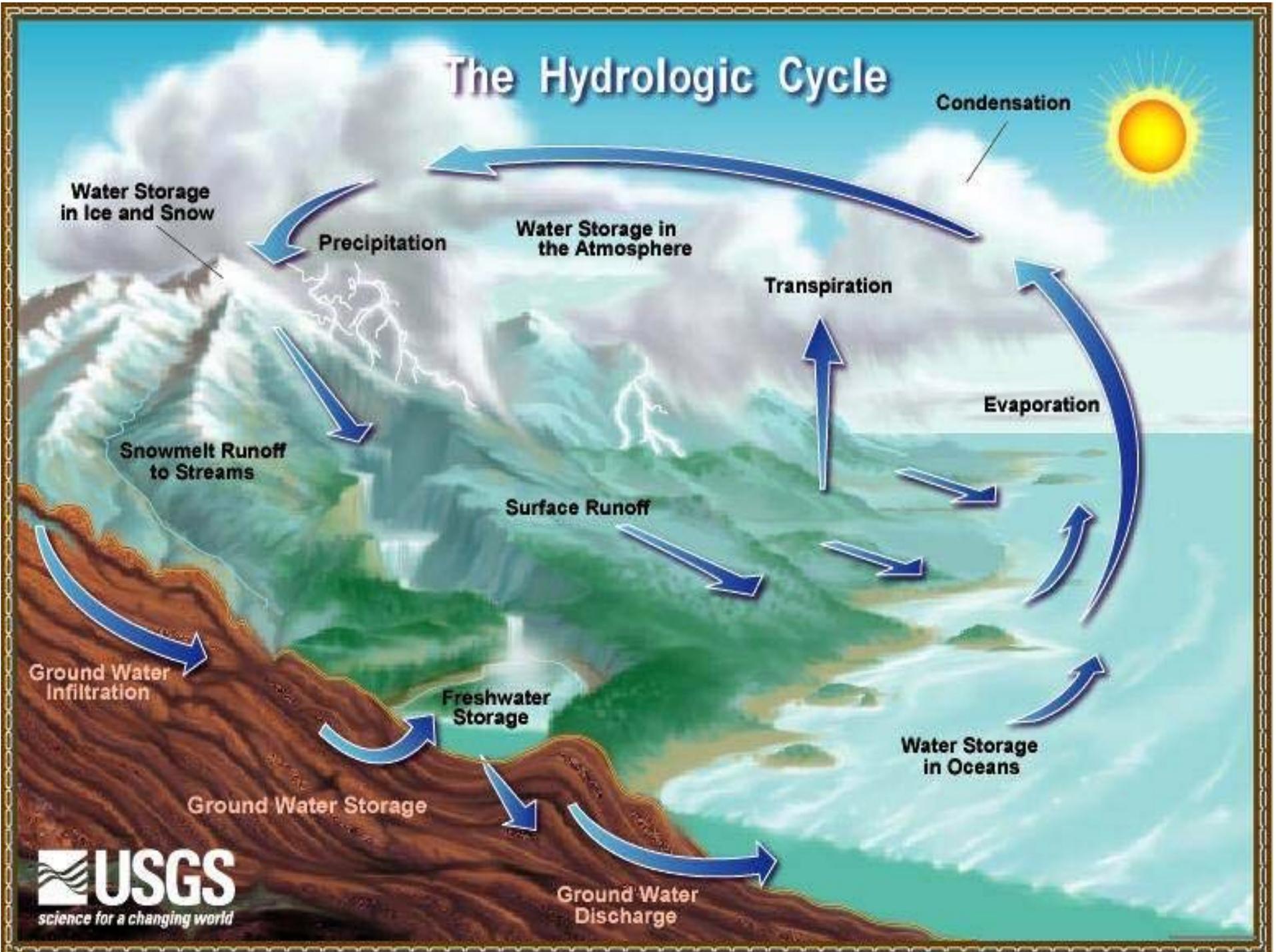


A photograph of a seal swimming in the ocean. The seal's head and part of its back are visible above the water. The water is dark blue with white foam from the waves. The text is overlaid in white, sans-serif font.

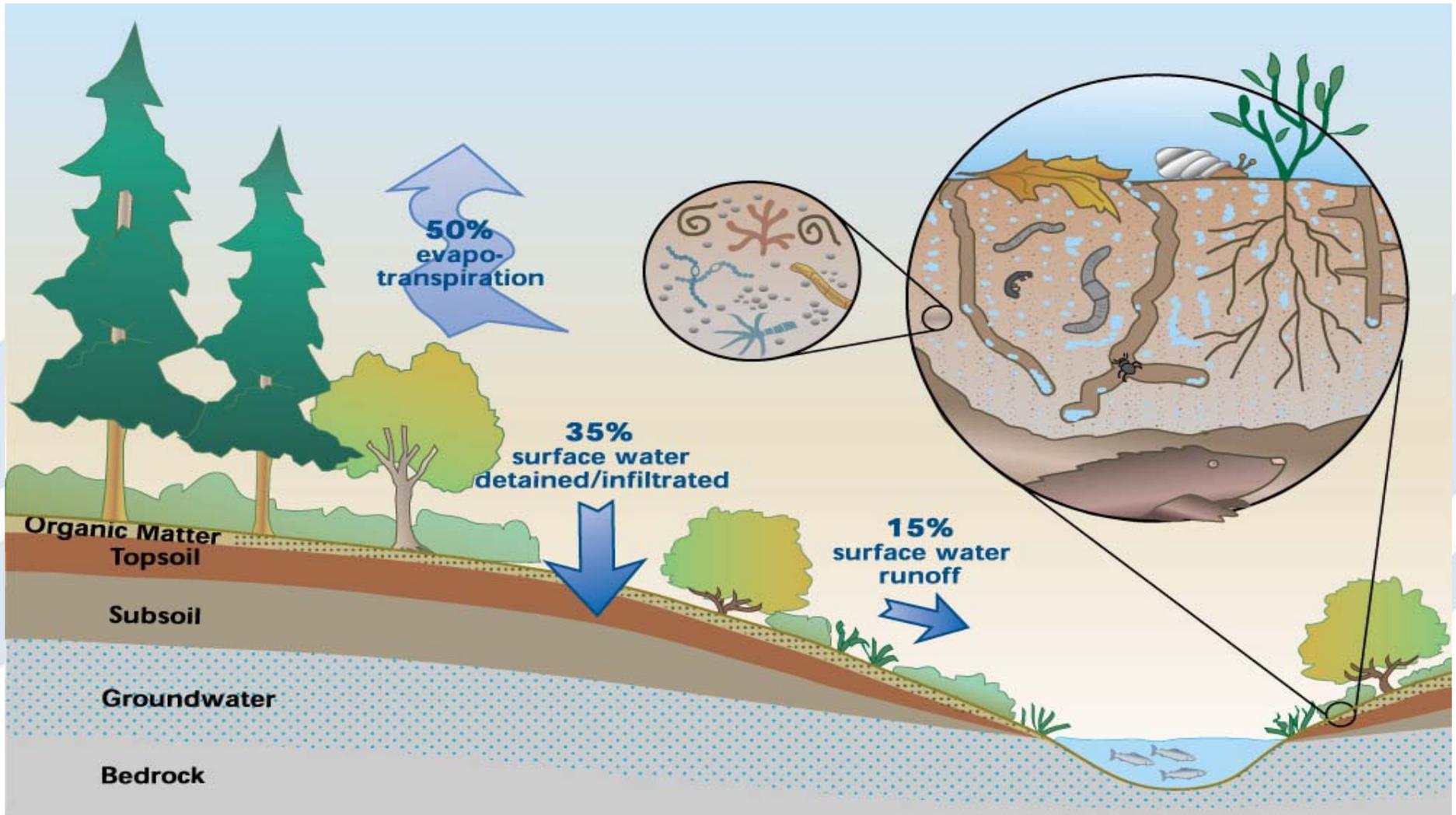
# Water Quality-Friendly Landscaping and Runoff Reduction

Eric Berntsen  
State Water Resources Control Board

# The Hydrologic Cycle

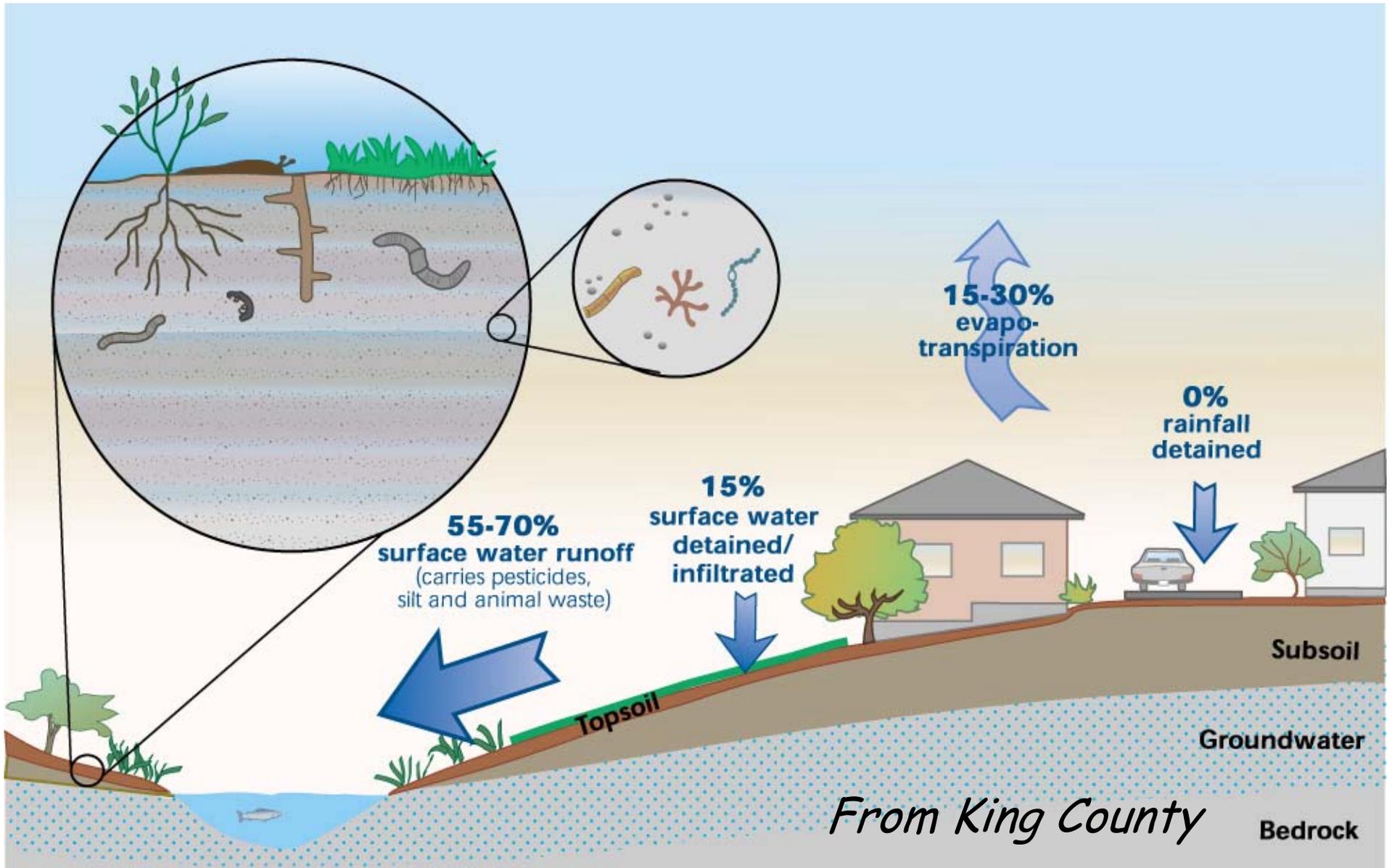


# Native Soil



*From King County*

# Disturbed Soil



Landscape irrigation runoff (aka. "urban slobber") is a major cause of water quality pollution...

...we can improve water quality by

- keeping more rainwater on site (rainwater harvesting); and
- creating landscapes that require less water

**REQUIRED IN NEW STORMWATER PERMITS!**

# Good News - the Model Ordinance achieves Waterboard interests...

- **Soil Management Report** gets at soil quality
- **Landscape Design Report** gets at the non-structural stormwater BMPs
- **Irrigation Design Report** gets at the "urban slobber" issue

# Benefits of Rainwater Harvesting

- Minimize Pollution
  - Keep clean rainwater from coming in contact with polluted surfaces (driveways, roads, etc.). **Source control**
- Supplement Dwindling Water Supplies
  - Create/use supply of free irrigation water that is better for plants (no salt, contains sulfur, lacks calcium carbonate and magnesium - "soft")

# We're already doing it elsewhere...

- Australia
- Malaysia
- Germany
- City of Tucson
- City of Santa Fe

# Eight Principles of Successful Rainwater Harvesting

*(from Brad Lancaster)*

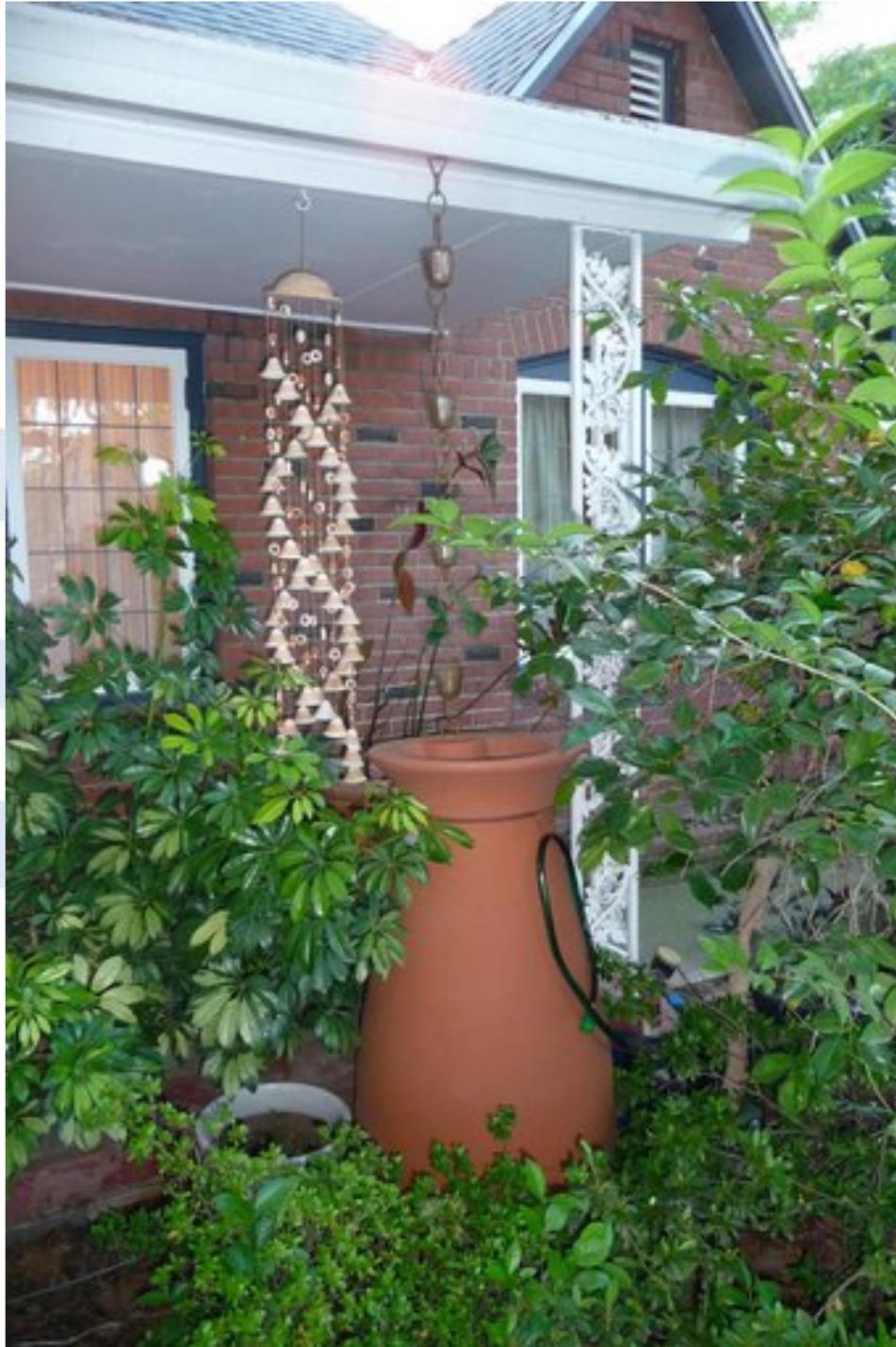
- Begin with long and thoughtful observation
- Start at the top of your watershed (usually the roof) and work your way down
- Start small and simple
- Spread and infiltrate the flow of water

# Eight Principles of Successful Rainwater Harvesting, cont'd

- Always plan an overflow route, and manage that overflow as a resource
- Maximize living and organic groundcover
- Maximize beneficial relationships and efficiency by “stacking functions”
- Continuously reassess your system: the “feedback loop”



*From Ann Riley*



*From Eric's  
Front Yard*



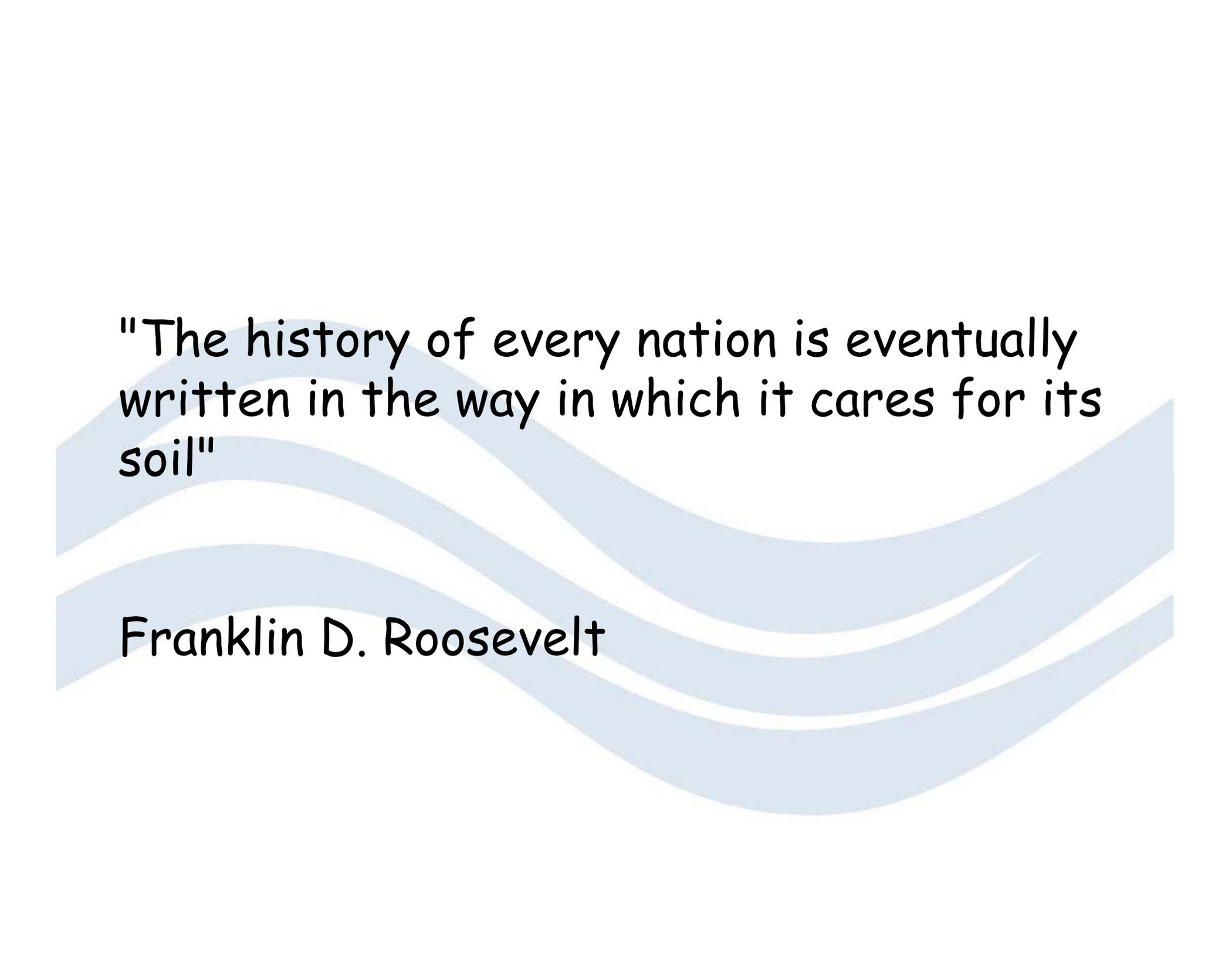
Lawn is the largest irrigated "crop" in the US



*From NOAA*

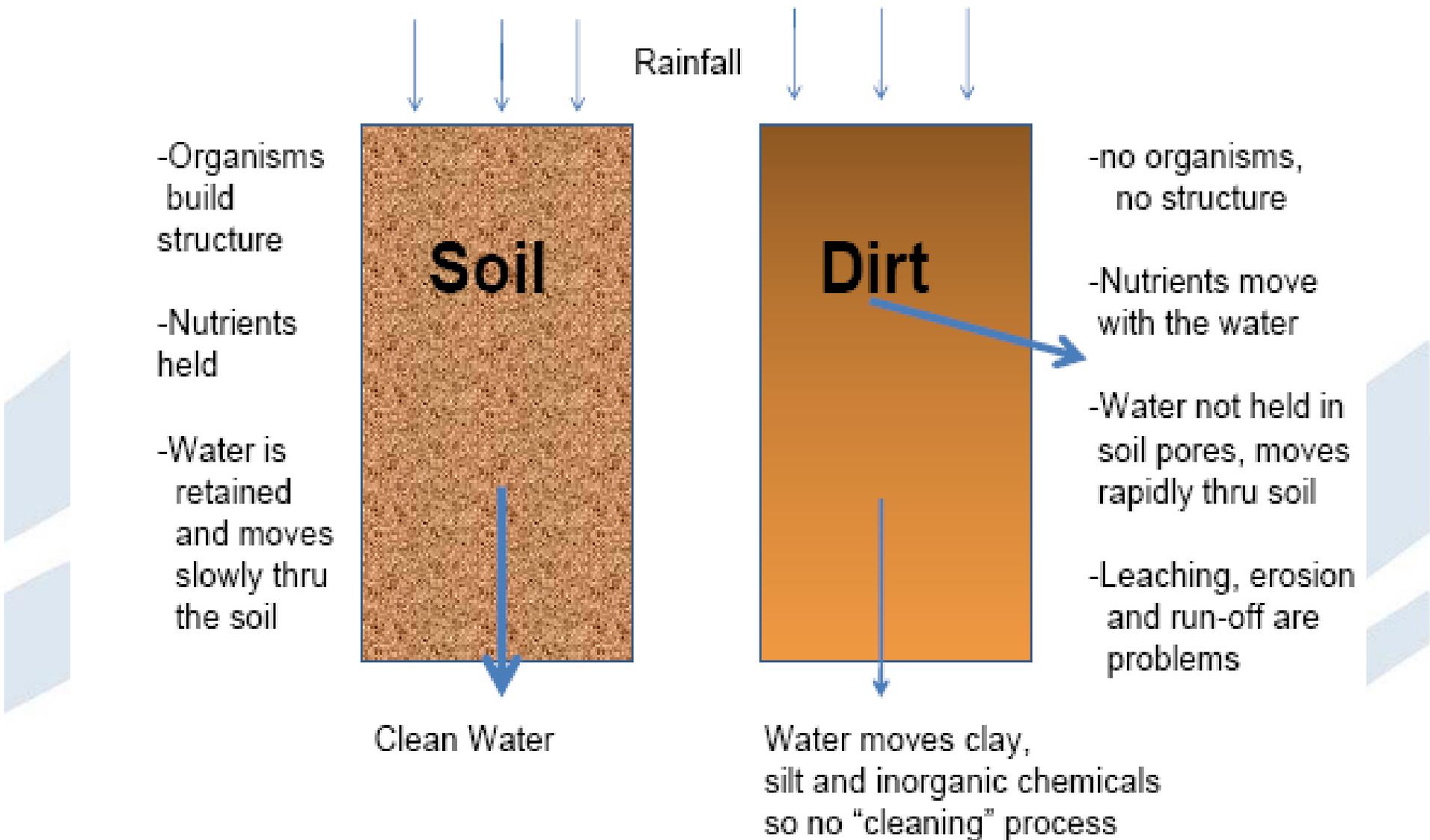
Lawn/turf is usually the most water-intensive feature on a landscape...

- We tend to overwater our landscapes
  - Stresses plants and makes them more prone to disease/infestations
  - We usually break out the pesticides (usually non-selective) - may end up in our waterbodies
- Solution: Right Plant, Right Place!

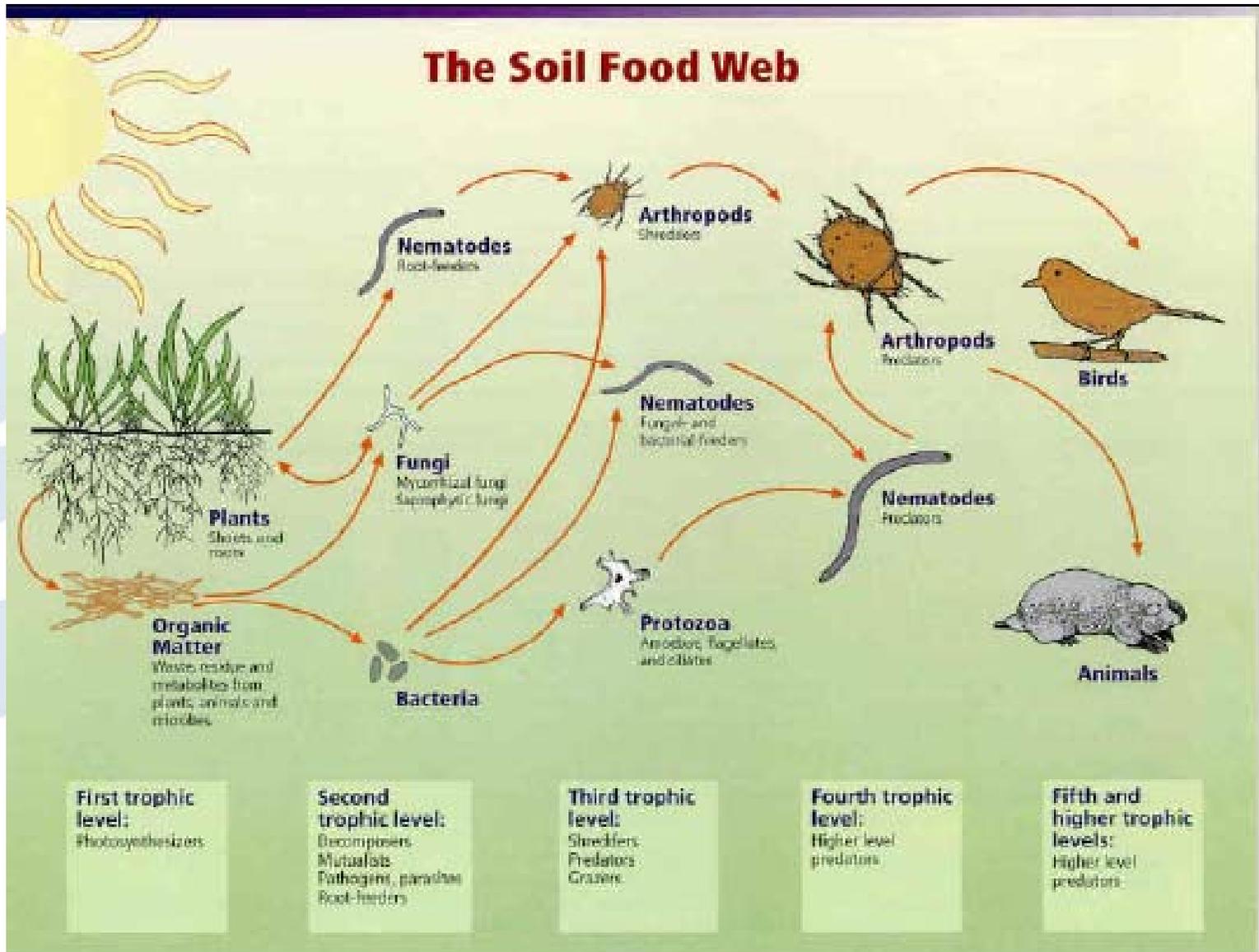


"The history of every nation is eventually written in the way in which it cares for its soil"

Franklin D. Roosevelt



*From Soil Food Web, Inc*



*From Soil Food Web, Inc*

MetroList®





# Sources of Information

- Soil Biology Primer  
([http://soils.usda.gov/sqi/concepts/soil\\_biology/biology.html](http://soils.usda.gov/sqi/concepts/soil_biology/biology.html))
- River-friendly landscaping guidelines  
([www.riverfriendly.org](http://www.riverfriendly.org))
- California Native Plant Society  
([www.cnps.org](http://www.cnps.org))
- *Sustainable Landscape Construction—  
A Guide to Green Building Outdoors* By  
J. William Thomson and Kim Sorvig



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