

The background of the slide features a light blue to white gradient. Scattered across the top and bottom edges are several realistic water droplets of various sizes, some with highlights and shadows, giving a fresh and clean aesthetic.

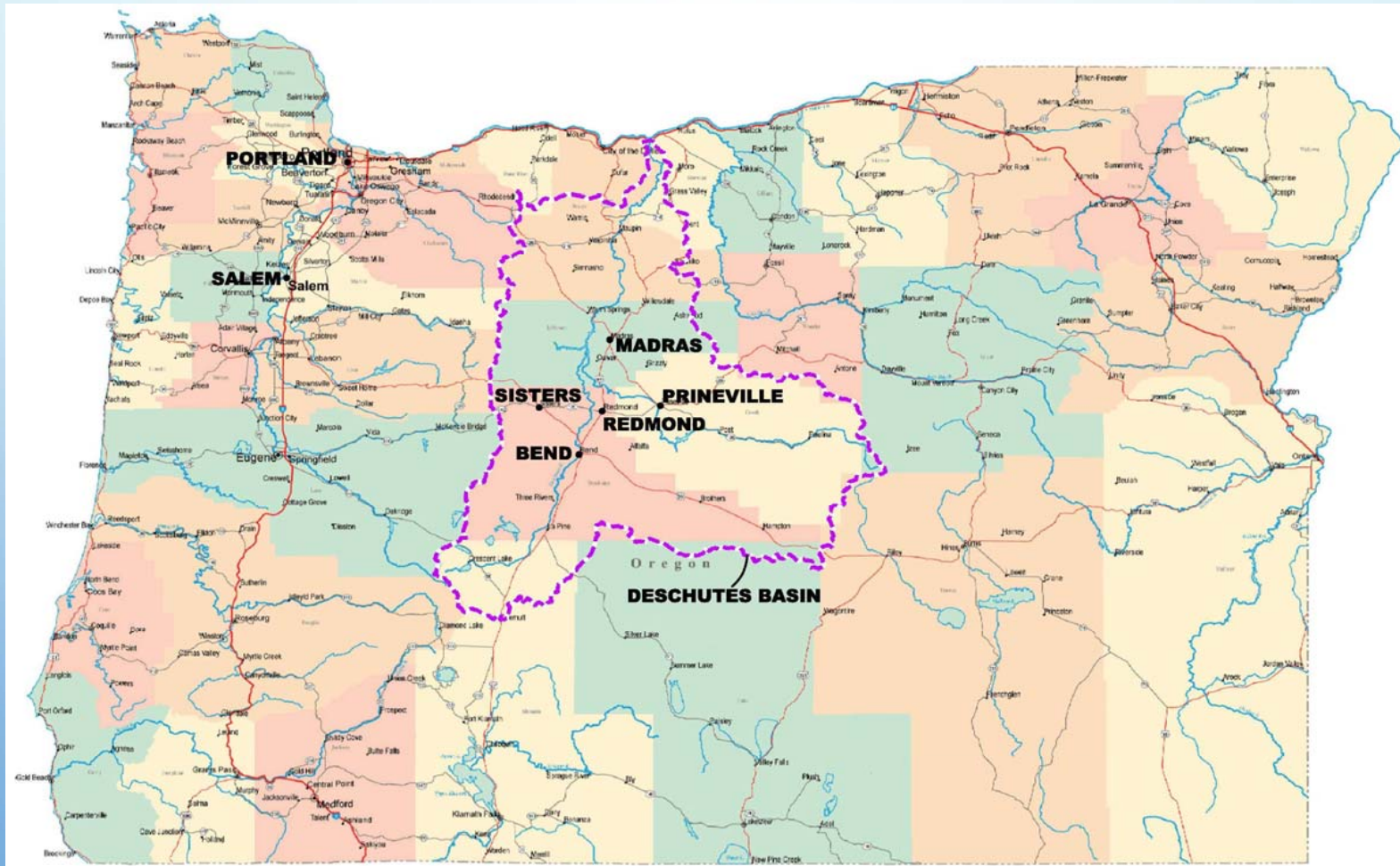
THE ROLE OF AGRICULTURAL LANDS IN WATER SUPPLY FOR MUNICIPAL NEEDS

UPPER DESCHUTES BASIN, OREGON

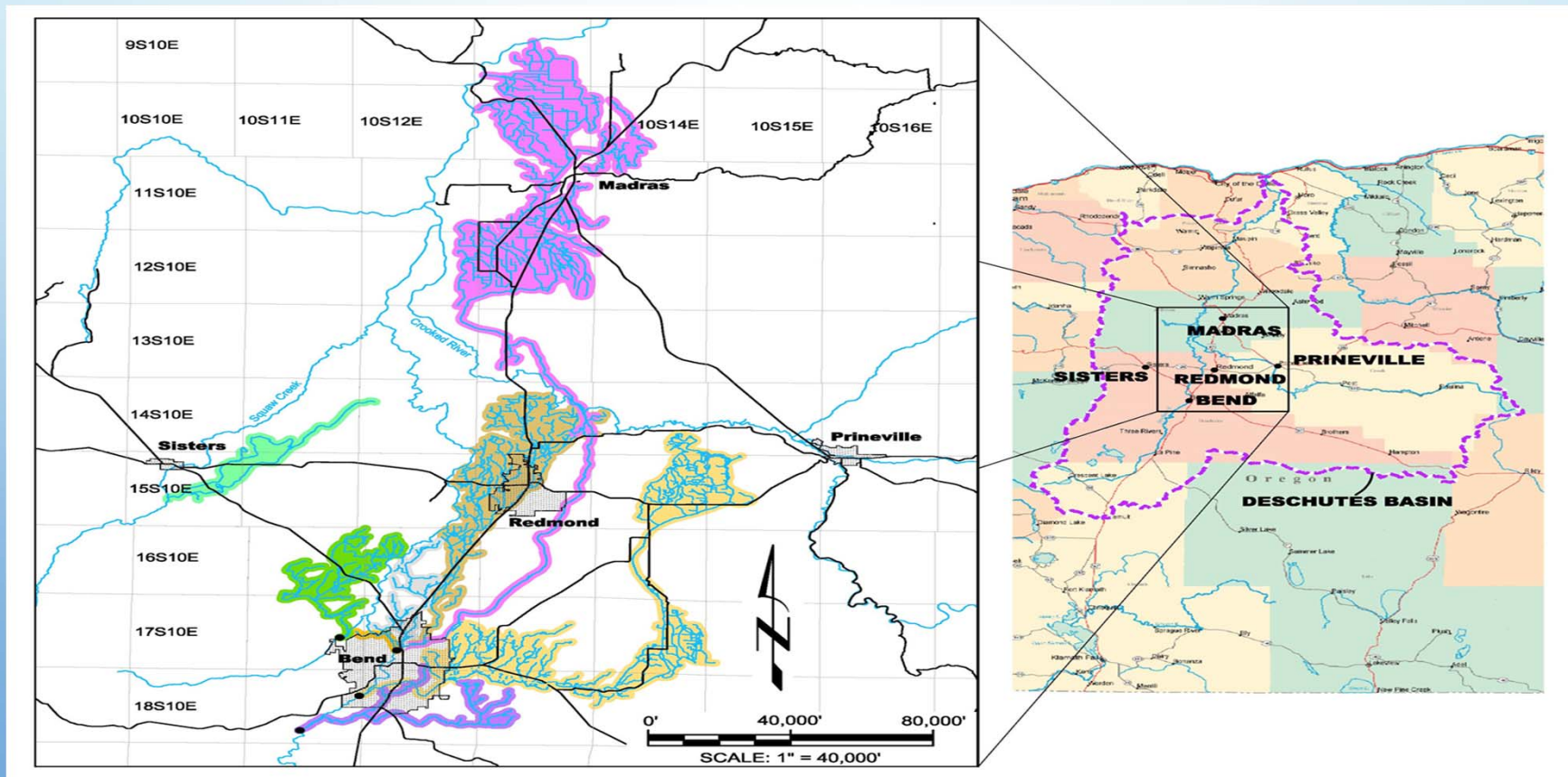
POINTS OF DISCUSSION

- **WATER SUPPLY ISSUE FACING MUNICIPAL SUPPLIERS**
- **APPROACH TO FINDING SOLUTION**
- **ACCOMPLISHMENTS**
- **LESSONS LEARNED**
- **WHERE SUPPLIERS (AND STAKEHOLDERS) ARE TODAY**

WHERE IS THE UPPER DESCHUTES RIVER BASIN?



WHAT'S THE CONNECTION BETWEEN IRRIGATED AGRICULTURAL LANDS AND MUNICIPALITIES?



WHAT IS THE WATER SUPPLY ISSUE?

- **MUNICIPALITIES NEED GROUND WATER FOR FUTURE SUPPLY**
- **USGS/OWRD STUDY CONFIRMS GROUND WATER PUMPING WILL MEASURABLY REDUCE STREAM FLOWS**
- **STREAM FLOW REDUCTIONS WILL INJURE EXISTING SENIOR WATER RIGHTS INCLUDING INSTREAM FLOW RIGHTS**
- **GROUND WATER IS NOT AVAILABLE WITHOUT PROTECTING SENIOR WATER RIGHTS**

WHAT IS REQUIRED FOR A SOLUTION?

- **GROUND WATER PERMITS REQUIRE MITIGATION TO OFFSET EFFECTS OF GROUND WATER PUMPING ON SURFACE WATERS**
- **WITHOUT MITIGATION, MUNICIPALITIES CANNOT SECURE GROUND WATER SUPPLIES FOR FUTURE NEEDS**
- **A SOLUTION REQUIRES A SOURCE OF WATER FOR MITIGATION PURPOSES**

WHAT IS THE SOURCE OF MITIGATION WATER?

- **CONVENTIONAL SOURCE: RETIREMENT OF AN EXISTING VALID WATER RIGHT**
- **MITIGATION IS REQUIRED ONLY FOR CONSUMED WATER**
- **ONE MITIGATION CREDIT IS 1 ACRE-FOOT OF WATER PER YEAR**
- **1.8 MITIGATION CREDITS CAN BE OBTAINED FROM 1 ACRE OF VALID SURFACE WATER RIGHT**

APPROACH TO FIND A SOLUTION

**THERE IS NO NEW WATER; LOOKED AT EXISTING USES FOR SUPPLY
(“VISION GROUP,” DWA GRANT STUDIES)**

- **VOLUME OF GROUND WATER REQUIRED FOR FUTURE MUNICIPAL NEEDS**
- **VOLUME OF MITIGATION WATER REQUIRED**
- **POTENTIAL SOURCE OF MITIGATION WATER FROM URBANIZATION OF IRRIGATED LANDS IN IRRIGATION DISTRICTS**
- **PARTNERSHIP OPPORTUNITIES BETWEEN MUNICIPALITIES & IRRIGATION DISTRICTS**
 - **PROTECTS DISTRICT ASSESSMENT BASE AND SOURCE OF OPERATING REVENUE**
 - **PROVIDES MITIGATION WATER FOR MUNICIPALITIES**

HOW MUCH WATER IS REQUIRED FOR MITIGATION?

Confirmed Municipal Supplier Demand Deschutes Mainstem

Municipal Provider	Permanent Mitigation Credits									
	Mitigation Demand				Time Frame				Projected 20-Year Demand	
	Credits	Zone	Credits Supplied	Credits in Process	2010 to 2013	2014 to 2020	2021 to 2025	2026 to 2030	Remaining Credits	CU %
Bend	3,223	General	317	495	607	823	1,227	361	2,411	50%
Redmond	1,746	General	102	1,644	Supplied / In Process				0	50%
LaPine	405	Little Des.	0	0		24	381		405	40%
Avion Water Company	817	General	496	0			321		321	47%
Totals >>	6,191		915	2,139	607	847	1,929	361	3,137	

Municipal Provider	Temporary Mitigation Credits									
	Mitigation Demand				Time Frame				Projected 20-Year Demand	
	Credits	Zone	Credits Supplied	Credits in Process	2010 to 2013	2014 to 2020	2021 to 2025	2026 to 2030	Remaining Credits	CU %
Deschutes Valley Water District	1,387	General	128	0	128	229	478	553	1,259	60%
Grand Totals >>	7,578		1,043	2,139	735	1,076	2,407	914	4,396	

**Mitigation Volume for Misc. Claims Under 200cfs Cap
Approximately 14,000 Credits**

HOW MUCH WATER CAN BE PROVIDED FROM AGRICULTURAL SOURCES?

- MUNICIPAL WATER NEED TO 2030: 8616 ACRE-FEET
- REQUIRED VOLUME OF MITIGATION WATER: 4396 ACRE-FEET
- REQUIRED ACRES TO SUPPLY MITIGATION WATER: 2442 ACRES
- ACRES SERVED BY IRRIGATION DISTRICTS IN UGB'S: 4800 ACRES (APPROX)
- PARTNERSHIP TRANSACTIONS HAVE OCCURRED THROUGH A GROUND WATER MITIGATION BANK

ACCOMPLISHMENTS

- **PERCENTAGE OF TOTAL MITIGATION WATER NEED SUPPLIED BY IRRIGATION DISTRICTS**

• AVION WATER COMPANY	61%
• BEND	10%
• DESCHUTES VALLEY WATER DISTRICT	9%
• REDMOND	100%

- **MITIGATION WATER INCREASED STREAM FLOW BY ABOUT 30 CUBIC FEET PER SECOND IN SOME AREAS THROUGH PERMANENT TRANSFERS & LEASING**

WHAT LESSONS HAVE WE LEARNED?

- **WATER FOR NEW NEEDS CAN COME FROM EXISTING SUPPLIES**
- **WATER RESOURCE SOLUTIONS SHOULD BE DEVELOPED COLLABORATIVELY UNDER A WATER MANAGEMENT PLAN RATHER THAN PROJECT-BY-PROJECT**
- **LONG-TERM, MULTI-LATERAL AGREEMENTS AMONG STAKEHOLDERS ARE NECESSARY**
- **WATER MANAGEMENT AGREEMENTS MUST BE FLEXIBLE, VOLUNTARY & CAPABLE OF ACCOMMODATING INCREMENTAL PROGRESS TOWARD GOALS**
- **COLLABORATION ON WATER SUPPLY SOLUTIONS REDUCES CONFLICT**

WHERE ARE THE STAKEHOLDERS TODAY?

- **DETERMINED A METHOD TO OBTAIN GROUND WATER PERMITS 1999-2002**
- **BOR WATER 2025 CHALLENGE GRANT STUDIES: MUNICIPAL, AG, INSTREAM WATER NEEDS/SUPPLY SOURCES 2004-2006 (BROAD-SCALE ANALYSIS)**
- **CLARIFICATION-FOCUS: ISSUES, NEEDS, GOAL SETTING, SOLUTION OPTIONS, POTENTIAL PARTNERSHIPS 2012-2014 (PARTNERSHIP FORMATION –WATER SUPPLY OPTIONS & SCENARIOS)**
- **BASIN STUDY UNDER BOR BASIN STUDY PROGRAM 2015-2017**

The background is a light blue gradient with several realistic water droplets of various sizes scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.

THANK YOU

QUESTIONS