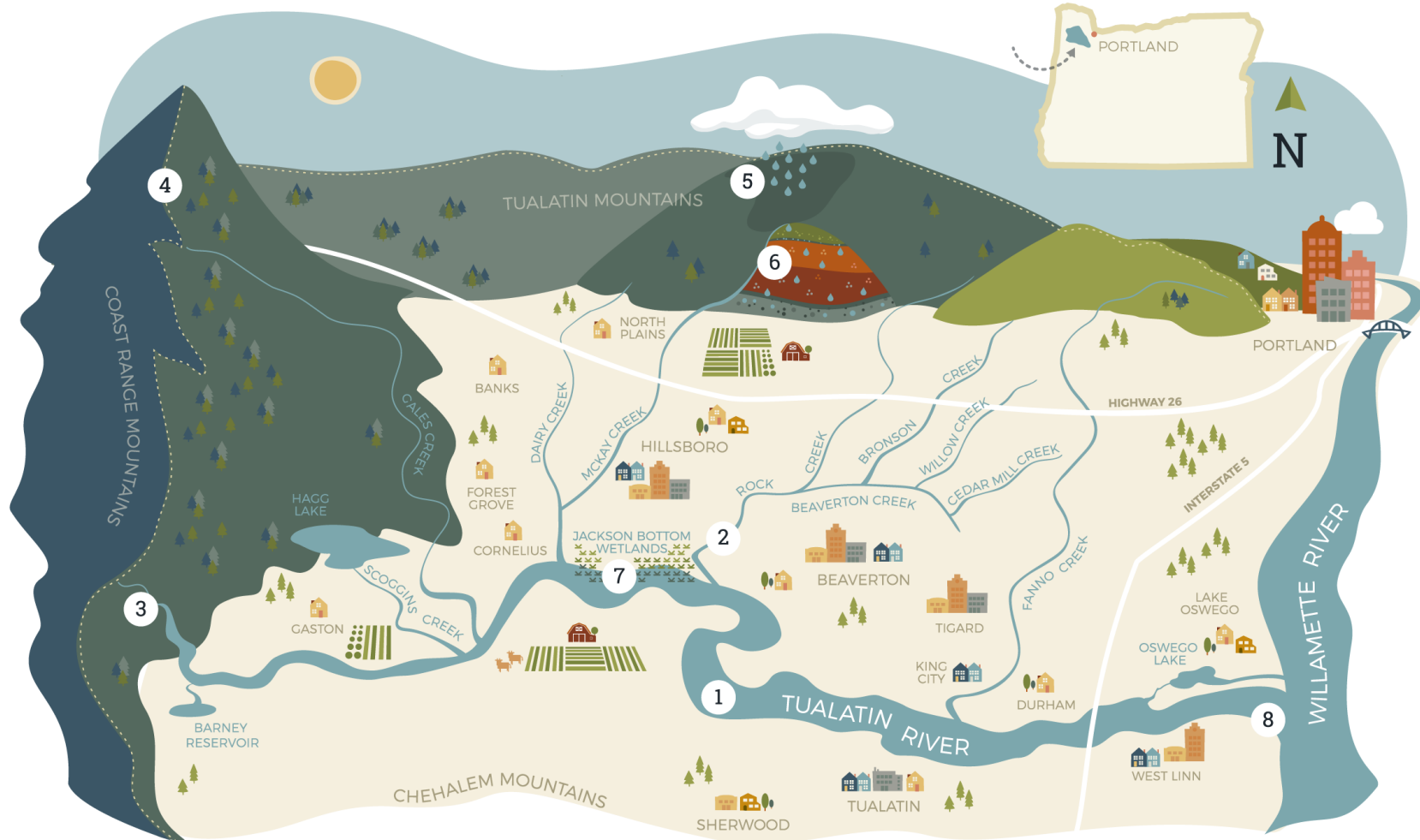


# What is a watershed?

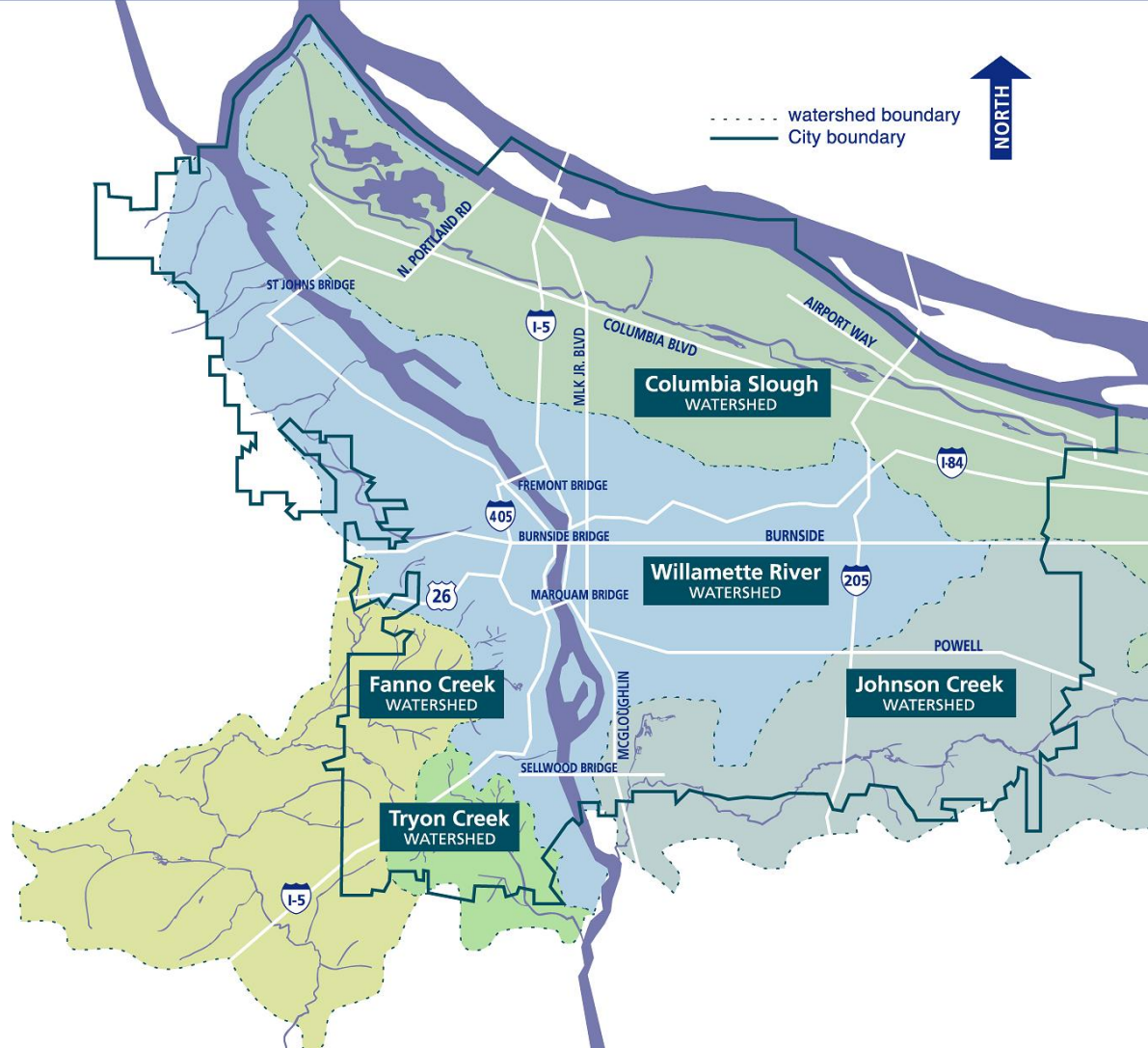
- An area of land that all drains to a common point



# Tualatin River Watershed



# PORTLAND WATERSHEDS



# Rainwater vs. Stormwater

## Rainwater:

- Water that falls from the sky and falls to the ground as it would in an undisturbed area.

After the water reaches the ground, it has 3 options:

- Infiltrate
- Evaporate
- Become runoff

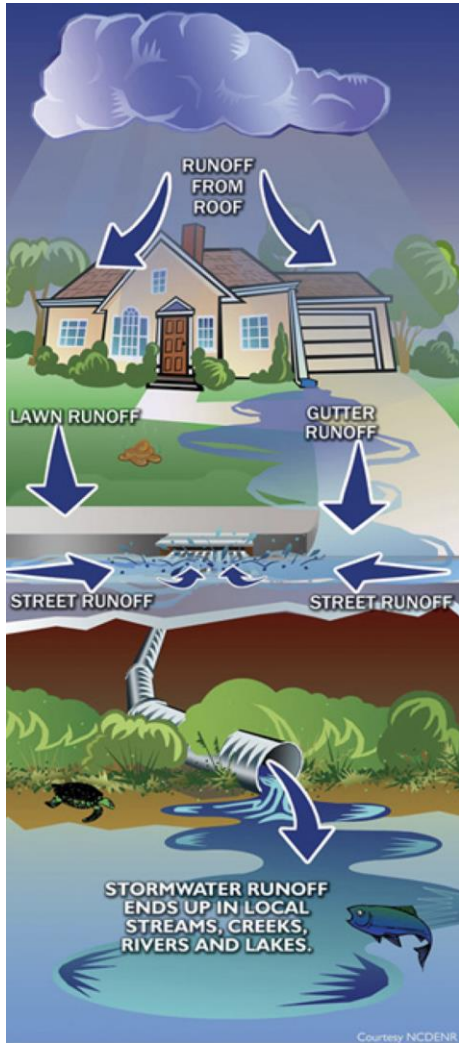


## Stormwater (Runoff):

- Rainwater becomes stormwater runoff when it hits a surface and runs off



# Why is stormwater runoff a problem?



Graphic: NCDENR

## Common Urban pollutant

- Bacteria
- Chemicals
- Heavy metals
- Phosphorus



## Increased Water Temperature

- Decreased dissolved oxygen



## Erosion

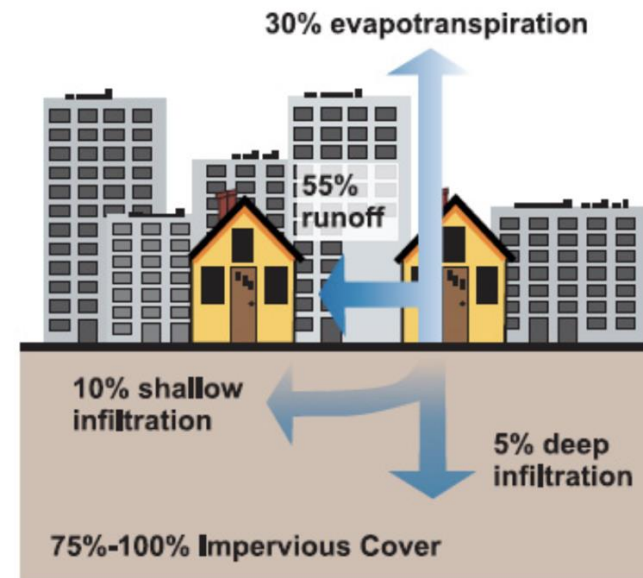
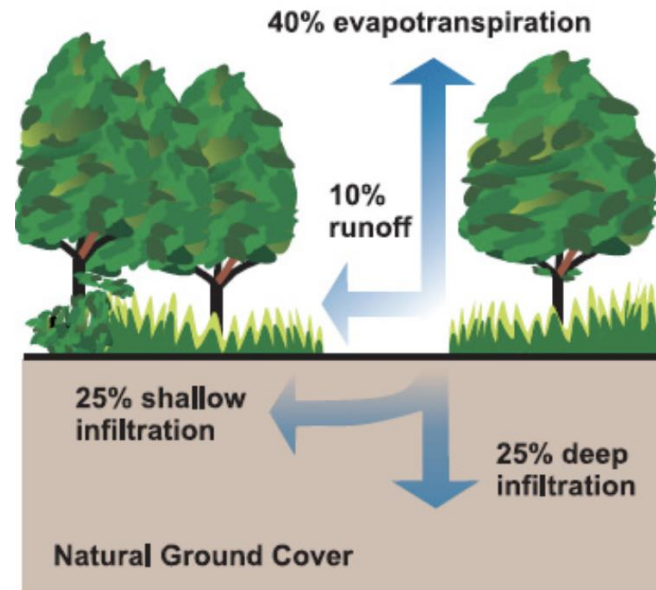
- More volume
- Faster flows
- Reduced vegetation

## Watershed with Natural Ground Cover:

- Plants take up a lot of water
- Water infiltrates
- Little Runoff

## Urban Watershed:

- Soil is paved over/More impervious surfaces
- Trees/plants are removed
- Stormwater goes into storm drains and pipes
- Reduce habitat
- Reduced evapotranspiration
- Reduced infiltration
- The result? More runoff!!





# The 6 Stormwater Stars Practices



Native Plants



Lawn Replacement



Amending Soil



Porous Pathway



Contained Planters



Depaving

# Native Plantings



- ▶ Native trees/plants provide habitat
- ▶ Plants soak up overland flows, filter pollutants from runoff, recharge groundwater and improve infiltration!
- ▶ Choosing Plants
  - ▶ “Right plant, right place!”
- ▶ Resources for Native Plants
  - ▶ Portland Plant List/Willamette Valley Native Plants
  - ▶ Native Plant nurseries
    - ▶ Tualatin and West Multnomah SWCD
    - ▶ City and Metro websites
    - ▶ Backyard Habitat Program
  - ▶ Never take native plants from natural areas



# Lawn Replacement

- ▶ Lawns are often compact and little infiltration
- ▶ Low habitat value
- ▶ Heavy fertilizer and water need
- ▶ Shallow roots
- ▶ Sheet Mulching vs Mechanical removal





# Amending Soils

- ▶ Urban soils are often compacted
- ▶ Compacted soils generate runoff volumes similar to that of hardscape surfaces such as sidewalks and roads
- ▶ Process
  - ▶ Sod or pavement removal
  - ▶ Add 3” of compost approximately 8” deep
  - ▶ Avoid compacting
  - ▶ Plant
  - ▶ Mulch (we love Arborist Chips!)



# Porous Pathways and Patios

- ▶ Allows people to walk on the pathway and enjoy the yard AND is permeable and absorbs stormwater
- ▶ Examples:
  - ▶ Woodchips
  - ▶ Flagstone
  - ▶ Boardwalks
  - ▶ Permeable pavers
  - ▶ Gravel

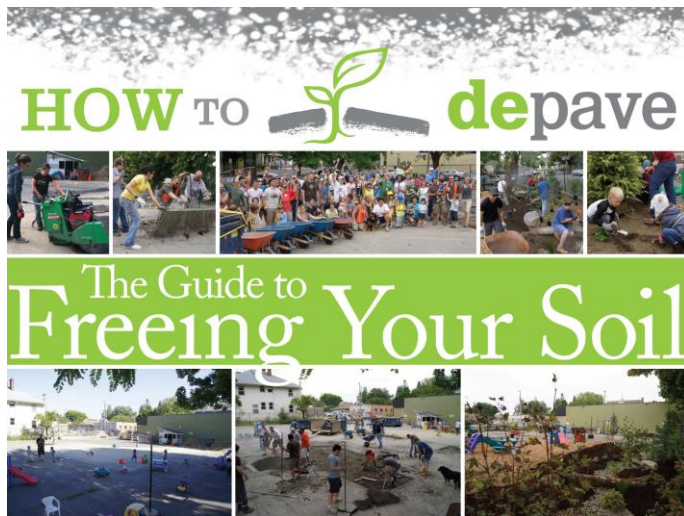
# Contained Planters over Hardscapes

- ▶ Planters can reduce annual runoff by 40-60% from the area on which they are placed
- ▶ Durability is important
- ▶ Planters must drain from the bottom
- ▶ Native soil vs potting soil



# Depaving

- ▶ Minimizing impervious cover is a critical part of stormwater reduction.
- ▶ Small, unused pavement areas add up to a lot of unnecessary harm to the watershed
- ▶ By removing pavement more rainwater can infiltration and reduce runoff issues.
- ▶ Note of caution-make sure you are not going to cause flooding at your foundation by depaving.



▶ <https://depave.org/resources/how-to-depave/>

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For More information visit our website  
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