



# Aquifer Recharge in Oregon

**House Agriculture and Natural Resources Committee  
May 23, 2017**



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# Occurrence of Groundwater



**Pore Spaces**

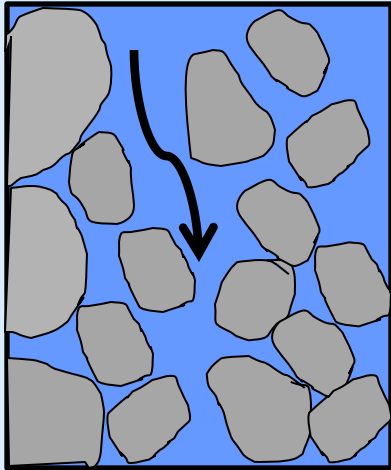


**Fractures**

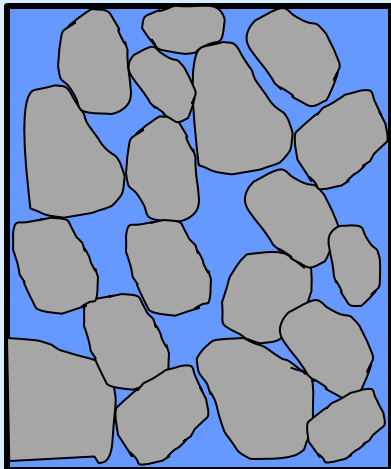
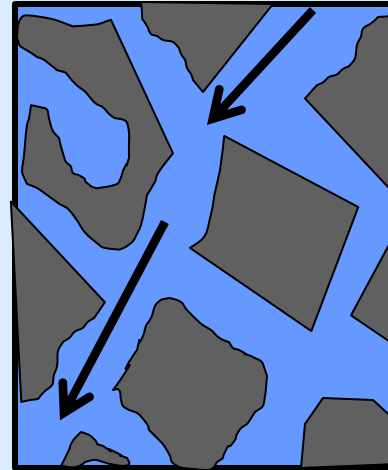
# Movement of Groundwater

## Pore Spaces in Sediments

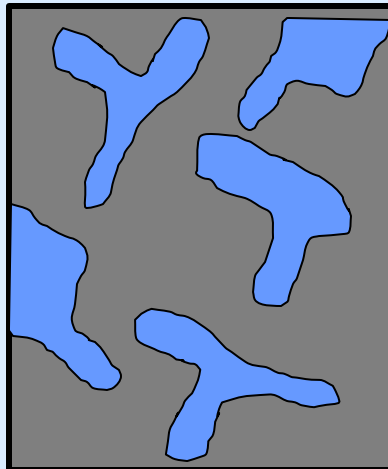
## Fractures in Rock



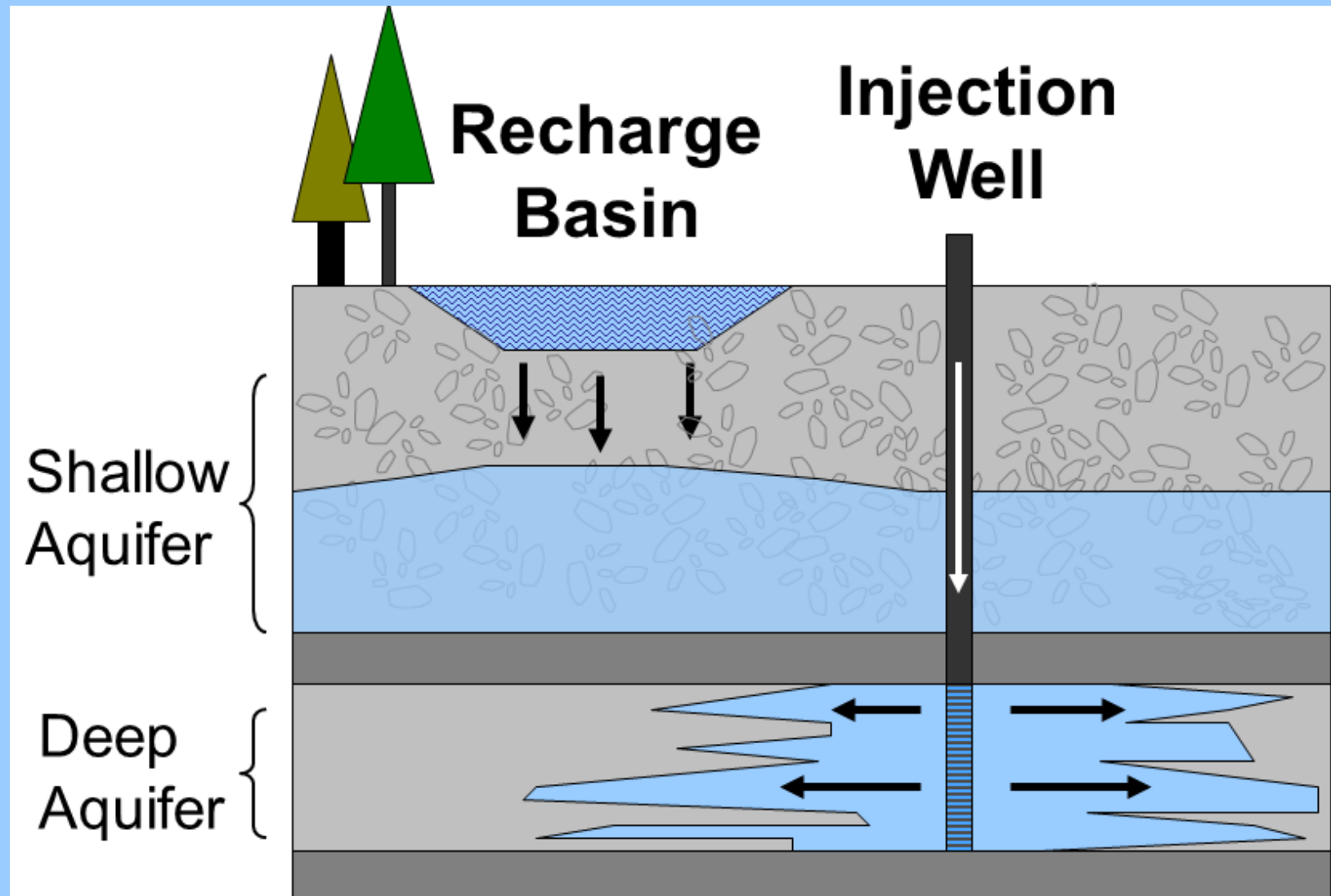
**More  
Permeable  
= More flow**



**Less  
Permeable  
= Less flow**

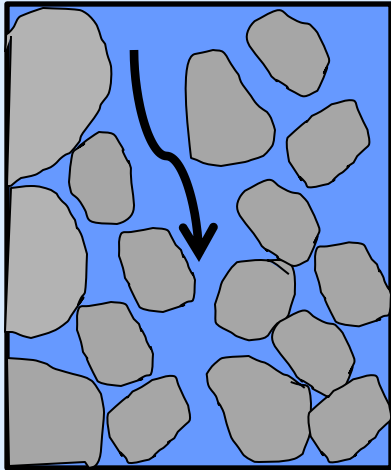


# What is Aquifer Recharge?



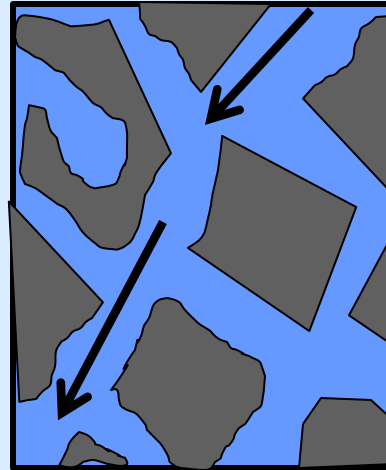
# Aquifer Storage Capacity

## Pore Space

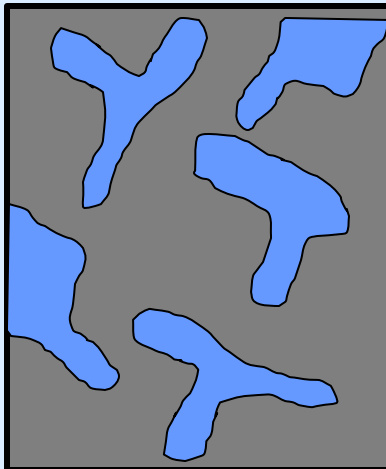
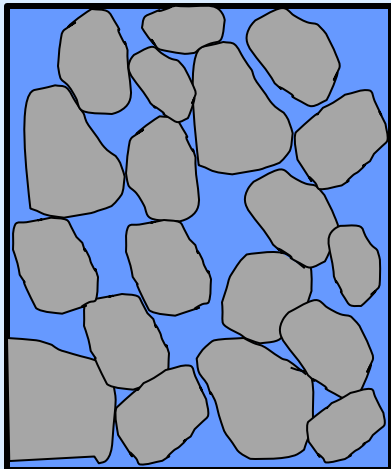


More  
Storage

## Fractures

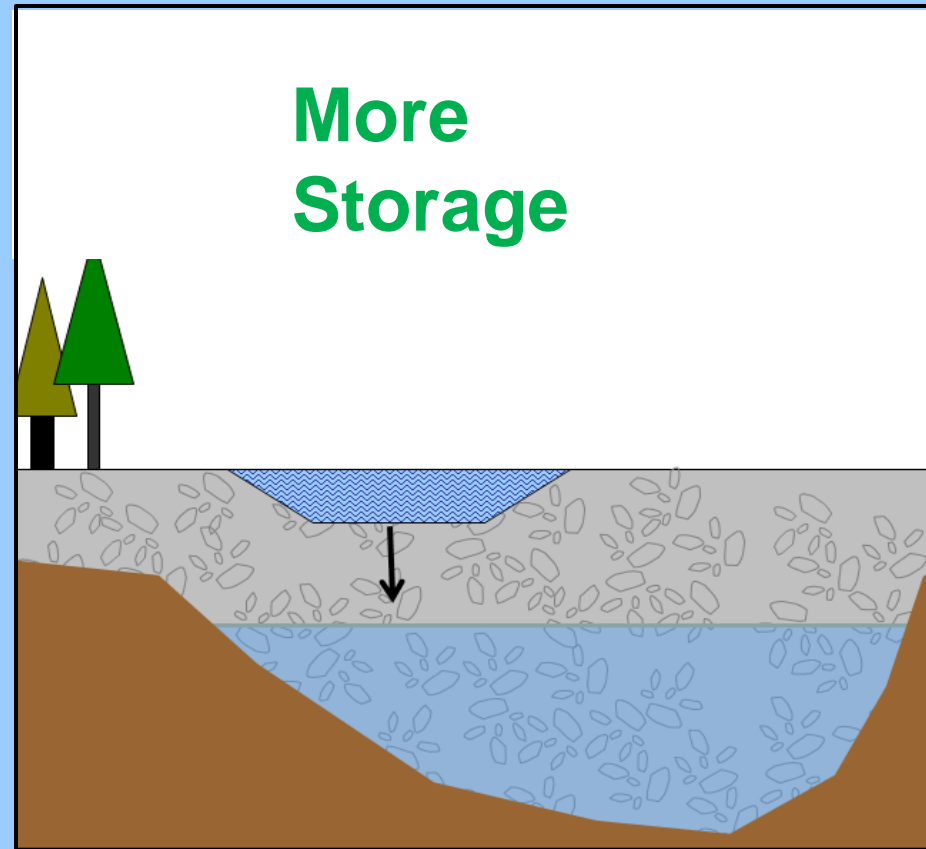


Less  
Storage

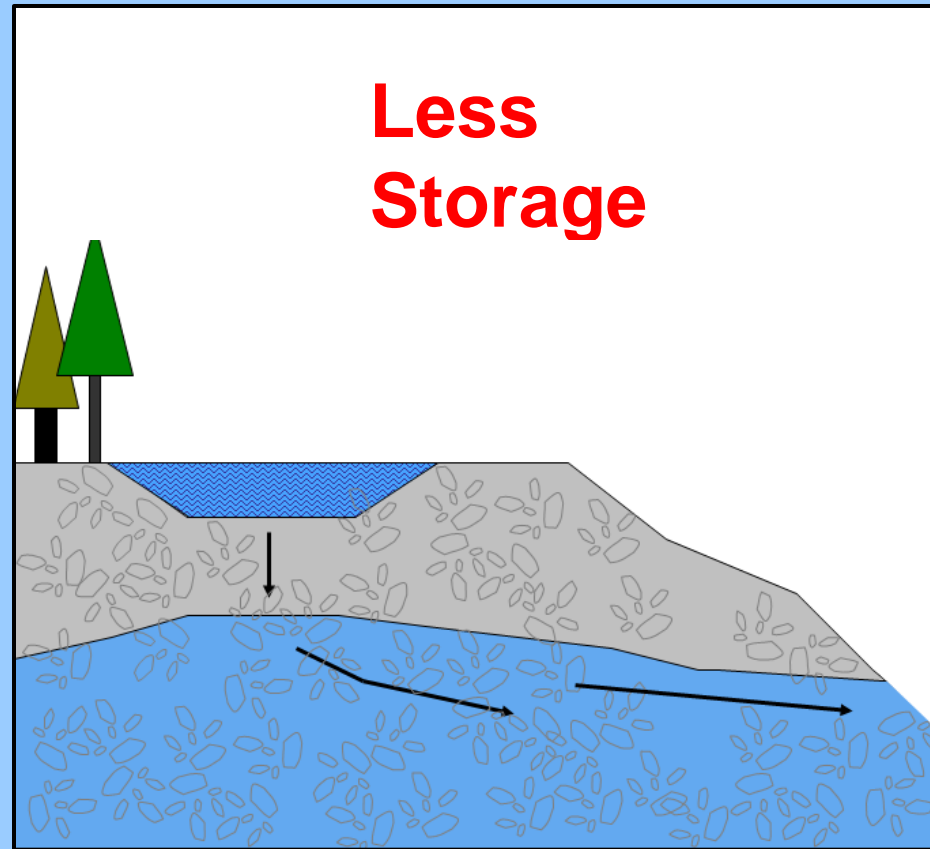


# Aquifer Recharge Potential

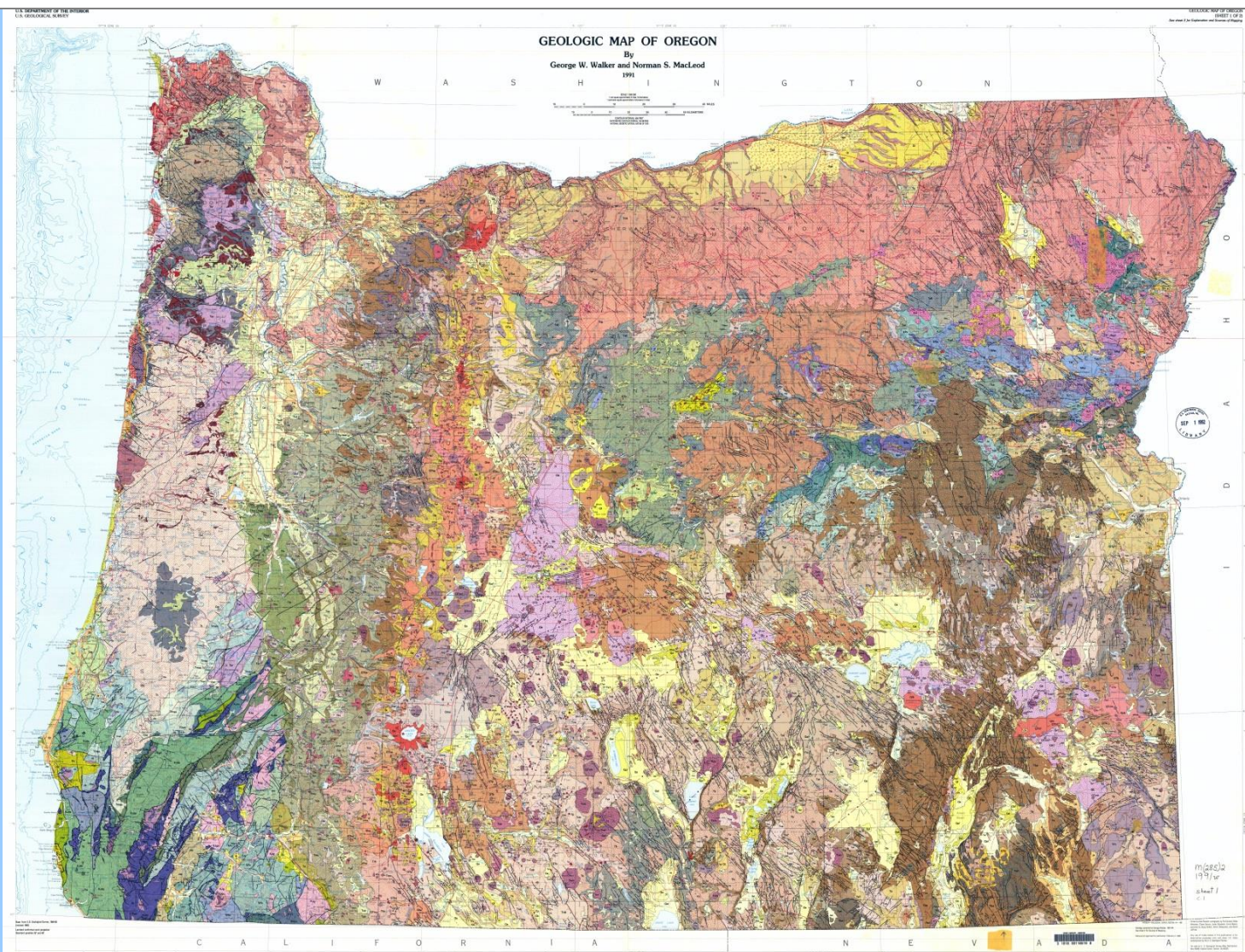
**More  
Storage**



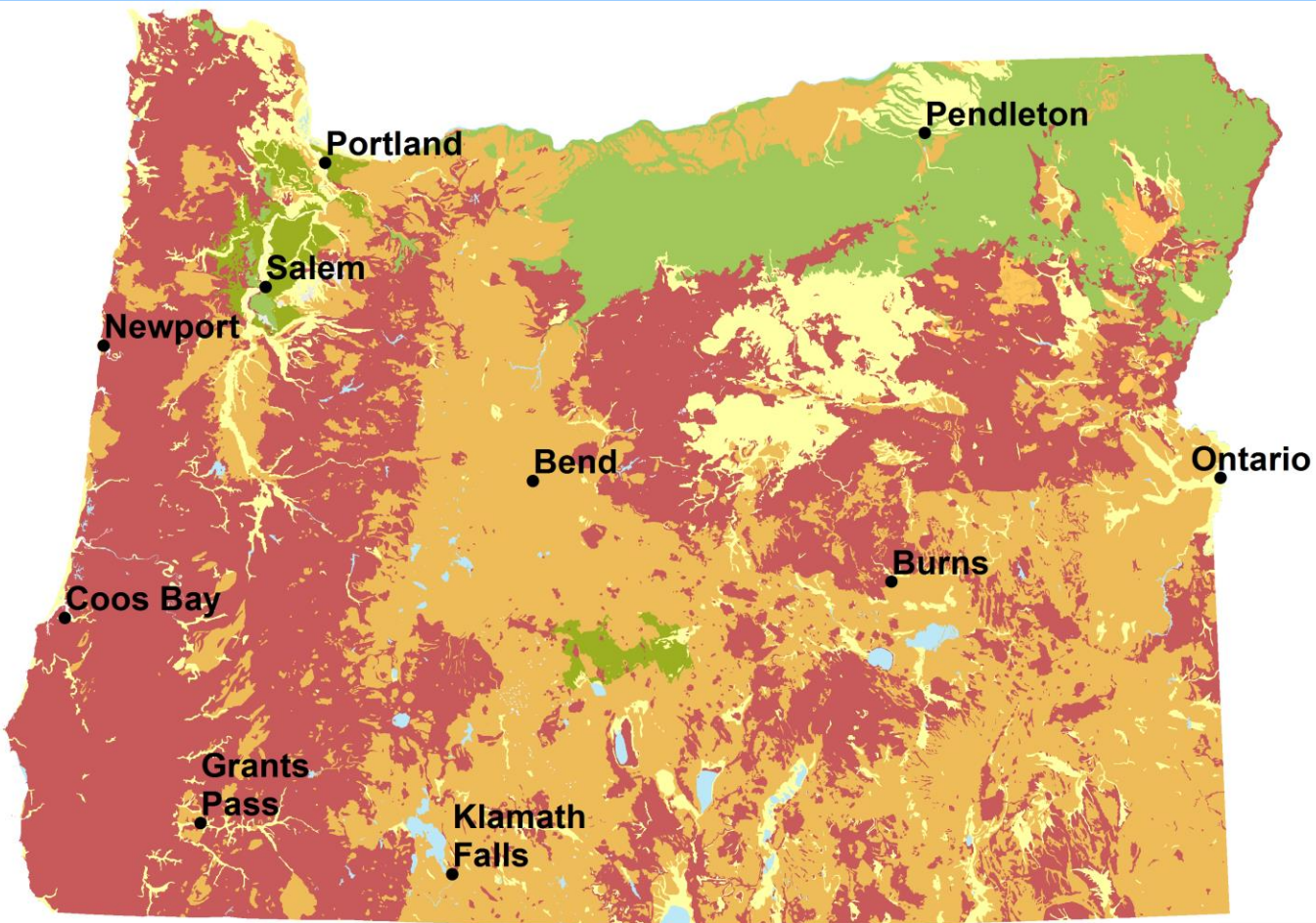
**Less  
Storage**



# Oregon Geology



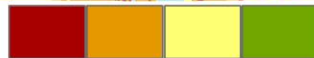
# Geologic Suitability for Underground Storage



**More Storage:**  
Layered Volcanics  
(Columbia River  
Basalts), Coarse  
Sediments

**Less Storage:**  
Fractured Rocks of  
Southwest and  
Coast Range

Less Storage

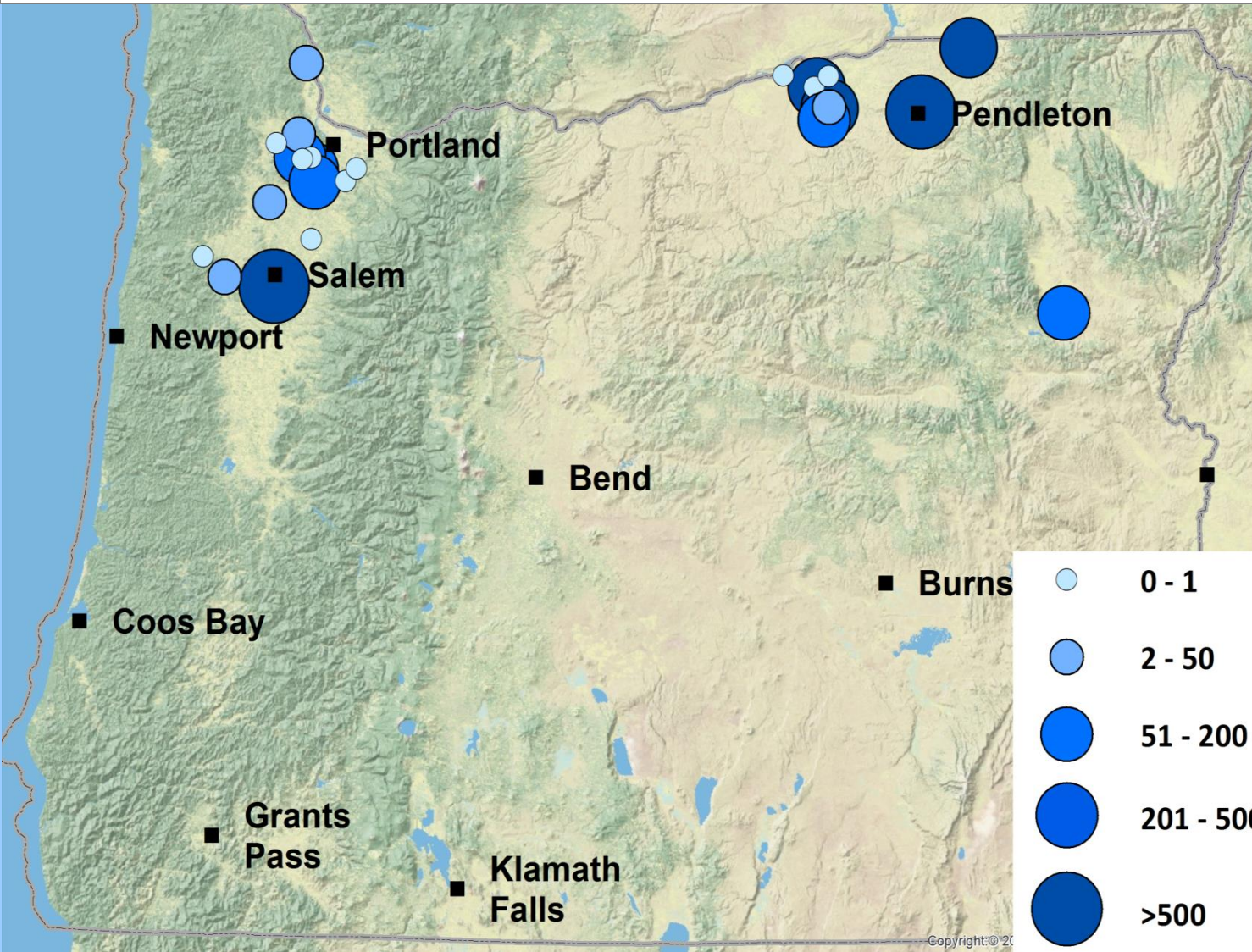


More Storage





# Permitted Groundwater Recharge Sites

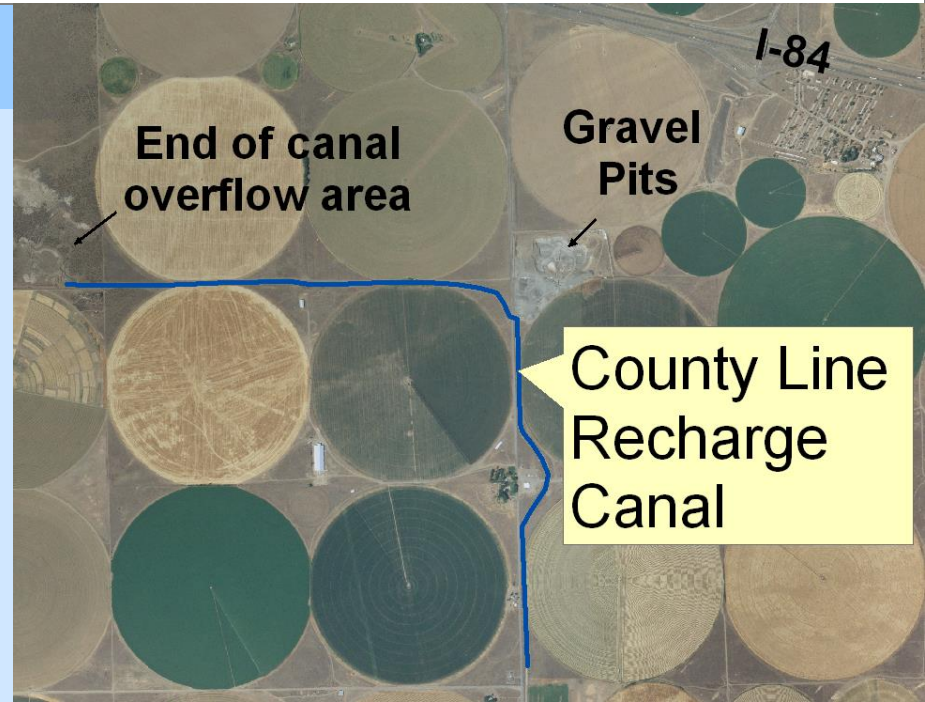


**2015  
Storage  
Volumes:**

**1 MG (3 AF)  
to  
1.8 BG  
(5,660 AF)**

# Project Examples

- **County Line**
- **Began in 1978**
- **2 Billion Gallons/  
Year (6,000 AF)**
- **Gravel aquifer,  
irrigation**
- **Umatilla River Source**

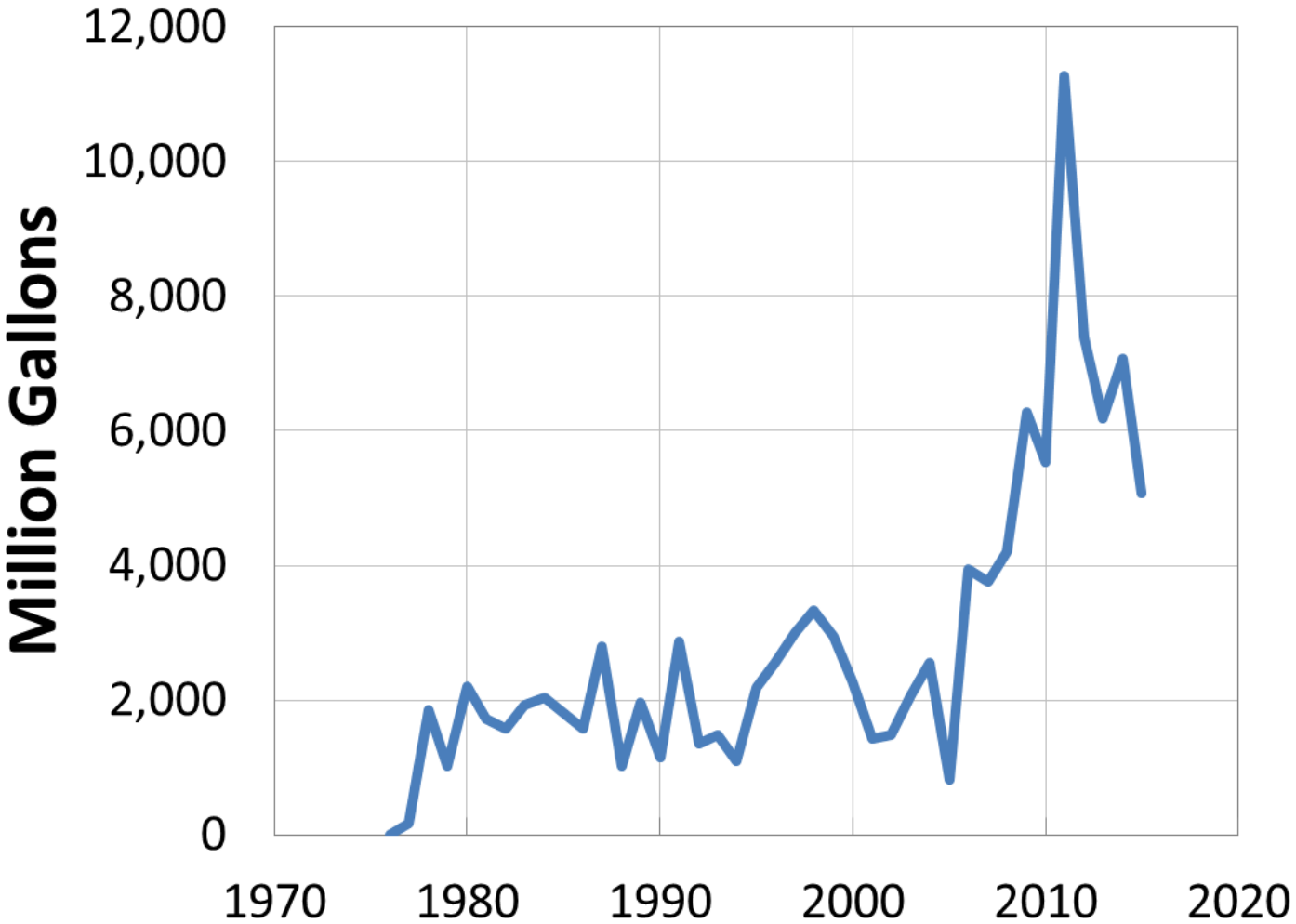


# Project Examples

- **City of Salem**
- **Began in 1997**
- **500 Million Gallons/year  
(1,534 AF)**
- **Basalt aquifer, municipal  
supply**
- **North Santiam River Source**



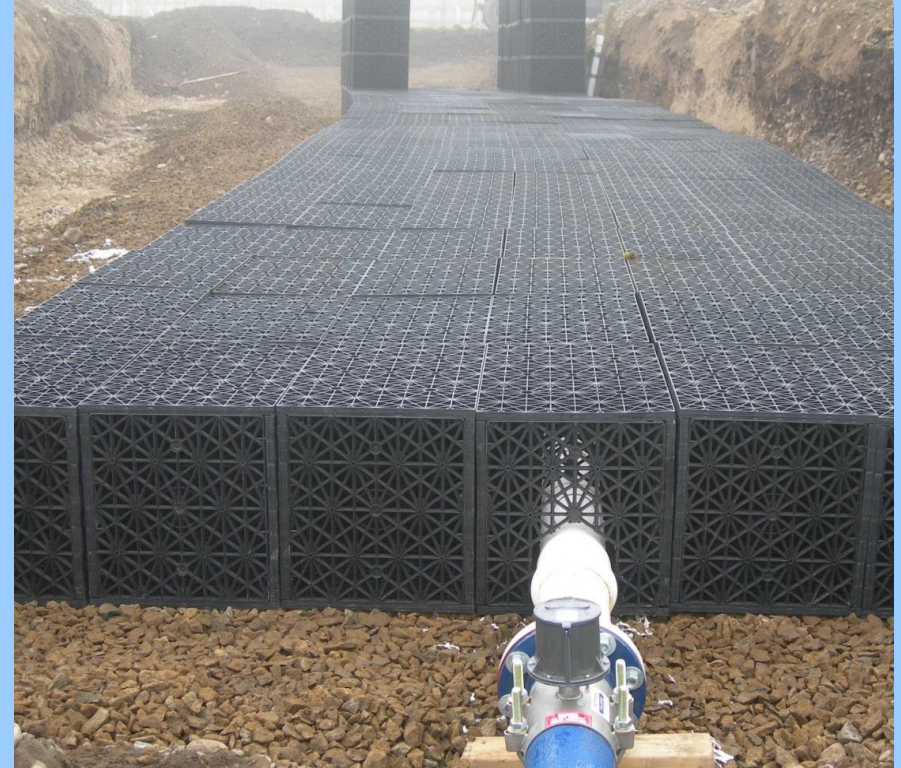
# Total Annual Storage in Oregon



**2011= Wet year**

**2015= Drought**

# Questions?



**OWRD Legislative Contact:**  
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