



**DESCHUTES RIVER
CONSERVANCY**

Water in Central Oregon

City Club, May 15, 2014

Tod Heisler, Executive Director

Is There Enough Water?

It Depends...

- Hydrology/ Geology 101
- Water Rights 101

Source of our Water

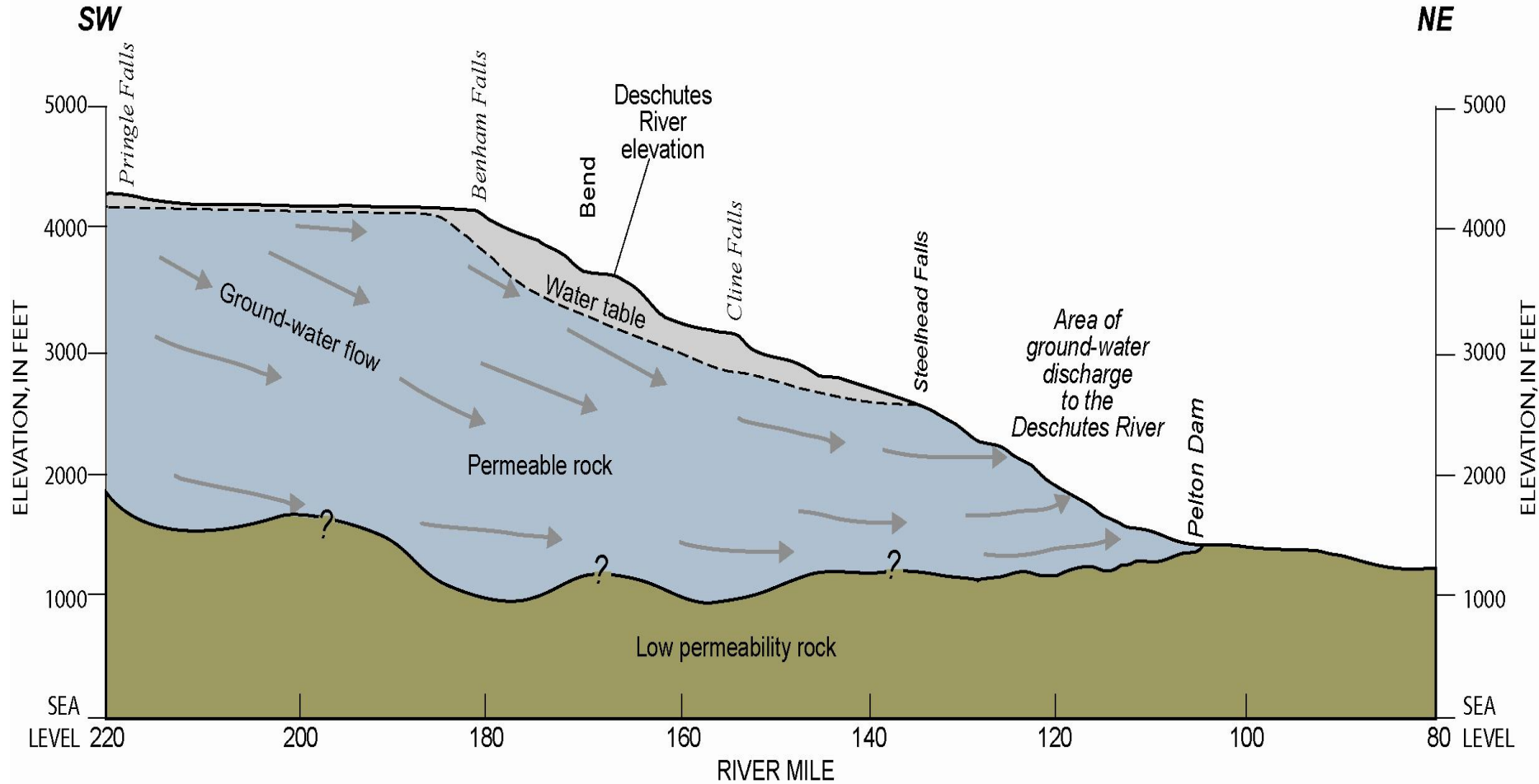


Over 80 inches precip

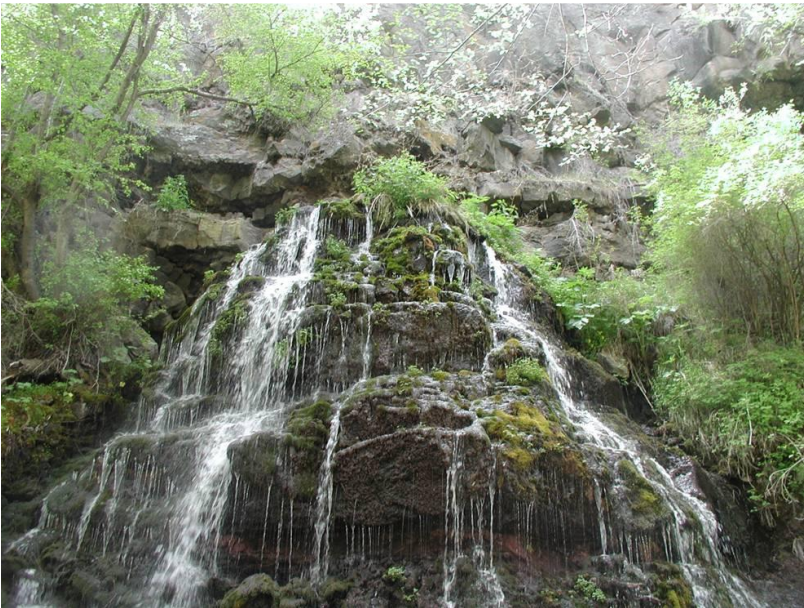
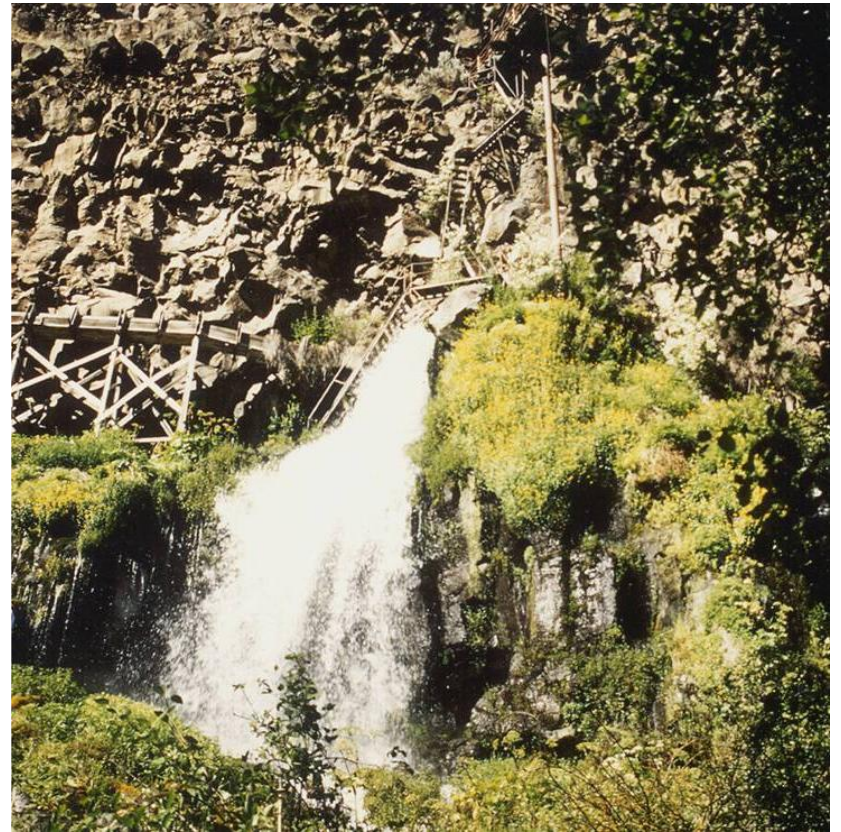
10 inches precip



Hydro-geology 101



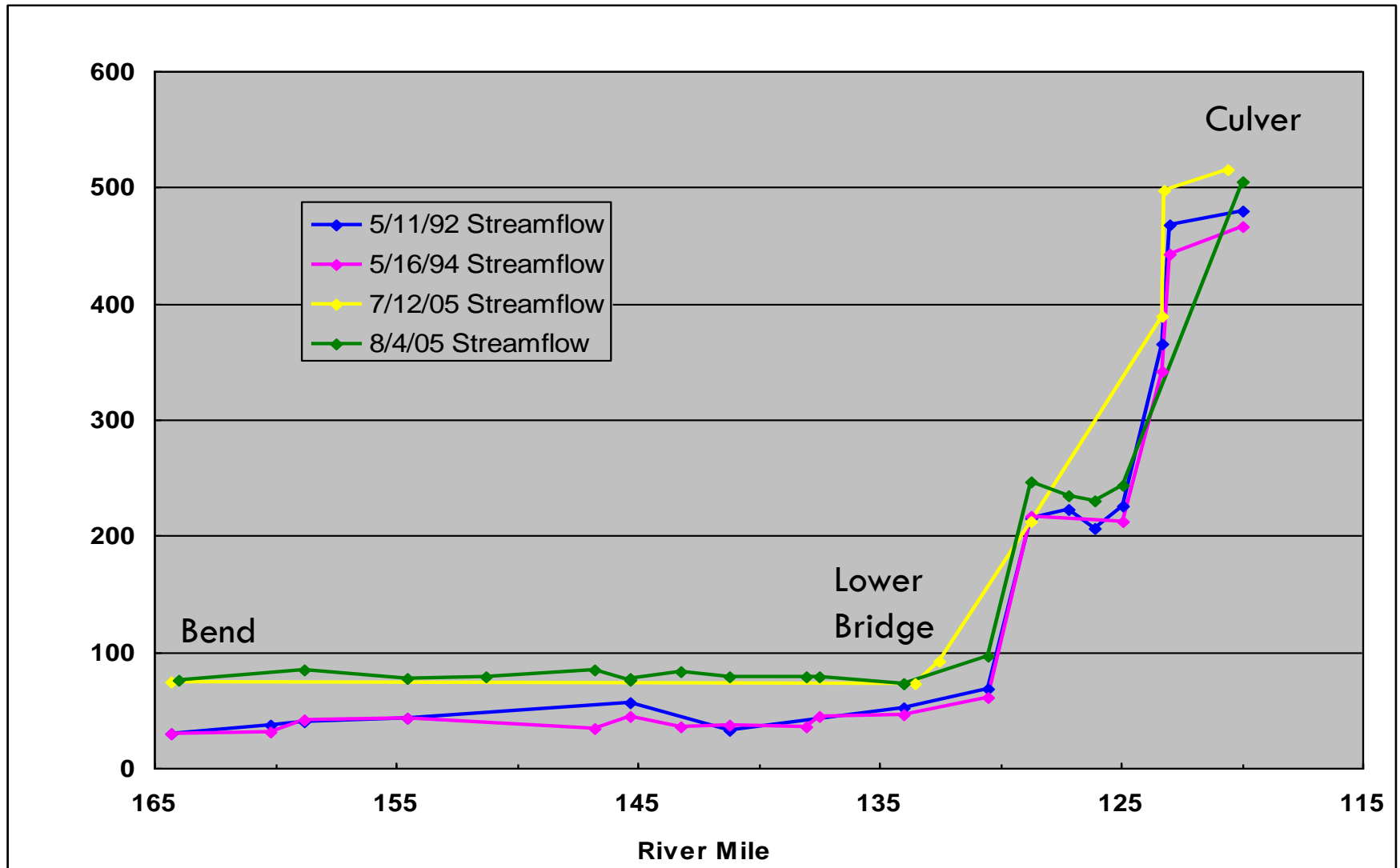
Crooked River Canyon Springs



Headwaters of Fall River



Groundwater Inflow 430cfs



Largest Spring-fed River in U.S



What's the Problem?



Water Management Policies and Practices

Water Rights 101

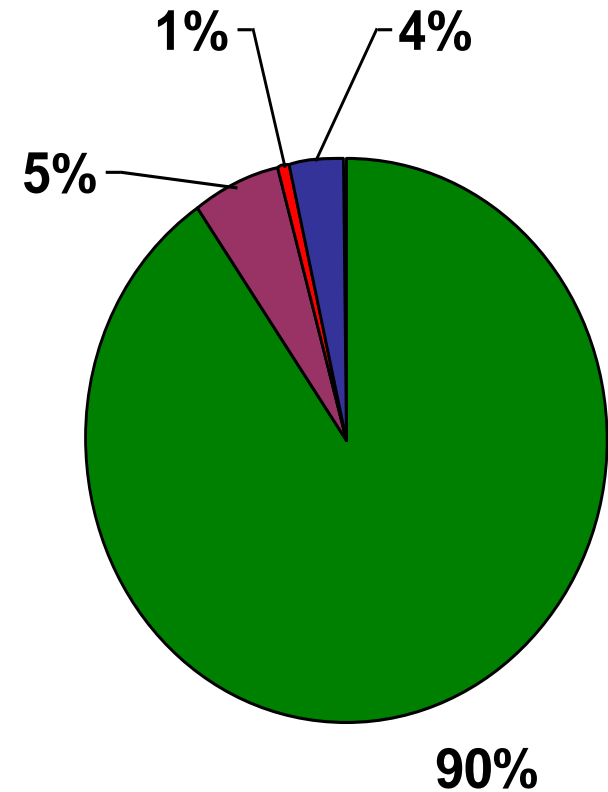
Who Owns the Water?

The Public

What is a Water Right?

A permit, permission,
by the state to use the
public's water.

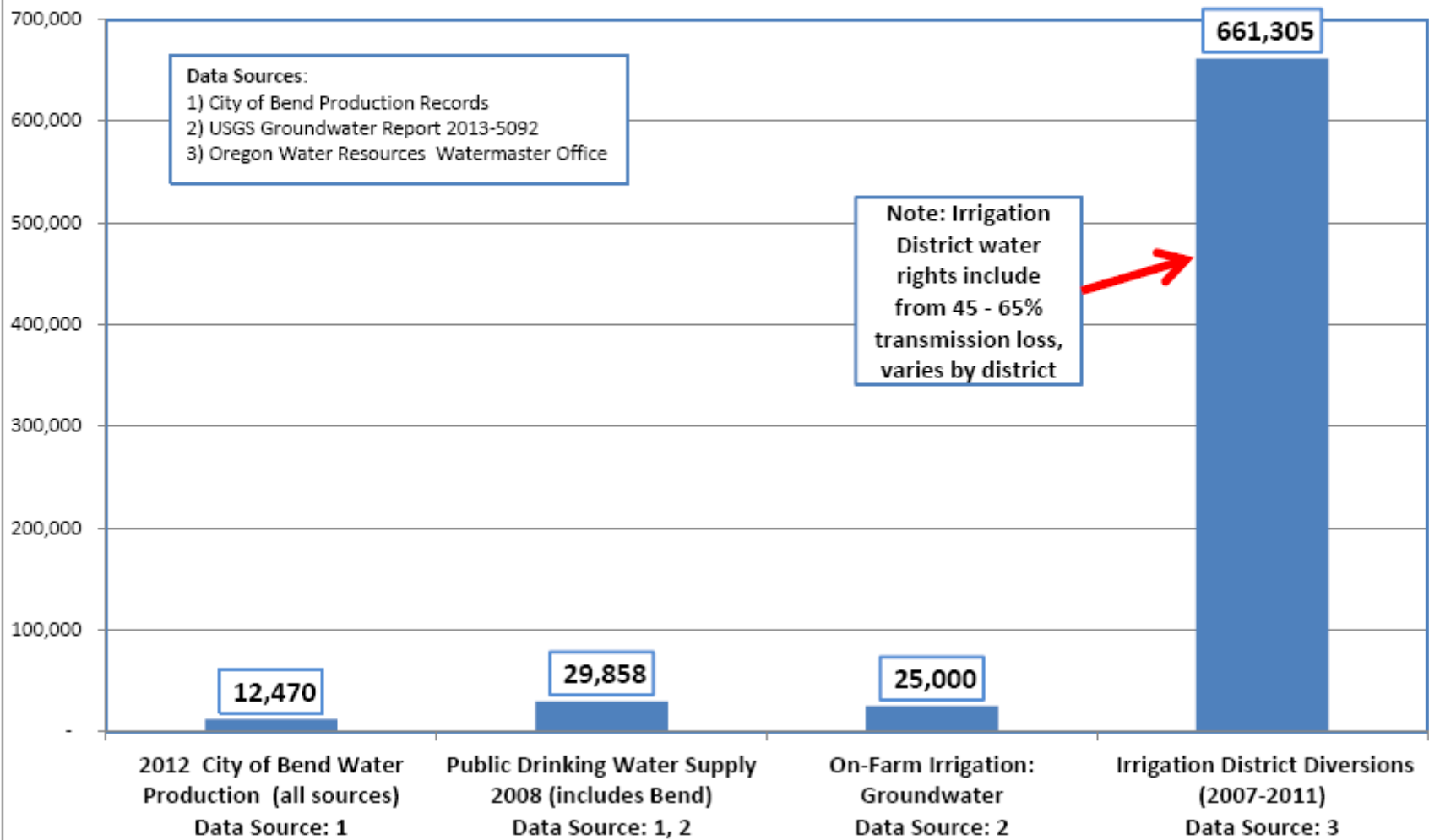
Who Owns the Water Rights?



all figures in acres of beneficial use equivalents

Deschutes Basin: "Magnitudes of Use Comparison Chart"

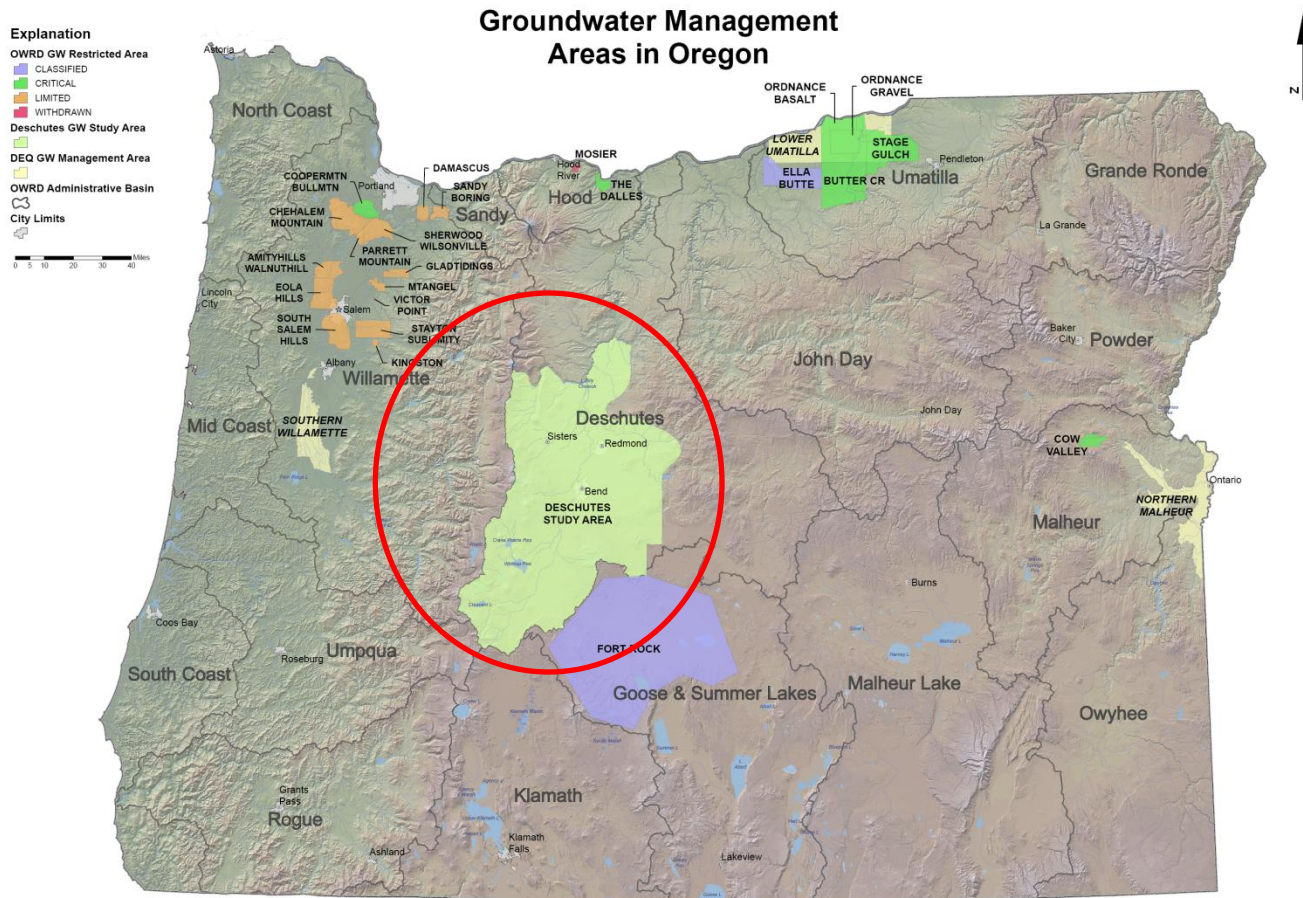
Annual Diversion by Major User Groups - (All Water Uses not Included)
(Districts divert for 180 Day Irrigation Season, Bend and Public Supply are 365 day totals)
(Acre Feet)



History of Water Management

- 1913** Most summer water is appropriated for agriculture.
- 1970s** Cities go to groundwater.
- 1990s** Moratorium declared on new groundwater permits.
- 2002** New groundwater rules. Permits require mitigation.

Groundwater Mitigation Area



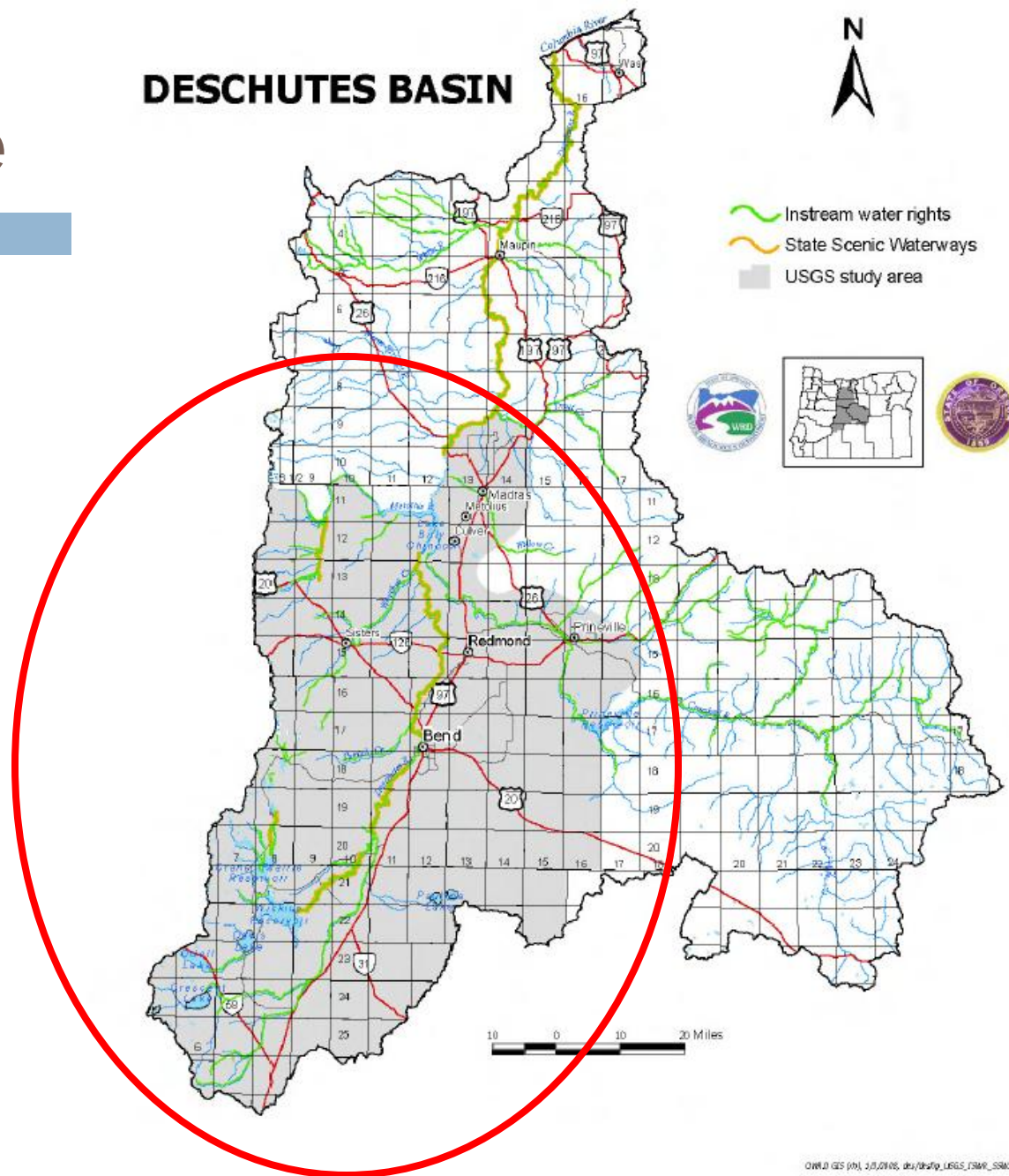
CAP & Trade

No “New” Water Available in the Basin

Mitigation required for any new GW

Mitigation comes from existing rights

DESCHUTES BASIN



Prior Appropriation Doctrine

Swalley	1899
Central Oregon	1900
Lone Pine	1900
Tumalo	1905
Arnold	1905
Central Oregon	1907
North Unit	1913

NUID Commercial Farming



Over-Appropriated Rivers

□ Whychus Creek Example

- 208 cfs -- water rights granted by 1900

- 116 cfs – average flow of the creek in August

Over-Appropriated Rivers



WHYCHUS CREEK, SISTERS

MIDDLE DESCHUTES

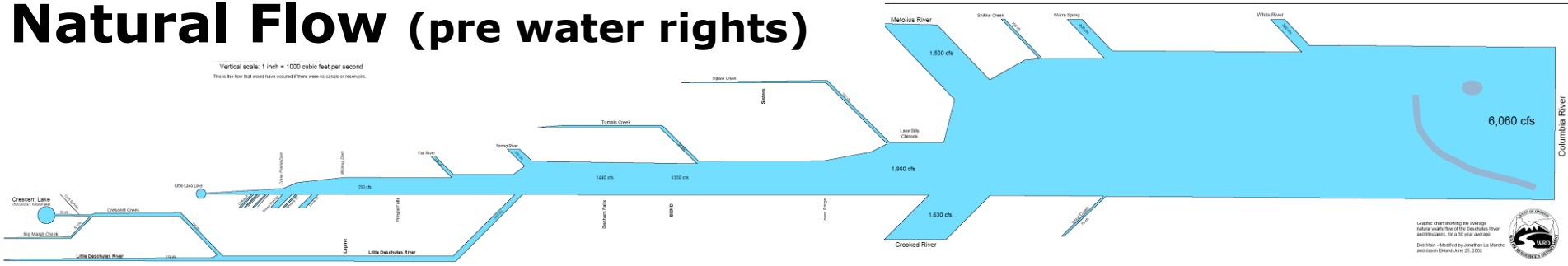


Blue Whale

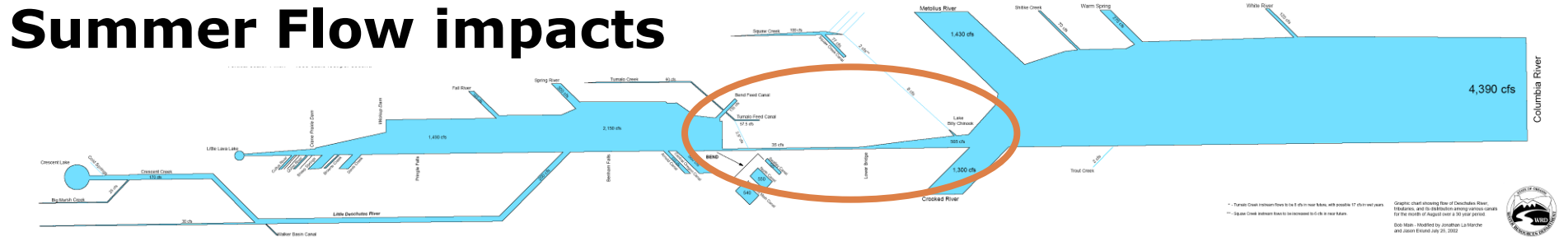
A big picture look at flows

(30 yr flow averages)

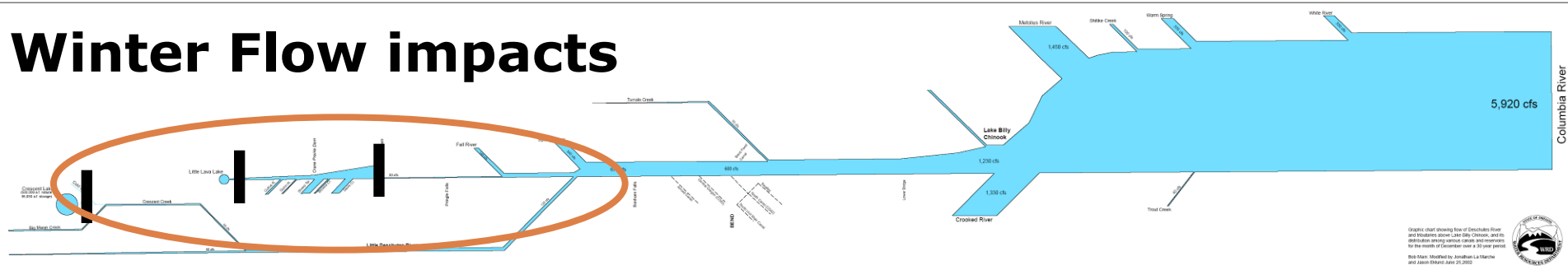
Natural Flow (pre water rights)



Summer Flow impacts



Winter Flow impacts



Is There Enough Water ?

- The rivers and streams – over appropriation.
- Junior water right holders – commercial agriculture.
- The Cities – uncertain supply of mitigation in a capped basin.

How to Find Better Distribution?

- Only through cooperation of all basin stakeholders
 - Municipal
 - Agricultural
 - Environmental



Questions?

