

## Waste Not, Want Not: Growth and Water Resources in Central Oregon

by Steve Dodrill

Like a thirsty juniper growing on Oregon's high desert, Bend needs water. So do Redmond and Madras, Prineville and Sisters, Warm Springs and La Pine. Growth in central Oregon is changing the face of its people, the landscape, and water resource management.

Deschutes County's population is expected to increase 40 percent by 2020. This view, looking west from Pilot Butte, shows Bend's growth toward the Cascade Range. All photos by Steve Dodrill. Patrick Griffiths and Amy Jo Detweiler partnered to create "Xeriscaping in the High Desert," a guide to water-wise landscaping. Canals built in the late 1800s and early 1900s deliver Deschutes River water to nearby agricultural operations, but lose as much as 50 percent of flows to seepage and evaporation. Efficiencies in water use will be important to central Oregon's surface and ground water supplies. Urban growth creates new demands for water, but reduces overall consumption when it replaces irrigated agricultural production. Deschutes County is one of the fastest growing counties in the nation. The Oregon Office of Economic Analysis projects its population will top 197,000 by 2020—a 40 percent increase over today. "One of the key issues for us is how to plan for this rapid growth," said Patrick Griffiths, water resources coordinator for the City of Bend. "You can spend a lot of money on pipes and pumps and people and trucks, but with conservation you may not have to spend it on those things."

Griffiths estimates nearly 60 percent of Bend's residential water consumption is being used to irrigate landscapes. That is one reason why he and Amy Jo Detweiler, associate professor of horticulture with the Oregon State University Extension Service, teamed up to publish "An Introduction to Xeriscaping in the High Desert." The guide presents a seven-step process covering landscape planning and design, plant selection and placement, soil amendments, efficient irrigation, turf and turf alternatives, mulching, and landscape maintenance.

"We needed a pictorial plant guide to help people see the colors and textures and variety they can have and still be using water-wise plants that are appropriate for this area," said Detweiler. "There are hundreds of plants that can be used in a xeriscape." Since its release in 2005, Detweiler says several Bend-area homeowners' associations have adopted the guide and it has become an important training tool for the professional landscape industry.

Partnerships such as these are helping Bend and surrounding communities address a growing need for water. Historically, agriculture has been the primary drain on upper and middle Deschutes River stream flows. That

is still the case, but United States Geological Survey studies during the 1990s concluded the Deschutes is fed significantly by groundwater. With growing cities pumping more and more water from wells and the lower Deschutes protected as a national wild and scenic river officials in Oregon's Department of Water Resources took action to avoid potential declines in stream flows and water quality.

The agency enacted groundwater mitigation rules in 2002, requiring all new well permits for major water users to be offset by equivalent amounts of surface water restoration.

"If you're going to stick a straw into the cup and draw out water, you've got to pull another straw out of the cup so you don't drain it down," said Bruce Aylward of the Deschutes River Conservancy. "The main way you do that is by acquiring water from agricultural areas that are becoming urbanized and transferring the water rights back to in-stream uses." Aylward manages the Central Oregon Water Bank, a multi-organization partnership that will help guide the transition. He says irrigated agriculture in the Deschutes basin requires about five feet of water per acre each year. In contrast, he says the City of Bend is using less than one foot of water per acre each year.

The Oregon Court of Appeals overturned the Deschutes Basin groundwater mitigation rules in 2005, stating they were insufficient to maintain necessary stream flows for fish, wildlife, and recreational uses. A short time later, the Oregon legislature passed House Bill 3494, a law that reinstated the mitigation rules.

Despite the legal challenges and changes, those involved in the water planning process say they are proud of the partnerships that have developed in recent years. They stress the importance of bringing all interested parties together, being open to compromise, and listening to one another.

"Ideally, we will preserve as much agricultural ground as we can, maintain stream flows, and get the cities their water," said Steve Johnson, manager of the Central Oregon Irrigation District. "If we keep our partnerships together, using tools like the water bank, we believe we can effectively manage our way into the future without being totally disruptive of the interests and stakeholders that are here."

One downstream partner agrees. “Fisheries and water are important to us from a cultural-spiritual side,” said Bobby Brunoe, general manager of natural resources for the Confederated Tribes of Warm Springs. “The Tribes have been here for thousands of years, we’re going to be here for thousands more, and we know our neighbors are going to be right there with us. We all need to be working together to create solutions.”

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