

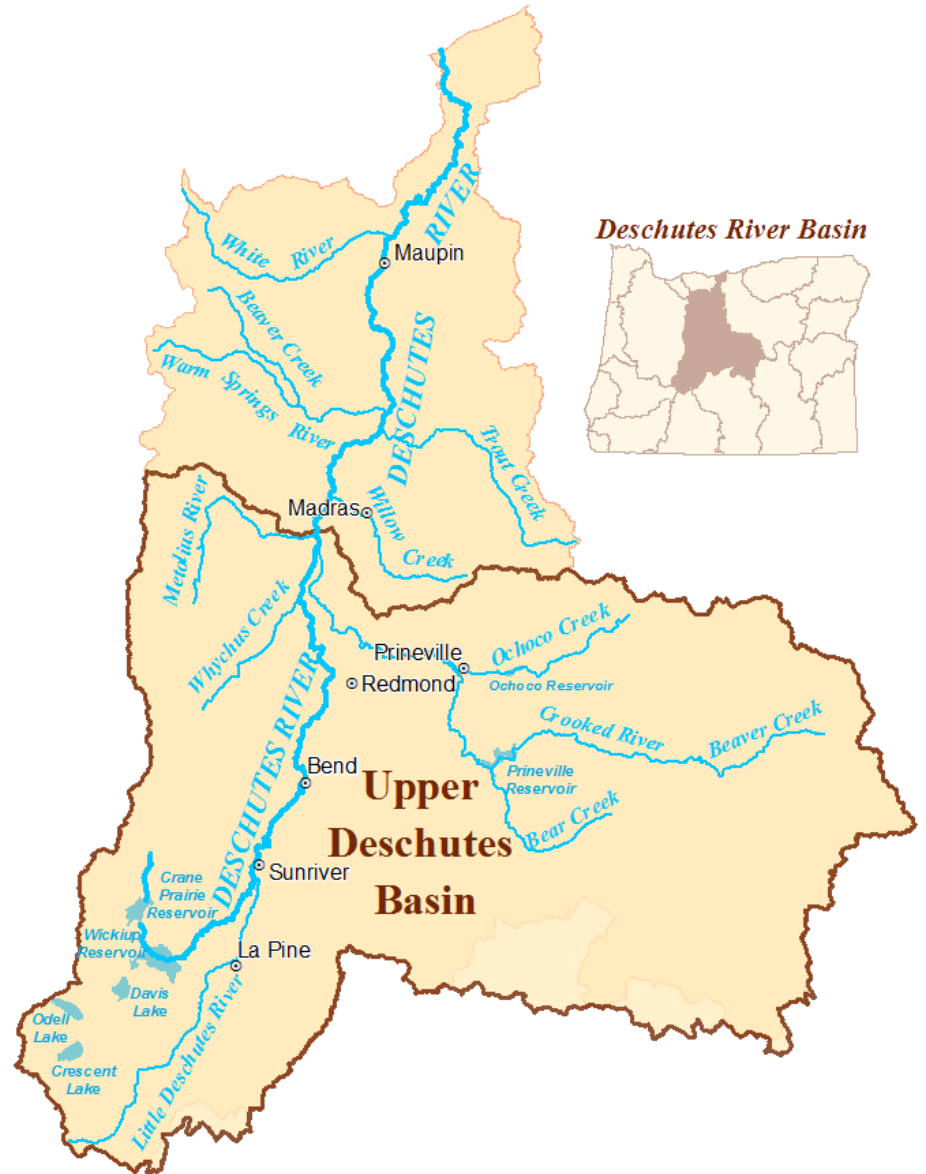


THE UPPER DESCHUTES BASIN STUDY

Water for agriculture, rivers & cities



How do we meet current and future water needs?



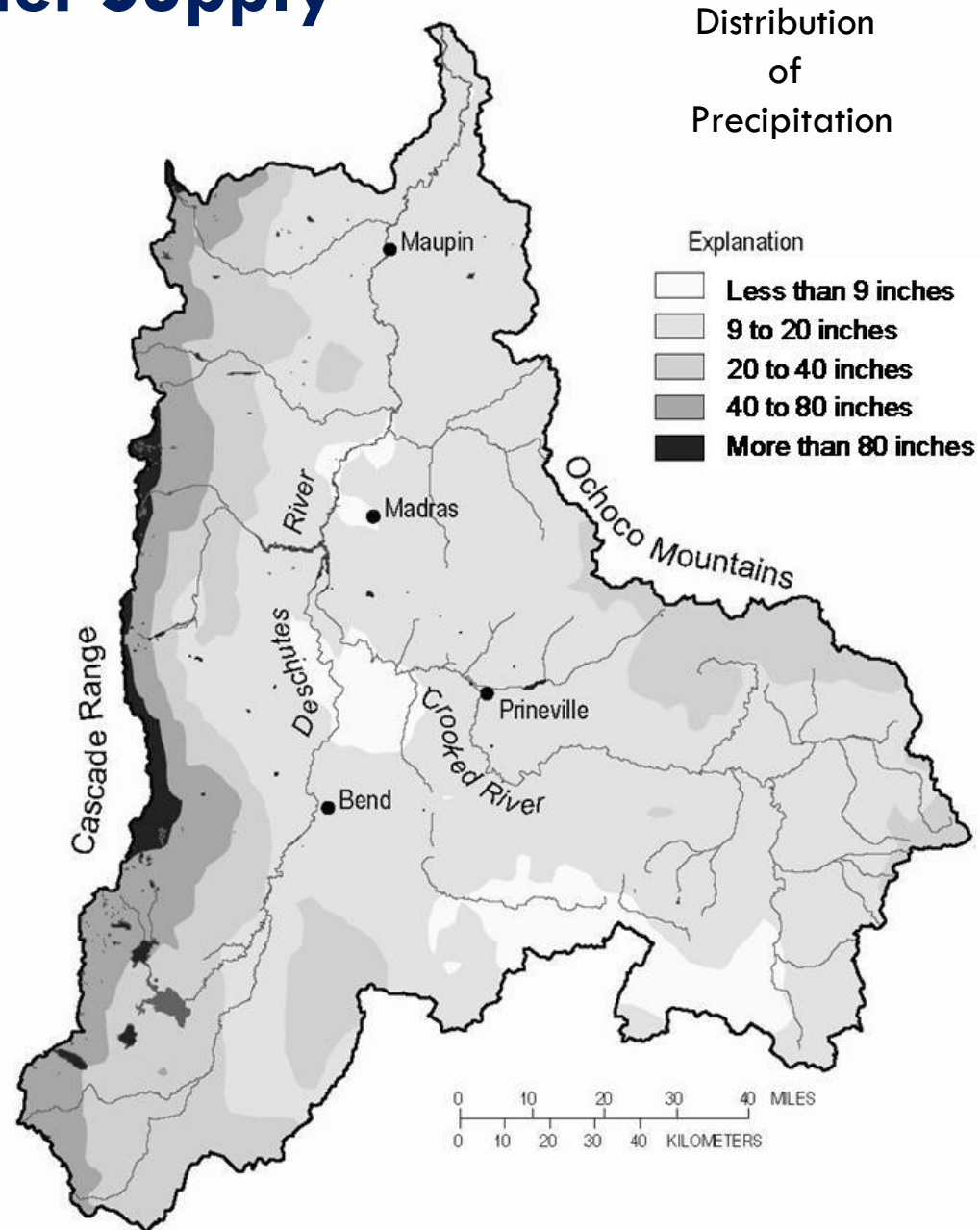
Our Water Supply



Over 80 inches



10 inches



How is Water Managed?

- The public owns the water.
- Water right- rights to use that water according to:
 - Prior Appropriation- “first in time, first in right”
 - ‘beneficial use’
 - Place of use
 - Season of use



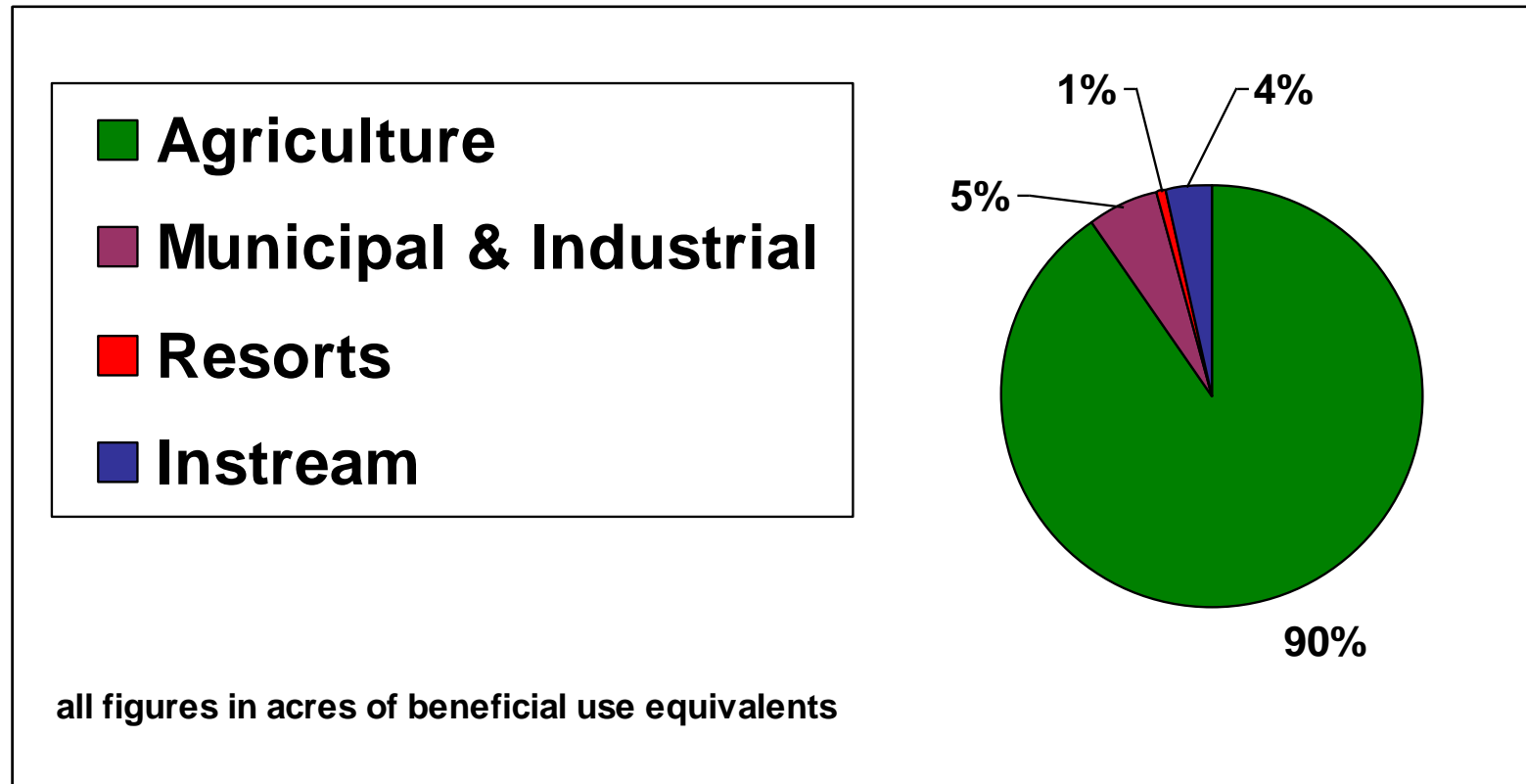
Water Rights in the Deschutes Basin

- No “new” water available
- Surface water fully allocated
- Mitigation required for any new groundwater
- Mitigation comes from existing rights



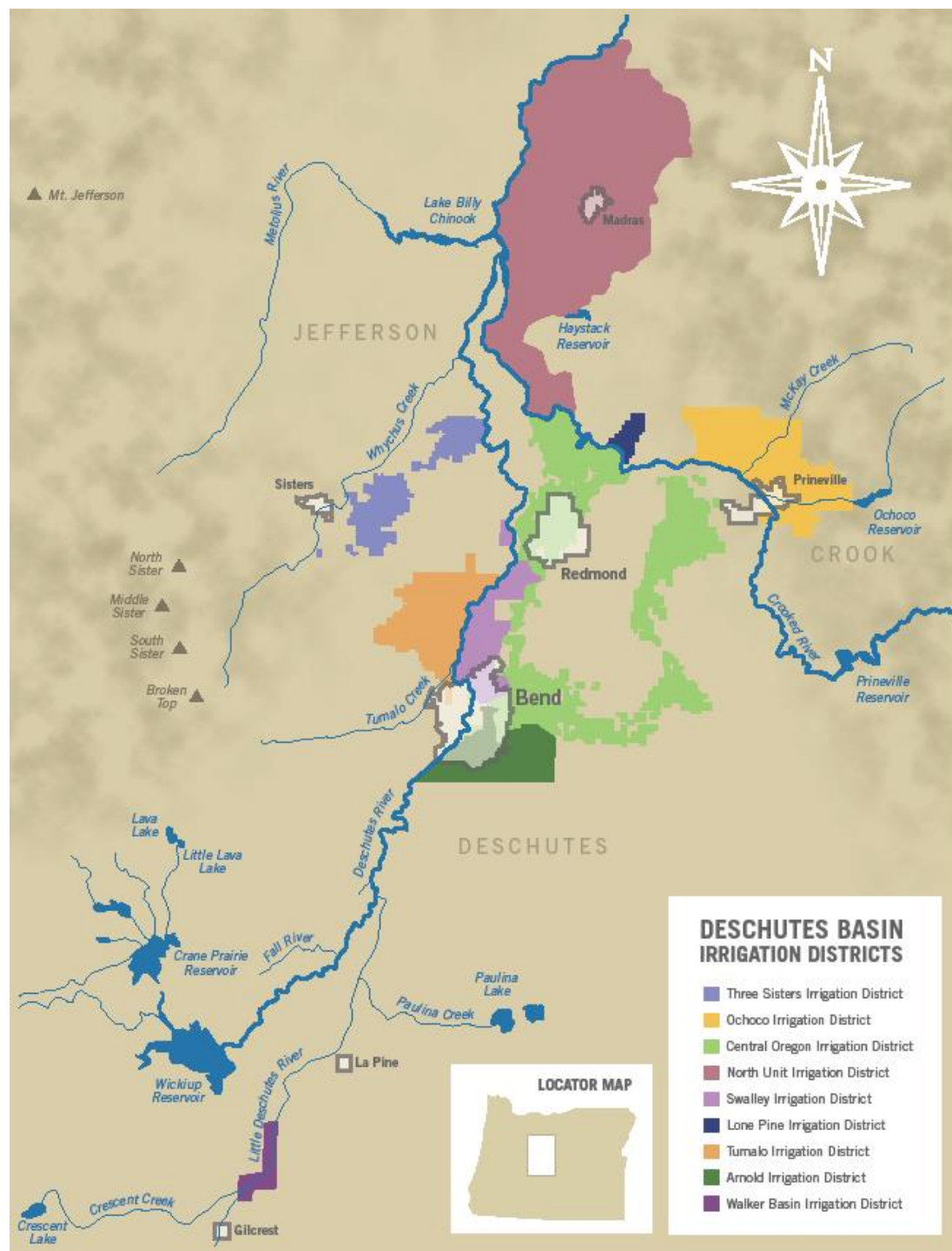
Distribution of Water Rights*

2006 DWA Studies



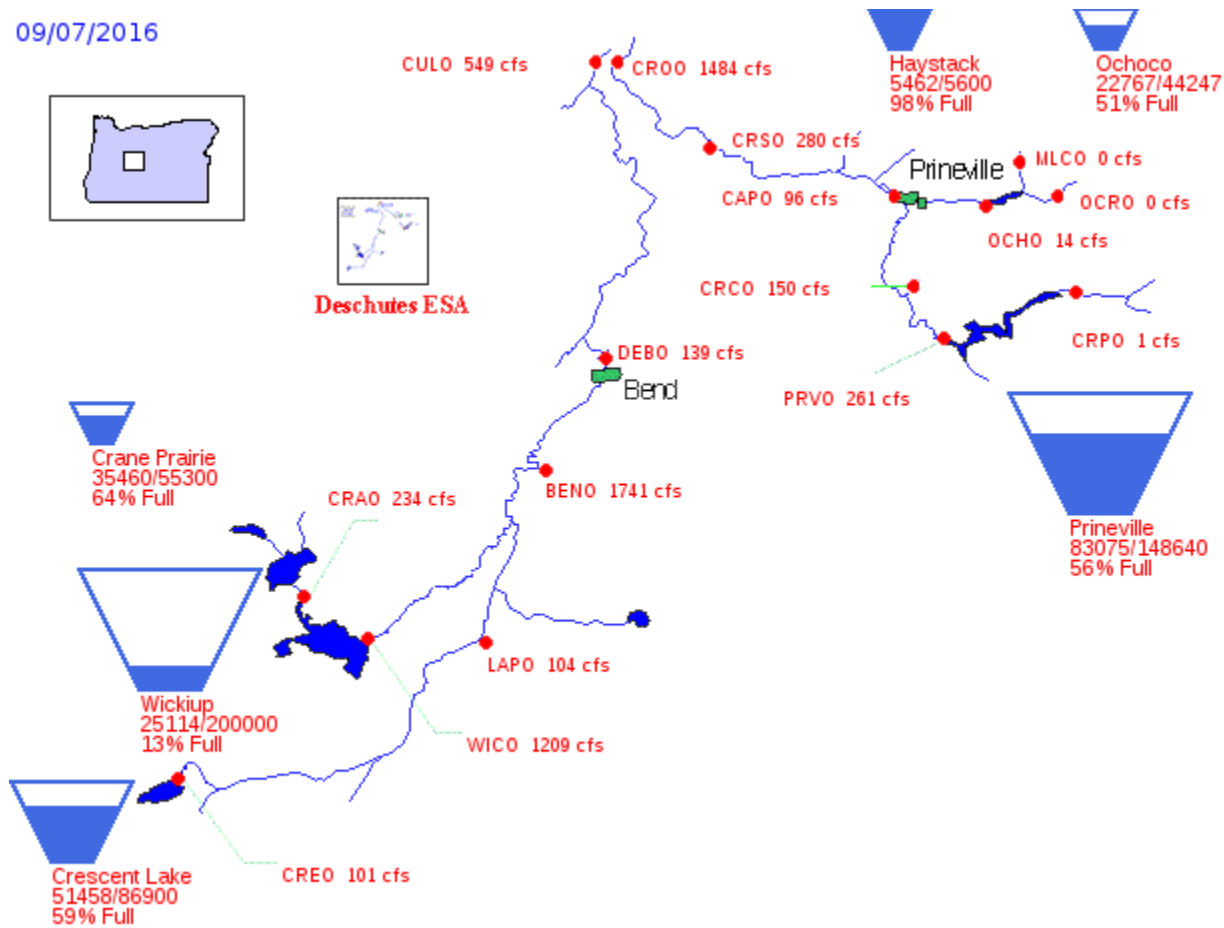
*"Instream" reflects protected (senior) water rights (temporary and permanent), not necessarily what is instream throughout the year.

Eight Irrigation Districts



Central Oregon Reservoirs

09/07/2016



**Bureau of Reclamation
"Teacup" Diagram**



Upper Deschutes
Low Winter Flows



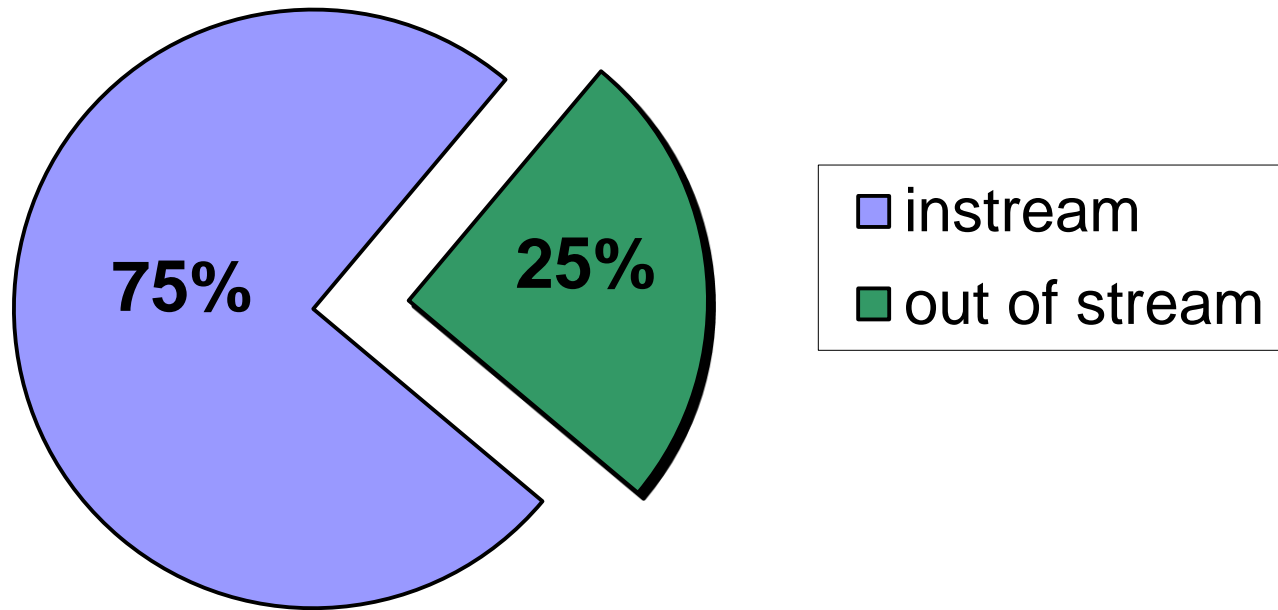
Upper Deschutes
High Summer Flows

Who needs more water?

- **Rivers and streams** – over appropriation and flow alteration.
- **Junior water right holders** – production agriculture.
- **The Cities** – uncertain supply for growing populations.
- **Climate change** may increase shortfalls

Who needs more water?

Estimated Supply Shortfall (2006 DWA Studies to 2025)

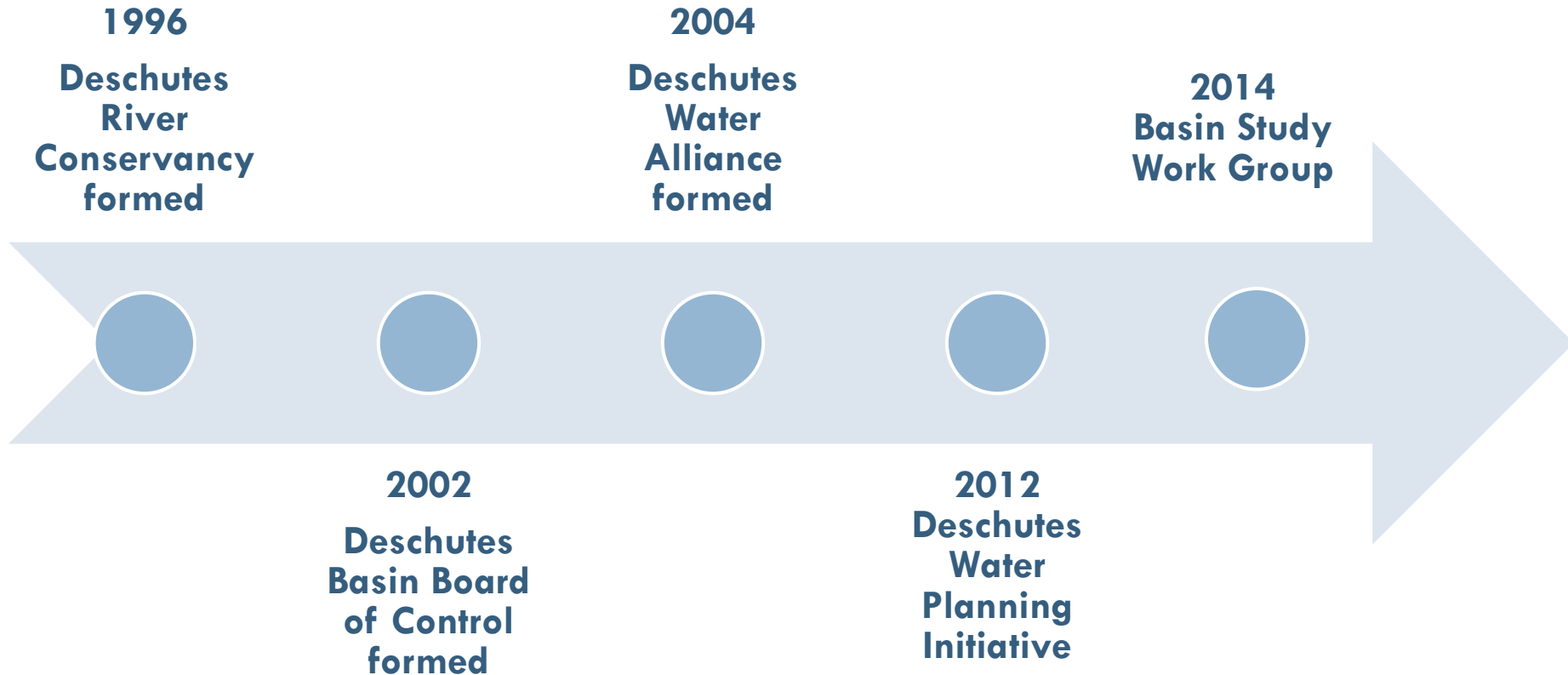


how to address imbalances in supply and demand?

through cooperation of all basin stakeholders



History of Working Together



Progress



Whychus Creek

0 cfs → 20+ cfs



**Middle
Deschutes**

30 cfs → 130 cfs



There is more work to do...



Upper Deschutes River



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Generate information to meet 50 year water supply needs for:

- The Deschutes River system
- Irrigated agriculture
- Municipalities/water providers

\$1.5 Million (Federal/State)





THE UPPER DESCHUTES BASIN STUDY

Water for agriculture, rivers & cities

Objectives of Basin Study

- Analyze water supply and demand, incorporating climate change projections
- Analyze how existing operations will perform, how demands will be met
- Develop options to address water imbalances
- Analyze effectiveness, cost, environmental impact, risk, stakeholder response, and other attributes of identified options

Basin Study Work Group

- **Central Oregon Irrigation District**
- **North Unit Irrigation District**
- **Arnold Irrigation District**
- **Swalley Irrigation District**
- **Lone Pine Irrigation District**
- **Tumalo Irrigation District**
- **Ochoco Irrigation District**
- **Three Sisters Irrigation District**
- **City of Bend**
- **Avion**
- **City of Madras**
- **City of Redmond**
- **City of LaPine**
- **City of Prineville**
- **USDA Forest Service**
- **Department of Environmental Quality**
- **US Fish and Wildlife Service**
- **Confederated Tribes of Warm Springs**
- **Deschutes County**
- **Coalition for the Deschutes**
- **Crooked River Watershed Council**
- **Upper Deschutes Watershed Council**
- **Upper Deschutes River Coalition**
- **Central Oregon Flyfishers**
- **Deschutes River Conservancy**
- **Trout Unlimited**
- **Native Reintroduction Network**
- **Bureau of Reclamation**
- **Oregon Water Resources Department**
- **Oregon Land and Water Alliance**
- **Oregon Department of Agriculture**
- **Deschutes Soil and Water Conservation District**
- **Portland General Electric**
- **WaterWatch**
- **Deschutes Water Alliance**
- **Bend Paddle Trail Alliance**

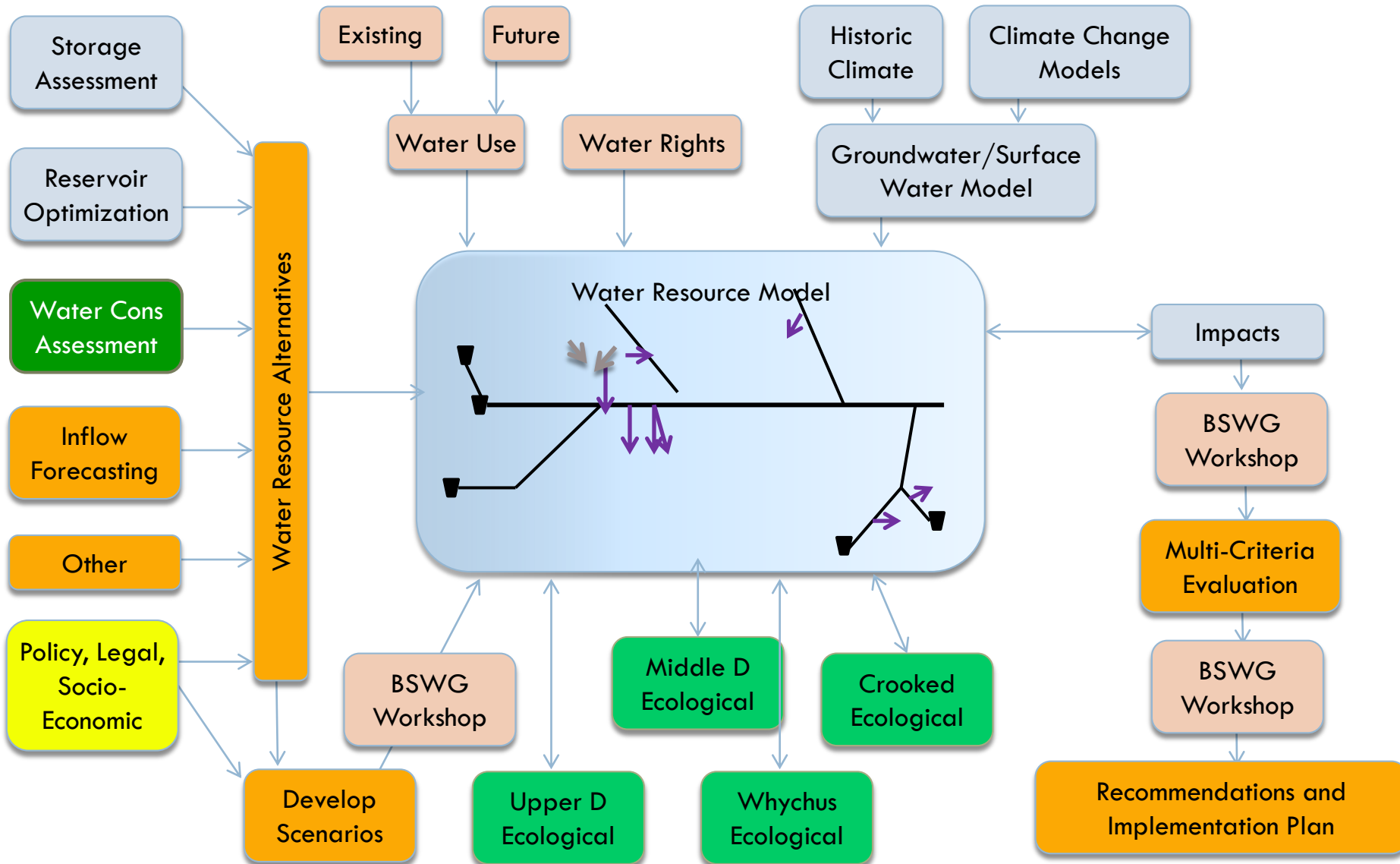


THE UPPER DESCHUTES BASIN STUDY

Water for agriculture, rivers & cities



Basin Study - Overview



Phase I: Study Development (2014-15)

Grant Secured

Plan of Study Development

Study Team Hired



Phase 2: Building Blocks (2015-16)

Model Development

Refining Demand

Water Supply Alternatives



Phase 3: Scenarios (2016-17)

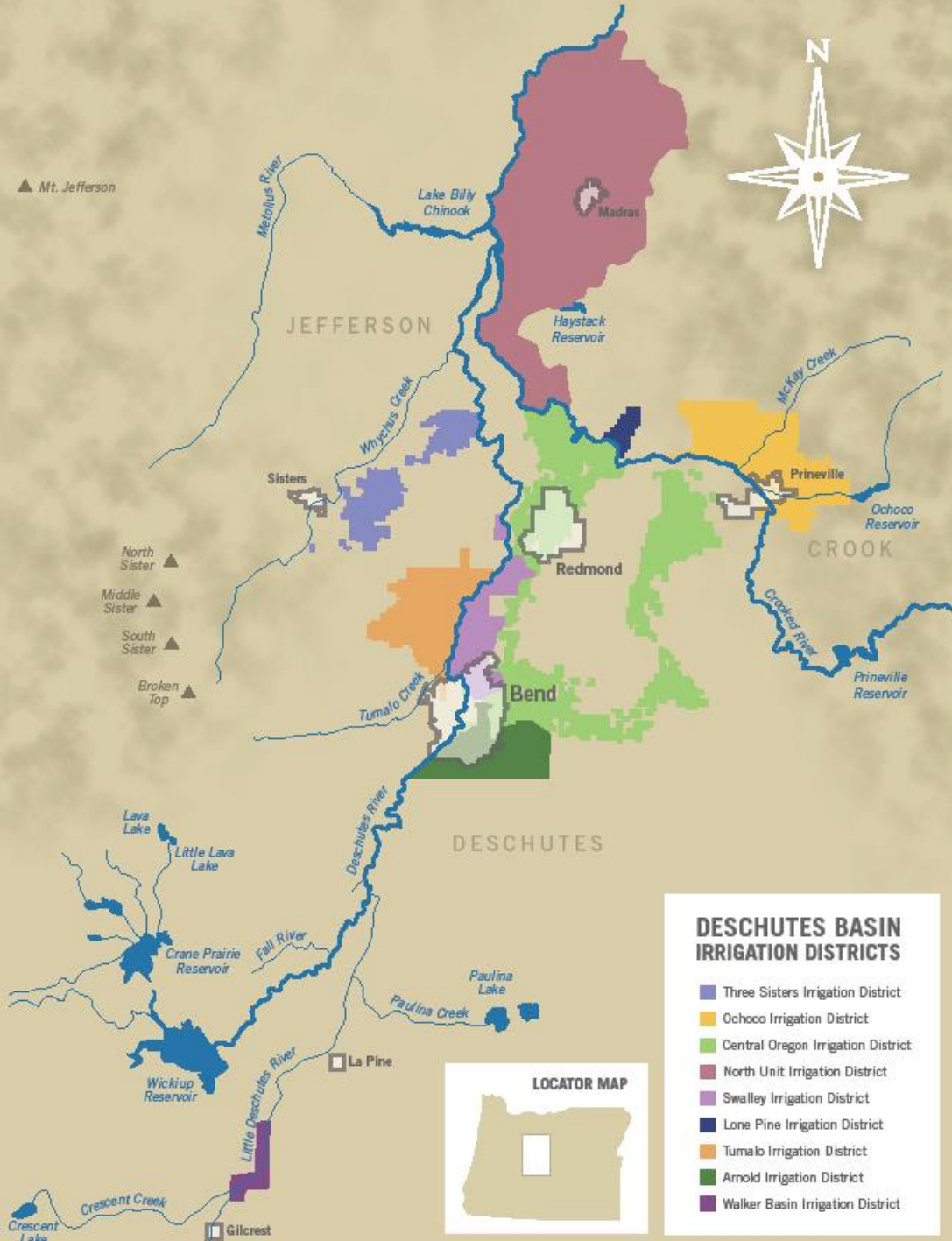
Develop Water Resource Scenarios

Model Water Resources Scenarios



Phase 4: Evaluation/Conclusions (2017-18)

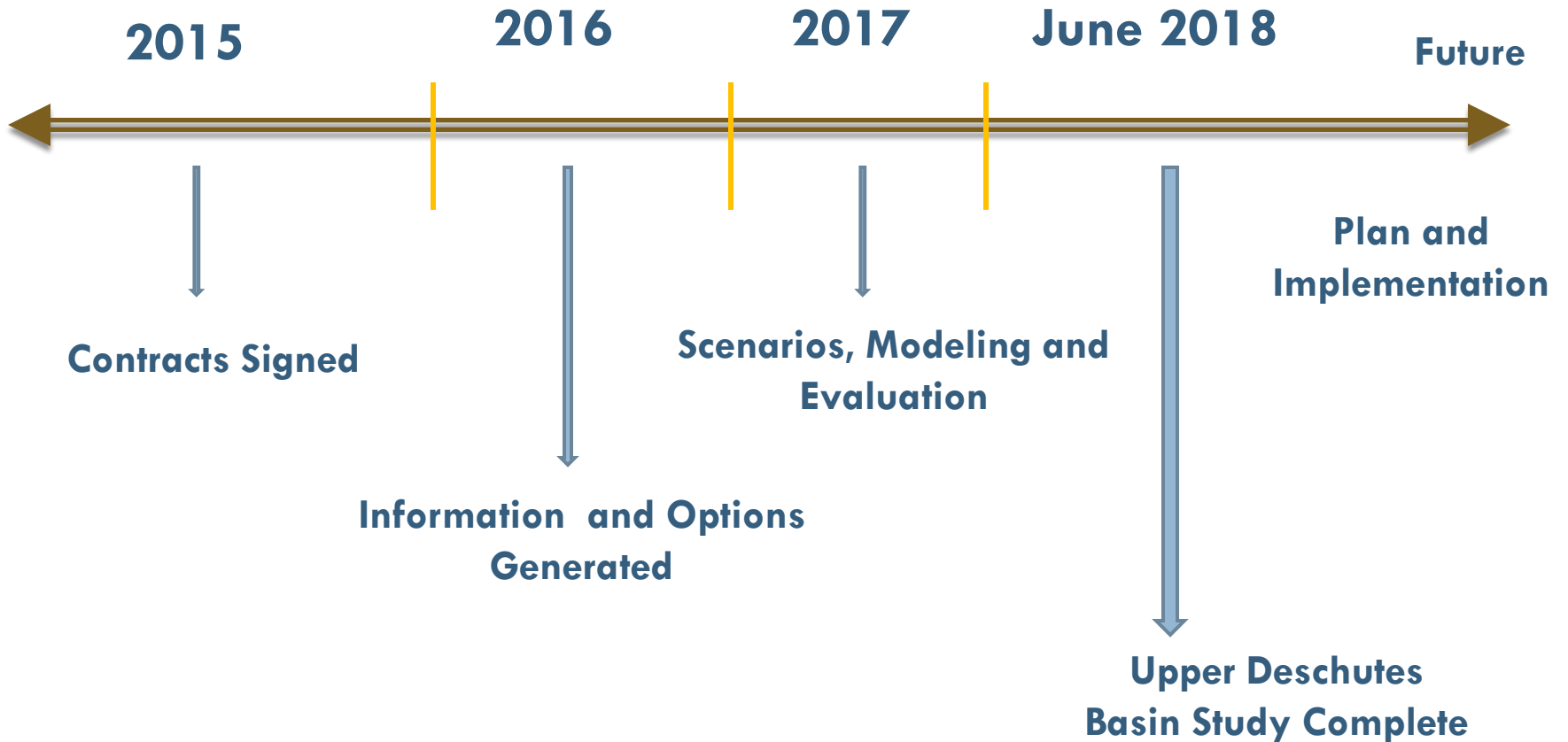
Integrated Basin Solutions





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Water for agriculture, rivers & cities

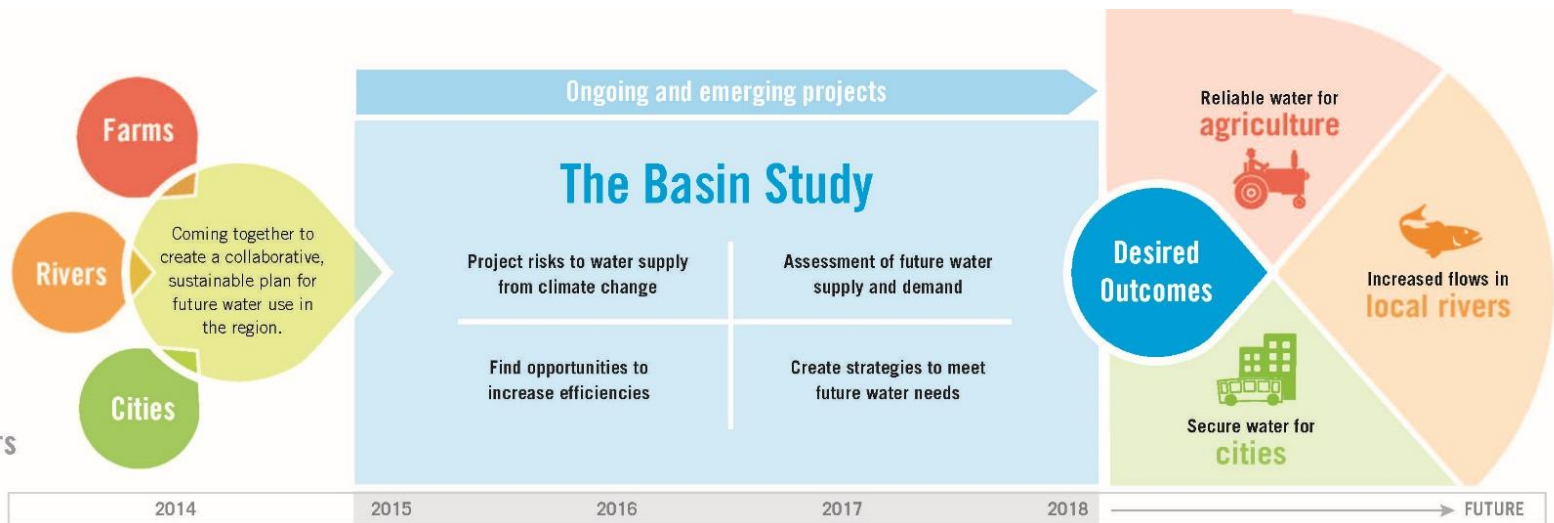
Timeline



The Big Picture

THE UPPER DESCHUTES Basin Study

Planning for
sustainable water
for our farms, rivers
and cities.





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Water for agriculture, rivers & cities

Getting to action

1. Basin Study information will be used to develop plan
2. Galvanize political and financial support
3. Implement over time



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Water for agriculture, rivers & cities

Questions?

