

# Basin Study: Upper Deschutes Basin

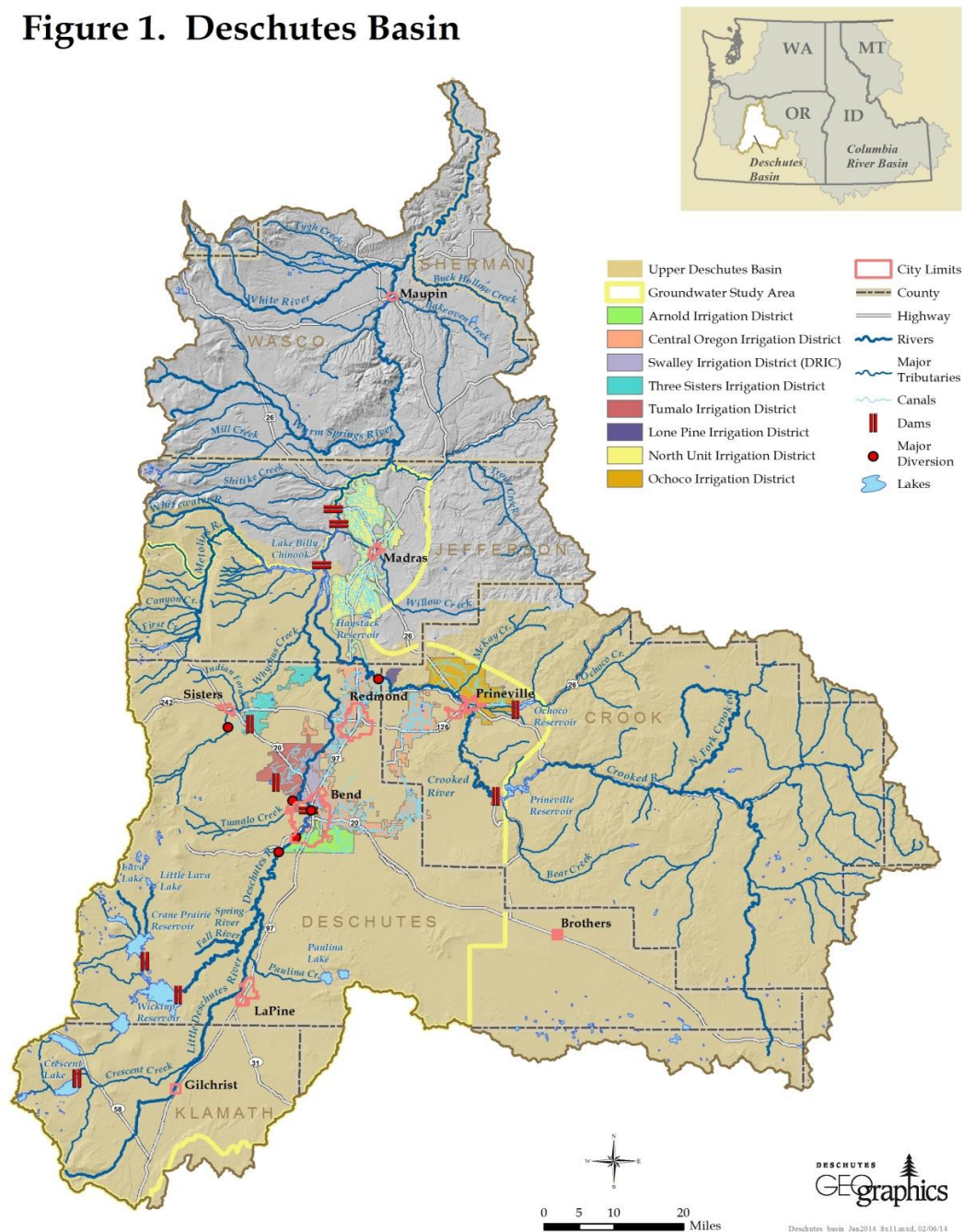
May 29, 2014

**Suzanne Butterfield**

*Vice Chair, Deschutes Basin Board of  
Control*

*Chairwoman, Basin Study Work Group*

Figure 1. Deschutes Basin



## Upper Deschutes Basin

- Mitigation required for new groundwater use
- Mitigation generated from existing rights

## Water Rights Held

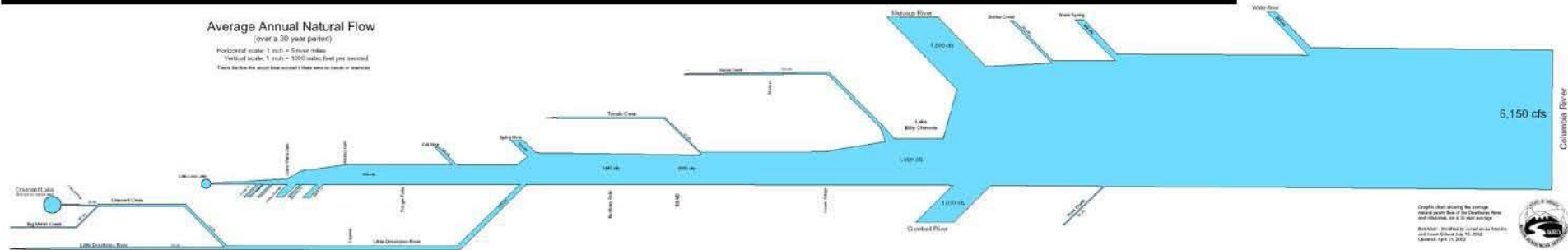
- Agriculture (~90%)
- Instream (~ 4%)
- Muni./Ind. (~5%)
- Resorts (~1%)

## Projected Unmet Water Demands (2050)

- Agriculture: 55,000 AF
- Instream: 160,000 AF
- Muni./Ind: 15,000 AF

# 30 Year Average Annual Natural Flow

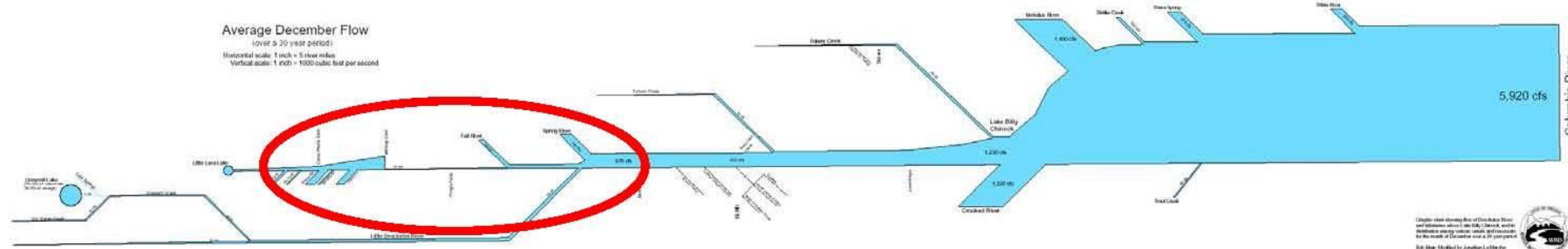
Average Annual Natural Flow  
(over a 30 year period)  
Horizontal scale: 1 inch = 5 river miles  
Vertical scale: 1 inch = 3000 cubic feet per second  
Flow barbs the most flow occur (flow barbs are located in minutes)



Graphic was developed by the Oregon Department of Geology and Mineral Industries, in cooperation with the Oregon Department of Fish and Wildlife, and the Oregon Department of Transportation. Data was provided by Jonathan L. Searles and James Stewart July 10, 2010. Updated April 10, 2012.

# 30 Year Average Managed December Flow (with Storage)

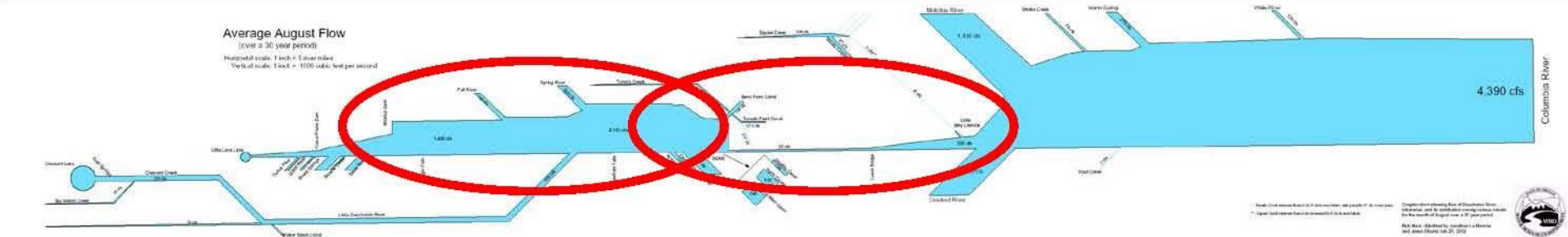
Average December Flow  
(over a 30 year period)  
Horizontal scale: 1 inch = 5 river miles  
Vertical scale: 1 inch = 1000 cubic feet per second



Graphic was developed by the Oregon Department of Geology and Mineral Industries, in cooperation with the Oregon Department of Fish and Wildlife, and the Oregon Department of Transportation. Data was provided by Jonathan L. Searles and James Stewart June 20, 2010.

# 30 Year Average Managed August Flow (with Diversions)

Average August Flow  
(over a 30 year period)  
Horizontal scale: 1 inch = 5 river miles  
Vertical scale: 1 inch = 1000 cubic feet per second



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# Examples of Conservation Efforts in the Upper Deschutes Basin

- \* **SID Main Canal Project (Phases 1-3)**
  - \* **29 cfs**
  - \* **0.75 MW hydroelectric generation**
- \* **COID Juniper Ridge Piping Project (Phase 1)**
  - \* **19.6 cfs**
  - \* **5 MW hydroelectric generation**
- \* **TSID Main Canal Piping (Phases 1-5)**
  - \* **10.66 cfs**
- \* **NUID Water Supply Project (Phases 1-2)**
  - \* **21.6 cfs / 9,180 AF**

# Previous Studies in the Upper Deschutes Basin

- \* **6 Deschutes Water Alliance (DWA) Studies (2006):**
  - \* **Instream Flow**
  - \* **Growth, Urbanization and Land Use Change**
  - \* **Groundwater Demand**
  - \* **Irrigation District Water Efficiency**
  - \* **Reservoir Management**
  - \* **Central Oregon Water Management Scenarios**
- \* **DWA Accomplishments (2013)**
- \* **Deschutes Water Planning Initiative: Water Supply Goals and Objectives (2013)**

# Bureau of Reclamation – Basin Study Program

## *Four Key Components of Basin Study:*

- \* Projections of future supply and demand**
- \* Analysis of existing water and power operations and infrastructure**
- \* Development of options to improve operations and infrastructure to supply adequate water in the future**
- \* Recommendations on optimizing operations and infrastructure to supply adequate water in the future**

# Bureau of Reclamation – Basin Study Program

- \* **Upper Deschutes Basin Study - \$1.5M**

*Non-Federal partners must contribute at least 50% of the total study costs in non-Federal funding*

- \* **Reclamation - \$750K**

- \* **DBBC (non-Federal cost-share partner) - \$750K**

  - SB 839 Funds

  - Contract with OWRD

# Basin Study Work Group

*BSWG's purpose is to obtain and manage a Basin Study with the Bureau of Reclamation toward the goal of developing and implementing a plan that addresses the long-term water needs of agriculture, municipalities, instream flow, and others in the Upper Deschutes River Basin.*

- \* **Convened a balanced group of stakeholders**
- \* **Submitted Basin Study Letter of Interest January 7, 2014**
- \* **Submitted Basin Study Proposal February 13, 2014**
- \* **Reclamation to announce FY2014 selections June 2014**
- \* **Plan of Study (June-October 2014)**
- \* **Use existing work and information generated in Basin Study to plan for and implement projects**



# Basin Study Work Group

## \* **Steering Committee:**

NUID, COID, Deschutes County, Swalley, Tumalo ID, Upper Deschutes River Coalition, Crook County, Central Oregon Flyfishers, Trout Unlimited, DEQ, Three Sisters ID, Upper Deschutes Watershed Council, City of Prineville, COCO, DWA, Central Oregon Irrigation District, Crooked River Watershed Council, Ochoco Irrigation District, ODFW, WaterWatch, US Forest Service, OWRD, USFWS, City of Bend, DRC

\* **Chair:** *Suzanne Butterfield*

\* **Facilitator:** *Mary Orton*

## \* **Co-Coordinator:**

\* *GSI (Technical)*

\* *DRC (Process)*

## \* **Subgroups**

\* *Deschutes*

\* *Crooked*

\* *Whychus*

\* *Groundwater*

\* *Deschutes Instream*

# Thank You!

