# Table of Contents

Preamble, Vision and Use of this Plan .......................................................... iii

Chapter 1 Comprehensive Planning

Section 1.1 Introduction ............................................................................. 2
Section 1.2 Community Involvement ....................................................... 9
Section 1.3 Land Use Planning ................................................................. 13
Primary References ................................................................................. 21

Chapter 2 Resource Management

Section 2.1 Introduction ........................................................................... 2
Section 2.2 Agricultural Lands ................................................................. 4
Section 2.3 Forest Lands .......................................................................... 13
Section 2.4 Goal 5 Overview ..................................................................... 18
Section 2.5 Water Resources .................................................................... 21
Section 2.6 Wildlife .................................................................................. 45
Section 2.7 Open Spaces, Scenic Views and Sites ..................................... 55
Section 2.8 Energy Resources ................................................................. 58
Section 2.9 Environmental Quality ......................................................... 65
Section 2.10 Surface Mining ..................................................................... 70
Section 2.11 Cultural and Historic Resources ......................................... 72
Primary References .................................................................................. 75

Chapter 3 Rural Growth Management

Section 3.1 Introduction ........................................................................... 2
Section 3.2 Rural Development ............................................................... 3
Section 3.3 Rural Housing ......................................................................... 5
Section 3.4 Rural Economy ....................................................................... 8
Section 3.5 Natural Hazards ..................................................................... 16
Section 3.6 Public Facilities and Services ................................................. 26
Section 3.7 Transportation ....................................................................... 32
Section 3.8 Rural Recreation .................................................................... 33
Section 3.9 Destination Resorts ............................................................... 40
Section 3.10 Area Specific Plans and Policies ........................................... 45
Section 3.11 Newberry Country: A Plan for Southern Deschutes County 47
Primary References .................................................................................. 48

Chapter 4 Urban Growth Management

Section 4.1 Introduction ........................................................................... 2
Section 4.2 Urbanization ......................................................................... 4
Section 4.3 Unincorporated Communities ............................................... 13
Section 4.4 La Pine .................................................................................... 15
Section 4.5 Sunriver ................................................................................... 17
Section 4.6 Terrebonne Community Plan ................................................. 29
**Section 4.7 Tumalo Community Plan** ................................................................. 30
**Section 4.8 Resort Communities Rural Service Centers** .................................. 31
**Section 4.9 Rural Service Centers** ................................................................. 38
**Primary References** ....................................................................................... 42

**Chapter 5 Supplemental Sections**

**Section 5.1 Introduction** .................................................................................. 2
**Section 5.2 Glossary and Acronyms** .............................................................. 3
**Section 5.3 Goal 5 Inventory – Water Resources** ............................................. 7
**Section 5.4 Goal 5 Inventory – Wildlife Habitat** ............................................. 11
**Section 5.5 Goal 5 Inventory – Open Spaces, Scenic Views and Sites** .......... 23
**Section 5.6 Goal 5 Inventory – Energy Resources** .......................................... 26
**Section 5.7 Goal 5 Inventory – Wilderness, Natural Areas and Recreation Trails** ........ 28
**Section 5.8 Goal 5 Inventory – Mineral and Aggregate Resources** ............... 29
**Section 5.9 Goal 5 Inventory – Cultural and Historic Resources** ................. 36
**Section 5.10 Goal Exception Statements** ....................................................... 40
**Section 5.11 Goal 5 Adopted Ordinances** .................................................... 43
**Section 5.12 Legislative History** ..................................................................... 44
Preamble, Vision and Use of this Plan

Preamble
The Deschutes County Comprehensive Plan is a statement of issues, goals and policies meant to guide the future of land use in this County. This Comprehensive Plan is intended to recognize the expectations and rights of property owners and the community as a whole.

Community Vision
As a result of community outreach, a vision emerged that defines what people care about in Deschutes County.

The high quality of life in Deschutes County stems from:
- The beauty, bounty and richness of a healthy natural environment
- A community of caring people
- A strong and diverse economy
- Access to a wide variety of outdoor recreational opportunities
- The rural character of the region
- Maintaining a balance between property rights and community interests

Use of this Plan
The Comprehensive Plan is a tool for addressing changing conditions, markets and technologies. It can be used in multiple ways, including:
- To strengthen communication with the public.
- To guide public decisions on land use policy when developing land use codes, such as zoning or land divisions.
- As a basis for the development of public programs and budgets.
- As a basis for the measurement and evaluation of changes in the physical, social, environmental or economic makeup of the County. Modifications of the Plan itself may result from this process.
- To promote inter-government coordination, collaboration and partnerships.

This Plan does not prioritize one goal or policy over another. Implementation of this plan requires flexibility because the weight given to the goals and policies will vary based on the issue being addressed.

The Plan is not intended to be used to evaluate specific development projects. Instead, the Plan is a 20-year blueprint to guide growth and development.
Chapter 1

Comprehensive Planning
Section 1.1 Introduction

Background
The purpose of the Deschutes County Comprehensive Plan is to provide a blueprint for land use conservation and development. This is accomplished through goals and policies that tell a cohesive story of where and how development should occur and what places should remain undeveloped. The Plan provides a legal framework for establishing more specific land use actions and regulations such as zoning. The goals and policies are based on existing conditions and trends, community values and the statewide planning system.

This Plan covers a 20-year period from 2010-2030. To remain useful over that time, the Plan must provide clear policy direction yet remain flexible. As Deschutes County conditions change, legislative amendments will ensure the Plan remains relevant and timely.

The unincorporated areas of the County are covered by this Plan. The cities of Bend, La Pine, Redmond and Sisters each maintain their own comprehensive plans within their respective Urban Growth Boundaries (UGBs). The cities and County use intergovernmental agreements to coordinate land use within UGBs.

In Oregon, comprehensive plans must comply with the statewide planning system, which was adopted in 1973 to ensure consistent land use policies across the State. While compliance with the statewide system is required, it is also important for a comprehensive plan to reflect local needs and interests. This Plan balances statewide requirements and local land use values.

Purpose of this Chapter
This chapter clarifies the reason for comprehensive planning, addresses the role of the community in planning processes and discusses basic land use principles. The chapter is divided into three sections.

- Introduction (Section 1.1)
- Community Involvement (Section 1.2)
- Land Use (Section 1.3)

Snapshot of Deschutes County
Deschutes County lies in the heart of the State of Oregon and encompasses a total of 3,054 square miles. The County was created in 1916 from a portion of Crook County and was named after the Deschutes River.

Deschutes County is defined in part by the variety and beauty of the natural landscape. On the western side of the County, large snow-capped volcanoes tower over pine forests dotted with mountain lakes. The eastern side is characterized by high desert, sagebrush and large buttes. The Deschutes River runs north through the County, fed by numerous smaller rivers, creeks and springs.
Approximately 80 percent of the land in the County is publicly owned by the federal, state or local governments. Many of these lands are managed for public use and provide easy access for both residents and visitors to participate in hiking, biking, hunting, fishing, canoeing, skiing and other outdoor activities.

These natural amenities make Deschutes County an attractive place to live. The U.S. Census in 2010 estimated Deschutes County’s population at 157,733. According to Deschutes County’s Population Forecast, the population will grow to 240,811 by 2025. Extrapolating the forecast out five years, the County anticipates a 2030 population of 266,538. Of that number, 88,748 people are expected to reside in the unincorporated areas covered under this Plan. Chapter 4 contains more detailed population information.

Legal Framework

In 1973 the Oregon Legislature adopted a statewide planning system that draws a bright line between urban and rural land uses, channeling growth into urban areas while protecting farm and forest lands. Public outreach around the State led to the adoption of 19 Statewide Planning Goals (Statewide Goals). These Statewide Goals are implemented through local governments’ adopted comprehensive plans. Local comprehensive plans are reviewed for compliance with the Statewide Goals by the Oregon Land Conservation and Development Commission (LCDC), a seven-member committee appointed by the Governor and staffed by the Department of Land Conservation and Development (DLCD). The comprehensive plans are, in turn, implemented through zoning, land division ordinances and other techniques.

The majority of the Statewide Goals are written broadly, with specific regulations codified either in Oregon Revised Statute (ORS) or Oregon Administrative Rule (OAR). LCDC adopts the OARs, which clarify and implement the Statewide Goals. Over time, the rules, regulations and case law defining the Statewide Goals have become more detailed and complex, and are a significant factor in determining the elements of a comprehensive plan.

Statewide Planning Goals

**Goal 1 Citizen Involvement:** To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

**Goal 2 Land Use Planning:** To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

**Goal 3 Agricultural Lands:** To preserve and maintain agricultural lands.

**Goal 4 Forest Lands:** To conserve forest lands by maintaining the forest land base and to protect the state’s forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

**Goal 5 Natural Resources, Scenic and Historic Areas, and Open Spaces:** To protect natural resources and conserve scenic and historic areas and open space.
Goal 6  **Air, Water, and Land Resources Quality:** To maintain and improve the quality of the air, water, and land resources of the state.

Goal 7  **Areas Subject to Natural Hazards:** To protect people and property from natural hazards.

Goal 8  **Recreational Needs:** To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

Goal 9  **Economic Development:** To provide adequate opportunities through the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon’s citizens.

Goal 10  **Housing:** To provide for the housing needs of citizens of the state.

Goal 11  **Public Facilities and Services:** To plan and develop a timely, orderly and efficient arrangement of public facilities and service to serve as a framework for urban and rural development.

Goal 12  **Transportation:** To provide and encourage a safe, convenient and economic transportation system.

Goal 13  **Energy Conservation:** To conserve energy.

Goal 14  **Urbanization:** To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

**Note:** Statewide Planning Goals 15-19 do not apply to Deschutes County.

**History of Planning in Deschutes County**

Deschutes County’s first Comprehensive Plan, *Comprehensive Plan to 1990*, was adopted in 1970. To comply with newly adopted statewide planning regulations a new plan was adopted in 1979, *Deschutes County Year 2000 Comprehensive Plan* (1979 Plan). In 1981, the 1979 Plan was acknowledged as being in compliance with the Statewide Goals. Along with the 1979 Plan, the County adopted a background document and map. The *Deschutes County Comprehensive Plan Resource Element* (Resource Element) contained valuable information pertaining to resources and demographics. The map depicted the long-term general land use categories for all lands in the County.

Over time, the County amended the 1979 Plan to comply with changes initiated by the State, the Board of County Commissioners or property owners. Periodic Review, a plan update process once required by the state, started in 1988 and was completed in 2003. Periodic Review included major additions and amendments to the 1979 Plan to keep the Plan and its policies consistent with evolving State planning regulations and local conditions. The 1979 Plan was codified as Title 23 in the Deschutes County Code.

Unintentionally, the additions, amendments and codification of the Plan led to a document that was no longer cohesive or user friendly. Some of the original chapters remained static and contained outdated information. New chapters were added that were not formatted to match earlier ones. In order to provide consistent and clear land use direction, the County initiated a
major update and rewrite of the 1979 Plan in 2008. This Plan, Deschutes County Comprehensive Plan, is a broad revision of the 1979 Plan.

Summary of Deschutes County Comprehensive Plans

- 1970 Comprehensive Plan to 1990
- 1979 Comprehensive Plan to 2000
- 1988-2003 Periodic Review
- 2011 Comprehensive Plan to 2030

Creating the Plan

Land use is a key component of a community’s quality of life. Historically, regulation was initiated in this country to mitigate the negative impacts to communities that stemmed from “incompatible” land uses, like rendering plants next to homes. Yet finding the balance between controlling impacts for the public welfare and allowing individual property rights remains challenging. The United States Supreme Court in 1926 ruled in support of zoning in Village of Euclid, Ohio v Ambler Reality. In that case they held that land use is a reasonable extension of police powers, the idea that the state may regulate behavior and enforce order to promote general welfare, morals, health and safety.

The challenge is that most people want impacts from their neighbors’ land uses controlled, but they also want the right to use their own properties without restrictions. This makes land use decisions often deeply personal and highly controversial. While consensus may not be possible, one strategy is to search for common ground by building on community values.

In 2008, Deschutes County initiated public meetings to listen to community values about land use issues. This plan integrates the values communicated through those meetings with numerous studies documenting current conditions and trends. It has been reviewed for compliance with the Statewide Planning Goals, ORS’s, OAR’s and local ordinances.

Two sections were undertaken as complementary projects to the Plan update: the Transportation System Plan (TSP) and destination resort mapping. In addition, two community plans were initiated for areas that would benefit from local approaches to address specific issues.

- Transportation System Plan (TSP)
- Destination Resort Remapping
- Deschutes Junction Policies
- Terrebonne Community Plan
- Tumalo Community Plan

Community Conversations

In May 2008 County staff and the Deschutes County Planning Commission initiated a community input process called Community Conversations. Four community involvement goals evolved.

- Encourage the community to get involved in setting land use policy
- Ensure the updated plan addresses community interests and values
Create significant and continuing opportunities for informal land use discussions
- Familiarize the public with the purposes and processes of state land use regulations

**Steering Committee Appointed**

During the summer, the Board of County Commissioners designated the seven-member Planning Commission as the Steering Committee for the Comprehensive Plan. The Steering Committee hosted 12 informal public meetings to review and discuss chapters from the existing Plan. At each meeting the discussion focused on a current Comprehensive Plan chapter, the state requirements and current conditions. Some of these meetings included panel discussions with stakeholders and experts.

**Community Awareness**

In the fall, a flyer was sent to 42,500 households in the unincorporated areas of the County with their annual 2008 tax bills announcing upcoming Steering Committee meetings. This flyer was also handed out at public meetings and events.

Additionally, a website was launched and continually updated to reflect each community conversation and steering committee meeting. Other media outreach with radio, television, and the local newspaper, the Bulletin, maximized awareness of the Plan update.

**Stakeholder Outreach**

Letters were sent to more than 150 governmental/quasi-governmental agencies and local organizations offering staff’s availability to meet with the agencies and organizations and/or conduct a presentation for their members. The goal was to inform stakeholders about the Plan update and discuss to any issues they would like the Plan update to address.

**Community Outreach**

Informal meetings were scheduled around the County to hear from the community. Staff organized the County into seven management areas and held community listening sessions in five areas with rural populations (two areas were unpopulated Federal lands). Additional meetings were held in Terrebonne, Tumalo and Deschutes Junction. Planners also staffed a booth at the spring and fall 2009 Home and Garden Shows, to get input from members of the community who traditionally do not attend land use meetings.

**Draft Comprehensive Plan**

On September 30, 2009 an updated draft Comprehensive Plan was released to the public. Ten additional Steering Committee meetings and six open houses were scheduled in locations around the County to gather public input on the draft Plan. The Planning Commission spent the next twelve months reviewing and revising the draft goals and policies in depth. A revised draft was completed in fall of 2010 and notice of the first evidentiary hearing was sent to the DLCD on September 30, 2010.

**Hearings and Adoption**

The Planning Commission held public hearings on November 18, December 2 and December 9, 2010 and continued the hearings to December 16, 2010. Deliberations took place starting on
December 16 and continued to January 6 and January 13, 2011, when they voted to forward to the Board of County Commissioners a recommendation to adopt the draft Comprehensive Plan as modified.

The Board of County Commissioners held public hearings on the Planning Commission recommended Plan on March 29, March 31 and April 5, 2011. The hearings were continued until May 11 and May 31, 2011, at which time the hearing was closed. Deliberations and first reading took place July 6; the second reading was scheduled for July 27, but was continued until August 10. The updated Plan was then adopted with an effective date of November 9, 2011.

Data Collection

Creating a comprehensive plan also requires an understanding of current conditions and anticipated trends. County staff worked with various state and federal agencies to identify updated information and policies. For many topics, detailed studies already existed. In other areas, staff identified further research to be completed when resources become available. Additionally, staff assembled reports relevant to the update. The primary documents and websites used in gathering information for the updated Plan are referenced at the end of each chapter.

As noted earlier, the Resource Element was adopted in 1979 to provide background information on County resources and demographics. The Resource Element has been amended over time, adding such studies as the Geothermal Element (January 1985) or the Deschutes County/City of Bend River Study (April 1986).

Plan Organization

Deschutes County Comprehensive Plan 2030 is organized into five chapters:

Chapter 1 Comprehensive Planning
Chapter 2 Resource Management
Chapter 3 Rural Growth Management
Chapter 4 Urban Growth Management
Chapter 5 Supplemental Sections

Chapters 1-4 contain the following:

Background: Information providing context for the reason and process for including the goals and policies.

Goals: A general description of what Deschutes County wants to achieve. The County will direct resources and/or support partner agencies and organizations to implement the goals over the 20-year Plan timeframe.

Policies: Statements of principles and guidelines to aid decision making by clarifying and providing direction on meeting the Goals.

References: A list of resources used in the preparation of each chapter is included at the end of each chapter.

Additionally, an action plan will be created under a separate process to implement the Plan Goals and Policies.
The land use Goals and Policies in this Plan are anticipated to be completed over the next 20 years.

**Future Updates**

In order to keep pace with changing needs, environmental conditions, economics and community values, this plan needs to be updated and amended periodically. The State calls for a periodic review to ensure the plan stays current with changes in ORS and OARs. Although the State Periodic Review process is no longer a requirement for Oregon counties, the entire plan should be updated at least every 20 years, with reviews occurring every five years. All Plan update processes will take place with the benefit of a full range of community involvement, including public hearings before the Deschutes County Planning Commission and the Board of Commissioners. The procedures for amending the Comprehensive Plan are outlined in Deschutes County Code, Chapter 22.
Section 1.2 Community Involvement

Background

Involving the public in planning is a critical part of Oregon’s land use system. Statewide Planning Goal 1, Citizen Involvement, is intended to ensure that the public has the opportunity to be meaningfully involved in all phases of the land use planning process. To participate in land use decisions, the public needs to be notified of the proposal or project, understand the legal framework for the decision and understand the implications of the decision.

Minimum land use noticing requirements and procedures are written into Oregon Revised Statute (ORS) and County Code.

The legal framework for planning in Oregon starts with the Statewide Planning Goals and associated statutes and rules. The State land use program was intended to set some general parameters for land use planning and protect resources, such as the farm and forest lands that were Oregon’s primary economic drivers. Although the Statewide Goals all have equal value, they do not all provide the same level of detailed direction. Over time, State regulations have been amended or interpreted through changes to ORS, Statewide Goals, Oregon Administrative Rules and case law. These changes and interpretations have provided legal and technical clarity, but they have created a complex set of land use rules that are confusing to the public.

State land use regulations are implemented by local governments through Comprehensive Plan policies, which in turn are implemented, in part, through land use codes such as zoning codes. Writing new policies and code language is often referred to as the Legislative process because this is where policy direction is set and regulations are adopted. Local decision makers determine within the State planning structure, what policies and codes best meet the needs and values of the community.

Policy implementation occurs when land use codes are applied to specific projects or proposals. This is referred to as the Quasi-judicial process, because it is where the project or proposal is judged for compliance with existing codes based on findings. This is often the stage where the public gets involved. An individual property owner proposes to do something with his or her land. The decision to allow the proposal will be based solely on whether the proposal meets the existing criteria. The reasoning behind the existing regulations is not the primary focus of the discussion because that has been established through the adoption of the policy or code. This can lead to the perception that community concerns are not being heard. Involving the public in land use policy setting and code writing helps ensure that they reflect community values.

The final step, understanding the implications of a land use policy or a proposed project, is achieved through planning staff reports and Hearing Officer decisions that are written in clear language with all technical terms explained and findings firmly established.

Advisory Committees

Advisory Committees provide a vital link between County government and its citizenry. The descriptions below summarize the Deschutes County land use related advisory committees.
Deschutes County Planning Commission

The Deschutes County Planning Commission provides recommendations to the Board of County Commissioners on land use, primarily legislative code changes, for the unincorporated areas of the County. They also operate as the Goal 1 committee for community involvement. The Deschutes County Planning Commission is composed of seven volunteer members appointed to four-year terms by the Board of County Commissioners (Board). The Planning Commission is established pursuant to ORS 215.020 and 215.030 and governed by County Code 2.52.

Membership of the commission is representative of the various geographic areas of the County. As much as possible, members are selected through an open process that looks to balance the diverse views of Deschutes County residents.

Historic Landmarks Commission

The Historic Landmarks Commission serves as a hearings body for matters concerning historical districts, buildings and structures and sites within the County (and the cities of Bend, La Pine, Redmond and Sisters). The Landmarks Commission is composed of nine voting and a number of non-voting ex-officio members who have demonstrated expertise in historic preservation related disciplines. Commissioners serve four-year terms (see also Section 2.11).

Other Land Use Related Advisory Groups

Project Wildfire is a committee formed to coordinate, develop and implement strategies to mitigate the effects of losses due to natural disasters that strike Deschutes County. Project Wildfire is composed of 15 to 27 members who reside or represent agencies within Deschutes County. All members are appointed by the Board and serve four years (see also Section 3.5).

The Deschutes Provisional Advisory Committee (PAC) is one of 12 in the Western U.S. to facilitate the successful implementation of the 1994 Record of Decision for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl. Each PAC provides advice regarding implementation of a comprehensive ecosystem management strategy for federal land within a province. Each PAC is comprised of approximately 29 members and meets about four times annually, including one or two field trips, which give participants a broad perspective of Northwest Forest Plan provincial accomplishments.

The Deschutes River Mitigation and Enhancement Program helps achieve Oregon Department of Fish and Wildlife (ODFW) habitat and management goals and objectives within the Upper Deschutes River sub-basin, consistent with an agreement between the Central Oregon Irrigation District (COID) and ODFW. As part of that agreement COID provides ODFW with funds to develop and implement a fish and wildlife habitat mitigation and enhancement program for the Upper Deschutes River Basin. The Deschutes River Mitigation and Enhancement Committee has seven voting members appointed to three-year terms by the Board (see also Section 2.5).

Community Involvement Program

Statewide Planning Goal 1 requires a citizen involvement program with six components. The required components and the primary methods of County implementation are described below.
Citizen Involvement – Provide for widespread citizen involvement.
- The Planning Commission acts as the committee for community involvement.

Communication – Assure effective two-way communications between local officials and citizens.
- This is accomplished through a variety of techniques, including newsletters, email lists, display ads or mailings.

Citizen Influence – Provide opportunities for citizens to be involved in all phases of the planning process
- Deschutes County Code Title 22 describes land use noticing and procedures.

Technical Information – Assure technical information is available in an understandable form.
- Clearly written staff reports assure all information is available and comprehensible.

Feedback mechanisms – Assure that citizens get responses from policy makers.
- A written record is maintained for all formal proposals and procedures ensure that those who participate and request notification are notified of the decision.

Financial support – Ensure adequate funding for the citizen involvement program.
- Funding and staffing are maintained for the Planning Commission and for sending required notices.

The list above describes the minimum requirements. Deschutes County takes a more active stand, maintaining an updated website, holding public meetings around the County and reaching out to the community.
Section 1.2 Community Involvement Policies

Goal and Policies

Goal 1  Maintain an active and open community involvement program that is accessible to all members of the community and engages the community during development and implementation of land use policies and codes.

Policy 1.2.1  This section serves as the Community Involvement Program.

Policy 1.2.2  The Planning Commission will be the Committee for Community Involvement, with County support.
   a. Maintain funding and staffing.
   b. Provide regular updates, speakers, panel discussions and handouts on land use law and policy.
   c. Appoint members through an open and public process to reflect the geographic areas and diverse values of Deschutes County residents.
   d. Meet with the Board of County Commissioners at least once a year to coordinate planning policies and activities.
   e. Complete an annual report on community involvement implementation for the State Citizen Involvement Advisory Committee, the Board of County Commissioners and the public.

Policy 1.2.3  Encourage community participation in planning through a variety of tools and techniques, including:
   a. Post all planning applications, decisions, projects and plans on the County website;
   b. Provide staff reports for comprehensive plan and zoning text amendments to the public in a timely manner;
   c. Write all County planning documents to be accessible and understandable to the general public, with acronyms spelled out and technical language explained;
   d. Hold area-specific comprehensive plan and zoning text amendment public hearings in locations and at times convenient to area residents, as appropriate;
   e. Require pre-application meetings for comprehensive plan and zoning text amendments; and for major or potentially contentious projects encourage the applicants to hold an informal community meeting before submitting an application.

Policy 1.2.4  Reach out to the community to discuss and respond to land use concerns in a timely manner.

Policy 1.2.5  Ensure effective, efficient planning procedures.
Section 1.3 Land Use Planning

Background
This section establishes the overall framework for the development and implementation of plans and policies for land use within the County. Statewide planning guidelines require each county to establish a land use planning process based on current issues and factual information. The policies in this section assure that the County’s land use policies are current, fact-based and responsive to change. The policies recognize the need for coordination between the cities and the County and provide full public access to Plan documents and the information upon which land use decisions are based.

As noted throughout this Plan, there are two important things to remember. First, the Oregon land use system draws a bright line between rural and urban lands and promotes new growth and infrastructure in urban areas. Growth on rural lands is limited in order to protect farms, forests, open spaces and natural resources. Deschutes County is required to plan in compliance with the State planning system in order to promote orderly and efficient growth and protect the resources important to Oregonians.

Second, land use is often controversial because ultimately it can intermix community values with private property rights and expectations. A property owner may choose to keep pigs, or start a day care center or build a windmill. For each of those uses there may be impacts on the neighbors in the form of odors, traffic or blocked views. Land use regulations attempt to achieve a balance between giving property owners the freedom to use their property however they choose while maintaining the livability of the neighborhood and wider community. This Plan recognizes those tensions that occur when creating land use policies.

Land Use
Statewide Planning Goal 2 Land Use Planning, requires a fact-based land use planning process and policy framework to guide land use decisions. It requires comprehensive planning that identifies issues and complies with Statewide Planning Goals. Goal 2 also addresses the process to allow exceptions to Statewide Goals (see also Section 5.10).

In 1979 the County complied with the Statewide planning system by writing a Comprehensive Plan. From 1988-2003 the County underwent State mandated Periodic Review to ensure the Plan was still in compliance with changing State regulations. The 2008-2011 update was done outside of Periodic Review, which is no longer required for Oregon counties. Instead, the County recognized that to remain valid the Comprehensive Plan needed to be completely rewritten and updated. For historic reference, a copy of the Comprehensive Plan replaced by this Plan will remain available on the County website. This Plan is a policy document based on existing facts and community values. No specific land use designation changes are included in the 2008-2011 Plan update. Instead, this Plan revisits each Statewide Goal, its existing Goals and Policies, community values and new issues requiring policy direction. It lays out a blueprint for the future and defines what matters to County residents and businesses through updated Goals and Policies.
The Comprehensive Plan is implemented primarily through zoning and the zoning code must be regularly reviewed for compliance with the Plan. However, there are other tools for implementation, such as capital improvement plans, partnerships or incentive programs. To assure this Plan remains useful, an action plan identifying various ideas for implementing Comprehensive Plan policies will be created. The action plan will be annually updated and reviewed to identify and prioritize work plans for the coming year.

**Land Ownership and Jurisdiction**

When considering land use in Deschutes County two important factors are the amount of public ownership and which lands are under County jurisdiction. Table 1.3.1 shows nearly 80% of land in the County is publicly owned. The implications of the large tracts of public land range from the loss of tax revenue to having vast open lands available for recreation for both tourists and residents.

Table 1.3.1 – Public Land in Deschutes County 2010

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Acres*</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total County Acres</td>
<td>1,913,482</td>
<td>100%</td>
</tr>
<tr>
<td>Federal Government</td>
<td>1,466,067</td>
<td>76.6%</td>
</tr>
<tr>
<td>State Government</td>
<td>53,051</td>
<td>2.8%</td>
</tr>
<tr>
<td>County Government</td>
<td>10,434</td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>Total Public Lands</strong></td>
<td><strong>1,529,552</strong></td>
<td><strong>79.9%</strong></td>
</tr>
</tbody>
</table>

* Acres of parcels – does not include roads, right-of-ways, lakes, rivers or other publicly-owned parcels such as cities or park districts.

Source: County Geographical Information System

Table 1.3.2 shows jurisdictional responsibilities. Note that the federal government, primarily through the Bureau of Land Management and the U.S. Forest Service, owns over 76% of the land in the County. Federal lands are not required to conform to local regulations, such as zoning. They rely on their own resource plans. This means a majority of lands in the County are not under County jurisdiction. However, they remain in this Plan to encourage intergovernmental policy coordination.

Table 1.3.2 – 2010 Land Jurisdiction in Deschutes County 2010

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Acres*</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total County Acres</td>
<td>1,913,482</td>
<td>100%</td>
</tr>
<tr>
<td>Federal Government</td>
<td>1,466,067</td>
<td>76.6%</td>
</tr>
<tr>
<td>Bend Urban Growth Boundary</td>
<td>17,534</td>
<td>0.9%</td>
</tr>
<tr>
<td>La Pine Urban Growth Boundary</td>
<td>4,008</td>
<td>0.2%</td>
</tr>
<tr>
<td>Redmond Urban Growth Boundary</td>
<td>10,733</td>
<td>0.6%</td>
</tr>
<tr>
<td>Sisters Urban Growth Boundary</td>
<td>1,023</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total Cities</td>
<td>33,298</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Total Other Jurisdiction</strong></td>
<td><strong>1,499,365</strong></td>
<td><strong>78.4%</strong></td>
</tr>
</tbody>
</table>

* Acres of parcels – does not includes roads, right-of-ways, lakes and rivers.

Source: County Geographical Information System

In addition to Federal lands, four cities have primary jurisdiction over less than 2% of lands in the County. This includes lands outside the incorporated city boundaries, but inside urban growth boundaries. The urban growth boundaries define a municipality’s 20-year land supply to accommodate future growth. These lands are managed by the cities through intergovernmental
agreements between the cities and the County. The bottom line is that the County has land use jurisdiction over approximately 22% of the land base.

**Comprehensive Plan Map Designations**

The Comprehensive Plan Map (Map) illustrates the County’s goals and policies. The Map describes land use categories that provide for various types of development and conservation for the rural area during the 20-year planning period.

Each Comprehensive Plan map designation provides the land use framework for establishing zoning districts. Zoning defines in detail what uses are allowed for each area. The Deschutes County Comprehensive Plan and Zoning Maps exist in official replica form as an electronic map layer within the County Geographic Information System. Other maps illustrating various Comprehensive Plan areas, such as rural commercial properties, are available to the public for informational purposes.

The Comprehensive Plan map designations are defined below.

**Agriculture:** To preserve and maintain agricultural lands for farm use.

**Airport Development:** To allow development compatible with airport use while mitigating impacts on surrounding lands.

**Destination Resort Combining Zone:** To show lands eligible for siting a destination resort.

**Forest:** To protect forest lands for multiple forest uses.

**Open Space and Conservation:** To protect natural and scenic open spaces, including areas with fragile, unusual or unique qualities.

**Rural Residential Exception Areas:** To provide opportunities for rural residential living outside urban growth boundaries and unincorporated communities, consistent with efficient planning of public services.

**Surface Mining:** To protect surface mining resources from development impacts while protecting development from mining impacts.

**Resort Community:** To define rural areas with existing resort development that are not classified as a destination resort, based on Oregon Administrative Rule 660-22 or its successor.

**Rural Community:** To define rural areas with limited existing urban-style development, based on Oregon Administrative Rule 660-22 or its successor.

**Rural Service Center:** To define rural areas with minimal commercial development as well as some residential uses, based on Oregon Administrative Rule 660-22 or its successor.

**Urban Unincorporated Community:** To define rural areas with existing urban development, based on Oregon Administrative Rule 660-22 or its successor.

**Rural Commercial:** To define existing areas of isolated rural commercial development that do not fit under Oregon Administrative Rule 660-22.

**Rural Industrial:** To define existing areas of isolated rural industrial development that do not fit under Oregon Administrative Rule 660-22.
Urban Growth Boundaries: To define land that provides for urban development needs and identifies and separates urban and urbanizable land from rural land.

Bend Urban Area Reserve: To define lands outside of Bend’s Urban Growth Boundary that were under the jurisdiction of the Bend Area General Plan. These areas were removed in September 2016 through the 2016 amendment to the Bend Urban Growth Boundary. These areas are now under the jurisdiction of the County’s Comprehensive Plan.

Redmond Urban Reserve Area: To define Redmond’s additional 30-year growth boundary for lands expected to be brought into the Urban Growth Boundary.

Comprehensive Plan Map Designations and Associated Zoning

Table 1.3.3 lists existing Comprehensive Plan designations and related Zoning districts. Some Plan designations apply County-wide and some only apply to designated areas of existing development. The Destination Resort designation is a combining zone that supplements the underlying zoning. Most of the area-specific designations fall under the State rules for Unincorporated Communities and are detailed in Chapter 4 of this Plan. The Rural Commercial and Rural Industrial areas are detailed in Chapter 3 under Rural Economy.

Table 1.3.3 - Comprehensive Plan and Zoning Code Designations

<table>
<thead>
<tr>
<th>Comprehensive Plan Designation</th>
<th>Associated Deschutes County Zoning Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>County-wide designations</strong></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>Title 18 - All EFU subzones</td>
</tr>
<tr>
<td>Airport Development</td>
<td>Title 18 - AD, AS</td>
</tr>
<tr>
<td>Destination Resort Combining Zone</td>
<td>Title 18 - DR</td>
</tr>
<tr>
<td>Forest</td>
<td>Title 18 - F-1, F-2</td>
</tr>
<tr>
<td>Open Space and Conservation</td>
<td>Title 18 - OS&amp;C</td>
</tr>
<tr>
<td>Rural Residential Exception Area</td>
<td>Title 18 - RR-10 and MUA-10</td>
</tr>
<tr>
<td>Surface Mining</td>
<td>Title 18 - SM</td>
</tr>
<tr>
<td><strong>Area specific designations</strong></td>
<td></td>
</tr>
<tr>
<td>Resort Community</td>
<td>Title 18 - All Black Butte Ranch and Inn of the 7th Mountain/Widgi Creek subzones</td>
</tr>
<tr>
<td>Rural Community</td>
<td>Title 18 - All Tumalo and Terrebonne subzones</td>
</tr>
<tr>
<td>Rural Service Center</td>
<td>Title 18 - All RSC zones</td>
</tr>
<tr>
<td>Urban Unincorporated Community</td>
<td>Title 18 - All Sunriver subzones</td>
</tr>
<tr>
<td>Rural Commercial</td>
<td>Title 18 - Rural Commercial</td>
</tr>
<tr>
<td>Rural Industrial</td>
<td>Title 18 - Rural Industrial</td>
</tr>
<tr>
<td>Bend Urban Growth Area</td>
<td>Title 19 - UAR-10, SM, SR 2 1/2, RS, IL, FP</td>
</tr>
<tr>
<td>Redmond Urban Growth Area</td>
<td>Title 20 - UH-10</td>
</tr>
<tr>
<td>Sisters Urban Growth Area</td>
<td>Title 21 - UAR-10, OA, FP</td>
</tr>
<tr>
<td>Redmond Urban Reserve Area</td>
<td>Title 18 - RURA</td>
</tr>
</tbody>
</table>

Source: County Geographical Information System and Deschutes County Code

Intergovernmental and Other Coordination

Regional Coordination

Deschutes County is responsible for coordinating all planning activities affecting land uses within the County.

- Coordinating population forecasts
Coordinating with special districts, including irrigation districts, park districts, school districts, sewer districts, and water districts

Establishing Cooperation Agreements with special districts that provide an urban service in a UGB

Coordinating with the U.S. Forest Service and Bureau of Land Management

Joint Management Agreements with municipalities for managing urban growth areas (areas outside city limits, but inside a UGB)

Establishing Urban Reserve Areas

The County recognizes the importance of working closely and cooperatively with the cities of Bend, La Pine, Redmond and Sisters, as well as special districts and state and federal agencies, to ensure a coordinated approach to future growth and conservation.

Cooperative Agreements

Cities are required to enter into a cooperative agreement with each special district that provides an urban service within a UGB. The appropriate city may also enter into a cooperative agreement with any other special district operating within a UGB.

Urban Service Agreements

Deschutes County has the responsibility for negotiating urban service agreements with representatives of all cities and special districts that provide, or declare an interest in providing, urban services inside an Urban Growth Boundary. Urban service means:

- Sanitary sewers;
- Water;
- Fire protection;
- Parks;
- Open space;
- Recreation; and
- Streets, roads and mass transit.

Special Districts

Special districts are defined in ORS 198.010 and are recognized as government bodies. Special districts include the following.

Table 1.3.4 - Special Districts

<table>
<thead>
<tr>
<th>Special District</th>
<th>Special District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility district</td>
<td>Rural fire protection district</td>
</tr>
<tr>
<td>Water supply district</td>
<td>Irrigation district</td>
</tr>
<tr>
<td>Cemetery maintenance district</td>
<td>Drainage district</td>
</tr>
<tr>
<td>Park and recreation district organized</td>
<td>Water improvement district</td>
</tr>
<tr>
<td>Mass transit district</td>
<td>Water control district</td>
</tr>
<tr>
<td>Metropolitan service district organized</td>
<td>Vector control district</td>
</tr>
<tr>
<td>Special road district</td>
<td>9-1-1 communications district</td>
</tr>
<tr>
<td>Road assessment district</td>
<td>Geothermal heating district</td>
</tr>
<tr>
<td>Highway lighting district</td>
<td>Transportation district</td>
</tr>
<tr>
<td>Health district</td>
<td>Library district</td>
</tr>
<tr>
<td>Sanitary district</td>
<td>Soil &amp; water conservation district</td>
</tr>
</tbody>
</table>
Besides intergovernmental coordination, Deschutes County generally supports coordination and partnerships with non-profits and other organizations that are working with residents to improve the quality of life in the County. There are groups working to address issues from affordable housing to clean rivers, from economic development to fire-free neighborhoods.

Two examples of community projects that were completed from 2006-2010 are the Bend 2030 Plan and the Deschutes County Greenprint, both created after extensive public outreach. Note that the nature and extent of the County’s role will vary based on County priorities at any given time and that coordination on a project does not ensure County support of every action undertaken on that project. Still, partnering is an efficient and effective method of addressing important issues.

**County-Owned property**

When considering land use it is important to consider County-owned lands, which are managed through Deschutes County Code Title 11. As of 2009 there were nearly 700 individual parcels owned by the County, totaling almost 8,000 acres. Management of these properties consists of defining appropriate uses for different parcels, cleaning up illegal dumpsites, fire hazard reduction and public auction. Many of these properties were acquired through foreclosure for non-payment of property taxes. It is anticipated that the County will continue to acquire lands through foreclosure.

Starting in 1994 the County began to designate certain sensitive properties along rivers, creeks or streams or with wildlife, wetlands or other values, as park lands. The intent was not to develop these lands for park use but rather to preserve lands with valuable resources. The park designation means that the lands would be retained in public ownership unless there was a public hearing and the Board of County Commissioners determined that selling was in the best interest of the public. ORS 275.330 governs the disposal of these lands, stating that if they are sold the proceeds must be dedicated to park or recreation purposes. As of 2009, there were approximately 70 properties designated as park lands under the following Orders.

**Order #**
- 94-138
- 96-071
- 97-147
- 97-151
- 98-127
- 2004-001
- 2004-037
- 2006-019
Section 1.3 Land Use Planning Policies

Goals and Policies

Goal 1  Maintain an open and public land use process in which decisions are based on the objective evaluation of facts.

Policy 1.3.1 Protect the limited amount of privately-owned land in Deschutes County through consideration of private property rights and economic impacts to property owners and the community when creating and revising land use policies and regulations.
   a. Evaluate tools such as transfer of development rights programs that can be used to protect private property.

Policy 1.3.2 Consider sustainability and cumulative impacts when creating and revising land use policies and regulations.

Policy 1.3.3 Involve the public when amending County Code.

Policy 1.3.4 Maintain public records which support the Comprehensive Plan and other land use decisions.

Policy 1.3.5 Review the Comprehensive Plan every five years and update as needed, in order to ensure it responds to current conditions, issues and opportunities, as well as amended State Statute, Oregon Administrative Rules and case law.

Policy 1.3.6 Maintain and enhance web-based property-specific information.

Policy 1.3.7 The Deschutes County Comprehensive Plan Map will be retained in official replica form as an electronic map layer within the County Geographic Information System and is adopted as part of this Plan.

Policy 1.3.8 Implement, as appropriate, recommendations in the Final Report from the Oregon Task Force on Land Use Planning dated January 2009.

Policy 1.3.9 A list of actions to implement this Comprehensive Plan shall be created, maintained and reviewed yearly by the Community Development Department and the Board of County Commissioners.

Goal 2  Promote regional cooperation and partnerships on planning issues.

Policy 1.3.10 Regularly review intergovernmental and urban management agreements, and update as needed.

Policy 1.3.11 Participate in and, where appropriate, coordinate regional planning efforts.
   a. Provide affected agencies, including irrigation districts, an opportunity to comment and coordinate on land use policies or actions that would impact their jurisdictions.

Policy 1.3.12 Support non-profit or public acquisition of lands determined through an extensive public process to have significant value to the community.

Policy 1.3.13 Support implementation of the Bend 2030 Plan and incorporate, as appropriate, elements from the Bend 2030 Plan into this Plan.
Goal 3  Manage County owned lands efficiently, effectively, flexibly and in a manner that balances the needs of County residents.

Policy 1.3.14  Where feasible, maintain and manage County owned properties as follows:
   a. Manage designated park lands to preserve the values defined in the park designation;
   b. Permit public access to County owned lands designated as parks unless posted otherwise;
   c. Encourage properties located along rivers, streams or creeks or containing significant wildlife, scenic or open space values to be designated as park land.
Chapter 1 Primary References

References¹


5. Oregon Revised Statute 197, particularly:
   a. 197.173-197.200 Comprehensive Planning Responsibilities
   b. 197.201-197.283 Goals Compliance
   c. 197.610-197-651 Post-Acknowledgement Procedures

6. Oregon Administrative Rules Chapter 660, particularly:
   a. 660-003 Acknowledgement of Compliance
   b. 660-004 Goal 2 Exceptions Process
   c. 660-015 Statewide Planning Goals and Guidelines
   d. 660-018 Post-Acknowledgement Amendments


¹ The references listed are provided for the convenience of the public and are not legally adopted into this Plan.
Chapter 2

Resource

Management
Section 2.1 Introduction

Background

Resource lands are essentially available assets. In 1973 Oregon passed legislation with the intent of providing statewide protection to many of Oregon’s land use resources. At that time, farming and wood products were the primary economic drivers for the State, so farm and forest lands were specifically noted for protection and are often referred to as resource lands. Other resources were also identified. The structure for protecting Oregon’s lands is provided by five of the 19 Statewide Planning Goals and the associated Oregon Revised Statutes (ORS) and Oregon Administrative Rules (OAR). This chapter includes resources protected through the Statewide Goals.

Farm lands are protected by Statewide Goal 3, Agricultural Lands, ORS 215 and OAR 660-033. Goal 3 requires all counties to inventory and protect farm lands. The ORSs and OARs further define which land should be designated farm land and what uses are permissible. The State regulations for managing farm lands are comprehensive and complex.

Forest lands are protected by Statewide Goal 4, Forest Lands, various sections of ORS and OAR 660-006. The Goal again requires all counties to inventory forest lands and adopt policies that will conserve forest lands for forest uses.

Statewide Goal 5, Natural Resources, Scenic and Historic Areas and Open Spaces, establishes a process for inventorying and evaluating more than a dozen natural and cultural resources. The process is defined in OAR 660-016 and OAR 660-023. If a resource is found to be significant, local government can protect it, allow uses that conflict with it, or find a balance. These are often referred as Goal 5 resources.

Two additional goals are associated with resource protection but do not apply to specific lands. Statewide Goal 6, Air, Water and Land Resources Quality, requires compliance with Federal and State regulations regarding air, water and land quality. Statewide Goal 13, Energy, requires land to be managed and controlled to maximize the conservation of energy based on sound economic principles. These two goals protect our air, water, land and environment.

Purpose

The concept of sustainability is that resources used today should be managed so that there are still resources available for future generations. Sustainability encourages balancing economic, environmental and social concerns. The Deschutes County Comprehensive Plan has long acknowledged this through policies that require new development to consider the carrying capacity of environment.

The purpose of the Resource Management chapter is to effectively manage Deschutes County’s agricultural, forest, natural and cultural resources to meet the needs of today while retaining their value for future generations. These resources include:

Resource Lands

- Agricultural lands (Section 2.2)
- Forest lands (Section 2.3)
**Other Resources**

- Goal 5 Overview (Section 2.4)
- Water Resources (Section 2.5)
- Wildlife (Section 2.6)
- Open Spaces, Scenic Views and Sites (Section 2.7)
- Energy Resources (Section 2.8)
- Environmental Quality (Section 2.9)
- Mineral and Aggregate Resources (Section 2.10)
- Historic and Cultural Resources (Section 2.11)

**Key Issues**

This chapter generated considerable discussion during the public outreach for the 2008-2011 Plan update. There was strong community support for protecting the natural resources that define Deschutes County, including its water and wildlife. Yet there was also concern expressed over the intrusive nature of government regulations. There is an inherent tension between resource protection and private property rights. A regulation written to protect a riparian area does so by restricting the uses allowed on that property. Often there is limited agreement over whether or how much regulation is necessary.

Chapter 2 provides recommendations to protect State and locally defined community resources that are important to the local economy and region’s quality of life. Yet, the policies in this chapter also acknowledge that sometimes the appropriate government action is to create incentives or remove obstacles.
Section 2.2 Agricultural Lands

Background

Protecting farm lands and the economic benefits of agriculture is one of the primary goals of the Oregon land use system. Statewide Planning Goal 3 establishes farmland identification and protection standards which must be met by local governments. The Goal requires farm lands to be preserved for farm uses, consistent with existing and future needs for agricultural products, forest and open space. Additional criteria for Goal 3 can be found in Oregon Revised Statute (ORS) 215 and in Oregon Administrative Rule (OAR) 660-33. These criteria spell out in considerable detail which lands shall be designated as farm lands and what uses are permissible.

The main concept is that local governments must inventory and protect farm lands though the use of Exclusive Farm Use (EFU) zones that provide primarily for the continuation of commercial-scale agriculture, including farm operations, marketing outlets and the agricultural support system. To provide a science based method of identifying farm lands, Statewide Goal 3 defines agricultural lands primarily through soil classifications. However, other lands can, and often must, be classified for farming based on the criterion ‘suitable for farm use’ or being near agricultural lands.

Excerpt from Statewide Planning Goal 3

“Agricultural Land … in eastern Oregon is land of predominantly Class I, II, III, IV, V and VI soils as identified in the Soil Capability Classification System of the United States Soil Conservation Service, and other lands which are suitable for farm use taking into consideration soil fertility, suitability for grazing, climatic conditions, existing and future availability of water for farm irrigation purposes, existing land-use patterns, technological and energy inputs required, or accepted farming practices. Lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands, shall be included as agricultural land in any event.

More detailed soil data to define agricultural land may be used by local governments if such data permits achievement of this goal.

Agricultural land does not include land within acknowledged urban growth boundaries or land within acknowledged exceptions to Goals 3 or 4.”

Besides Statewide Goal 3, farming is protected in Oregon by “right-to-farm” law (ORS 30.930-047). This law protects commercial farms from nuisance suits brought about by generally accepted farming practices, such as noise, dust or odors.

County Agricultural Designations

Farm land designations in Deschutes County have been and continue to be highly controversial. In designating farm lands in the late 1970s, the County was hampered by the limited availability of soil maps. Where soil maps existed those were consulted, but the County also included irrigated lands and lands receiving farm deferrals for the previous five years. Ultimately, seven separate agricultural areas were identified, each specifying minimum lot sizes. In general, non-urban, non-forest, undeveloped and uncommitted lands were determined to be farm lands.
Despite designating many agricultural areas by default, the 1979 Resource Element noted that based on agricultural determinants of soils, water, climate and economics, profitable farming in the County remained difficult. The findings for protecting non-profitable agricultural land noted the aesthetic value of farm land, the costs and hazards of allowing local development and the economic importance of rural open space.

In 1992 a commercial farm study was completed as part of the State required periodic review process. The study concluded that irrigation is the controlling variable for defining farm lands in Deschutes County. Soil classifications improve when water is available. Seven new agricultural subzones were identified based on the factual data provided in the 1992 study and minimum acreages were defined based on the typical number of irrigated acres used by commercial farms in that particular subzone (with the exception of the Horse Ridge subzone).

Like the 1979 Resource Element, the 1992 farm study noted the challenges of local commercial farming. The high elevation (2700-3500 feet), short growing season (88-100 days), low rainfall and distance to major markets hamper profitability. The 1992 study resulted in minimum lot sizes that are smaller than the State requirement of 80 acres for farm land and 160 acres for range land. These minimum lot sizes are unique in Oregon and were acknowledged as in compliance with Goal 3 by the Oregon Land Conservation and Development Commission. In general, County farm designations are effectively protecting farm lands while allowing limited land divisions.

**Deschutes County Agricultural Sub-Zones**

As noted above, the County maintains a unique set of farm sub-zones based on the average number of irrigated acres for each type of farm land as determined in the 1992 farm study. Irrigated land divisions in each sub-zone must result in parcels that retain the acreages shown in Table 2.2.1.

**Table 2.2.1 - Exclusive Farm Use Subzones**

<table>
<thead>
<tr>
<th>Subzone Name</th>
<th>Minimum Acres</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Bridge</td>
<td>130</td>
<td>Irrigated field crops, hay and pasture</td>
</tr>
<tr>
<td>Sisters/Cloverdale</td>
<td>63</td>
<td>Irrigated alfalfa, hay and pasture, wooded grazing and some field crops</td>
</tr>
<tr>
<td>Terrebonne</td>
<td>35</td>
<td>Irrigated hay and pasture</td>
</tr>
<tr>
<td>Tumalo/Redmond/Bend</td>
<td>23</td>
<td>Irrigated pasture and some hay</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>36</td>
<td>Irrigated hay and pasture</td>
</tr>
<tr>
<td>La Pine</td>
<td>37</td>
<td>Riparian meadows, grazing and meadow hay</td>
</tr>
<tr>
<td>Horse Ridge East</td>
<td>320</td>
<td>Rangeland grazing</td>
</tr>
</tbody>
</table>

Source: Deschutes County 1992 Farm Study

**Irrigation Districts**

As shown in the 1992 farm study, irrigation and irrigation districts are instrumental factors for Deschutes County agriculture. Irrigation districts in Oregon are organized as Special Districts under ORS Chapter 545. The districts are created for the purpose of delivering water to their patrons. As such they are effectively non-profit water user associations. In addition to irrigation, these districts also supply a number of other uses, including municipal, industrial, and
pond maintenance. However, by and large the districts exist for the purposes of delivering irrigation.

Seven districts, which withdraw their water supply from the Deschutes River Basin, have formed an intergovernmental unit called a "board of control" under ORS 190.125. This organizational structure allows the districts to work together as a unit in implementing water conservation projects, providing educational resources, utilizing equipment and for other joint purposes. A key goal for the Deschutes Basin Board of Control is to preserve agricultural uses in those areas where irrigation improves soils to class VI or better.

The six irrigation districts listed below serve residents or have facilities within Deschutes County and are members of the Deschutes Basin Board of Control.

Arnold Irrigation District

The present Arnold Irrigation District was first organized as the Arnold Irrigation Company on December 27, 1904 and became official on January 9, 1905. As of 2010 the district manages approximately 65 miles of canals, ditches and pipes in an area of approximately 18,560 acres.

Central Oregon Irrigation District

The Central Oregon Irrigation District (COID) was established in 1918. The District provides water for approximately 45,000 acres within an 180,000 acre area in Central Oregon. More than 700 miles of canals provide agricultural and industrial water to irrigate Terrebonne, Redmond, Bend, Alfalfa and Powell Butte areas. In addition, COID provides water to the City of Redmond and numerous subdivisions. In Bend, many parks and schools receive water through the COID system. COID is also the managing partner in the operation of the 55,000 acre foot Crane Prairie Reservoir, located on the east side of the Central Cascades.

North Unit Irrigation District

The North Unit Irrigation District (NUID) was organized in 1916. As part of the Reclamation Act of 1902, Congress approved the Deschutes Project and in 1927 began construction of the project under the direction of the U.S. Bureau of Reclamation. The project was completed in 1949 allowing NUID to serve nearly 50,000 acres. Today NUID is the second largest irrigation district in Oregon, serving approximately 59,000 acres in Jefferson County. NUID maintains facilities in Deschutes County, including Wickiup Dam, Bend Headworks and the North Unit Irrigation Canal. NUID has a long-standing relationship with the U.S. Bureau of Reclamation as a result of the Deschutes Project.

Swalley Irrigation District

The Swalley Irrigation District was organized as the Deschutes Reclamation and Irrigation Company (DRIC) in 1899. In 1994 the shareholders of the DRIC voted to incorporate as an irrigation district and took the name of Swalley Irrigation District. The District has 28 miles of canals and laterals providing water to 667 customers.
Three Sisters Irrigation District

The Three Sisters Irrigation District (formerly Squaw Creek Irrigation District) was founded in 1917 from the Squaw Creek Irrigation Company and the Cloverdale Irrigation Company. They were founded in 1891 and 1903 respectively, making Three Sisters Irrigation District one of the oldest such districts in Oregon. The District serves approximately 175 water users over approximately 7,568 acres.

Tumalo Irrigation District

Originally known as the Tumalo Project, Tumalo Irrigation District started in 1904. In 1922 the Project reorganized as an irrigation district under Oregon state laws. The District serves approximately 60 square miles, irrigating approximately 8,093 acres, and has over 80 miles of canals, laterals and ditches serving 635 landowners.

Deschutes County Agriculture 2007 - 2009

The following statistics provide a snapshot of farming in Deschutes County.

Source: County GIS data

- Approximately 36% of the County or more than 700,000 acres are designated as Agriculture on the Comprehensive Plan map. Of that acreage, 69% is public, primarily Federal ownership leaving approximately 224,000 acres privately held.
- 160,078 acres of privately owned farm lands in the County receive special tax assessment for farm use.
- Of the acres receiving farm tax assessments, 44,221 are irrigated.
- In 2008 there were 3,725 agricultural parcels less than five acres.

Source: Oregon State University Extension Oregon Agricultural Information Network, Deschutes County Agricultural Commodity Sales for 2009 (preliminary estimate)

- $19,792,000 in agricultural sales, a drop from the 2008 preliminary estimate of $25,991,000. This follows slight upturns in sales between 2006-2008.
- 62% of agriculture sales are in crops and 38% in livestock. The primary crops are hay and alfalfa hay while the primary livestock is cattle. The biggest downturns for 2009 are non-alfalfa hay and cattle.

Source: United States Department of Agriculture, National Agricultural Statistics Service 2007 Census of Agriculture

- There are 1,405 farms in Deschutes County residing on 129,369 acres
- Average farm size 92 acres
- Approximately 24% of farms are under 10 acres and 78% are under 50 acres
- Total net cash farm income is negative
- 59% of farmers list their primary occupation as ‘Other’ rather than farming

The above data highlights the fact that farming in Deschutes County is generally not commercially profitable. For a majority of farmers, farming is not a sustaining economic activity, but rather a lifestyle choice. Living on a farm and farming as a secondary economic activity acknowledge a shift from commercial farming towards the benefits of a rural lifestyle.
Farm Trends 2010

Whatever the challenges, agriculture is part of Deschutes County’s culture and rural lifestyle. During the public input process, various ideas were discussed on how to preserve agricultural lands, open spaces and rural character of the County, while enabling landowners to make a living. The following ideas identify current trends that could be promoted by the County in conjunction with the local extension service and other agencies and organizations. It is important to emphasize that new uses must conform to State regulations.

Alternative energy: Development of small alternative energy projects would promote local energy self-sufficiency, using Central Oregon’s sun, wind, thermal, hydropower and biomass resources. Larger agricultural parcels could be used as commercial wind or solar farms to provide renewable energy as well as income to landowners.

Alternative uses: There is interest in allowing non-farm uses on farm lands to take advantage of agrarian lifestyles and Central Oregon’s setting. Ideas being discussed include agri-tourism or hosting weddings. Nonetheless, new non-farm uses must be evaluated to ensure they are compatible with ORS and OARs as well as existing land uses and zoning.

Local markets: Products from small farms are often sold to local markets. Additionally local consumption saves on transportation and energy, allowing better tracking of food sources thereby increasing food safety and improving freshness and quality. Buying local is a current trend that could benefit the County’s many small farmers. Community Supported Agriculture is one popular method, where farmers obtain paid subscriptions from customers, who then receive fresh produce every week for the season. Farmers markets and farm stands are another aspect of the local food movement.

Conservation easements: Many states are using programs to put permanent conservation easements on farm lands. As an example of a program that is not yet available in Oregon is the Purchase of Agricultural Conservation Easements (PACE). Funded by the federal government and a combination of other sources, PACE purchases development rights from farmers.

Niche markets: Small quantities or specialized products can be raised to meet particular markets, like organic products or peppermint oil.

Value-added products: Processing crops can increase profitability. An example would be making jam or jelly out of locally grown berries.

Farm Councils: Farm councils are being initiated around the country to promote local sustainable food. The Central Oregon Food Policy Council (COFPC) formed in 2010 to lead the effort to a sustainable and just food system. The COFPC is made up of 12-15 volunteers including representatives from agricultural production, public health, government and others interested in the local food system. Identified strategies include supporting access to local healthy food, advocating for public policies that increase sustainable food production and connecting stakeholders in the food systems field.

Big Look

In 2005 a task force was appointed by the Oregon Governor, Speaker of the House and Senate President to review the current land use system. The Oregon Task Force on Land Use Planning was a 10-member group representing various perspectives, charged with conducting a comprehensive review of the Oregon Statewide Planning Program. Called the Big Look Task
Force, this group was asked to make recommendations for any needed changes to land-use policy to the 2009 Legislature.

After three years of extensive input from experts and citizens throughout the State, the task force developed its findings and recommendations. One of the primary conclusions reached was that Oregon needs a more flexible land use system that responds to regional variations.

Two of the primary recommendations from the Task Force addressed agricultural and forest lands, recommending:

- Counties be allowed to develop regional criteria for designating farm and forest lands, if they also protect important natural areas and assure that development is sustainable.
- Counties be allowed to propose specialized rules to decide what lands are designated as farm or forest land.

2009 Legislature / House Bill 2229

House Bill (HB) 2229 began as the vehicle for legislative recommendations for the Big Look Task Force. However, by the time the Legislature adjourned, very little of the Task Force’s recommendations remained. HB 2229 does authorize counties to reevaluate resource lands and amend their comprehensive plan designations for such lands consistent with definitions of “agricultural land” and “forest land.” For example, the County could add irrigated lands to the regional definition of farm lands to acknowledge the results of the 1992 farm study. Anything that does not qualify as farmland or forestland may be rezoned for non-resource use, subject to conditions that development in the non-resource zones be rural in character, not significantly conflict with surrounding farm and forest practices, and not have adverse affects on such things as water quality, wildlife habitat, and fire safety. County rezoning activities must be pursuant to a work plan approved by the Oregon Department of Land Conservation and Development. This effectively means the work will be done similar to periodic review with the Land Conservation and Development Commission expressly given exclusive jurisdiction to review a county decision.

Future of Deschutes County Farm Designations and Uses

Statewide Planning Goal 3 requires counties to preserve and maintain agricultural lands. However, in discussions on the future of agriculture in Deschutes County, there are still differences of opinion over which lands should be designated farm lands and what uses should be allowed. Farm lands contribute to the County in a number of ways. Agriculture is part of the ongoing local economy. Wide-open farm lands offer a secondary benefit by providing scenic open spaces that help attract tourist dollars. Farm lands also contribute to the rural character that is often mentioned as important to residents. Finally, it should be noted that agricultural lands are preserved through State policy and land use law because it is difficult to predict what agricultural opportunities might arise, and once fragmented the opportunity to farm may be lost.

On the other hand, there seems to be widespread agreement that much of the local farm land is marginal, particularly without irrigation. The climate, especially the short growing season, makes commercial farming challenging. Statewide Planning Goal 3 does not really account for the conditions in Deschutes County, resulting in agricultural zoning being applied to land with no history of farming and limited potential for profitable farming. The small size of agricultural parcels adds to the challenges. It has been argued that preserving farm lands benefits the wider
public at the expense of agricultural landowners. There is considerable pressure to convert agricultural land to residential or other uses.

The debate is complicated because there are impacts to the farming community from converting agricultural lands to other uses. It can be challenging for a farmer who has residential neighbors because farming activities can have noise, odor or dust impacts. The right-to-farm law discussed earlier offers some protection to farmers, but as residential uses grow there is pressure to convert, leading to a greater loss of agricultural lands.

The goals and policies in this Section are intended to provide the basis for evaluating the future of agriculture in the County over the next twenty years. They are intended to provide, within State guidelines, flexibility to the farming community. County farm lands will be preserved by ensuring a variety of alternative paths to profitability.
Section 2.2 Agricultural Lands Policies

Goals and Policies

Goal 1  Preserve and maintain agricultural lands and the agricultural industry.

Policy 2.2.1  Retain agricultural lands through Exclusive Farm Use zoning.

Policy 2.2.2  Exclusive Farm Use sub-zones shall remain as described in the 1992 Farm Study and shown in the table below, unless adequate legal findings for amending the sub-zones are adopted or an individual parcel is rezoned as allowed by Policy 2.2.3.

Exclusive Farm Use Subzones

<table>
<thead>
<tr>
<th>Subzone Name</th>
<th>Minimum Acres</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Bridge</td>
<td>130</td>
<td>Irrigated field crops, hay and pasture</td>
</tr>
<tr>
<td>Sisters/Cloverdale</td>
<td>63</td>
<td>Irrigated alfalfa, hay and pasture, wooded grazing and some field crops</td>
</tr>
<tr>
<td>Terrebonne</td>
<td>35</td>
<td>Irrigated hay and pasture</td>
</tr>
<tr>
<td>Tumalo/Redmond/Bend</td>
<td>23</td>
<td>Irrigated pasture and some hay</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>36</td>
<td>Irrigated hay and pasture</td>
</tr>
<tr>
<td>La Pine</td>
<td>37</td>
<td>Riparian meadows, grazing and meadow hay</td>
</tr>
<tr>
<td>Horse Ridge East</td>
<td>320</td>
<td>Rangeland grazing</td>
</tr>
</tbody>
</table>

Policy 2.2.3  Allow comprehensive plan and zoning map amendments, including for those that qualify as non-resource land, for individual EFU parcels as allowed by State Statute, Oregon Administrative Rules and this Comprehensive Plan.

Policy 2.2.4  Develop comprehensive policy criteria and code to provide clarity on when and how EFU parcels can be converted to other designations.

Policy 2.2.5  Uses allowed in Exclusive Farm Use zones shall comply with State Statute and Oregon Administrative Rule.

Policy 2.2.6  Regularly review farm regulations to ensure compliance with changes to State Statute, Oregon Administrative Rules and case law.

Policy 2.2.7  Encourage water projects that benefit agriculture.

Policy 2.2.8  Support a variety of methods to preserve agricultural lands, such as:
   a. Support the use of grant funds and other resources to assist local farmers;
   b. Work cooperatively with irrigation districts, public agencies and representatives and land owners;
   c. Encourage conservation easements, or purchase or transfer of development rights programs;
   d. Control noxious weeds;
   e. Encourage a food council or ‘buy local’ program.
Goal 2  Promote a diverse, sustainable, revenue-generating agricultural sector.

Policy 2.2.9  Encourage farming by promoting the raising and selling of crops, livestock and/or poultry.

Policy 2.2.10  Support stakeholders in studying and promoting economically viable agricultural opportunities and practices.

Policy 2.2.11  Encourage small farming enterprises, including, but not limited to, niche markets, organic farming, farm stands or value added products.

Policy 2.2.12  Review County Code and revise as needed to permit alternative and supplemental farm activities that are compatible with farming, such as agri-tourism or commercial renewable energy projects. When a preferred alternative or supplemental use identified through a public process is not permitted by State regulations work with the State to review and revise their regulations.

Goal 3  Ensure Exclusive Farm Use policies, classifications and codes are consistent with local and emerging agricultural conditions and markets.

Policy 2.2.13  Identify and retain accurately designated agricultural lands.

Policy 2.2.14  Explore new methods of identifying and classifying agricultural lands.
   a. Apply for grants to review and, if needed, update farmland designations.
   b. Study County agricultural designations considering elements such as water availability, farm viability and economics, climatic conditions, land use patterns, accepted farm practices, and impacts on public services.
   c. Lobby for changes to State Statute regarding agricultural definitions specific to Deschutes County that would allow some reclassification of agricultural lands.

Policy 2.2.15  Address land use challenges in the Horse Ridge subzone, specifically:
   a. The large number of platted lots not meeting the minimum acreage;
   b. The need for non-farm dwellings and location requirements for farm dwellings;
   c. Concerns over the impact on private property from off-road vehicles, facilities, and trails located on adjacent public lands.

Policy 2.2.16  Work with the State to review and revise accessory farm dwelling requirements to address the needs of local farmers.

Policy 2.2.17  Encourage coordination between fish/wildlife management organizations and agricultural interests.
Section 2.3 Forest Lands

Background

Protecting forests and their economic benefits are primary goals of the Oregon land use system. Statewide Planning Goal 4 establishes forest identification and protection standards which must be met by local governments. The Goal requires forests to be protected primarily for the growing and harvesting of trees, with environmental and recreational uses also being considered. Additional criteria for Statewide Goal 4 can be found in Oregon Revised Statue (ORS) 215 and Oregon Administrative Rule (OAR) 660-006. The key concept is local governments must inventory forest lands and protect them through local regulations.

County Forestry Designations

In 1979 in order to meet the Statewide Goal 4 inventory requirement for forest lands, the County worked with the Oregon Department of Forestry to review timber productivity based on soils information. A resulting timber productivity map was created and three categories of forest lands were identified based on forest uses identified in Statewide Goal 4.

In the 1990s, the Land Conservation and Development Commission initiated the Forest Rule, OAR 660-006, defining allowed uses, siting conditions and minimum lot sizes in forest zones. In 1992, as part of State mandated Periodic Review, Deschutes County revised its forest designations, reducing forest designations and associated regulations to two (F-1 and F-2).

County Forests 2007 - 2009

The following statistics provide a snapshot of forests in Deschutes County.

Source: County GIS data
- Approximately 52% of the County or over 1 million acres are designated as forest on the Comprehensive Plan map. Of that acreage, 92% is public, primarily federal, leaving approximately 78,000 acres privately held.
- There are 475 forest special assessment accounts.
- The largest privately owned forest land is the 33,000 acre Skyline Forest, formerly Bull Springs Tree Farm.

Source: OSU Extension Service Silviculture and Fire Education Specialist
- Total public and private timber harvest in the County in 2007 was 22.5 million board feet, in 2008, 36.1 million board feet and in 2009, 14.7 million board feet.

Source: Deschutes County Forester
- Since 2002 approximately 130,000 acres of public and private forest lands have burned in Deschutes County at a firefighting expense of approximately $60 million.

Forest Trends 2010

As timber harvesting decreases, other uses for forest lands are emerging. State regulations permit five general types of uses, including forest operations; environmental, agricultural or recreational uses; two types of dwellings and locally dependent uses. Permitted uses are defined
and clarified in OAR 660-006. The following uses are becoming more prominent and likely to gain importance over the next 20 years.

Secondary forest products (forest operations): There is an increasing use of secondary forest products, such as hog fuel (chipped wood) or wood slash, which can be used for everything from animal bedding to presto logs to biomass fuel. There is some concern that those uses will lead to increased logging and degradation of forests. However, there is considerable agreement that the high build up of debris in local forests increases the risk of forest fires. The use of secondary forest products can contribute to the health of the forest as well as the local economy.

Recreation (environmental, agricultural and recreation uses): The proximity of federal forests for hiking, mountain biking, skiing, hunting, fishing, wildlife viewing and other outdoor recreation draws tourists and residents alike. (see Section 2.6 for data on the economic impacts of wildlife tourism.)

Alternative energy (locationally dependent): Commercial alternative energy projects are often locationally dependent. Forestry-related biomass plants and associated infrastructure are being considered in Central Oregon.

Future of Forest Uses

Most of the forest land in Deschutes County is owned and managed by the Federal government under Federal regulations. Forest practices on State or private forest lands are regulated by the Oregon Department of Forestry. The primary role of the County is to limit the impacts of development on private property in forest zones.

Although most forest lands are not owned or managed by Deschutes County, forests contribute immeasurably to livability. Timber management and recreational tourism provide economic benefits and employment. Forests provide an impressive diversity of recreational opportunities. Forests also play a large role in maintaining clean air and water and they provide scenic beauty and habitat for a wide variety of plants and animals. It is important for the County to work cooperatively with forest landowners, including public agencies, non-profit organizations and private land owners.

Residential Development

The primary concern over changing forest uses is that as timber becomes less profitable, the pressure to develop forest lands for residential uses increases. State regulations limit the development of housing in forest zones, recognizing that fragmenting forests decreases productivity. The biggest challenge posed by residential fragmentation of forests is the danger posed by wildfire in heavily wooded areas. Fire danger has increased as dry conditions and disease have impacted the health of forest lands. Years of fire suppression and limited logging have contributed to a build up of wildland fuel that can spread fires quickly. In these conditions, residential uses in forests create conditions dangerous to homeowners and firefighters. Section 3.4, Natural Hazards, has more information on wildfire prevention. The second challenge posed by forest fragmentation is the threat to fish and wildlife. This is addressed in the Water and Wildlife sections of this Chapter.
Skyline Forest

There is a unique opportunity to preserve a large privately held working forest. Skyline Forest consists of approximately 33,000 acres of privately held forest lands at the base of the Three Sisters Mountains. Historically, this property has been logged, but still holds important recreational, scenic and wildlife habitat value. The non-profit Deschutes Land Trust has been working to purchase Skyline Forest from the owners, who represent a large financial company. In 2005 the Board of County Commissioners approved creating a Community Forest Authority, a quasi-municipal corporation that has the authority to issue tax-exempt bonds to pay for purchasing the forest. The bonds will be repaid with revenue from logging. The logging revenue is not anticipated to cover all the bond costs, but combined with other grants and contributions can ensure the bonds are repaid.

HB 2228

As noted above, the goal of the Deschutes Land Trust is to purchase and manage as much of the Skyline Forest as possible for sustainable logging, wildlife, recreation and scenery. HB 2228, adopted by the 2009 Legislature, allows the owners of this land the right to build a clustered community of up to 282 dwelling units and associated services on 1,200 acres. An additional 1,800 acres must be in a conservation easement as a buffer to maintain wildlife habitat and minimize wildfire danger. In exchange for waiving State and local land use regulations to allow this development, the remaining 30,000 acres of the Skyline Forest and additional property in Deschutes and Klamath counties must be sold to a land trust and protected with a conservation easement. There are additional requirements attached to the Statue that provide more detail on items such as road access, master planning and permitted uses.
Section 2.3 Forest Lands Policies

Goals and Policies

Goal 1  Protect and maintain forest lands for multiple uses, including forest products, watershed protection, conservation, recreation and wildlife habitat protection.

Policy 2.3.1 Retain forest lands through Forest 1 and Forest 2 zoning.

Policy 2.3.2 To conserve and maintain unimpacted forest lands, retain Forest 1 zoning for those lands with the following characteristics:
   a. Consist predominantly of ownerships not developed by residences or non-forest uses;
   b. Consist predominantly of contiguous ownerships of 160 acres or larger;
   c. Consist predominantly of ownerships contiguous to other lands utilized for commercial forest or commercial farm uses;
   d. Are accessed by roads intended primarily for forest management; and
   e. Are primarily under forest management.

Policy 2.3.3 To conserve and maintain impacted forest lands, retain Forest 2 zoning for those lands with the following characteristics:
   a. Consist predominantly of ownerships developed for residential or non-forest uses;
   b. Consist predominantly of ownerships less than 160 acres;
   c. Consist of ownerships generally contiguous to tracts containing less than 160 acres and residences, or adjacent to acknowledged exception areas; and
   d. Provide a level of public facilities and services, including roads, intended primarily for direct services to rural residences.

Policy 2.3.4 Notwithstanding any other quasi-judicial plan or zone change criteria, lands designated as Forest under this Plan and zoned Forest 2 may upon application be redesignated and rezoned from Forest 2 to Exclusive Farm Use if such lands:
   a. Do not qualify under State Statute for forestland tax deferral,
   b. Are not necessary to permit forest operations or practices on adjoining lands and do not constitute forested lands that maintain soil, air, water and fish and wildlife resources,
   c. Have soils on the property that fall within the definition of agricultural lands as set forth in Goal 3,
   d. Are a tract of land 40 acres or less in size,
   e. Do not qualify under State Statute and the terms of the Forest 2 zone for a dwelling, and;

Such changes may be made regardless of the size of the resulting EFU zoning district. Such changes shall be processed in the same manner as other quasi-judicial plan or zoning map changes.
Policy 2.3.5 Uses allowed in Forest zones shall comply with State Statute and Oregon Administrative Rule.

Policy 2.3.6 Coordinate and cooperate with the U.S. Forest Service, the Bureau of Land Management and other public agencies to promote sustainable forest uses, including recreation, on public forest land, including:
   a. Using the Deschutes National Forest Land and Resource Management Plan, or its successor, as the basis for mutual coordination and cooperation with the U.S. Forest Service;
   b. Using the Prineville Bureau of Land Management Upper Deschutes Resource Management Plan, or its successor, as the basis for mutual coordination and cooperation with the Bureau of Land Management.

Policy 2.3.7 Notify affected agencies when approving development that could impact Federal or State forest lands.

Policy 2.3.8 Support the maintenance of the Skyline Forest as a Community Forest.

Policy 2.3.9 Support economic development opportunities that promote forest health.

Policy 2.3.10 Provide input on public forest plans that impact Deschutes County.

Policy 2.3.11 Apply for grants to review forest lands based on ORS 215.788-215.794 (2009 HB 2229).

Policy 2.3.12 Coordinate with stakeholders to support forest management projects that:
   a. Contribute to public safety by treating wildland hazardous fuels particularly in the designated Wildland Urban Interface as identified in the Community Wildfire Protection Plans described in Section 3.5 of this Plan;
   b. Retain fish and wildlife habitat.

**Goal 2** Adequately address impacts to public safety and wildlife when allowing development on forest lands.

Policy 2.3.13 Review County Code and revise as needed to ensure development in forest zones mitigates impacts, particularly impacts on fish and wildlife habitat and public fire safety.
Section 2.4 Goal 5 Overview

Background

Many County resources are protected through Statewide Planning Goal 5, Natural Resources, Scenic and Historical Areas and Open Spaces. Further direction on protecting these resources is provided in Oregon Administrative Rule (OAR) 660-023. It is important to note that OAR 660-016 provided direction when the County did an extensive review of Goal 5 resources primarily in the early 1990s. In 1996 OAR 660-023 replaced OAR 660-016 for all listed resources except cultural resources. The Goal and OAR require local governments to inventory various resources and determine which items on the inventory are significant. For sites identified as significant, an Economic, Social, Environmental and Energy (ESEE) analysis is required. The analysis leads to one of three choices: preserve the resource, allow proposed uses that conflict with the resource or strike a balance between the resource and the conflicting uses. A program must be provided to protect the resources as determined by the ESEE analysis.

Deschutes County completed Goal 5 inventories and the ESEE analysis during Periodic Review, a State process for updating comprehensive plans which lasted from 1988-2003. The County Goal 5 inventories and programs were acknowledged by the Department of Land Conservation and Development as being in compliance with Goal 5. Therefore, the acknowledged Goal 5 inventories, ESEEs and programs are retained in this Plan (although one historic resource is being modified).

OAR 660-023 requires specific Goal 5 resources to be reviewed and amended at each periodic review. However, counties are no longer required to do periodic review. This Plan update is not being done under those regulations.

The following resources are required to be inventoried at each periodic review:

- Federal Wild and Scenic Rivers
- Oregon Scenic Waterways
- Groundwater resources (limited application)
- Natural areas (on the Oregon State Register of Natural Heritage Resources list)

In addition, the following list includes resources the County inventoried during its last periodic review.

- Riparian corridors
- Wetlands
- Wildlife habitat
- Approved Oregon Recreation Trails
- Wilderness areas
- Mineral and aggregate resources
- Energy sources (updated as new sites are proposed)
- Historic resources
- Open spaces
- Scenic views and sites
- Cultural areas
**Purpose of Goal 5**

The purpose of identifying Goal 5 related lands is to effectively manage Deschutes County’s natural and cultural resources to meet the needs of today while retaining their value for future generations. These resources are addressed in the following sections:

**Natural Resources**
- Water Resources (Section 2.5)
- Wildlife (Section 2.6)
- Open Spaces and Scenic Views and Sites (Section 2.7)
- Energy (Section 2.8)

**Other Statewide Planning Goal 5 Resources**
- Mining Resources (Section 2.10)
- Historic and Cultural Resources (Section 2.11)

**Future Goal 5 Inventories**

Although the 2008-2011 Plan update was not completed under periodic review and no updates to the Goal 5 resources were made, the County recognizes the importance of revisiting its Goal 5 resource list. To ensure the appropriate protection of Goal 5 resources, upon adoption of this Plan the County will initiate a Goal 5 technical committee to review its existing inventories and programs. The review will include consideration of existing inventories and programs as well as the cumulative effects of growth on our Goal 5 programs. The complete acknowledged Goal 5 inventory lists as of 2010 can be found in Chapter 5. An incomplete list of County Goal 5 Ordinances can also be found in Chapter 5. Research will continue to identify and list all adopted Goal 5 Ordinances.

Some issues for the Goal 5 review are listed below.
- There are some discrepancies between mapped and listed acknowledged Goal 5 inventories that need to be reconciled.
- Many Goal 5 resources, like wilderness areas, are located on Federal lands and are protected by Federal programs.
- Unlike other Goal 5 resources, amendments to the mining and historic inventories are generally initiated by property owners for specific sites.
- An inventory of Goal 5 wildlife resources was provided by an interagency team made up of Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife, U.S. Forest Service and the Bureau of Land Management. This report was prepared at the request of staff and as part of the Goal 5 review the updated inventories will be reviewed by a technical committee and eventually be recommended for adoption.
- Consider the Deschutes County Greenprint data and community values when reviewing the Goal 5 inventories.
**Section 2.4 Goal 5 Overview Policies**

**Goals and Policies**

**Goal 1**  **Protect Goal 5 resources.**

Policy 2.4.1  Initiate a review of all Goal 5 inventories and protection programs.

Policy 2.4.2  Until the County initiates amendments to the Goal 5 inventories and programs, all existing Goal 5 inventories, ESEEs and programs are retained and not repealed, except as noted in the findings for Ordinance 2011-003.

Policy 2.4.3  Review Goal 5 resources when a new Goal 5 resource is verified through the applicable state and county process, but at least every 10 years.

Policy 2.4.4  Incorporate new information into the Goal 5 inventory as requested by an applicant or as County staff resources allow.

Policy 2.4.5  As federal lands are sold to private owners, review the impacts to Goal 5 resources.
Section 2.5 Water Resources

Background

Water resource management is impacted by land use planning and includes numerous components from groundwater to river systems and water availability to water quality. Unpolluted water is essential for biodiversity and for human, animal and plant survival. Besides consumption and irrigation, water is also needed for maintaining the river and stream ecosystems that are a large part of Deschutes County’s quality of life and economy. Management of this shared resource is a regional priority.

The primary state regulator of water availability is the Oregon Water Resources Department (OWRD). The Oregon Department of Environmental Quality (DEQ) has the primary role in monitoring and enforcing water quality standards. The Oregon DEQ is required to comply with the Federal Environmental Protection Agency.

In addition to those agencies, there are two Statewide Planning Goals relating to the protection of water resources. Statewide Planning Goal 5, Natural Resources Scenic and Historic Areas and Open Spaces, requires an inventory of the following defined water resources. Once inventoried, the Goal requires protection measures. These inventories have been completed and acknowledged by the Land Conservation and Development Commission (See Sections 2.4 and 5.3).

- Riparian Corridors, including water, riparian areas and fish habitat
- Wetlands
- Federal Wild and Scenic Rivers
- State Scenic Waterways
- Groundwater Resources

Statewide Planning Goal 6, Air, Land and Water Resources Quality, requires comprehensive plans to be consistent with state and federal pollution regulations.

The policies in this section provide the framework for evaluating land use actions and define the responsibility of the County to work in partnership with cities, agencies, non-profits and others to achieve efficient use of water resources and effective management of water quality in the Upper Deschutes Basin.

It is important to underscore that the primary water resource management process occurs outside of the state land use planning system. Oregon land use and water management are not integrated. There are no overarching administrative rules that consider statewide water management in conjunction with land use planning.

Regional Water Coordination

Cities, irrigation districts, farmers, non-profits, fisherman and rural residents all have a stake in ensuring adequate quantities of water. Water availability and quality are tied together and are a regional priority. The following are the primary agencies and organizations involved in water management.
Oregon Water Resources Commission and Water Resources Department

The Water Resources Commission oversees the Oregon Water Resources Department that manages the amount of water flowing through, and being diverted from Oregon’s water bodies. Surface and groundwater rights are administered through this department.

The Water Resources Department, together with the Department of Environmental Quality, Department of Fish and Wildlife, Department of Agriculture, and stakeholders and partners from around Oregon, is developing the state’s first Integrated Water Resources Strategy.

Oregon Department of Environmental Quality

The Department of Environment Quality (DEQ) regulates water quality permits, administers onsite sewage system programs, implements (jointly with Department of Health Services) the statewide drinking water source assessment and protection program, certifies drinking water protection plans for public water supply systems, and administers an underground injection control and an underground storage tank program.

The DEQ is also responsible for carrying out the State’s obligation under the federal Clean Water Act. Section 303(d) of the Federal Clean Water Act requires states to identify and list water bodies that do not meet water quality standards. The State will set a total maximum daily load (TMDL) for water bodies that do not meet the quality standards, and the TMDL will calculate the maximum amount of pollutants that can be discharged into the water body while still meeting water quality standards.

Deschutes Water Alliance

The Deschutes Water Alliance (DWA) was formed in 2004 to plan for long-term water resource management in the Deschutes Basin. It is comprised of the following stakeholders:

- The Deschutes Basin Board of Control: an association of 7 irrigation districts that includes North Unit, Central Oregon, Swalley, Tumalo, Three Sisters, Arnold and Ochoco
- The Confederated Tribes of Warm Springs: located in Jefferson County, they are focused on managing water resources as sustainable assets
- Deschutes River Conservancy (DRC): a non-profit organization with a mission to restore streamflow and improve water quality in the Deschutes Basin
- Central Oregon Cities Organization (COCO): includes representatives from the cities of Bend, Culver, La Pine, Madras, Metolius, Prineville, Redmond, and Sisters
- Deschutes County, Jefferson County, Crook County
- Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Water Resources Department and the Bureau of Reclamation are unofficial members.

The vision of the Deschutes Water Alliance is to balance water resources to serve and sustain agriculture, urban and ecosystem needs. To achieve this vision, the mission is to:

- Improve stream flows and water quality in the Deschutes Basin for the benefit of fish, wildlife and people.
- Secure and maintain a reliable and affordable supply of water to sustain agriculture.
- Secure a safe, affordable, and high quality water supply for urban communities.
Deschutes Basin Hydrogeology

The Deschutes River Basin, from its headwaters to the Columbia River, encompasses 10,400 square miles of the north central part of the State. Nearly 91% of Deschutes County lies within the Deschutes Basin. The upper Deschutes River Basin is characterized by recent volcanic activity and strong and rapid groundwater flows. The geologic conditions lead to a strong connection between surface and ground water (see also Section 3.10).

Groundwater flows eastward from the Cascade Range through permeable volcanic rocks out into the basin and then generally northward. Groundwater recharge comes from precipitation in the Cascade Range, inter-basin flow and leaking irrigation canals. No long-term water-level declines attributable to groundwater pumping were found in the upper Deschutes Basin.

Approximately one-half of the ground water flowing from the Cascade Range discharges to spring-fed streams along the margins of the range. The remaining groundwater flows through the subsurface, and eventually discharges to streams near the confluence of the Deschutes, Crooked, and Metolius Rivers.

The large amount of groundwater discharge in the confluence area is primarily caused by geologic factors. The Deschutes River flows north through permeable rock until it hits a region of low-permeable rock near the confluence area. There the permeable rock strata terminates, forcing water to the surface. Virtually all of the regional groundwater in the upper Deschutes Basin discharges to streams south of the area where the Deschutes River enters this low-permeability terrain, at roughly the location of Pelton Dam.

Assessment of water resources of the upper Deschutes Basin confirms that human activities have significantly altered the flow regime in the basin, but on balance have led to the consumption of only a relatively small amount of available water. These impacts do appear to have had a seasonal impact in the lower Deschutes River (in the early months of the calendar year), the reach where all the changes in storage, diversion and surface-groundwater interactions come together in one place. Yet the most dramatic modifications to the water resources regime are clearly seen in terms of low flows below irrigation district diversions in Bend during the summer and below Wickiup Reservoir in the winter.

Reservoir storage and releases for irrigation have highly altered flows in five of the seven water quality impaired reaches in the basin. The upper Deschutes River reach does not often meet target flows in the winter due to upstream reservoir storage at Crescent Lake, Wickiup and Crane Prairie reservoirs. Irrigation diversions have reduced summer flows in six of the seven water quality impaired reaches. Most reaches experience low summer flows due to irrigation diversions. Prior to current restoration efforts, sections of Whychus Creek and Tumalo Creek typically went dry during the irrigation season due to extensive diversion.

Water Rights

The appropriation and use of water in the State of Oregon are regulated under ORS by the Oregon Water Resources Department. Permits issued by OWRD provide for the necessary and allowed points of diversion for water to be diverted from or released to a water body. All water is publicly owned, and with some exceptions, cities, farms, factory owners, and other water users must obtain a permit or water right from the OWRD to beneficially use water from any source - whether it is underground, or from lakes or streams. Generally speaking,
landowners with water flowing past, through, or under their property do not automatically have the right to use that water without a permit from the OWRD.

Oregon’s water laws are based on the principle of prior appropriation. This means the first person to obtain a water right on a stream is the last to be shut off in times of shortage. During water shortages, the water right holder with the oldest date of priority can demand the water specified in their water right regardless of the needs of junior users. If there is a surplus beyond the needs of the senior right holder, the water right holder with the next oldest priority date can take as much as necessary under their right, and so on down the line until there is no surplus or until all rights are satisfied. The date of application for a permit to use water usually becomes the priority date of the right.

**Water Availability**

*Water Availability Constraints*

The availability of surface water for irrigating agriculture in Central Oregon began in the 1860s and accelerated at the turn of the century. Surface water rights in the Deschutes Basin have been limited since the early 1900s. Except for very high flow periods during winter and spring run-off, there is no surface water available for any out-of-stream use in the Deschutes River basin. The lack of surface water availability led new development in the 1990s to turn to groundwater for new water needs. The growing demand for groundwater raised concern that the groundwater permitting process ignored the connection between groundwater and surface water.

In 1995 a moratorium on further groundwater permit approvals was instituted by the Water Resources Commission pending the outcome of a collaborative examination of groundwater in the Upper Deschutes Basin. The study, carried out by the U.S. Geological Survey and the OWRD confirmed that snowmelt infiltrates into the ground and recharges the underlying aquifers. The study also confirmed that aquifer discharge provides much of the surface water to streams in the Deschutes Basin. The results verified the potential for groundwater withdraws to impact surface water flows and cause injury to surface water holders.

*Exempt Groundwater Users*

Groundwater wells for domestic needs in rural areas are generally classified as an exempt use by the OWRD. Exempt use means water right permits are not required if domestic use is less than 15,000 gallons per day and irrigation is less than one-half acre, or commercial use is less than 5,000 gallons per day. A 2006 study for the Deschutes Water Alliance (*Future Ground Water Demand in the Deschutes Basin*) estimated a 2006 total of 20,000 exempt wells in Crook, Deschutes and Jefferson counties, growing to 32,000 by 2025.

Exempt wells do not currently have to mitigate for their groundwater withdraws. Presentations by the Water Resources Department staff indicate that the subsurface water supply in Deschutes County recharges at the rate of approximately 3,500 cubic feet per second (cfs) and existing exempt wells use in the aggregate only 3-4 cfs. This suggests that additional regulation is not needed at this time. However, future policy discussions may need to consider how exempt wells fit into the overall water picture.
Water Banks

Besides exempt wells, new water is needed for other uses, from satisfying increased demand in cities to destination resorts. To address the limited availability of new water rights, two systems have been set up, both managed by the Deschutes River Conservancy. First the Deschutes Water Alliance set up a voluntary Water Bank as a cooperative, coordinated, transparent and voluntary system to identify and meet the water needs of qualified buyers. It operates in conformance to ORS and through a water marketplace. The Bank facilitates transfers of water rights between different users, including the Deschutes River and its tributaries.

The second system is the Groundwater Mitigation Bank. The Water Resources Commission approved rules for the Deschutes Groundwater Mitigation Program in 2002 under OAR 690-505. Under the Mitigation Program, applicants for new groundwater permits are informed of their mitigation obligation by the OWRD during the first phase of the groundwater permit application process, and that they must provide mitigation before their permit can be issued. Applicants can provide either permanent or temporary mitigation credits. Mitigation credits can be established through instream transfers, aquifer recharge, storage release or conserved water projects.

Water Conservation

Water conservation plays a major role in ensuring adequate water availability. Promoting water conservation leads to an efficient and cost-effective use of resources. Generally, conservation is seen as a win for the community, the economy and the environment.

Oregon State Policy on Conservation and Efficient Water Use

The Oregon Water Resources Commission adopted state policy addressing conservation and efficient water use. Rules to carry out the policy are presented in the OAR 690-086.

The conservation policy stems from a number of factors including:
- Increasingly frequent summer water shortages in many Oregon regions
- Expanding water needs for municipalities due to population growth
- In-stream flow demand in response to state or federal listings of sensitive, threatened or endangered species that depend on streamflow and water quality
- The link between healthy ecosystem functions, water quality, recreation and the Oregon economy

The policy rules were developed to provide a process to facilitate efficient water use and water supply planning consistent with capabilities of the water supplier and the OWRD. Major water suppliers and water users are encouraged by the policy to prepare water management and conservation plans. Implementation of conservation projects can help restore streamflows, stabilize water supplies that provide for economic development and growth.

Irrigation Districts Conservation

Agriculture is estimated to use approximately 90% of the surface water in the Upper Deschutes Basin. Therefore irrigation district conservation efforts can have a significant impact on water availability. Water savings from water conservation projects undertaken by irrigation districts or their patrons can be transferred to instream use for the Allocation of Conserved Water (ORS 537.455 to 537.500, OAR 690-018).
A major conservation initiative by irrigation districts is the piping and lining of irrigation canals. Water seeps out of canals into the permeable rock layer below and is lost to irrigation uses. Piping and lining projects provide benefits such as improving water delivery efficiency, reliability and freeing water for other uses. Concerns have been expressed that the water that leaks from the canals recharges the aquifer, and piping and lining have the potential to lower the water table. Additionally, some residents with open irrigation canals on their properties appreciate the aesthetic and wildlife benefits of the canals.

A number of irrigation district efficiency improvements have been completed since 1997. These improvements, through reducing seepage losses in conveyance systems and improving on-farm efficiency, have reduced water losses by 45,360 acre-feet on an annual basis in the Upper Deschutes Basin. It is estimated that 110,268 acre-feet could be saved annually, based on a Deschutes Water Alliance report *(Irrigation District Water Efficiency Cost Analysis and Prioritization)*. Certain districts have been able to reduce piping project costs by incorporating hydroelectric facilities in suitable reaches.

In 2009 Swalley Irrigation District, Three Sisters Irrigation District and Central Oregon Irrigation District were awarded $3.1 million, $1.3 million and $4.2 million respectively to improve water conservation. Tumalo Irrigation District was awarded $1.8 million in 2010. For Swalley, the funds are the final piece to complete a $14.5 million project involving the piping of 5.1 miles of a 12-mile canal and the construction of a 0.75-megawatt hydroelectric plant. Swalley Irrigation District returned 28 cubic feet per second to the Deschutes River as a result of its piping project, the single largest permanent contribution of water back to the Deschutes River.

Three Sisters Irrigation District will be using its funds to launch the first of a three-phase, $12 million pipeline project that will boost stream flows in Whychus Creek by reducing water loss. The first phase will include converting more than three miles of exposed canal to buried pipe, and replacing aging head gates and monitoring equipment with automated, remotely operating units. The completed project should boost summer stream flows in Whychus Creek by 25 to 30 percent. The final phase of the project will be the construction of a 1.5-mega-watt hydroelectric plant similar to the one being built by the Swalley Irrigation District.

Central Oregon Irrigation District utilized the funds to assist in piping a 2.5 mile section of its Pilot Butte Canal permanently conserving 19.6 cubic feet per second to the Deschutes River and for the construction of a 5.0 megawatt hydroelectric facility.

**On-Farm Efficiency**

Irrigation districts in cooperation with consultants, Soil and Water Conservation Districts and the National Resources Conservation Service have compiled and implemented water conservation plans furthering the goal of improving and identifying on-farm efficiency opportunities. Analysis of on-farm conservation opportunities based on a 1997 Reclamation study show that an additional 112,410 to 146,698 acre-feet of water could be saved if on-farm efficiency were improved to 70-80% across all districts.

**Other Conservation Efforts**

Since water resources in Deschutes County are shared, there is a responsibility for all residents and visitors to use water wisely. Irrigation districts and cities are the primary water users in
Deschutes County and have their own plans for water conservation. Although not actively involved in those efforts, the County can be open to partnerships as requested. Partnerships can also be an option for small water districts outside city limits that are interested in water conservation efforts. Individual water users are often rural residents who get their water from exempt wells. A coordinated regional effort to promote conservation could go far in increasing public awareness.

One action the County can take to promote individual water conservation is to ensure County facilities employ water efficient tools and techniques. Tracking and advertising the savings can show the public the benefits of water conservation. Examples of water conservation tools that the County could initiate include xeroscaping (using plant selection and watering techniques to promote water efficient landscapes), wastewater reuse (reusing wastewater for landscaping) or efficient irrigation (such as using drip irrigation or smart controllers).

**Deschutes Basin Ecosystem**

Deschutes County constitutes 26% of the Deschutes River Basin, a major watershed in Central Oregon. The Deschutes River is the major waterway draining the Basin and flows north to the Columbia River that culminates in the Pacific Ocean. Five sub-basins feed the main stem. Most of Deschutes County is contained by parts of three: the Upper Deschutes River Sub-basin, the Middle Deschutes River Sub-basin, and the Lower Crooked River Sub-basin. The remainder of the County is located in the Upper Crooked River Sub-basin and in the Goose and Summer Lakes Basin.

The Deschutes River is a vital, multi-purpose waterway that touches the lives of thousands of people along its banks and throughout Central Oregon. An important historical, economic, and cultural resource, the Deschutes provides natural beauty, abundant wildlife, and varied recreational opportunities. Most of the upper flow of the Deschutes River is through public land, although portions flow past private holdings.

**Wild and Scenic Waterways**

The federal Wild and Scenic Rivers Act created a program designed to protect the character of free-flowing rivers. Enacted in 1968, the Wild and Scenic Rivers Act created several categories of rivers with different levels of protection for each category. Section 7 of the Wild and Scenic Rivers Act provides minimal protection for instream flows and prohibits Federal assistance or licensing of water resource development projects within listed sections of river. Additionally, Section 7 prohibits Federal agencies from recommending any activities that will negatively affect the unique characteristics of a listed reach without adequately notifying Congress, the Secretary of Agriculture, and the Secretary of the Interior.

Individual states administer management programs for each listed reach within their boundaries, and the federal government has authorization to acquire land along each reach to maintain the character of the river (16 U.S.C. 1271-1287). However, the Wild and Scenic Rivers Act does not authorize Federal regulation of water diversions, nor does it authorize Federal acquisition of instream water rights.

Three stretches of rivers in the Upper Deschutes Basin are in the Wild and Scenic River System.
Table 2.5.1 - Wild and Scenic Rivers in Deschutes County

<table>
<thead>
<tr>
<th>Waterway</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Deschutes River</td>
<td>Deschutes River From Wickiup Dam to the Bend Urban Growth Boundary</td>
</tr>
<tr>
<td>Middle Deschutes River</td>
<td>From Odin Falls to the upper end of Lake Billy Chinook</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>Source to USGS Gage 14075000</td>
</tr>
</tbody>
</table>

Source: National Park Service

Oregon Scenic Waterways

In 1970, Oregon voters passed an initiative that created the Scenic Waterways Act, which initiated the Scenic Waterways program. The State lists waterways in order to protect their unique scenic beauty, recreation, fish, wildlife, or scientific features (OAR 736-040). The program lists waterways under six categories, each of which defines different management goals and activities to occur along and adjacent to the river.

The Oregon Parks and Recreation Department administers the Scenic Waterways program. Landowners wishing to pursue a new activity within a quarter mile of a Scenic Waterway may need to notify the Parks and Recreation Commission, and the Commission may deny this activity if it impairs the unique qualities of the waterway. Many of the listed waterways’ unique qualities depend on adequate instream flows (ORS 390.835). The Scenic Waterways program prohibits new activities in a Scenic Waterway area if those activities would impair flow and if that impaired flow would harm the unique qualities of the waterway. Oregon Senate Bill 1033, passed in 1995, added groundwater pumping to these regulated activities.

Table 2.5.2 - Oregon Scenic Waterways in Deschutes County

<table>
<thead>
<tr>
<th>Waterway</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Deschutes River</td>
<td>From Little Lava Lake to Crane Prairie Reservoir</td>
</tr>
<tr>
<td></td>
<td>From the gauging station below Wickiup Dam to General Patch Bridge</td>
</tr>
<tr>
<td></td>
<td>From Harper Bridge to the COID diversion structure near river mile 171</td>
</tr>
<tr>
<td></td>
<td>Robert Sawyer Park to Tumalo State Park</td>
</tr>
<tr>
<td></td>
<td>From Deschutes Market Road Bridge to Lake Billy Chinook (excluding the Cline</td>
</tr>
<tr>
<td></td>
<td>Falls hydroelectric facility near RM 145</td>
</tr>
</tbody>
</table>

Source: Oregon Revised Statutes 390.826

Rivers and Streams

Inventoried rivers and streams in Deschutes County are summarized below:

Table 2.5.3 - River Miles in Deschutes County

<table>
<thead>
<tr>
<th>Major Rivers and Streams</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>97</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>42</td>
</tr>
<tr>
<td>Whychus Creek (lower 6-miles are in Jefferson County)</td>
<td>39</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>16</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>10</td>
</tr>
<tr>
<td>Fall River</td>
<td>8</td>
</tr>
<tr>
<td>Crooked River</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Deschutes County / City of Bend River Study (1986)
Besides rivers and creeks listed in Table 2.5.3, there are numerous perennial streams as shown in Table 2.5.4. All of these streams, except portions of Indian Ford Creek, Cache Creek and Dry Creek, are located on federal land and are subject to either the Deschutes National Forest or the Bureau of Land Management Resource Management Plans.

Table 2.5.4 - Perennial Streams in Deschutes County

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottle Creek</td>
<td>Full Creek</td>
<td>Spring Creek</td>
</tr>
<tr>
<td>Bridge Creek</td>
<td>Goose Creek</td>
<td>Three Creek</td>
</tr>
<tr>
<td>Brush Draw</td>
<td>Indian Ford Creek</td>
<td>SF Tumalo Creek</td>
</tr>
<tr>
<td>Bull Creek</td>
<td>Jack Creek</td>
<td>NF Whychus Creek</td>
</tr>
<tr>
<td>Cache Creek</td>
<td>Kaleetan Creek</td>
<td>Soda Crater Creek</td>
</tr>
<tr>
<td>Charlton Creek</td>
<td>Metolius Creek</td>
<td>NF Trout Creek</td>
</tr>
<tr>
<td>Cultus Creek</td>
<td>Park Creek EF</td>
<td>NF Tumalo Creek</td>
</tr>
<tr>
<td>Cultus Creek</td>
<td>Park Creek WF</td>
<td>MF Tumalo Creek</td>
</tr>
<tr>
<td>Deer Creek</td>
<td>Pole Creek</td>
<td>First Creek</td>
</tr>
<tr>
<td>Dry Creek</td>
<td>Rock Creek</td>
<td>Soap Creek</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>Snow Creek</td>
<td>Todd Lake Creek</td>
</tr>
</tbody>
</table>

Source: Deschutes County/City of Bend River Study 1986

Riparian Areas

Riparian areas are areas adjacent to rivers, streams, lakes or ponds where there is vegetation that requires free or unbound water or conditions that are more moist than normal. Riparian areas form an interconnected system within a watershed. At the water’s edge they define the transition zone between aquatic and terrestrial systems. Riparian areas often contain a diversity of vegetation not found in upland areas. Riparian areas are limited in Deschutes County and are important habitats for both fish and wildlife.

The Deschutes County Comprehensive Plan, adopted in 1979 and revised, mapped riparian areas along the following rivers and streams.

Table 2.5.5 - Riparian Acreage in Deschutes County

<table>
<thead>
<tr>
<th>Streams</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>1,440</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>2,920</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>846</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>573</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>50</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>47</td>
</tr>
<tr>
<td>Fall River</td>
<td>43</td>
</tr>
<tr>
<td>Crooked River</td>
<td>38</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,966</strong></td>
</tr>
</tbody>
</table>

Source: Deschutes County/City of Bend River Study 1986

Significant riparian habitat is located in one or more of the following three areas:
- The area within 100 feet of the ordinary high water mark of an inventoried river or stream. The 100 foot wide area may contain both riparian vegetation and upland vegetation.
- Wetlands and flood plain are also frequently within 100 feet of a stream or river. In some cases the riparian vegetation may extend beyond 100 feet from the ordinary high water mark if it is a designated wetland or flood plain.
- The area adjacent to an inventoried river or stream and located within a flood plain mapped by the Federal Emergency Management Agency and zoned Flood Plain by the County. The flood plain may extend beyond 100 feet from the ordinary high water mark of the stream and may contain wetland.

The County has not conducted an inventory of riparian areas adjacent to lakes and ponds on private land. However, many of these areas are included in National Wetland Inventory Maps and are subject to County, State and/or Federal wetland fill and removal regulations. Riparian areas adjacent to the many lakes on federal lands are managed and protected under federal land and resource management plans and are not included in the County inventory.

**Wetlands**

Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal conditions, a prevalence of vegetation typically adapted for life in saturated soil conditions. Deschutes County Ordinance 92-045 adopted all wetlands identified on the U. S. Fish and Wildlife Service National Wetland Inventory (NWI) Maps as the Deschutes County wetland inventory. Additionally, Deschutes County Ordinance 2011-008 adopted a Local Wetland Inventory (LWI) covering 18,937 acres in South Deschutes County. These mapped wetlands are subject to County, state and federal fill and removal regulations.

The NWI Map shows an inventory of wetlands based on high-altitude aerial photos and limited field work. While the NWI can be useful for many resource management and planning purposes, its small scale, accuracy limitations, errors of omission that range up to 55 percent (existing wetlands not shown on NWI), age (1980s), and absence of property boundaries make it unsuitable for parcel-based decision making. An LWI for areas in addition to South Deschutes County would greatly improve Deschutes County’s ability to conserve wetland resources, which are vital to maintaining water quality and healthy fish and wildlife populations in the Upper Deschutes basin. Fish species dependent on riparian and wetland areas in the County include: Bull Trout, Redband Trout, and Summer Steelhead.

With the exception of narrowly defined riparian buffers (100 ft from top of bank for all Class 1 and Class 2 streams), Deschutes County does not protect wetlands; instead development activities proposed in a NWI are required to initiate a land-use procedure and notify the Oregon Department of State Lands (DSL). According to the County’s zoning requirements, no person shall fill or remove any material or remove any vegetation, within the bed and banks of any stream or river or in any wetland, unless approved as a conditional use or exception. All necessary state and federal permits must be obtained as condition of approval.

If jurisdictional wetlands are located in the near-stream environment, Oregon’s Removal-Fill Law directs DSL to regulate removal or placement of fill in “Waters of the State.” The DSL, in concert with the US Army Corps of Engineers, requires that any impacts to wetlands be mitigated so there’s no 'net loss' of the resource. The Oregon Department of Fish and Wildlife (ODFW) and Department of Environmental Quality (DEQ) do not have direct permitting authority on wetland fills, but instead review and provide technical advice on wetland
applications. The DSL gives notice of the permit applications to ODFW and DEQ, among other agencies, for suggestions on reducing impacts to fish, wildlife, and water quality. However, various agencies responsible for processing permits for individual projects have limited ability to consider larger scale community needs or values. Only through an adopted Goal 5 or Goal 6 wetlands plan can a community impose its local control and direct agencies not to issue a fill permit that is contrary to its plan.

The foundation of wetland planning is the LWI, which includes a comprehensive survey and map of all wetlands in the study area, and a document compiling key information about each site. The inventory must provide sufficient information to support local wetland planning decisions, and present the information in a manner accessible to citizens. For these reasons, a set of specifications for LWI products was established as an OAR (141-086-0110 through 141-086-0240). In addition to the wetland locations and descriptions, local planners need information on what functions and values each wetland provides. This assessment of wetland qualities is conducted concurrently with, and is part of, the inventory. Replacing the NWI with an LWI (reviewed and approved by the DSL) will determine jurisdictional wetland characteristics in portions of the upper Deschutes basin. It will examine spatial information, including FEMA floodplains, aquatic soils, areas with depths to groundwater less than two feet, and riparian areas for wetland type and function.

Floodplains

Federal Emergency Management Agency Maps
The Federal Emergency Management Agency (FEMA) maps flood-plains adjacent to the following rivers and streams in Deschutes County. The floodplain along these rivers and streams is recognized in a Flood Plain zone by the County.

Table 2.5.6 - Floodplains Adjacent to Rivers and Streams

<table>
<thead>
<tr>
<th>River/Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
</tr>
<tr>
<td>Long Prairie</td>
</tr>
<tr>
<td>Little Deschutes River</td>
</tr>
<tr>
<td>Dry River</td>
</tr>
<tr>
<td>Whychus Creek</td>
</tr>
<tr>
<td>Spring River</td>
</tr>
<tr>
<td>Crooked River</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
</tr>
<tr>
<td>Paulina Creek</td>
</tr>
</tbody>
</table>

Source: Deschutes County GIS

Floodplains are defined as the lowland and relatively flat areas adjoining inland waters including at a minimum, that area subject to a one percent (100-year recurrence) or greater chance of flooding in any one year. Generally, river flooding along the Deschutes River has not historically been a serious problem in Deschutes County. This is due to the porous nature of the local geology, irrigation diversion canals and reservoir retention. Studies completed by the U.S. Army Corp of Engineers have resulted in designating a 100 year flood-plain for the Little Deschutes River and Whychus Creek. Regular flooding events have occurred near the headwaters of Tumalo Creek and in the Tumalo community. Along Whychus Creek, the city of Sisters frequently experiences flooding, with the most significant event occurring in 1964 (see also Section 3.5).
Instream Water Rights

Oregon was one of the first states to acknowledge that instream uses were beneficial and create a framework for instream flow protection. Instream flows are those required to maintain ecosystem or other public needs. In 1987 the Oregon Legislature passed the Instream Water Rights Act and created the statutory framework necessary to establish instream water rights. OWRD holds these rights in trust for the public, but they can be purchased, leased, or gifted to the state by anyone (OAR 690-077). The rights are intended to provide public benefits such as fisheries enhancement, pollution abatement or recreation. OWRD regulates instream rights in the same manner that they regulate traditional water rights. Instream flow rights may not injure other water rights holders, cause the enlargement of a water right, and exceed the flows necessary to increase public benefits (OAR 690-077).

Establishing New Instream Water Rights

The majority of instream water rights held by the state of Oregon are junior water rights. These junior rights are not often met during the summer irrigation season. Three state agencies can apply for new instream water rights. The Department of Environmental Quality (DEQ), Department of Fish and Wildlife (ODFW) or Parks and Recreation Department (OPRD) can determine that instream flow rights are not adequate to provide specified public benefits and can apply to OWRD for additional instream flow rights (ORS 537.336). In general, instream water rights cannot exceed the estimated average natural flow of a stream.

Establishing Senior Instream Water Rights

Three techniques in OAR 690 allow individuals or agencies to create senior instream water rights. First, individuals or organizations can lease an existing water right for instream use. Individuals may lease all or part of their water right for instream use during all or part of the year (OAR 690-077). In the Deschutes Basin, the majority of leased water comes from irrigation districts and their customers. Water rights created through instream leases have the same priority date as the original water right. Leasing water instream provides a flexible, low-cost technique for improving instream flows, but it does not permanently protect water instream.

Second, water right holders may permanently transfer existing water rights instream (OAR 690-077). Permanent water transfers allow individuals to transfer water off of their land while improving instream flows in the basin. They are often associated with a change in the character of the land from agriculture to other uses. As with temporary transfers, instream water rights created through permanent transfers have the same priority date as the originating water right that was transferred instream.

Oregon’s Conserved Water program provides a third technique for creating senior instream water rights (OAR 690-018). This program is relatively unique within western water law. Oregon adopted its Conserved Water rules in 1987 to encourage water conservation and to promote local cooperation in instream flow improvement. To be eligible for the Conserved Water program, a water rights holder needs to satisfy the use listed on their permit with less water than they have the right and ability to divert. Water rights holders who implement water conservation projects can lease, sell, or transfer a portion of their conserved water. At least 25% of the conserved water goes to the state, which transfers the water instream.
The water rights holder receives a proportion of the remaining conserved water that depends on project funding. The proportion depends upon on what percentage of the Conserved Water project is funded through public sources and on any special agreements that financing partners have made with the water rights holder. Unless otherwise agreed upon, the water rights holder usually receives between 25% and 75% of the total conserved water. Instream water rights created through the conserved water program usually have the same priority date as the originating water right. The three techniques, leasing, transfers and conserved water can be used to place existing junior or senior water rights instream.

**Instream Flows**

Increasing the water flow on rivers and streams is important because low flows raise water temperatures which provides inhospitable habitat for fish and aquatic life.

**Irrigation**

Stream flows in most of the upper Deschutes River Basin are controlled by the influence of reservoir regulation and irrigation diversions near Bend. Storage reservoirs were constructed by the irrigators for the purpose of storing water from the river during the non-irrigation season to serve as a supplement to the natural flow of the river during the irrigation season. Three reservoirs, Crane Prairie, Crescent Lake, and Wickiup were constructed by the Bureau of Reclamation in the 1920s and 1940s, financed by loans secured and repaid by the irrigation districts. The three reservoirs have a combined storage capacity of 347,550 acre-feet. Seven irrigation districts distribute water to productive parts of the County, however not all of these districts irrigate land completely within it. Summer release from the reservoirs provide instream benefits for wildlife, navigation, and water quality. Recreational use at many of the projects is also significant.

Nearly 90% of the streamflow from the Deschutes River in Bend is diverted through irrigation canals during the irrigation season which typically runs from April through October. During the summer months, the diversions cause a dramatic reduction of streamflow in the middle Deschutes sub-basin. The porous, volcanic soil characteristic of this region causes as much as 50% of the water that is diverted from the river in irrigation canals to seep into the ground before it reaches the farm. As a result, irrigation districts need to divert twice the amount of water they need to serve their patrons. These seasonal flow disruptions have contributed to a decline in the overall health of rivers and streams including degraded fish habitat and poor water quality.

Fisheries and water quality drive instream flow restoration in the Upper Basin. The reaches historically supported salmon and trout populations. Anadromous (fish that migrate between fresh and salt water) salmon re-introduction efforts have drawn attention to water quantity issues in the basin. Prior to current restoration efforts, sections of Whychus Creek and Tumalo Creek typically dried up during the irrigation season due to extensive diversion.

Voluntary, market-based approaches, enabled by statutory law, provide the greatest opportunity for restoring instream flows in the Deschutes Basin. Tools available include instream transfers, leases, storage leases and allocation of conserved water. The Deschutes River Conservancy, local irrigation districts and state and federal partners are working together to restore water to reaches by using these tools.
Federal and state regulatory approaches also have the potential to affect instream flow allocation. Federal approaches include the Wild and Scenic Rivers Act, the Clean Water Act, and the Endangered Species Act. State approaches include the State Scenic Waterways Act and instream flow rights to support aquatic life.

**Fish and Aquatic Habitat**

A discussion in the Wildlife section highlights the economic benefits that fishing generates for Deschutes County. Protecting and enhancing local fish habitat can ensure those benefits continue.

Naturally spawning populations of native rainbow trout and whitefish along with introduced populations of rainbow, brown and brook trout and kokanee salmon are present in streams and reservoirs. Most natural lakes were historically barren of fish populations but today nearly all suitable lakes are stocked annually with fingerling or legal sized rainbow, brook, brown and cutthroat trout and kokanee, coho and Atlantic salmon. Lake trout have been introduced into Big Cultus Lake and have established a natural producing population. Most lakes do not provide suitable spawning habitat and populations can only be maintained by continued stocking. It is important to sustain the naturally reproducing populations and to balance stocking programs with the proper habitats.

**Federal Endangered Species Act**

As discussed in the Wildlife section of this Plan, species identified as threatened or endangered by the National Oceanic Atmospheric Administration (NOAA) Fisheries or the U.S. Fish and Wildlife Service (USFWS) are offered some protections under the Endangered Species Act (ESA). The act prohibits federal actions that jeopardize listed species and private actions that result in a “taking” of listed species. The ESA protects threatened or endangered populations or habitat of listed salmon and trout in the Deschutes Basin.

The Deschutes River and its tributaries provide spawning habitat for several populations of ESA listed fish. Both wild summer steelhead and bull trout are currently listed as threatened under the ESA. Historically, these two species thrived throughout the Basin. However, flow modification and habitat degradation have reduced available spawning habitat and limited population sizes. Steelhead trout were historically present in waterways within Deschutes County, including portions of the Deschutes River, Crooked River, and Whychus Creek. Historically, bull trout were found throughout the Deschutes River, the Little Deschutes River, and the Lower Crooked. In Deschutes County, documented bull trout have been found in the Middle Deschutes, but no documented spawning has occurred.

**Bull Trout**

Bull trout are currently listed as threatened under the Federal ESA in the Deschutes River Basin. Bull trout are a cold-water fish of relatively pristine stream and lake habitat in the Pacific Northwest. They have specific habitat requirements, including the "Four C’s": Cold, Clean, Complex, and Connected habitat. Bull trout require the coldest water temperatures of any northwest salmonid; they require the cleanest stream substrates for spawning and rearing; they require complex habitats, including streams with riffles and deep pools, undercut banks and lots of large logs; and they need migratory routes from main river, lake, and even ocean habitats to
headwater streams for annual spawning and feeding migrations. Critical habitat for Bull Trout is located north of Lower Bridge Road below Big Falls on Bureau of Land Management land.

**Steelhead Trout**

The construction of the Pelton Round Butte dam complex west of Madras in 1964 blocked the migration of salmon and steelhead to the ocean. In 2005 a re-licensing agreement for the Pelton Round Butte hydroelectric project included the establishment of the Pelton Round Butte Fund. The fund is intended to support resource protection measures to mitigate project-related impacts, including those that enhance and improve wetlands, riparian and riverine habitats, and riparian, aquatic and terrestrial species connectivity.

The multi-organization agreement for relicensing Pelton Round Butte lays out a comprehensive fish passage program that includes a solution to assist in juvenile fish collection and passage efforts over the project’s three dams. The plan facilitates the return of spring Chinook and sockeye salmon to the Metolius River and steelhead to the Crooked River (to Bowman Dam) and the Deschutes River (Big Falls north of Lower Bridge Road). As part of the plan, 200,000 steelhead fry were released into Whychus Creek in 2007. It is difficult to estimate when the fish will return to Whychus Creek as adults ready to spawn and restore the natural cycle to the stream, but it is estimated to be three to five years.

**ESA and Deschutes County**

The ESA requires the appropriate federal agency, NOAA or USFWS, to issue regulations as deemed necessary and advisable to provide for the conservation of the species. Deschutes County is evaluating whether its local government policies and practices are sufficiently protective of steelhead trout and their habitat. Specifically, Deschutes County desires to avoid a “take” of reintroduced steelhead trout, and reduce the potential of ESA-related enforcement actions and third-party lawsuits. The County does not authorize or participate in high-risk activities, such as water diversions, so there is minimal risk that the County’s activities could directly cause steelhead trout mortality. The County’s practices, however, can indirectly affect steelhead trout through changes in riparian habitat, floodplain function, erosion control, or other practices that could negatively impact steelhead populations or habitat.

It is important to note that reintroduced steelhead trout are blocked from upstream movement to the Upper Deschutes River at Big Falls, approximately 30 miles downstream from Bend. As a consequence, there is minimal risk that the County’s activities in areas along the Deschutes River or its tributaries above Big Falls could have a direct impact on steelhead trout populations or aquatic habitat. The County’s practices, however, can indirectly affect steelhead trout in the Deschutes River downstream of Big Falls through changes in water quality. Loss of riparian shade through the application of County policies, for example, could increase water temperatures in downstream portions of the Deschutes River.

The irrigation districts in the region, along with other local governments at a greater risk of steelhead take, are preparing a Habitat Conservation Plan (HCP) to address the risks posed to steelhead. An HCP is a five to six year process undertaken by entities whose otherwise lawful activities are at risk of resulting in an accidental take. The plan outlines potential impacts these activities pose to the ESA-listed species and identifies specific steps taken to minimize and mitigate accidental take. If the plan is approved by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, the entity is permitted to proceed with their activities,
provided the terms and conditions identified in the HCP are followed. The local HCP process relating to steelhead was initiated in 2008 and expected to be completed by 2014.

Through a risk assessment conducted in 2008-2009, it was determined that the potential risk posed by Deschutes County governmental activities was minimal and did not require County participation in the HCP. The risk assessment also provided recommendations for the County to minimize exposure to a “take”. Many of these recommendations to land use and stormwater have been incorporated throughout this Comprehensive Plan.

**Deschutes River Mitigation and Enhancement Program**

The Deschutes River Mitigation and Enhancement Program was created in 1991 as a result of a Central Oregon Irrigation District (COID) Hydroelectric Project (FERC License Application No. 3571) and Conditional Use Permit 87-2. The program helps achieve ODFW habitat and management goals and objectives within the Upper Deschutes River sub-basin, consistent with the COID/ODFW agreement. A condition of both the FERC license and conditional use permit is that COID will provide ODFW with funds to develop and implement a fish and wildlife habitat mitigation and enhancement program for the Upper Deschutes River Basin. On October 7, 2008 the Deschutes River Mitigation and Enhancement Committee adopted an Upper Deschutes River Restoration Strategy developed jointly by ODFW, Upper Deschutes Watershed Council and the Deschutes River Conservancy.

**Upper Deschutes River Restoration Strategy**

The Upper Deschutes River Restoration Strategy (the Strategy) outlines necessary steps to restore the structure and function of the Deschutes River between Wickiup Reservoir and North Canal Dam. Activities have been identified to help achieve a restoration vision for the upper Deschutes River and a clear set of actions and recognizable outcomes that will be necessary for success.

Flows in the upper Deschutes River were remarkably stable under natural conditions. Irrigation storage in Wickiup and Crane Prairie Reservoirs now largely dewater this reach between October and April and artificially increase flow in the reach during the late spring, summer, and early fall. The shift from a naturally stable flow pattern to a highly variable one has limited fish populations in the Deschutes River. The 2004 Deschutes Sub-basin Plan identified that “stream flow extremes, especially low or intermittent flows, are probably the most significant factors limiting fish production in much of the Deschutes River sub-basin (sic) today.” The ODFW identifies improving redband trout and whitefish populations and determining the feasibility of re-introducing bull trout as goals for the upper Deschutes River.

**Restoration Strategy Elements and Recommended Actions**

As stated earlier, streamflow is the greatest limiting factor in the upper Deschutes River. Streamflow restoration and related actions have the greatest potential for improving ecological conditions in the long-term. However, improving intra- and inter-annual flow patterns alone will not be sufficient to achieve the restoration vision. There is a need for strategically determined, short-term, local scale habitat enhancement and long-term, reach scale channel reconstruction to complement streamflow restoration in the upper Deschutes River. Comprehensive restoration monitoring will help to document current status and trends while improving actions in the future. There is also a need for a research program to document emerging issues in the
upper Deschutes River, including water quality issues related to plant growth and nutrient inputs. The high priority recommendations are summarized below.

High Priority Actions
- Identify the desired dimension, pattern, and profile of the upper Deschutes River.
- Identify target hydrograph and benchmarks.
- Restore individual components of the hydrograph through temporary and permanent water transactions.
- Identify high-value, at-risk riparian areas.
- Establish a comprehensive monitoring plan.
- Support community organizing and information sharing.
- Establish a research program to study emerging water quality issues.

Groundwater Quality

Generally, groundwater quality in Deschutes County is generally classified as being ‘good,’ providing high quality drinking water to most of its residents. However, several productive aquifers lie in shallow alluvial sediments that are vulnerable to contamination from human activities and development.

The Department of Environmental Quality (DEQ) Laboratory and Water Quality Divisions’ *Groundwater Quality Report for the Deschutes Basin* (March 2006) identifies areas of concern for groundwater contamination based on various sources of data and groundwater quality studies. Based on collected data, development patterns and the geology of the underlying aquifer, the report makes recommendations for a couple of areas in the County. The report notes the groundwater aquifer in the Redmond area is vulnerable to contamination from human activities and recommends further study by the DEQ. The La Pine aquifer in the southern portion of the county from the Sunriver area to the Klamath County line between Newberry Caldera and the Cascades is an area of particular concern because of data collected through several studies and the high level of development in the area. The report also identifies underground injection systems that could contaminate the aquifer with pollutants from stormwater drywells or sewage drillholes.

In South Deschutes County, the concern for groundwater quality arises from nitrate contamination associated with on-site wastewater treatment (septic) systems discharging to the shallow unconfined aquifer. The issue is small lots with highly permeable rapidly draining soils and a high groundwater table with relatively cold water temperatures. Combined with the fact that the majority of lots are served by on-site wastewater treatment systems and individual wells, concern arose that nitrates from the septic systems could contaminate local wells and the river system.

Considerable work has gone into studying the groundwater in South County. In 1999 Deschutes County and the Department of Environmental Quality (DEQ) identified the need for a better understanding of the processes that affect the movement and chemistry of nitrogen in the aquifer underlying the La Pine area. In response, the U.S. Geological Service (USGS), in cooperation with Deschutes County and DEQ, began a study to examine the hydrologic and chemical processes that affect the movement and chemical transformation of nitrogen within the aquifer. A primary objective was to provide tools for evaluating the effects of existing and
future residential development on water quality and to develop strategies for managing groundwater quality.

Field research from the USGS study shows that in a 250-square-mile study area near La Pine the groundwater underlying the La Pine sub-basin is highly vulnerable and being polluted by continued reliance on traditional onsite systems. Environmental impacts from residential development include higher nitrate concentrations in groundwater that is tapped for domestic water supply and discharges to rivers. Nitrates are regulated by the federal Environmental Protection Agency and DEQ as a human health concern. Vulnerability of the shallow aquifer to contamination led to concern that wastewater from septic systems poses a threat to the primary drinking water supply and local river systems. The Upper Deschutes and Little Deschutes Sub-basins have abundant, natural sources of phosphorus from volcanic soils and rocks so the rivers are naturally nitrogen limited. Nitrogen-limited rivers are sensitive to low concentrations of available nitrogen until some other component becomes limiting, and that may lead to ecological impacts.

In 2008 the County used the research on nitrates to adopt a ‘local rule’ that required South County residents to convert their septic systems over a period of 14 years to alternative sewage system technology designed to reduce nitrates. New septic systems were also required to use alternative technologies. The County created a process to assist residents in funding the conversions.

Many South County residents expressed concern over the costs involved with converting their septic systems and disputed the science behind the rule. Placed on the ballet by petition, the local rule was rescinded by voters in March 2009.

As of 2010 the DEQ is leading the effort to address nitrates in South County, with the full cooperation of the County. One solution being considered is creating a sewer system or extending Sunriver’s to serve some of the nearby areas. Sewer systems are tightly restricted on rural lands by Statewide Planning Goal 11 and OAR 660-11, so the Department of Land Conservation and Development is also involved in these efforts.

**Surface Water Quality**

The federal Clean Water Act requires identifying rivers that do not meet water quality standards for several parameters. The DEQ periodically evaluates water bodies in Oregon based on federally-approved water quality standards. A list of water quality impaired water bodies is produced from this analysis and referred to by the section of the CWA, as 303(d) listings. The list is the basis for developing state standards for each pollutant entering a water body. These Total Maximum Daily Loads (TMDL) are used with Water Quality Management Plans to outline how agencies and individuals will meet water quality standards for those listed water bodies.

The TMDL Water Quality Management Plans identify Designated Management Agencies (DMA) that are required to develop and implement them. A DMA can be a federal, state or local governmental agency that has legal authority to address the contributing pollutants. A TMDL implementation plan must indicate how the DMA will reduce pollution in order to address load allocations.
Compliance with Land Use Requirements

It is helpful to coordinate TMDL implementation with local land use plans, such as this Comprehensive Plan. That will ensure maximum coordination in addressing water quality issues. To provide evidence that a TMDL implementation plan is in compliance with local land use requirements, in most cases the plan should:

- Identify applicable acknowledged local comprehensive plan provisions and land use regulations, and
- Explain how the implementation plan is consistent with local planning requirements or what steps will be taken to make the local planning requirements consistent with it.

The following are identified on the federal Clean Water Act 303(d) List for 2006 for not meeting water quality standards. This list is regularly amended by DEQ so specific segments are not listed.

Rivers
- Upper Deschutes River
- Middle Deschutes River
- Little Deschutes River

Tributaries
- Indian Ford Creek
- Tumalo Creek
- Whychus Creek

Lakes
- Lava Lake

Water and Land Use

There are some water issues that can be managed through County Codes, such as wellhead protection or stormwater ordinances.

Water Management Plans

Water Management Plans can be useful tools for understanding water use for large projects. Setting goals for water use, determining how much water will be needed, assessing options such as the reuse of graywater for landscaping and ensuring implementation of the plan can go a long way towards efficient use of water in new development. Water Management Plans would not be needed for single family homes or other small projects.

Well Head Protection

Wellhead protection (WHP) is a plan designed to protect groundwater resources of Public Water Systems (PWS) from contamination. A community’s source of drinking water is an extremely important resource, contributing to both the human and economic health of the area. WHP involves determining the area around the well most susceptible to contamination, inventorying potential contaminant sources and implementing management strategies to reduce the risk associated with those sources. WHP is an investment in the future.

In Oregon it is recommended that an area large enough to encompass 10 years of groundwater travel time be delineated so that if the aquifer becomes contaminated upgradient, there will be sufficient time to devise a plan to deal with the contamination. Delineations as described may
extend in excess of several thousand feet away from a wellhead. Currently Deschutes County does not have a wellhead protection plan.

Stormwater

In 2005 the cities and counties of Central Oregon joined forces to protect local water resources from polluted urban runoff, manage urban flooding, and meet new state and federal regulatory requirements by developing comprehensive stormwater management guidance for the region. This new partnership provides opportunities to work more efficiently and effectively and provide consistency and clout for the region.

The first major project the partnership undertook was the development of a regional stormwater management manual. The Central Oregon Stormwater Manual provides stormwater guidance for each participating jurisdiction. It was funded primarily through jurisdictional contributions, and was coordinated by a committee of participating cities, counties and the Central Oregon Intergovernmental Council.

Central Oregon Stormwater Management Project

The Central Oregon Stormwater Manual adopts best available stormwater management guidance from Oregon and Eastern Washington to create a reference for engineers, builders, and local government staff on the design and construction of runoff treatment and flow control facilities. The Best Management Practices (BMPs) that make up the core of the Manual are intended to comply with all federal and state regulations. They are suitable to the unique climatic and hydro-geologic conditions of the region, and will protect both water quality and natural runoff patterns. In contrast to historic practices, non-underground injection methods of managing stormwater are encouraged and pre-treatment required for water injected underground.
Section 2.5 Water Resource Policies

Goals and Policies

Water Coordination, Availability and Conservation

Goal 1 Develop regional, comprehensive water management policies that balance the diverse needs of water users and recognize Oregon water law.

Policy 2.5.1 Participate in Statewide and regional water planning including:
  a. Work cooperatively with stakeholders, such as the Oregon Water Resources Department, the Deschutes Water Alliance and other non-profit water organizations;
  b. Support the creation and continual updating of a regional water management plan.

Policy 2.5.2 Support grants for water system infrastructure improvements, upgrades or expansions.

Policy 2.5.3 Goal 5 inventories, ESEEs and programs are retained and not repealed.

Goal 2 Increase water conservation efforts.

Policy 2.5.4 Promote efficient water use through targeted conservation, educational and, as needed, regulatory or incentive programs.
  a. Review County Code and revise as needed to ensure new development incorporates recognized efficient water use practices for all water uses.
  b. Encourage the reuse of grey water for landscaping.

Policy 2.5.5 Promote a coordinated regional water conservation effort that includes increasing public awareness of water conservation tools and practices.

Policy 2.5.6 Support conservation efforts by irrigation districts, including programs to provide incentives for water conservation.

River and Riparian Ecosystems and Wetlands

Goal 3 Maintain and enhance a healthy ecosystem in the Deschutes River Basin.

Policy 2.5.7 The County shall notify the Oregon Division of State Lands and the Oregon Department of Fish and Wildlife of any development applications for land within a wetland identified on the National Wetland Inventory or South Deschutes County Local Wetland Inventory maps.

Policy 2.5.8 Work with stakeholders to restore, maintain and/or enhance healthy river and riparian ecosystems and wetlands, including the following:
  a. Encourage efforts to address fluctuating water levels in the Deschutes River system;
  b. Cooperate to improve surface waters, especially those designated water quality impaired under the federal Clean Water Act;
Policy 2.5.9  Support studies on the Deschutes River ecosystem and incorporate watershed studies that provide new scientific information on the Deschutes River ecosystem, such as the 2010 Local Wetland Inventory adopted in Ordinance 2011-008.

Policy 2.5.10  Support educational efforts and identify areas where the County could provide information on the Deschutes River ecosystem, including rivers, riparian areas, floodplains and wetlands.
   a. Explore methods of ensuring property owners know and understand regulations for rivers, riparian areas, floodplains and wetlands.

Policy 2.5.11  Support the high priority actions from the Deschutes River Mitigation and Enhancement Committee’s 2008 Upper Deschutes River Restoration Strategy.

Goal 4  Maintain and enhance fish populations and riparian habitat.

Policy 2.5.12  Coordinate with stakeholders to protect and enhance fish and wildlife habitat in river and riparian habitats and wetlands.

Policy 2.5.13  Promote healthy fish populations through incentives and education.

Policy 2.5.14  Support healthy native fish populations through coordination with stakeholders who provide fish habitat management and restoration.
   a. Review, and apply where appropriate, strategies for protecting fish and fish habitat.
   b. Promote salmon recovery through voluntary incentives and encouraging appropriate species management and habitat restoration.

Policy 2.5.15  Review Habitat Conservation Plans for species listed under the Endangered Species Act, to identify appropriate new policies or codes.
   a. Spawning areas for trout should be considered significant habitat and should be protected in rivers and streams.
   b. Cooperate with irrigation districts in preserving spawning areas for trout, where feasible.

Policy 2.5.16  Use a combination of incentives and/or regulations to mitigate development impacts on river and riparian ecosystems and wetlands.

Groundwater and Surface Water Quality

Goal 5  Protect and improve water quality in the Deschutes River Basin.
Policy 2.5.17 Support plans, cooperative agreements, education, water quality monitoring and other tools that protect watersheds, reduce erosion and runoff, protect the natural water systems/processes that filter and/or clean water and preserve water quality.

Policy 2.5.18 Coordinate with the Oregon Department of Environmental Quality and other stakeholders on regional water quality maintenance and improvement efforts such as identifying and abating point and non-point pollution or developing and implementing Total Maximum Daily Load and Water Quality Management Plans.

Policy 2.5.19 Coordinate with stakeholders to address water-related public health issues.
   a. Support amendments to State regulations to permit centralized sewer systems in areas with high levels of existing or potential development or identified water quality concerns.
   b. If a public health hazard is declared in rural Deschutes County, expedite actions such as legislative amendments allowing sewers or similar infrastructure.

Policy 2.5.20 Work with the community to expand the range of tools available to protect groundwater quality by reviewing new technologies, including tools to improve the quality and reduce the quantity of rural and agricultural stormwater runoff.

Policy 2.5.21 Explore adopting new ordinances, such as a wellhead protection ordinance for public water systems, in accordance with applicable Federal and/or State requirements.

Land Use and Water Policy

Goal 6 Coordinate land use and water policies.

Policy 2.5.22 Coordinate with other affected agencies when a land use or development application may impact river or riparian ecosystems or wetlands.

Policy 2.5.23 Encourage land use patterns and practices that preserve the integrity of the natural hydrologic system and recognize the relationship between ground and surface water.

Policy 2.5.24 Ensure water impacts are reviewed and, if necessary, addressed for significant land uses or developments.

Policy 2.5.25 Evaluate methods of modeling the cumulative impacts of new land uses or developments on water quality and quantity.

Policy 2.5.26 Explore an intergovernmental agreement with the irrigation districts for ensuring irrigated land partitions and lot line adjustments are not approved without notice to and comment by the affected district.

Policy 2.5.27 Explore incorporating appropriate stormwater management practices into Deschutes County Code.

Policy 2.5.28 Support wastewater facilities and improvements where warranted.

Policy 2.5.29 Support regulations, education programs and cleaning procedures at public and private boat landings.
Policy 2.5.30  Consider adopting regulations for dock construction based on recommendations of the Oregon Department of Fish and Wildlife and the Deschutes River Mitigation and Enhancement Program.
Section 2.6 Wildlife

Background

Wildlife diversity is a major attraction of Deschutes County. It was mentioned in many Comprehensive Plan meetings in 2008 and 2009 as important to the community. Healthy wildlife populations are often a sign of a healthy environment for humans as well as other species. The key to protecting wildlife is protecting the habitats each species needs for food, water, shelter and reproduction. Also important is retaining or enhancing connectivity between habitats, in order to protect migration routes and avoid isolated populations.

Wildlife is tied to land use planning because human development impacts habitats in complex ways. Wildlife protections are provided by federal, state and local governments. Oregon land use planning protects wildlife with Statewide Planning Goal 5, Open Spaces, Scenic and Historical Areas and Natural Resources and the associated Oregon Administrative Rule (OAR) 660-023 (this Rule replaced 660-016 in 1996). Statewide Goal 5 includes a list of resources which each local government must inventory, including wildlife habitat.

The process requires local governments to inventory wildlife habitat and determine which items on the inventory are significant. For sites identified as significant, an Economic, Social, Environmental and Energy (ESEE) analysis is required. The analysis leads to one of three choices: preserve the resource, allow proposed uses that conflict with the resource or strike a balance between the resource and the conflicting uses. A program must be provided to protect the resources as determined by the ESEE analysis.

In considering wildlife habitat, counties rely on the expertise of the Oregon Department of Fish and Wildlife (ODFW) and U.S. Fish and Wildlife Service (USFWS). Those agencies provide information for the required wildlife inventory and recommendations on how to protect wildlife habitat on private lands. Note that this section focuses on wildlife, while fish are covered in the Water Resources section of this Plan.

Wildlife Designations

Comprehensive Planning for Wildlife

Plan 2000, the Comprehensive Plan adopted in 1979, included a Fish and Wildlife Chapter with policies aimed at protecting wildlife. That Plan also noted the controversial nature of wildlife protections. To implement the Plan policies, the Wildlife Area Combining Zone was adopted. This overlay zone was intended to protect identified big game habitat through zoning tools such as appropriate lot sizes and setbacks. In 1986 a River Study was completed and adopted into the Resource Element. Goals and policies from that study, including wildlife goals, were added to Plan 2000.

As part of State mandated Periodic Review, the County took another look at wildlife protections to further comply with the requirements of Goal 5 and the then prevailing OAR 660-16. The County worked with the ODFW to obtain the most recent inventory information on fish and wildlife resources in the county and to identify uses conflicting with those resources. This information was used to update the inventories and amend the ESEE analyses.
In addition, ODFW provided information to support zoning ordinance provisions to resolve conflicts between fish and wildlife resource protection and development. The County adopted a Sensitive Bird and Mammal Combining Zone which identified and protected specific bird nests or leks and bat hibernating or nursery sites.

Ordinances for Compliance with Goal 5

During periodic review in 1992, Deschutes County met the requirements of Goal 5 by:

- The adoption of Goals and Policies in Ordinance 92-040 reflecting Goal 5 requirements, including a Sensitive Bird and Mammal Combining Zone to identify and protect specific bird nests or leks and bat hibernating or nursery sites;
- The adoption of Ordinance 92-041 amended the comprehensive plan to inventory each Goal 5 resource, analyze conflicting uses, and analyze the ESEE consequences of protecting or not protecting inventoried fish and wildlife resources;
- The adoption of zoning ordinance provisions in Ordinance 92-042, as applied to inventoried sites by the map adopted by Ordinance 92-046.

In 2015, the Land Conservation and Development Commission (LCDC) adopted rules to Oregon Administrative Rule (OAR) chapter 660, division 23, to establish procedures for considering development proposals on lands identified as Greater Sage-Grouse Area Habitat. Deschutes County met the requirements by:

- Adopting the 2015 Goal 5 Greater Sage Grouse habitat Area Inventory Map into its Comprehensive Plan and amending the Sensitive Bird and Mammal Habitat Inventory to remove 1990 sage grouse lek and range data by Ordinance 2015-010 (Those maps are incorporated by reference herein); and,
- Adopting sage grouse regulations as a Greater Sage Grouse Area Combining Zone by Ordinance 2015-011.

Wildlife Snapshot 2008-2009

Source: County GIS data

- There are 816,649 acres in Deschutes County’s Wildlife Area Combining Zone.
- There are 40 sites protected by the Sensitive Bird and Mammal Habitat Combining Zone.
- 76% of County land is owned and managed by the Federal government through the U.S. Forest Service and Bureau of Land Management.


- Nearly $70 million was spent in Deschutes County on travel generated expenditures on wildlife viewing, fishing and hunting by people from over 50 miles away.
- Over 60% of the $70 million noted above was spent for wildlife viewing, with fishing second with nearly 30% and nearly 10% on hunting.
- Over $8 million in revenue from fishing, hunting and wildlife viewing came from people who live in the County or within 50 miles of the County.
- Over 60% of the $8 million noted above was spent on fishing, over 20% was spent on hunting and under 20% was spent on wildlife viewing.
- All total, over $78 million was spent in Deschutes County on fishing, hunting and wildlife viewing.
Deer Migration Corridor

The Bend/La Pine migration corridor is approximately 56 miles long and 3 to 4 miles wide and parallels the Deschutes and Little Deschutes Rivers. The corridor is used by deer migrating from summer range in the forest along the east slope of the Cascades to the North Paulina deer winter range. Deschutes County adopted a “Deer Migration Priority Area” based on a 1999 ODFW map submitted to the South County Regional Problem Solving Group. This specific sub-area is precluded from destination resorts.

Deer Winter Range

The ODFW identified the Metolius, Tumalo and North Paulina deer winter ranges during Deschutes County’s initial comprehensive plan. The boundaries of these winter ranges are shown on the Big Game Sensitive Area map in the 1978 Comprehensive Plan and have been zoned with the Wildlife Combining Zone since 1979. The winter ranges support a population of approximately 15,000 deer.

In 1992, ODFW recommended deer winter range in the northeast corner of the county, in the Smith Rock State Park area, be included in the Deschutes County inventory and protected with the same measures applied to other deer winter range. This area was officially included and mapped on the Wildlife Combining Map when Ordinance 92-040 was adopted by the Board of County Commissioners.

Elk Habitat

The Land and Resource Management Plan for the Deschutes National Forest identifies 6 key elk habitat areas in Deschutes County. The ODFW also recognizes these areas as critical elk habitat for calving, winter or summer range. The following areas are mapped on the Big Game Habitat Area map and in the Deschutes National Forest Land and Resource Management Plan:

- Tumalo Mountain
- Kiwa
- Ryan
- Crane Prairie
- Fall River
- Clover Meadow

Antelope Habitat

The Bend and Ochoco District offices of the ODFW provided maps of the antelope range and winter range. The available information is adequate to indicate that the resource is significant. The antelope habitat is mapped on Deschutes County’s Big Game Habitat-Wildlife Area Combining Zone Map.

Sensitive Birds

Nest sites for the northern bald eagle, osprey, golden eagle, prairie falcon, great grey owl, and great blue heron rookeries are inventoried in Ordinance No. 92-041. The area required for each nest site varies between species. The minimum area required for protection of nest sites has been identified by the ODFW in their management guidelines for protecting colony nesting birds, osprey, eagles and raptor nests.
Federal and State Wildlife Protections

Federal Protections

The primary federal protection for wildlife is the Endangered Species Act (ESA), which sets the preservation of biodiversity as its highest priority. Under ESA, National Oceanic Atmospheric Administration (NOAA) Fisheries or the U.S. Fish and Wildlife Service (USFWS) list species as threatened or endangered. ESA prohibits both federal actions that jeopardize listed species and private actions that result in the “taking” of listed species. Court rulings have explicitly determined that habitat modification can lead to a “taking,” even if the modification does not affect a specific individual member of the species. ESA authorizes civil and criminal suits be brought against entities that violate its substantive or procedural provisions.

There are two fish species and one bird species listed as federally threatened or endangered in Deschutes County. Fish are discussed under the Water Resources section of this chapter and the bird, the Northern Spotted Owl, has not been found on private lands.

State Protections

It is Oregon’s policy “to prevent the serious depletion of any indigenous species” (ORS 496.012). The Oregon Department of Fish and Wildlife maintains a list of fish and wildlife species determined to be either threatened or endangered according to OAR 635. When a species population is seriously depleted, recovery can be difficult and expensive as well as socially and economically divisive. To provide a positive approach to species conservation, a “sensitive” species classification was created under Oregon’s Sensitive Species Rule (OAR 635-100-040). Table 2.7.1 lists species in Deschutes County that are listed by either federal or state wildlife agencies under the above mentioned laws.

Besides the listings of endangered or threatened, species can be federally listed as candidate species or species of concern. State listings include threatened, critical and vulnerable. Each status has a definition specifying different actions.
### Table 2.6.1 - Special Status of Select Mammals, Birds, Amphibians, and Reptiles in Deschutes County 2009

<table>
<thead>
<tr>
<th>Species</th>
<th>State Status</th>
<th>Federal Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Wolverine</td>
<td>Threatened</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Fisher</td>
<td>Critical</td>
<td></td>
</tr>
<tr>
<td>Fringed Myotis</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Long-eared Myotis</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Long-legged Myotis</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Pallid Bat</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Preble's Shrew</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Pygmy Rabbit</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Silver-haried bat</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Small-footed Myotis</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Spotted bat</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Townsend's western big-eared bat</td>
<td>Critical</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Yuma Myotis</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Peregrine Falcon</td>
<td>Vulnerable</td>
<td>Delisted</td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>Threatened</td>
<td>Delisted</td>
</tr>
<tr>
<td>Black Tern</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Black-backed Woodpecker</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Ferruginous Hawk</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Flammulated Owl</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Great Gray Owl</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Greater Sage Grouse</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Lewis' Woodpecker</td>
<td>Critical</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Loggerhead Shrike</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Long-billed Curlew</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Mountain Quail</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Northern Goshawk</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Northern Spotted Owl</td>
<td>Threatened</td>
<td>Threatened</td>
</tr>
<tr>
<td>Olive-sided Flycatcher</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Pileated Woodpecker</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Swainson's Hawk</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
<tr>
<td>Western Burrowing Owl</td>
<td>Vulnerable*</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>White-head Woodpecker</td>
<td>Critical</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Willow Flycatcher</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Yellow-breasted chat</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Yellow-billed cuckoo</td>
<td>Vulnerable</td>
<td>Candidate</td>
</tr>
<tr>
<td><strong>Amphibians and Reptiles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cascades Frog</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Coastal tailed frog</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Northern Sagebrush Lizard</td>
<td>--</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Oregon slender salamander</td>
<td>Vulnerable</td>
<td>Species of Concern</td>
</tr>
<tr>
<td>Oregon Spotted Frog</td>
<td>Critical</td>
<td>Candidate</td>
</tr>
<tr>
<td>Western Pond Turtle</td>
<td>Critical</td>
<td>--</td>
</tr>
<tr>
<td>Western Toad</td>
<td>Vulnerable</td>
<td>--</td>
</tr>
</tbody>
</table>

* listed only for the Basin and Range Ecoregion

Source: 2009 Interagency Report and ODFW
Oregon Department of Fish and Wildlife

Oregon Conservation Strategy

In 2006 the Oregon Conservation Strategy (OCS) was adopted by Oregon’s Fish and Wildlife Commission for the state of Oregon. Wildlife and habitat issues are often crisis-driven and focused on individual species. The OSC is intended to provide a long-term, big-picture look, using the best available science, on how best to maintain and improve Oregon’s species, habitats and ecosystems.

This document is not intended to be a set of regulations, but rather it presents issues, opportunities and recommended actions that can serve as the basis for regional collaborative actions. The recommendations within the OCS can be used to address species and habitat conservation needs, to expand existing partnerships and develop new ones, and to provide a context for balancing Oregon’s conservation and development priorities. The future of many species will depend on landowners’ and land managers’ willingness to voluntarily take action on their own to improve fish and wildlife habitat.

The OCS works by defining ecoregions and offering an overview of each region that covers a variety of ecological, land use and economic issues. Parts of Deschutes County fall into three of the ecoregions; East Cascade, Blue Mountains and Northern Basin and Range. For Deschutes County this document offers a wealth of knowledge that can be used to inform fish and wildlife habitat policies and protect and enhance ecosystems.

Fish and Wildlife Habitat Mitigation Policy

The ODFW’s Fish and Wildlife Habitat Mitigation Policy provides direction for their staff to review and comment on projects that may impact fish and wildlife habitat. This policy recognizes six distinct categories of wildlife habitat ranging from Category 1 – essential, limited, and irreplaceable habitat, to Category 6 – low value habitat. The policy goal for Category 1 habitat is no loss of habitat quantity or quality through avoidance of impacts by using development action if impacts cannot be avoided. The ODFW recommends avoidance of Category 1 habitats as they are irreplaceable, and thus mitigation is not a viable option. Categories 2-4 are for essential or important, but not irreplaceable habitats. Category 5 habitat is not essential or important, but has high restoration potential.

Interagency Report

In 2009 the USFW, ODFW, U.S. Forest Service and the Bureau of Land Management collaborated to provide a report on Wildlife in Deschutes County, Updated Wildlife Information and Recommendations for the Deschutes County Comprehensive Plan Update (Interagency Report). This report provided updated information to be used in revising the County Goal 5 inventory. This update will be done as part of the Goal 5 review as described in Section 2.4 of this Plan. The report also outlined numerous issues that the agencies believe are important for the County to address. The Interagency Report generated debate over how best to protect wildlife while also protecting the rights of property owners. Key issues from the report are touched on below.

Economic benefits of fish and wildlife: The report notes the ODFW report by Dean Runyan regarding the economic benefits of fishing, hunting and wildlife viewing, including that Deschutes County generated more freshwater fishing revenue than any other county in Oregon.
Oregon Conservation Strategy: The report discusses the Oregon Conservation Strategy described above and recommends that the County use it as a guide and reference for the maintenance and enhancement of wildlife resources.

Threatened and Endangered Species and Species of Concern: The report recommends developing and adopting measures to protect federal and state listed threatened and endangered species to limit conflicting use.

Riparian and wetland areas for wildlife and fish: The report recommends completing and adopting a Local Wetland Inventory. The current National Wetland Inventory was done at a scale so that wetlands under 5 acres are not identified. Yet, those wetlands provide significant habitat. Deschutes County adopted a Local Wetland Inventory for South County in 2011.

Oregon Spotted Frog: The report recommends adding an Oregon Spotted Frog habitat area to the wildlife area combining zone and provides some specific ideas for protecting those areas. The Oregon Spotted Frog can be found in the floodplains and wetlands along the Deschutes River and Little Deschutes River, south of Bend. Riverine oxbows are particularly key habitat. This frog is listed as a Federal Candidate and State Critical Species.

Shrub-Steppe Habitat: The report recommends the County consider impacts to wildlife and habitat when development will degrade shrub-steppe habitat. Shrub-steppe habitat provides needed resources for numerous birds and mammals, including 12 Oregon listed sensitive species, and one threatened species. Large blocks of un-fragmented habitat with low human disturbance are needed to support shrub-steppe wildlife. If avoidance of these areas is not possible, providing for "no net loss" and a "net benefit" (restoration) of shrub-steppe habitat should be a vital component of any conservation plan.

Greater Sage Grouse: The report provides recommendations for limiting conflicting uses near sage grouse leks and habitat. The population management objective for sage-grouse in this region (Prineville District), which includes portions of Deschutes and Crook counties, is to restore sage grouse numbers and distribution near the 1980 spring breeding population level, approximately 3,000 birds. Many aspects of human development have impacted sage grouse populations and can be considered conflicting uses. Conservation efforts focused on maintaining large expanses of sagebrush habitat, enhancing the quality of existing habitat, and increasing connections between suitable habitat patches would be most beneficial to maintaining healthy sage-grouse populations. Breeding and nesting habitat is particularly important because it is essential, limited and irreplaceable.

Critical Bird and Mammal Sites: The report does not recommend additional or modification of existing protections for site specific sensitive bird and mammal sites, except for additional protections for sage grouse. The report does provide a new inventory and site specific recommendations that will be used to update the list of Goal 5 wildlife resources.

Game Species: The report does not recommend changes to the existing big game winter range or migration corridor maps. It does recommend that the County revise the uses allowed in those areas to prohibit the following uses that generate activity, noise and habitat alteration:

- Guest ranch
- Outdoor commercial events (i.e. Wedding Venues, Farmers Market)
- OHV course
- Paintball course
In 2017, stemming from a Land Use Board of Appeals decision, Deschutes County amended its Wildlife Area Combining Zone to allow churches in deer winter range, elk habitat and antelope range. The reason for the amendment stemmed from the Religious Land Use and Institutionalized Persons Act of 2000 which protects individuals, houses of worship, and other religious institutions from discrimination in zoning laws. Deschutes County determined that allowing churches in the Wildlife Area Combining Zone should be allowed fully.

Sensitive Species: Table 2.7.2 shows species considered sensitive to human disturbance. Mule deer are the only species in decline.

Table 2.7.2 - Big Game Population Estimates, Deschutes County (2009)

<table>
<thead>
<tr>
<th>Species</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mule Deer</td>
<td>9,337*</td>
</tr>
<tr>
<td>Elk</td>
<td>1,500</td>
</tr>
<tr>
<td>Pronghorn</td>
<td>1,000</td>
</tr>
<tr>
<td>Cougar</td>
<td>~150</td>
</tr>
<tr>
<td>Black Bear</td>
<td>~150</td>
</tr>
<tr>
<td>Silver Grey Squirrel</td>
<td>~800</td>
</tr>
</tbody>
</table>

* The management objective for the Paulina and Upper Deschutes Wildlife Management Units, primarily in Deschutes County, is an April adult population of 18,7000 mule deer.

Source: Interagency Report

Fish and Wildlife Habitat Mitigation Policy: The Interagency Report includes one recommendation that is only from the ODFW. They recommend that the County require impact avoidance for development that will impact Category 1 habitat and require a wildlife mitigation plan for development that will impact habitat Categories 2-5, to limit conflicting uses.

The Interagency Report recommendations will be considered more closely when the Goal 5 review is undertaken.

Future of Wildlife and Habitat in Deschutes County

Coordination

Much of the wildlife habitat in Deschutes County is located on public lands. Federal lands make up 76% of County lands with another 3% State or County owned. Federal lands are not subject to County regulation but as noted in the Forest section of this Plan, they are important economic generators that also contribute to the community’s quality of life, providing ample opportunities for wildlife viewing, fishing and hunting. It should be noted that not all federal lands are managed for wildlife habitat.

Regarding public lands the County’s role is to coordinate with the land management agencies to ensure development approved by the County does not impact wildlife.

Another area for coordination is with the Trust for Public Lands (TPL). In 2009 this non-profit group initiated a Greenprint effort that will identify specific areas needing protection, including wildlife habitat. A survey done by this organization identified protecting wildlife habitat as important to County residents.
Rural Development

The loss of wildlife species and habitat may lead to declining recreational opportunities, tourist dollars and quality of life. Yet, many species are sensitive to human development, with some species benefiting and some harmed by land disturbance. New structures or infrastructure can fragment habitats. Barriers such as roads, dams or housing can interfere with migration routes and connectivity leading to isolated and unhealthy populations. Development can also increase non-native and invasive species. Most Deschutes County residents consider the local wildlife as one of the benefits of living in this region. With careful planning, many of the impacts to wildlife habitat can be mitigated.
Section 2.6 Wildlife Policies

Goals and Policies

**Goal 1** Maintain and enhance a diversity of wildlife and habitats.

Policy 2.6.1 Goal 5 wildlife inventories, ESEEs and programs are retained and not repealed.

Policy 2.6.2 Promote stewardship of wildlife habitats and corridors, particularly those with significant biological, ecological, aesthetic and recreational value.

Policy 2.6.3 Ensure Goal 5 wildlife inventories and habitat protection programs are up-to-date through public processes and expert sources, such as the 2009 Interagency Report.

Policy 2.6.4 Support incentives for restoring and/or preserving significant wildlife habitat by traditional means such as zoning or innovative means, including land swaps, conservation easements, transfer of development rights, tax incentives or purchase by public or non-profit agencies.

Policy 2.6.5 Assist in providing information and education on wildlife and habitat protection.

Policy 2.6.6 Review the Oregon Conservation Strategy when amending the Wildlife section of this Plan.

Policy 2.6.7 Use a combination of incentives, regulations and education to promote stewardship of wildlife habitat and address the impacts of development.

Policy 2.6.8 Balance protection of wildlife with wildland fire mitigation on private lands in the designated Wildland Urban Interface.

**Goal 2** Promote the economic and recreational benefits of wildlife and habitat.

Policy 2.6.9 Encourage wildlife related tourism.

Policy 2.6.10 Coordinate with stakeholders to ensure access to significant wildlife and riparian habitat through public or non-profit ownership.

**Goal 3** Support retaining populations of Federal and State protected endangered species.

Policy 2.6.11 Develop local approaches, in coordination with Federal and State agencies, for protecting Federal or State Threatened or Endangered Species or Species of Concern.

Policy 2.6.12 Address potential conflicts between large-scale development and sage grouse habitat using Ordinances Nos. 2010-010 and 2010-011, which are consistent with OAR 660-023-0115.
Background

Open spaces are generally undeveloped areas that are being maintained for some other purpose, such as farms, parks, forests or wildlife habitat. Besides the value that stems from the primary use of the land, open spaces provide aesthetically pleasing undeveloped landscapes. Because these areas are undeveloped they also provide additional benefits such as water recharge and safety zones from natural hazards like flooding.

Deschutes County has a rich abundance of open space. With public land ownership at close to 80% and extensive farms and forests, open spaces are an important draw for visitors and were often mentioned as important to the area’s quality of life. Along with the open spaces, scenic views were identified as important to residents. The backdrop of the Cascade Mountains, with its vast forest and sagebrush landscapes and riparian and wetland habitats, all provide an inspirational setting for visitors and residents alike. Statewide Planning Goal 5 recommends, but does not require, creating an inventory and protections for open spaces, scenic views and sites. Oregon Administrative Rule (OAR) 660-023 defines open space designations as parks, forests, wildlife preserves, nature sanctuaries and golf courses.

Open Space and Scenic View Designations and Protections

The 1979 Resource Element contained a list of open spaces and areas of special concern, the majority of which were in Federal and/or State control. As part of State Periodic Review in 1992, the list was updated. The Goal 5 review directed by Section 2.4 of this Plan will initiate an update of that inventory.

As of 2010, open spaces are protected through an Open Space and Conservation map designation and zoning district. Scenic view protection is implemented through the Landscape Management Combining Zone regulations, with the list of landscape management roads and rivers in the Goal 5 resource list in Chapter 5 of this Plan.

Deschutes County Open Space and Views 2009

Source: County GIS data

- There are 70,634 acres in the Open Space and Conservation Zone
- Nearly 65% of the Open Space and Conservation Zone land is Federally owned and another nearly 12% is State owned
- There are 32 roads/road segments in the Landscape Management Overlay Zone
- The Landscape Management Overlay Zone also applies to major rivers and streams

Future of Open Spaces, Scenic Views and Sites

Open Space

In Deschutes County, approximately 76% of the land is owned and managed by the Federal government and is not subject to County regulations. These lands remain mostly undeveloped and contribute greatly to the open space in the County, including areas such as the Newberry National Monument or the Three Sisters Wilderness Area and numerous high mountain lakes. In addition, there are three state parks and three state scenic viewpoints that contribute open
space. Finally, private forest and agriculture lands act as open space, as do the numerous golf courses throughout the County.

It can be expected that over the 20-year life of this Plan, most of the Federal lands will remain undeveloped and will continue to function as open space. The State parks are also anticipated to remain (see Section 3.8). The County can work closely with federal and state agencies to protect these special areas. On private lands the County can lend support to voluntary conservation easements and land trusts. As of 2010 private lands suitable for open space designation were eligible for special property tax consideration (ORS 308A.300-330), because they maintain high quality scenic environments for the benefit of the public.

**Scenic Views and Sites**

Scenic views can be found in nearly every part of the County. View issues generally involve a fine balancing act between the conflicting rights of property owners, neighbors and the wider community. The following list presents some of the issues that have arisen recently.

- A landowner cuts the swath of trees that block his/her mountain views, thus impacting their neighbors’ views of forest lands.
- A cell tower is proposed that will provide the cell phone service many people depend on, but the height of the tower impacts a neighbor’s views.
- A landowner wants to be energy self-sufficient and proposes a wind turbine, but the turbine height impacts a neighbor’s views.

Views from roads and rivers have long been protected by a landscape management overlay zone. There have been questions as to the effectiveness and usefulness of this protection. There have also been questions as to the right way to balance other scenic view areas.

**Design Development**

The scenic resources in the County include high mountain peaks, open meadows, riparian corridors, wetlands and forests. These areas contribute to the high quality of life for county residents. Development will inevitably occur within some of these areas and the type and placement of it can have a profound effect on the visual landscape. Appropriately placed and designed buildings can complement the natural environment and can serve as an extension to the natural landscape. For example, keeping building heights below the forest canopy and using materials that blend with the forest can help maintain its visual dominance.

It is the goal of this Plan to encourage development design that fits with the natural landscape. It is not the intent of this element to dictate the type of design that should be used. In fact, there are many types of architectural and site design styles that can complement the surroundings.

**Deschutes County Greenprint**

One avenue the County can take is to identify specific sites or views that still need to be protected. This work was undertaken in 2009 through the Deschutes County Greenprint. The Trust for Public Land (TPL) initiated the public process to create a Greenprint which identified a number of values, including: open spaces, scenic views, wildlife habitat, forest land, farm and ranch land, trails and water quality. TPL will also work with partners to identify sources of funding that can be used to help purchase specific lands. Working with the TPL will provide the County with important information that can be incorporated into this Plan.
Section 2.7 Open Spaces, Scenic Views and Sites Policies

Goal and Policies

Goal 1 Coordinate with property owners to ensure protection of significant open spaces and scenic views and sites.

Policy 2.7.1 Goal 5 open spaces, scenic views and sites inventories, ESEEs and programs are retained and not repealed.

Policy 2.7.2 Cooperate with stakeholders to establish a comprehensive system of connected open spaces.

Policy 2.7.3 Support efforts to identify and protect significant open spaces and visually important areas including those that provide a visual separation between communities such as the open spaces between Bend and Redmond or lands that are visually prominent.

Policy 2.7.4 Encourage a variety of approaches that protect significant open spaces and scenic views and sites.

Policy 2.7.5 Encourage new development to be sensitive to scenic views and sites.

Policy 2.7.6 Review County Code and revise as needed to protect open space and scenic views and sites, including:

a. Provide incentives to locate structures in forests or view corridors so as to maintain the visual character of the area;

b. Work with private property owners to provide incentives and mitigations for protecting visually important areas from development impacts;

c. Maintain and revise if needed, the Landscape Management Combining Zone code to effectively protect scenic views while minimizing impacts on property owners;

d. Review County Code, including sign and cell tower code and proposed wind turbine code, to effectively protect scenic views while minimizing impacts on property and business owners;

e. Review County Code for ways to mitigate for developments that significantly impact scenic views.
Section 2.8 Energy Resources

Background
Land use decisions often have a direct effect on energy use and conservation. How communities and buildings are designed and what transportation and utility options are available all impact energy usage. Energy is addressed in the Oregon land use system through Statewide Planning Goal 13, Energy, which requires land uses to be managed for energy conservation, based on sound economic principles.

A prime method of managing land for energy conservation is to design communities to be compact and walkable, so as to limit the need for automobiles and conserve fossil fuel. For a rural county, these types of transportation related energy savings are limited. Instead the County can focus on other conservation measures.

The second energy issue to be addressed is how to promote alternative energy generation, while managing the inevitable impacts. The impacts and problems stemming from traditional fossil fuel energy sources such as oil and coal are clear, but little agreement exists over a solution. As of 2010 there is an emphasis on promoting sustainable, alternative power generation from wind, solar, biomass, hydroelectric or geothermal.

Energy Conservation
Energy conservation frees existing energy resources for other uses and saves money. It is generally seen as a win-win, where the environment benefits from lowered demand for power, and households benefit from lower electric bills. Conservation is also being incorporated into other sections of this Plan, including Water Resources and Environmental Quality.

There are a few ways the County can work proactively to conserve energy. One is to apply energy conservation techniques at County facilities, then track and publicize the energy saved. The County can also support local utility companies that provide energy audits. These educational tools can alert the community to individual actions that can save money as well as energy. Education could also be directed to address thermal ratings for new buildings and to promote more efficient lay-outs. Another option is to strengthen regulations, such as amending subdivision standards.

The County has long promoted energy conservation through a passive solar code that requires new structures to be sited so that they do not block the sun from falling on adjacent properties. This code effectively ensures that all structures are able to obtain passive solar energy. Various studies have shown that solar orientation can create significant energy savings. During implementation of the passive solar code some simple revisions have been identified that could create exemptions for small lots and provide a variance procedure. These changes would provide some flexibility to the existing code while retaining the benefits of passive solar.

Siting Energy Facilities
In general, cities and counties have siting authority over energy projects below a certain size or generating capacity. This includes individual projects powering or supplementing homes and businesses or small commercial projects which produce energy for sale. Larger facilities are
regulated by the Oregon Energy Facility Siting Council. The thresholds for Siting Council jurisdiction are determined by the Legislature and are defined in Oregon Revised Statutes (ORS) 469.300. The Siting Council does not regulate hydroelectric development. Instead, the Oregon Water Resources Commission has the authority to issue licenses for hydroelectric development.

Counties may face planning decisions for the following types of energy projects:

- Thermal power or combustion turbine electric generation projects having a nominal electric generating capacity of less than 25 megawatts.
- Wind or solar electric generating projects having a peak generating capacity of less than 105 megawatts.
- Geothermal electric generating projects with a peak generating capacity of less than 38.8 megawatts.
- Electric transmission and distribution lines carrying less than 230 kilovolts and less than 10 miles in length.
- Biofuel production facilities, if the fuel produced is capable of being burned to produce the equivalent of less than six billion Btu of heat a day or if the facility is otherwise exempt from Siting Council jurisdiction under ORS 469.320(2).

Although the County is considered rich in alternative energy sources, a study of potential sites would provide more specific information on where these sources exist. The map would also allow a comparison between the energy sites and other protected resources.

**Home and Business Alternative Energy Generation**

The following are known viable sources of alternative energy production for individual homes and businesses in Deschutes County. Impacts to be managed from these uses are increasingly understood and are limited by the size of the projects. In 2010 the County is in the process of creating code to permit small wind turbines for home or business use.

**Wind**

Small electric wind turbines for residential or small commercial use convert the energy of the wind to electricity. A small wind turbine can produce from 500 watts to 100 kilowatts of electricity, typically producing up to 10 kilowatts. Small turbines range in height from 60-100 feet in height. Unobstructed access to a consistent wind resource is necessary for safe, efficient operation of wind turbines. Oregon law allows landowners to secure a “wind energy easement” to ensure the undisturbed flow of wind across a site (ORS 105.900 - 915).

The electricity generated can be stored in batteries for times of limited wind. If there is a connection to a traditional power grid and excess electricity is produced, it is sometimes possible to sell the excess to the local utility. The primary impacts from small wind generation that need to be considered include: height of the structure, lot size, setbacks, noise, aesthetics, abandonment and wildlife impacts.

**Solar**

Generally, small solar electric generating systems use photovoltaic cells on the roof of a building to produce electricity from the radiant energy of the sun. The impacts from individual solar projects are regulated through building regulations, rather than land use regulations. The
main issue with home or business use of solar energy is that as of 2010 it is not competitively priced and requires subsidies. This is anticipated to change as the technology improves.

**Biomass**

Biomass is solar energy stored in organic material from living plants. The most common and most widely used source of biomass is firewood used to heat homes and to a lesser extent small businesses. Additionally, biomass materials are being produced from waste products, such as crop residue or forest thinning. The primary impact from home or business use of biomass is air pollution. Although considered carbon neutral since the carbon release through burning was carbon that was absorbed during the growth of the material and would be released as the material decays, the particles caused by the burning may impact air quality. Regulations limiting the burning of firewood are often enacted in urban areas, but are not as useful in rural communities.

**Commercial Energy Generation**

The State oversees construction and approval of large commercial energy facilities, as noted above. However there is a role for local governments to oversee smaller commercial projects.

Commercial energy generation is considerably more complex than permitting small projects for homes and businesses. From a land use perspective, the scale, extended time frame, investment required and required off-site components all complicate the approval process. For example, to move the electricity generated at an alternative energy facility to market there is often a need for approval of roads, transmission lines or substations. The accessory facilities may or may not be in place at the same site as the main facility, but are an integral part of the project and are currently reviewed separately, based on State regulations.

Although the commercial alternative energy systems listed below have some similarities, there are often different requirements, advantages and impacts to be considered. The primary impact they all share is that they are large industrial structures that will impact the land through the construction process, causing noise, dust, erosion, the spread of noxious weeds and similar damages. These impacts can generally be controlled through proper management of the site. Other types of impacts to be noted are listed below.

**Wind Energy Generation**

There is a growing interest in commercial wind farms. As of 2010, a wind farm is undergoing approval in Crook County, with some accessory uses to the wind farm being approved in Deschutes County.

*Wildlife impacts:* Construction of wind energy projects may have both temporary and permanent impacts on wildlife habitat. Bird or bat fatalities from collision with turbine towers or blades have been reported. Requiring an applicant to conduct appropriate pre-construction wildlife surveys as well as post-construction monitoring can address wildlife concerns.

*Visual impacts:* The need for high towers and exposure to open terrain is inherent in the function of wind turbines, and therefore some visual impact is unavoidable. Careful placement with a thought to nearby roads and homes can aid in limiting the visual impacts.
Solar Energy Generation

Various technologies assist in capturing, converting and distributing solar energy. State officials have declared solar energy a priority sector in developing the Oregon’s economy. One of the key regions for developing the solar power industry is Central Oregon, due in part to its plentiful cool and sunny days, and the number of solar power companies already doing business here.

Wildlife impacts: The concentrated sunlight reflected by solar panels or mirrors could kill or injure wildlife, and in a sensitive habitat – such as a desert ecosystem – the environmental effects might be significant. Similar to wind turbines, requiring the applicant to conduct appropriate pre-construction wildlife surveys and post-construction monitoring would also be important.

Visual impacts: Solar facilities can stretch for miles and create visual impacts. Thoughtful design and placement are important for solar facilities.

Commercial Biomass

Commercial biomass uses organic material such as wood, agricultural waste or crop residues to power boilers to generate heat. According to the Oregon Forest Resources Institute an estimated 4.25 million acres (about 15% of Oregon’s forestland) have the potential to provide useful woody biomass through thinning to reduce the risk of uncharacteristic forest fires. A potential long-term use is converting woody biomass to biofuels and bioproducts to replace fossil fuels.

Identified biomass opportunities include:

- Warm Springs
- Gilchrist
- La Pine

Transportation impacts: Biomass materials need to be transported to a central location, generating traffic and air pollution. Building a biomass facility as close as possible to an available source will mitigate this somewhat.

Visual impacts: A biomass plant is an industrial use with tall smokestacks, so visual impacts are unavoidable. Similar to wind facilities, appropriate siting can go a long way towards mitigating this concern.

Air quality impacts: There is potential for air quality impacts. These impacts will be managed by the Oregon Department of Environmental Quality rather than the County.

Geothermal Energy Generation

Geothermal energy is a form of renewable energy derived from heat in the earth. This heat is transferred to water through various means and the steam produced is used to produce electricity.

Geothermal energy is completely dependent on the location of geothermal resources. Central Oregon may contain some of the best prospects for geothermal exploration in the continental United States. As of 2010 the area around Newberry Crater is being explored for potential geothermal energy. This exploration is in the Deschutes National Forest and therefore does
not need County approval. However, accessory uses such as substations or transmission lines might potentially require County review.

A 1984 Geothermal Study was adopted into the Resource Element of the Comprehensive Plan and led to more specific regulations for geothermal energy generation being adopted into the Zoning Code in 1991.

**Hydroelectric Energy Generation**

Irrigation canals in Central Oregon are now being looked at as more than just a way to distribute water from the Deschutes River to farmers and ranchers. With energy costs rising and the desirability of renewable energy sources, the power of water rushing through the canals is seen as a source of power and revenue. Hydropower projects that are currently constructed include:

- Central Oregon Irrigation District (COID) has installed two hydropower projects totaling 10.5 megawatts (MW). The Siphon Power Project (5.5 MW) in the south part of Bend and the Juniper Ridge Power Project (5.0 MW) approximately 5 miles north of Bend.
- Swalley Irrigation District has installed a hydropower project totaling 750 kilowatts (kW) in their main canal 5.1 miles below an existing diversion.

Additionally, Tumalo Irrigation District received a grant with which they conducted a hydroelectric feasibility study.

In 1986 a River Study was adopted into the Resource Element of the Comprehensive Plan and led to more specific regulations for hydroelectric energy generation being adopted into the Conditional Use section of the Zoning Code in 1991.

**Future of Energy**

Energy conservation is likely to be an ongoing issue over the next few decades and the County can continue to promote more efficient energy use. As for alternative energy facilities, the State of Oregon promotes these through a requirement that utility suppliers include renewable energy in their portfolios. Additionally, the State offers numerous tax credits and other incentives for both commercial and individual alternative energy projects.

The Rural Renewable Energy Development Zone is another State initiative. These zones encourage investment in alternative energy through granting tax exemptions, similar to an enterprise zone. This idea should be investigated further as an option for the County.

Looking at County regulations in place in 2010, the acreage needed to allow a utility facility is likely on farm or forest lands. Farm and forest land is highly regulated through ORS and OAR. State requirements for utility facilities and accessory uses have been incorporated into the County Zoning Code. Additionally, utility facilities and accessory uses are permitted in most non-farm or non-forest zones, subject to the general conditional use and site plan requirements. The County has additional conditional use regulations for geothermal and hydroelectric facilities, but not for wind or solar energy. The geothermal and hydroelectric regulations are over a decade old and may no longer be effective given the growth of the industry and technology.

In considering existing or potential new regulations, thought should be given to not just the energy generation facility, but also the necessary accessory uses, such as transmission lines,
roads or substations that are necessary to market the energy produced. Regulations should also acknowledge that some forms of alternative energy are dependent on the location of the power source, such as geothermal and hydroelectric. Another area to consider for the regulations is how to provide incentives to energy providers to encourage them to first offer the energy they generate to local utility companies. The review of regulations should also consider how other protected resources would be impacted by the development of alternative energy facilities.

In reviewing regulations, the County should coordinate with agencies, organizations and businesses with expertise in the alternative energy field. For example, an Interagency Working Group (Working Group) comprised of Oregon Department of Fish and Wildlife, United States Fish and Wildlife, United States Forest Service and the Bureau of Land Management created a report (Interagency Report, see Section 2.7 of this Plan) that includes a number of recommendations for protecting wildlife when approving alternative energy facilities. A review of these recommendations will provide valuable information on managing wildlife impacts from new energy facilities.

New regulations should ensure that the County’s are in compliance with State requirements, are flexible and minimally intrusive so as to encourage interest, provide incentives where feasible and still manage impacts to the rural community and natural environment.
Section 2.8 Energy Policies

Goals and Policies

Goal 1  Promote energy conservation.

Policy 2.8.1 Incorporate energy conservation into the building and management of all County operations and capital projects using regular energy audits to refine the results.

Policy 2.8.2 Reduce energy demand by supporting energy efficiency in all sectors of the economy.

Policy 2.8.3 Encourage energy suppliers to explore innovative alternative energy conservation technologies and provide energy audits and incentives.

Policy 2.8.4 Support stakeholders that promote energy conservation.

Policy 2.8.5 Review County Code and revise as needed to ensure effective energy conservation regulations, such as revising County Code on solar energy to create flexibility and permit exceptions for small properties and sites with specific anomalies.

Goal 2  Promote affordable, efficient, reliable and environmentally sound energy systems for individual home and business consumers.

Policy 2.8.6 Review County Code and revise as needed to permit alternative energy systems for homes and businesses and mitigate impacts on neighboring properties and the natural environment.

Policy 2.8.7 Support incentives for homes and businesses to install alternative energy systems.

Goal 3  Promote affordable, efficient, reliable and environmentally sound commercial energy facilities.

Policy 2.8.8 Review County Code and revise as needed to develop an efficient permitting process and effective siting standards for commercial renewable energy projects that address all project components as well as environmental and social impacts.

Policy 2.8.9 Support commercial renewable energy projects, including the following:
  a. Review the concept of Rural Renewable Energy Development Zones;
  b. Support studies that identify and inventory potential significant commercial energy resource sites;
  c. Examine alternatives to protect identified significant commercial energy resource sites;
  d. Support the use and marketing of methane gas from County Landfills.

Policy 2.8.10 Encourage commercial renewable energy providers to supply local power.

Policy 2.8.11 Goal 5 energy inventories, ESEEs and programs are retained and not repealed.
Section 2.9 Environmental Quality

Background

Environmental quality is addressed in Statewide Planning Goal 6, Air, Water and Land Resources Quality, which requires local governments to comply with applicable state or federal environmental regulations regarding waste and process discharges from the combined effect of new and existing development. The Oregon Department of Environmental Quality (DEQ) is the regulatory state agency primarily responsible for monitoring and enforcing both federal and state environmental regulations. They issue and enforce permits for pollution control and monitor air, water and land quality.

Still, a DEQ fact sheet (DEQ 06-OD-001 1/09) shows that more than 80% of land, air and water pollution comes from the daily activities of Oregonians, such as driving cars and fertilizing lawns. Because the majority of pollution comes from everyday actions, there is much that can be done locally. There is a growing awareness that seemingly small individual actions, such as employing reusable grocery bags or dumping used motor oil down the drain, can cumulatively impact the environment, either positively or negatively.

The concept of sustainable development that meets the needs of today without compromising the needs of future generations, provides a context for thinking about future growth. It is a common sense way to be sure that the consequences of collective actions are understood.

Two primary methods for the County to promote careful stewardship of the environment are by setting a good example through County actions and by providing information to the community on a variety of environmental issues. Additionally the County can thoughtfully manage the impacts of growth on the environment in cooperation with other agencies, organizations and jurisdictions.

Clean Air

Deschutes County air is monitored by the DEQ and is generally good quality. One of the primary air quality issues nationally and locally, is the pollution from automobiles. Deschutes County is somewhat limited in addressing this issue since rural homes are spread out over long distances, making alternatives to the automobile such as bicycles or transit challenging. One way to address this is to cooperate with cities in promoting smart growth in urban areas. Smart growth uses thoughtful design to build compact neighborhoods with a variety of transportation alternatives such as transit or trails.

Forest fires are the other primary sources of air pollution in this area. The County is actively working to prevent and control forest fires, but this issue is multi-jurisdictional and involves cooperation and education (see Section 3.5).

Another air quality issue that has been raised is the potential problems that come from allowing new residential uses to locate near existing mining or industrial uses. One way to deal with this issue is to consult DEQ on these approvals so they can make recommendations for siting the residential use based on prevailing winds.
Clean Water

Water quality issues cannot be separated from the issues of water availability and the health of rivers and streams. Concerns over water quantity and quality were noted frequently in public meetings as a key issue for the County going forward. Water issues are addressed in this Plan in Section 2.5 Water Resources and Section 3.10 under South Deschutes County’s Regional Problem Solving.

Clean Land

Land provides essential food, shelter, raw materials and plant and animal habitat. Maintaining healthy and productive land is key to every section of this Plan. Yet, land quality is generally discussed in relationship to specific developed sites with possible pollution, such as gas stations, landfills or dry cleaners. DEQ maintains a list of potentially polluted sites in Deschutes County and works with property owners to enforce state and federal regulations.

Any development has an impact on the land and many of those impacts can be controlled through understanding, education and if needed, regulation. The following issues have been raised:

Noxious Weeds

Noxious weeds are a serious issue in Deschutes County. These non-native and sometimes poisonous species overrun native vegetation, shelter undesirable insects, consume scarce water and infest crops. They can and do grow anywhere, but thrive on disturbed surfaces. Roadsides, former farmlands, inactive surface mines and non-landscaped areas around construction sites are all prime sites. Weeds on any one property have a major affect on the maintenance of others.

The County has a Weed District as defined by Oregon Revised Statute (ORS) 570.500-600, with a Board that oversees education and active weed eradication. Enforcement procedures have been initiated that include citations and fines. A review of opportunities to regulate weeds through the Zoning Code should be explored. These regulations should require not just eradication but also restoration, to prevent further infestations.

Sustainable Green Building

Both during construction and over time, buildings impact the environment. Green building focuses on design, construction and operation of buildings that efficiently use energy, water and materials, while promoting a clean environment. Environmentally friendly development can be extended to include utility facilities/lines and roads. There are industry accepted standards that have been developed for creating low impact and efficient buildings, such as those of Leadership in Energy and Environmental Design (LEED).

Additionally innovative, environmentally-friendly building techniques, like straw bale construction are regularly being proposed. The County can review the State building code to promote flexibility and safety in reviewing design innovations. Another step is to continue to advocate green building by providing information to the public.

Noise and Light Pollution

Noise is often defined as unwanted sound. It can vary in frequency, duration and intensity. In Deschutes County noise is regulated in the Health and Safety section of County Code.
However, often noise issues arise out of specific land uses. As a rural county, some noise from farming and forestry practices is normal and permitted. Still, in 2010 attempts to increase the types of uses allowed on rural residential and farm lands have raised the question of how much noise is appropriate. Noise travels long distances in rural areas and can impact the quality of life for rural residents. The County will continue to address noise concerns as specific land uses are proposed and regularly evaluate the current noise restrictions.

In Deschutes County night skies are expansive and in the rural darkness the stars and Milky Way are brightly visible. The University of Oregon maintains the Pine Mountain Observatory to take advantage of these conditions. In 1994 Deschutes County adopted an outdoor lighting ordinance to allow residents to light their properties as needed, but to ensure the lighting does not illuminate outside the owners property. This ordinance needs to be retained and reviewed regularly to ensure adequate protection of the nighttime darkness.

Solid Waste / Recycling / Hazardous Waste

Oregon law establishes a hierarchy for managing solid waste with a goal of minimizing waste disposal. The first step is to prevent waste generation, followed by reuse, recycling, composting and energy recovery. Only if those options are not available does disposal come into play. Although recycling programs frequently have an economic cost, they provide environmental benefits through conserving energy and landfill space. The key to successful recycling is the availability of markets for recycled goods.

Deschutes County’s Solid Waste Department, in response to State Statute and community demand, continues to refine existing recycling programs and explore new programs and opportunities. As of 2010 programs include education, curbside recycling and free and convenient drop off sites. Also available, although more limited, is free disposal of hazardous waste and electronic waste. One aspect of recycling that could be strengthened is recycling of construction waste. Deschutes County’s task is to continue to manage waste in a manner that is fiscally responsible, environmentally thoughtful and in compliance with state and federal regulations.

Area of Critical State Concern

The Oregon legislature first authorized the designation of an Area of Critical State Concern (ACSC) as part of the legislation creating the statewide land use program (Senate Bill 100) in 1973. At that time, several areas were identified as possibly warranting state protection in the face of uncontrolled development, including the Columbia River Gorge, areas of the Oregon Coast, and portions of the Metolius basin. Several of these areas were later protected through federal action, or through special state land use goals.

On July 15, 2009 the Legislative Assembly enacted HB 3298. House Bill 3298, designates the Metolius basin and an adjoining area as the Metolius Area of Critical State Concern (Metolius ACSC) and approves an accompanying management plan submitted by the Land Conservation and Development Commission (LCDC). The legislature approved the management plan and directed the LCDC to adopt the plan, by rule, with specified changes.

HB 3298 approves the designation of the Metolius Area of Critical State Concern as recommended by LCDC. This area includes the Metolius drainage basin and an adjoining area (Areas 1 and 2 in the management plan), which are located in portions of Jefferson and Deschutes Counties (near Black Butte). The prohibition of new destination resorts applies to
eligible lands mapped previously by Jefferson and Deschutes Counties in the Metolius Area of Critical State Concern.

The following uses are prohibited in the Metolius Area of Critical State Concern management plan approved under HB 3298:

- Any new destination resort, as defined by Statewide Planning Goal 8 or ORS 197.435 to 197.467.
- Any new golf course.
- Certain new residential, commercial, industrial or new uses exceeding a stated number of dwelling units, or exceeding an average annual consumptive use of water, depending whether the land is in Area 1 or Area 2.
Section 2.9 Environmental Quality Policies

Goals and Policies

**Goal 1** Maintain and improve the quality of the air, water and land.

Policy 2.9.1 Support environmental stewardship in County operations and capital projects, including where feasible, using resource-efficient building techniques, materials and technologies in County building projects.

Policy 2.9.2 Maintain County noise and outdoor lighting codes and revise as needed.

Policy 2.9.3 Where research identifies environmentally sensitive areas, work with agencies and stakeholders to protect those areas or minimize adverse land use or development impacts.

Policy 2.9.4 Be a leader in the control of noxious weeds and invasive species through education and regulations.
   a. Support education for the community and for County departments on how to recognize and report on noxious weeds.

**Goal 2** Promote sustainable building practices that minimize the impacts on the natural environment.

Policy 2.9.5 Review County Code and revise as needed to promote the use of resource-efficient building and landscaping techniques, materials and technologies for new construction and renovation projects.

**Goal 3** Encourage and increase recycling.

Policy 2.9.6 Encourage and support reuse through education and recycling through the Recycling Program.
   a. Provide convenient recycling at all County events and in all County facilities.
   b. Provide convenient opportunities to recycle materials and compost green waste in locations at transfer stations and through home pick up.
   c. Provide convenient opportunities for disposal of hazardous waste and e-waste.
   d. Aim for 80% recycling of construction waste in all County building projects.
   e. Promote 20% recycling of construction waste in all projects requiring a building permit.
   f. Support businesses and industries that utilize recyclable materials.
Section 2.10 Surface Mining

Background
Surface mining provides non-renewable resources, such as pumice, cinders, building stone, sand, gravel and crushed rock. The extraction of these materials provides employment as well as products important to local economic development. Yet mining of mineral and aggregate resources creates noise, dust and traffic and potential pollution that can conflict with neighboring land uses, particularly residential uses. This conflict can be aggravated by delayed or incomplete reclamation of the land. Surface mining is protected through Statewide Planning Goal 5, Natural Resources, Scenic and Historic Areas and Open Spaces and the associated Oregon Administrative Rule (OAR) 660-023 (this rule replaced 660-016 in 1996). Mineral and aggregate resources are included on the list of Statewide Goal 5 resources that the County must inventory and protect.

Surface Mining Designations
In the 1979 Plan, the County had a chapter discussing demand for aggregate, based on anticipated population growth. In 1990 after a lengthy legal challenge and additional research, an updated inventory, mining analysis and revised regulations were adopted. County sites were designated under OAR 660-016 and continue to be regulated under those rules. Since that time, additional sites have been added to the inventory under the OAR Safe Harbor regulations, at the request of property owners and after a Goal 5 Economic, Social, Environmental and Energy (ESEE) analysis was completed as required by OAR 660-023. The inventory of surface mining sites can be found in Chapter 5. It is unclear if sites on this list are still being actively mined, exhausted or being held for future mining. This list will be reviewed as part of the proposed Goal 5 analysis addressed in the Goal 5 section of this chapter (Section 2.4).

Surface Mining in 2009
Source: County GIS and Comprehensive Plan information

- There are 9,452 acres in the Surface Mining Zone.
- There are 57,908 acres in the Surface Mining Impact Area Combining Zone.
- 62 surface mine sites on the County GIS mapping system.
- 112 surface mine sites in the Comprehensive Plan inventory.

Several sites in the County appear to be no longer mined, and are either abandoned or have been officially reclaimed, but have not rezoned.

Future of Mining in Deschutes County
Surface mining provides an important product but also can create conflicts between mines and residences. Additionally, surface mining plays a role in spreading noxious weeds and impacting water quality, and should be examined for potential control measures. A review of County regulations can insure that the Code is adequately protecting the resource and the community, in conjunction with the Oregon Department of Geology and Mineral Industries.
Section 2.10 Surface Mining Policies

Goals and Policies

Goal 1 Protect and utilize mineral and aggregate resources while minimizing adverse impacts of extraction, processing and transporting the resource.

Policy 2.10.1 Goal 5 mining inventories, ESEEs and programs are retained and not repealed.

Policy 2.10.2 Cooperate and coordinate mining regulations with the Oregon Department of Geology and Mineral Industries.

Policy 2.10.3 Balance protection of mineral and aggregate resources with conflicting resources and uses.

Policy 2.10.4 Review surface mining codes and revise as needed to consider especially mitigation factors, imported material and reclamation.

Policy 2.10.5 Review surface mining site inventories as described in Section 2.4, including the associated Economic, Social, Environmental and Energy (ESEE) analyses.

Policy 2.10.6 Support efforts by private property owners and appropriate regulatory agencies to address reclamation of Goal 5 mine sites approved under 660-016 following mineral extraction.
**Background**

Historic buildings and sites connect us to the past and teach us how people in different eras managed resources and worked within their surroundings. Interesting information can be gleaned through an examination of significant buildings, rock shelters, cemeteries and individual graves, ranches, trails, wagon train routes, townsites, mill sites, fish hatcheries, river crossings, bridges, canals, dams, historic roads and other unique resources. These resources enrich the community by providing tangible evidence of our heritage.

Historic resources are recognized by Statewide Planning Goal 5, Natural Resources, Scenic Views and Historic Areas and Open Spaces, and Oregon Administrative Rule (OAR) 660-023. The Statewide Goal and OAR recommend, but do not require, the County to inventory and protect historic and cultural sites.

**Historic Designations**

In 1979 the County inventoried potential historic and cultural sites in the Resource Element. The 1979 Plan included goals and policies for protection of historic resources as well as provisions that the County establish a Historical Landmarks Commission and adopt an ordinance to protect designated historic sites.

On September 17, 1980 the Board of County Commissioners adopted Ordinance PL-21, which established a Historical Landmarks Commission and created a process to evaluate, designate and regulate historic structures.

The Historic Landmarks Commission subsequently, and over time, evaluated proposed historic sites. The resulting inventory of historically designated sites can be found in Chapter 5. This inventory will be reviewed as part of the Goal 5 review as described in the Goal 5 section of this Plan. Starting in 1997, all historic and cultural designations have been initiated at the request of property owners through the Comprehensive Plan text amendment process.

**Cultural and Historic Resources 2010**

*Source: County GIS and Comprehensive Plan Information*

- 36 Historic or Cultural sites in the Comprehensive Plan Inventory
- 6 Sites in Deschutes County on the National Historic Register

**Future of Cultural and Historic Resources**

Deschutes County supports the voluntary preservation of significant cultural and historical sites. Going forward there are a few issues regarding cultural and historical resources that need to be addressed. The first is to clarify that the County’s role is to cooperate with the Historic Landmarks Commission. That body contains persons with expertise in historic and cultural preservation.

Another concern is that the current County inventory is old and contains incomplete information on some of the sites. Additionally it does not include sites on the National Register of Historic Places. Adding these sites to the list would not require any action from the property
owner or County, but would ensure the list is useful to the public. These issues can be managed during the Goal 5 review.

Another concern is that when cultural resources are discovered at a project site it can create significant delays. This can be addressed by creating a proactive process in conjunction with local tribes, for protecting cultural resources while not impacting on-going work.
Section 2.11 Cultural and Historic Resources

Policies

Goal and Policies

Goal 1  Promote the preservation of designated historic and cultural resources through education, incentives and voluntary programs.

Policy 2.11.1  The Historic Landmarks Commission shall take the lead in promoting historic and cultural resource preservation as defined in DCC 2.28.
   a. Support incentives for private landowners to protect and restore historic resources.
   b. Support the Historic Landmarks Commission to promote educational programs to inform the public of the values of historic preservation.
   c. Support improved training for the Historic Landmarks Commission.

Policy 2.11.2  Coordinate cultural and historic preservation with the Oregon State Historic Preservation Office.
   a. Maintain Deschutes County as a Certified Local Government.
   b. Encourage private property owners to coordinate with the State Historic Preservation Office.

Policy 2.11.3  Encourage the preservation of lands with significant historic or cultural resources.
   a. Develop and maintain a comprehensive list of sites on the National Register of Historic Places.
   b. Review County Code and revise as needed to provide incentives and adequate regulations to preserve sites listed on the statewide Goal 5 historic and cultural inventory.

Policy 2.11.4  Goal 5 historic inventories, ESEEs and programs are retained and not repealed, except for the amendment noted in Ordinance 2011-003.
Chapter 2 Primary References

References

7. Oregon Revised Statute 197 and 215
8. Oregon Administrative Rules Chapter 660 particularly:
   a. 660-006 Goal 4 Forest Lands
   b. 660-016 Complying with Statewide Goal 5
   c. 660-023 Procedures and Requirements for complying with Goal 5
   d. 660-033 Agricultural Land
9. Deschutes County Geographic Information System
10. Deschutes County Resource Element
11. Deschutes County Agricultural Resource Lands Project (June 1992)
12. Oregon State University Extension Economic Information Office, Agricultural Commodity Sales Deschutes County 2008 preliminary Findings

---

1 The references listed are provided for the convenience of the public and are not legally adopted into this Plan.

18. Reservoir Management. DWA Final Report, August 2006


25. Oregon Department of Environmental Quality Fact Sheet: Working with Oregon Communities and Businesses to Protect Water, Air and Land and the Health of Oregonians. DEQ 06-OD-001 updated 1/09


28. USGS Fact Sheet 2007-3103, Questions and Answers About the Effects of Septic Systems on Water Quality in the La Pine Area, Oregon


---

2 The references listed are provided for the convenience of the public and are not legally adopted into this Plan.
34. Oregon Department of Environmental Quality - Water Quality Program: http://www.oregon.gov/DEQ/WQ/
35. USGS Oregon Water Science Center: http://or.water.usgs.gov/
36. U.S. Environmental Protection Agency - Introduction to the Clean Water Act: http://www.epa.gov/watertrain
40. Deschutes County/City of Bend River Study Prepared by River Task Force Committee, April 1986
41. Deschutes County Planning Division River Study Staff Report. May 21, 1986
42. BLM, Proposed Upper Deschutes Resource Management Plan and Final Environmental Impact Statement, Volume 1 - Executive summary and Chapter 1, 2, and 3 and Volume 3 - Proposed Upper Deschutes Resource Management plan and Appendices
43. BLM, Proposed Upper Deschutes Resource Management Plan and Final Environmental Impact Statement, Volume 3 - Ordinance No. 92-040. Update to Deschutes County Comprehensive Plan and implementing ordinances, for fish and wildlife resources to assure compliance with Statewide Land Use Planning Goals
44. Ordinance No. 92-041. Update to Deschutes County Comprehensive Plan to review and implementing ordinances for fish and wildlife resources to assure continuing compliance with Statewide Land Use Planning Goals.
45. Ordinance No. 92-042. Update to Deschutes County Comprehensive Plan to review and implementing ordinances for fish and wildlife resources to assure continuing compliance with Statewide Land Use Planning Goals.
46. Ordinance No. 92-045. Update to Deschutes County Comprehensive Plan to review and implementing ordinances for Goal 5 resources to assure continuing compliance with Statewide Land Use Planning Goals.3
47. Ordinance No. 92-046. Update to Deschutes County Comprehensive Plan to review and implementing ordinances for Goal 5 resources to assure continuing compliance with Statewide Land Use Planning Goals.

3 The references listed are provided for the convenience of the public and are not legally adopted into this Plan.


56. Deschutes County Ordinances 1985-001 and 1986-019


64. Oregon Health Division and Department of Environmental Quality: Wellhead Protection Fact Sheet, July 1994


The references listed are provided for the convenience of the public and are not legally adopted into this Plan.

68. Oregon. Department of Environmental Quality, Land Quality Division. Land Quality Programs, Resources, and Databases.


\(^5\) The references listed are provided for the convenience of the public and are not legally adopted into this Plan.
Chapter 3

Rural Growth

Management
Section 3.1 Introduction

Background
People move to rural communities in Deschutes County for many different reasons, but the high quality of life was mentioned repeatedly in community meetings. Residents noted that rural living provides peace and quiet, room to breathe and a connection with the land, the natural world and a caring community. Retaining what people love about rural living while allowing growth can be challenging. This chapter looks at the functional and quality of life aspects of rural living and complements Chapter 2, Resource Management that discusses resource lands.

This chapter is divided into eight sections. Seven Statewide Planning Goals apply to this chapter, along with associated Oregon Administrative Rules (OARs) that provide more specific guidance on implementing the Goals. The first four sections are Rural Development, Rural Housing, Rural Economy and Natural Hazards.

State regulations for housing can be found in Statewide Planning Goal 10, Housing and OAR 660-008. Economic growth is considered in Statewide Goal 9, Economy of the State and OAR 660-009. Both Goal 10 and Goal 9 are intended to apply primarily inside Urban Growth Boundaries. Statewide Goal 2, Land Use and Goal 14, Urbanization, and OARs 660-004 and 660-014 address specific aspects of urban development on rural lands. Statewide Goal 7, Areas Subject to Natural Disasters and Hazards provides guidance on how to effectively protect development from natural hazards.

The next two sections are Public Facilities and Services and Transportation. These areas are addressed in Statewide Goal 11, Public Facilities and Services and Statewide Goal 12, Transportation and associated OAR 660-011 and 660-012. The next two sections of this chapter are Rural Recreation and Destination Resorts. Statewide Planning Goal 8, Recreational Needs and Oregon Revised Statue 197.435-467 regulate these chapters. The final section discusses plans or policies to address site specific rural development issues.

Purpose
The purpose of the Rural Growth Management chapter is to coordinate with other chapters of this Plan to maintain the quality of life enjoyed by rural residents. This chapter is organized as follows:

- Rural Development (Section 3.2)
- Rural Housing (Section 3.3)
- Rural Economy (Section 3.4)
- Natural Hazards (Section 3.5)
- Public Facilities and Services (Section 3.6)
- Transportation System Plan (Section 3.7)
- Rural Recreation (Section 3.8)
- Destination Resorts (Section 3.9)
- Area specific Plans and Policies (Section 3.10)
Section 3.2 Rural Development

Background

Oregon’s land use system primarily directs growth into urban growth boundaries, to preserve rural lands for farming and forestry. Recent growth in the unincorporated areas of the County consists predominantly of residential development on lots existing prior to the adoption in the 1970s of the statewide planning program and Deschutes County’s Comprehensive Plan. New commercial, industrial or residential uses on rural lands are regulated by Statewide Planning Goals for farms, forests, urbanization and public facilities. State law restricts most rural commercial and industrial uses, so no significant growth in those areas is anticipated.

Yet many people choose to live in rural areas. To understand demand, in 1979 the County noted that there were over 17,000 platted, but undeveloped lots and concluded that there was ample room for growth. In 2004 the County adopted Deschutes County Coordinated Population Forecast 2000-2025 (see Section 4.2). As part of the population forecast, the County used Geographic Information Systems (GIS) to analyze the potential for new development based on existing and potential dwellings. That analysis showed the County could serve anticipated rural population with existing lots. However, it was noted that the number of growth-dependent variables over potential new development made the analysis inexact.

Growth Potential

As of 2010, the strong population growth of the last decade in Deschutes County was thought to have leveled off due to the economic recession. Besides flatter growth patterns, changes to State regulations opened up additional opportunities for new rural development. The following list identifies general categories for creating new residential lots, all of which are subject to specific State regulations.

- New lots can be created in destination resorts
- Some farm lands can be subdivided to permit one or two ‘non-farm’ parcels
- New lots can be created based on the property rights legislation known as Measure 37 and Measure 49
- New lots can be created through the addition of sewer systems
- New lots can be created in Unincorporated Communities (see Chapter 4)
- 2009 legislation permits a new analysis of agricultural designated lands
- Existing large forest or rural residential lots can be subdivided
- Exceptions can be granted from the Statewide Planning Goals
- Some farm lands with poor soils that are adjacent to rural residential uses can be rezoned as rural residential
- Some farm lands with poor soils can be rezoned into a new agricultural category with a smaller acreage requirement

It is difficult to estimate how many additional lots could be created through these categories. Most of these possibilities are extremely site-specific requiring an analysis of each property. In community meetings for the 2008-2011 Plan update, the primary concerns raised over new growth were the impacts of destination resorts and non-farm dwellings.
The wildcard in rural housing development is destination resorts (see Section 3.9). These developments are permitted on rural lands without taking a goal exception and are intended to attract tourists. State Statute on resorts allows them to have two houses for every overnight lodging unit, so the potential exists to add a considerable amount of new housing to rural Deschutes County. The challenge is that it is hard to analyze impacts from resort housing because it is not clear whether the housing is being used for full-time residences or second homes. Additionally, some of the second homes may become full-time residences when property owners retire.

Non-farm refers to allowing one or two new parcels of up to five acres to split off of farm parcels as long as the remaining farm parcel retains the required acreage. This provides flexibility by allowing the creation of new rural housing while retaining the basic agricultural character of the area.

Property rights Measure 37 could potentially have added a sizeable number of new lots, but as modified by Measure 49 the number is down considerably and at this point nearly impossible to track.

Increased growth potential could follow the addition of sewer systems in south Deschutes County or in existing unincorporated communities, which could lead to smaller lot sizes. New lots can also be created in Unincorporated Communities, but only Tumalo and Terrebonne have the potential to add a substantial number of new lots. However, residents in those communities have expressed an interest in keeping their rural character (see Sections 4.5 and 4.6).

Another opportunity for rural growth is found in Section 2.2 of this Plan, within a policy to initiate a study evaluating existing agricultural lands to determine which lands are unsuitable for farming and could be available for residential development.

Other potential categories for new residential lots are not anticipated to add substantial new development.
Section 3.3 Rural Housing

Background
Housing is a basic need that provides not just shelter, but connection to a wider community. A variety of housing types and price points ensures options for people at different life stages and needs. Oregon’s statewide planning program directs cities to retain an adequate amount of land to accommodate residential growth. Generally counties are directed to protect farms, forests and other rural resources like wildlife while limiting new rural development. This section of the Plan looks specifically at housing on existing and potential new parcels and how the County can support a diverse and affordable housing supply.

Housing inside urban growth boundaries is addressed in Statewide Planning Goal 10, Housing and OAR 660-008. Statewide Goal 2, Land Use and Goal 14, Urbanization both have sections that address rural housing, supplemented by OAR 660-004 and 660-014. These rules refine how new rural residential lots can be created. The Deschutes County housing policies provide the framework for residential development. The policies further delineate the role of the County in facilitating the availability of an affordable and quality housing stock within both urban and rural communities.

Rural Residential Exception Areas
In Deschutes County most rural lands are designated for farms, forests or other resources and protected as described in the Resource Management chapter of this Plan. The majority of the land not recognized as resource lands or Unincorporated Community is designated Rural Residential Exception Area. The County had to follow a process under Statewide Goal 2 to explain why these lands did not warrant farm or forest zoning. The major determinant was that many of these lands were platted for residential use before Statewide Planning was adopted.

In 1979 the County assessed that there were over 17,000 undeveloped Rural Residential Exception Area parcels, enough to meet anticipated demand for new rural housing. As of 2010 any new Rural Residential Exception Areas need to be justified through initiating a non-resource plan amendment and zone change by demonstrating the property does not meet the definition of agricultural or forest land, or taking exceptions to farm, forest, public facilities and services and urbanization regulations, and follow guidelines set out in the OAR.

Rural Residential Exception Areas 2009
Source: County GIS data
- 71,000 acres of Rural Residential Exception Area (including right-of-way)
- 64,000 acres of Rural Residential Exception Area (excluding right-of-way)
- 24,750 Rural Residential Exception Area lots
- 18,100 Rural Residential Exception Area lots that are developed

Future of Rural Housing in Deschutes County
In looking at rural housing growth, it is important to find the balance between protecting rural values and protecting property rights. In community meetings some people expressed concern over the level of new development that has been allowed while others highlighted the
restrictions on their property that do not permit it. Too much development can lead to the
destruction of the qualities that bring people to Deschutes County, while too many restrictions
keep out people who would choose a rural lifestyle.

Housing Legality, Public Health and Safety

One issue meriting attention is the need to be sure housing is legally developed. A house built
without proper land use permits may not meet required setbacks or other regulations, causing
legal disputes between neighbors. A house built without proper building permits could be
constructed shoddily, causing safety issues. Land use and building permit requirements
therefore are intended to safeguard the rights of property owners and neighbors. Historically,
there have been problems in the County with substandard housing. Over the years substandard
housing has become less of an issue. However, there are still areas where development has
occurred without land use or building permits, leading to numerous code complaints. An area
of south County, known as Section 36, has been identified as one place that the County could
work closely with local residents to address health and safety issues. Another health and safety
issue that came up in public meetings is the need to regulate large animals on residential lots.
The idea is to control odors and flies that can accumulate and impact neighbors. Research on
how large animals are regulated in other counties would provide some direction on this issue.

Housing Diversity

A challenge for the County given rural housing restrictions is how to support a diversity of
housing to meet the needs of the community, while retaining the rural character important to
residents. Deschutes County requires a 10 acre minimum lot size for new rural residential lots
in order to protect the rural quality of life and its resources. Yet, the 10 acre minimum raises
the cost of rural housing and may limit the rural lifestyle to households at the upper end of the
income spectrum. Additionally much of the new rural housing being built is located in high-end
destination resorts. This slant towards high priced rural housing is mitigated somewhat by the
thousands of small lots that were platted before land use laws were enacted. These smaller lots
provide an opportunity for less expensive housing.

One way the County can address the need for housing options is to promote the idea of
housing alternatives such as co-housing or accessory dwelling units. Currently these alternatives
are not permitted by State regulations that protect rural lands. Co-housing involves creating a
community through clustered housing. Accessory dwelling units, sometimes known as granny
flats, are small units accessory to the main housing. Regulated correctly, housing alternatives
could provide flexibility in rural housing. The first step in permitting housing variety is to initiate
a discussion with the State on how and where these types of housing would be appropriate.
Another way to support a diversity of housing is to work closely with agencies and jurisdictions
that promote it. The public corporation responsible for promoting affordable housing initiatives
in Deschutes, Jefferson and Crook Counties is the Central Oregon Regional Housing Authority,
also known as Housing Works. Organized under the Oregon Housing Authority Law (ORS
456), this agency provides affordable housing services to low income households. They also
engage in public/private partnerships to provide and manage affordable housing. Cities are also
involved in providing a diversity of housing. Promoting a variety of housing choices and mix of
price points can be achieved through cooperating with Housing Works and local cities, the
donation of County property, or other means.
Section 3.3 Rural Housing Policies

Goals and Policies

Goal 1  Maintain the rural character and safety of housing in unincorporated Deschutes County.

Policy 3.3.1  The minimum parcel size for new rural residential parcels shall be 10 acres.

Policy 3.3.2  Incorporate annual farm and forest housing reports into a wider system for tracking the cumulative impacts of rural housing development.

Policy 3.3.3  Address housing health and safety issues raised by the public, such as:

a. The number of large animals that should be permitted on rural residential parcels; or

b. The properties south of La Pine, in Township 22S, Range 10E, Section 36, many of which are not in compliance with planning and building codes.

Policy 3.3.4  Encourage new subdivisions to incorporate alternative development patterns, such as cluster development, that mitigate community and environmental impacts.

Policy 3.3.5  Maintain the rural character of the County while ensuring a diversity of housing opportunities, including initiating discussions to amend State Statute and/or Oregon Administrative Rules to permit accessory dwelling units in Exclusive Farm Use, Forest and Rural Residential zones.

Goal 2  Support agencies and non-profits that provide affordable housing.

Policy 3.3.6  Support Central Oregon Regional Housing Authority and other stakeholders to meet the housing needs of all Deschutes County residents.

a. Assist as needed in coordinating and implementing housing assistance programs.

b. Support efforts to provide affordable and workforce housing in urban growth boundaries and unincorporated communities.

Policy 3.3.7  Utilize block grants and other funding to assist in providing and maintaining low and moderate income housing.
Section 3.4 Rural Economy

Background

Economic development is critically important to maintaining quality of life. When the Statewide Planning system was initiated, farming and forestry were strongly protected because they were the State’s primary economic drivers. Statewide Planning Goal 9, Economic Development and Oregon Administrative Rule (OAR) 660-009 apply to areas inside urban growth boundaries and are intended to ensure an adequate land supply for business and employment growth. The Rule defines the preparation of Economic Opportunity Analyses (EOA) to identify and promote a diverse economy.

Rural Economy 2008-2009

Source: Economic Development for Central Oregon website
- The top three economic sectors in 2009 were: retail trade, leisure and hospitality, educational and health services
- Median income for a family of four in 2008 was $63,500
- A 2009 list of top private employers shows Sunriver at #3 and Eagle Crest at #12 and Black Butte Ranch at #15
- 2009 unemployment ranged from approximately 13%-16% - up from 5.3% in 2000

- A total of $78 million was spent in Deschutes County in 2008 on fishing, hunting and wildlife viewing

Source: Oregon State University Extension Oregon Agricultural Information Network, Deschutes County Agricultural Commodity Sales for 2008 and 2009
- Over $26 million in crop and livestock sales in 2008 (revised estimate)
- Over $19 million in crop and livestock sales in 2009 (preliminary estimate)

Source: County GIS
- There are 5 developed Rural Commercial lots
- There are 3 developed Rural Industrial lots

Economic Trends

Deschutes County’s economy was initially built around farming and logging. As those sectors declined, recreation and tourism increased as people were drawn to the beauty and opportunities to recreate on public lands. The high quality of life became a draw for employers and employees alike. Until recently, the building sector boomed as new housing was built to meet both increased housing demand and the real estate speculation that followed. Housing prices rose so high that workforce housing became a limiting factor in economic growth. The period of strong growth ended with the national recession that began in late 2007, leading to falling housing prices and rising unemployment.

A partner for the County in promoting a healthy economy is Economic Development for Central Oregon (EDCO). This private non-profit organization is dedicated to diversifying the
tri-county regional economy by attracting new investment and jobs. This organization also tracks the local economy. As noted above, statewide land use goals and rules direct growth primarily in urban areas. Still, there are economic opportunities that can be supported by the County.

Farming and forestry and related businesses

- Economic opportunities in these sectors are discussed in the Agriculture and Forest sections of this Plan.

Recreation and tourism

- These sectors include revenue from hunting, fishing and wildlife viewing that are discussed in the Wildlife section of this Plan. Also included here are Mt Bachelor ski resort and other area resorts. This sector is anticipated to continue growing.

Unincorporated Communities

- New commercial and industrial uses are permitted in unincorporated communities. These uses are limited in size. See Chapter 4 for more information.

Home-based businesses

- Although not a major economic player, for many rural residents the opportunity to run a small business out of their home provides extra income. Home businesses are regulated tightly on agricultural land by the state, and by the county through the home occupation code.

Green Employment

- New initiatives for green energy take advantage of the local abundance of resources. See the Energy section of this Plan.

Bend Airport

- The Bend Airport is owned and managed by the City of Bend as a municipal airport with supporting aviation associated businesses. Aviation industries are also a major focus of EDCO. As of 2010 the City of Bend and Deschutes County are working to create a new master plan for the area that will promote future aviation related business while protecting the nearby rural residences from aviation-related impacts.

Coordination

- The County can support and coordinate with agencies, organizations and jurisdictions in promoting economic development such as coordinating on the Regional Economic Opportunity Analysis for Un-Met Large-Lot Industrial Sites due to be completed in 2011.
  - The County can support farming as a contributor of the economy by promoting a diverse, sustainable, revenue-generating agricultural sector, including emerging agricultural conditions and markets.

Environment

- Deschutes County’s quality of life is increasingly recognized as an important factor in economic development and can be viewed as a strategic resource to be managed for its long-term contributions as a tourist destination, to employee retention, and locational decisions for industrial recruitment.
Rural Commercial and Rural Industrial

In Deschutes County there are a handful of properties zoned Rural Commercial and Rural Industrial. These designations recognize uses that predated State land use laws. New commercial or industrial sites are controlled by State regulation and additional development is anticipated to be minimal and only for specific sites, such as around the Bend Airport.

Rural Commercial

The Rural Commercial plan designation applies to specific exception areas located outside unincorporated communities and urban growth boundaries. The rural commercial uses and services in these areas are limited in size and scope to those that are less intensive than uses allowed in Unincorporated Communities. The uses and densities are limited by the zoning, thereby maintaining rural integrity.

The Rural Commercial designation applies to the following acknowledged exception areas:
- Deschutes Junction
- Deschutes River Woods Store
- Pine Forest
- Rosland
- Spring River

As a part of State required Periodic Review, a Rural Commercial designation was applied to Deschutes Junction, Deschutes River Woods Store and Spring River. These areas had previously been designated Rural Service Centers, but a new Unincorporated Communities Rule (OAR 660-022) defined “rural service centers” in such a way that these areas no longer matched the criteria.

The Rural Commercial plan designation and zoning brings each of these three areas into compliance with state rules by adopting zoning to ensure that they remain rural and that the uses allowed are less intensive than those allowed in unincorporated communities as defined in OAR 660-022.

The County recently applied a new Rural Commercial plan designation to Rosland (2002) and Pine Forest (2007) commercial centers which historically were committed to commercial uses prior to the adoption of zoning regulations.

Rural Commercial Designated Areas

The Deschutes Junction Rural Commercial boundary includes 1.77 acres, bounded by Tumalo Road on the South, Highway 97 on the East, with the remainder surrounded by Agricultural (EFU) and Rural Residential (MUA-10) lands.

The Deschutes River Woods Store Rural Commercial boundary includes 4.99 acres bounded by Baker Road on the North, Highway 97 on the East, railroad tracks and Cheyenne Road on the West and Morningstar Christian School on the South. The surrounding land is zoned Rural Residential (RR-10). The Deschutes River Woods residential subdivision is adjacent to this property.
The Pine Forest Rural Commercial boundary includes approximately 2.0 acres bounded by Pine Forest Drive and Burgess Road. The remainder is surrounded by exceptions land zoned RR-10.

The Rosland Rural Commercial boundary includes approximately 4.5 acres near the intersection of Burgess and River Pine Roads. The remainder is surrounded by exceptions land zoned RR-10.

The Spring River Rural Commercial boundary includes 9.16 acres bounded by Spring River Road on the North, Lunar Drive on the East and additional commercial and residential uses on the South and West. The surrounding land is zoned Rural Residential (RR-10).

Rural Industrial

The Rural Industrial plan designation applies to specific exception areas located outside unincorporated communities and urban growth boundaries. The Rural Industrial plan designation and zoning brings these areas into compliance with state rules by adopting zoning to ensure that they remain rural and that the uses allowed are less intensive than those allowed in unincorporated communities as defined in OAR 660-022.

The Rural Industrial designation applies to the following acknowledged exception areas.

- Redmond Military
- Deschutes Junction
- Bend Auto Recyclers

Rural Industrial Designated Areas

The Redmond Military site consists of tax lot 1513000000116 and is 35.42 acres, bounded by the Redmond Urban Growth Boundary to the west and agricultural lands (EFU) surrounding the remainder of the property.

The Deschutes Junction site consists of the following tax lots: 161226C000107 (9.05 acres), 16126C000106 (4.33 acres), 161226C000102 (1.41 acres), 161226C000114 (2.50 acres), portions 161226C000300 (12.9 acres), 161226C000301 (8.93 acres), 161226A000203 (1.5 acres) and those portions of 161226C000111 located west of the Burlington Northern-Santa Fe railroad tracks (16.45 acres). Generally, the Deschutes Junction site is bordered on the west by Highway 97, on the east by the Burlington Northern Railroad, on the north by Nichols Market Road (except for a portion of 161226A000111), and on the south by EFU-zoned property owned by the City of Bend.

Bend Auto Recyclers consists of tax lot 1712030000111 and is 13.41 acres, bounded by Highway 97 to the west, and Rural Residential (MUA-10) lands to east, north and south.

Future of Deschutes County Economy

A key to economic growth in Deschutes County is to recognize and protect the natural resources that contribute to the quality of life that draws both employers and employees as well as tourists to the area. A 2010 report on Deschutes County’s economy by Headwaters Economics and Economic Development for Central Oregon outlined a number of recommendations to increase economic diversity and resiliency. Areas where the County can consider focusing its attention are: promoting housing diversity, local amenities, better transportation access and higher education. According to the report, public incentives are also helpful.
Given the State emphasis on economic development inside cities, the County’s primary role is to cooperate with cities and EDCO. Coordinating with cities, agencies and organizations that are actively promoting economic development can be an effective use of resources. As an example of local partnering, in 2010 the County initiated a Regional Economic Opportunity Analysis to identify the need for large-lot industrial sites.

From a rural perspective, working with the agriculture and forest sectors to encourage new uses as discussed in those sections of this Plan is another option. Others are supporting sustainable recreation, tourism and commercial alternative energy projects. Finally, home based businesses that minimize impacts on rural neighbors can also be encouraged.
Section 3.4 Rural Economy Policies

Goal and Policies

Goal 1  Maintain a stable and sustainable rural economy, compatible with rural lifestyles and a healthy environment.

Policy 3.4.1  Promote rural economic initiatives, including home-based businesses, that maintain the integrity of the rural character and natural environment.
   a.  Review land use regulations to identify legal and appropriate rural economic development opportunities.

Policy 3.4.2  Work with stakeholders to promote new recreational and tourist initiatives that maintain the integrity of the natural environment.

Policy 3.4.3  Support a regional approach to economic development in concert with Economic Development for Central Oregon or similar organizations.

Policy 3.4.4  Support regional educational facilities and workforce training programs.

Policy 3.4.5  Support renewable energy generation as an important economic development initiative.

Policy 3.4.6  Support and participate in master planning for airports in Deschutes County.

Policy 3.4.7  Within the parameters of State land use regulations, permit limited local-serving commercial uses in higher-density rural communities.

Lands Designated and Zoned Rural Commercial

Policy 3.4.8  Update the policies for lands designated Rural Commercial as needed.

Policy 3.4.9  Rural Commercial designated lands located outside of urban growth boundaries shall allow uses less intense than those allowed in unincorporated communities as defined by Oregon Administrative Rule 660-22 or its successor.

Policy 3.4.10  Rural Commercial zoning shall be applied to Deschutes Junction, Deschutes River Woods Store, Pine Forest, Rosland and Spring River.

Policy 3.4.11  In Spring River there shall be a Limited Use Combining Zone.

Policy 3.4.12  County Comprehensive Plan policies and land use regulations shall ensure that new uses authorized on Rural Commercial designated lands do not adversely affect agricultural and forest uses in the surrounding areas.

Policy 3.4.13  Zoning in the area shall ensure that the uses allowed are rural as required by Goal 14, Urbanization, and less intensive than those allowed for unincorporated communities as defined in OAR 660-22. New commercial uses shall be limited to those that are intended to serve the surrounding rural area or the travel needs of people passing through the area.

Policy 3.4.14  New commercial uses shall be limited in size to 2,500 square feet or if for an agricultural or forest-related use, 3,500 square feet.
Policy 3.4.15  A lawful use existing on or before November 5, 2002 that is not otherwise allowed in a Rural Commercial zone, may continue to exist subject to the county’s nonconforming use regulations.

Policy 3.4.16  An existing lawful use may expand up to 25 percent of the total floor area existing on November 5, 2002.

Policy 3.4.17  The Rural Commercial zoning regulations shall allow a mixed use of residential or rural commercial uses.

Policy 3.4.18  Residential and commercial uses shall be served by DEQ approved on-site sewage disposal systems.

Policy 3.4.19  Residential and commercial uses shall be served by on-site wells or public water systems.

Policy 3.4.20  Community sewer systems, motels, hotels and industrial uses shall not be allowed.

Policy 3.4.21  Recreational vehicle or trailer parks and other uses catering to travelers shall be permitted.

Lands Designated and Zoned Rural Industrial

Policy 3.4.22  Update the policies for lands designated Rural Industrial as needed.

Policy 3.4.23  To assure that urban uses are not permitted on rural industrial lands, land use regulations in the Rural Industrial zones shall ensure that the uses allowed are less intensive than those allowed for unincorporated communities in OAR 660-22 or any successor.

Policy 3.4.24  Limited Use Combining zones shall be applied to the Redmond Military (Tax lot 1513000000116), Deschutes Junction (Tax lot 161226C000301, Tax lot 161226C000300, Tax lot 161226C000111 and Tax lot 161226A000203) to ensure permitted uses are compatible with surrounding farm and forest lands.

Policy 3.4.25  To ensure that the uses in Rural Industrial zone on tax lot 16-12-26C-301, as described in Exhibit “C” and depicted on Exhibit “D” attached to Ordinance 2009-007 and incorporated by reference herein, are limited in nature and scope, the Rural Industrial zoning on that site shall be subject to a Limited Use Combining Zone which will limit the uses to storage, crushing, processing, sale and distribution of minerals.

Policy 3.4.26  To ensure that the uses in the Rural Industrial Zone on Tax Lot 300 on Assessor’s Map 16-12-26C-300 and Tax Lot 203 on Assessor’s Map 16-12-26A-300 and portions of Tax Lot 111 on Assessor’s Map 16-12-26C-111 as described in Exhibit ‘D’ and depicted in Exhibit ‘E’ attached to Ordinance 2010-030 and incorporated by reference herein, are limited in nature and scope, the Rural Industrial zoning on the subject parcel shall be subject to a Limited Use Combining Zone, which will limit the uses to storage, crushing, processing, sale and distribution of minerals, subject to conditional use and site plan approval.
Policy 3.4.27 Land use regulations shall ensure that new uses authorized within the Rural Industrial sites do not adversely affect agricultural and forest uses in the surrounding area.

Policy 3.4.28 New industrial uses shall be limited in size to a maximum floor area of 7,500 square feet per use within a building, except for the primary processing of raw materials produced in rural areas, for which there is no floor area per use limitation.

Policy 3.4.29 A lawfully established use that existed on or before February 2, 2003 not otherwise allowed in a Rural Industrial zone may continue to exist subject to the county’s non-conforming use regulations.

Policy 3.4.30 A lawfully established use that existed on or before February 2, 2003 may be expanded to occupy a maximum of 10,000 square feet of floor area or an additional 25 percent of the floor area currently occupied by the existing use, whichever is greater.

Policy 3.4.31 Residential and industrial uses shall be served by DEQ approved on-site sewage disposal systems.

Policy 3.4.32 Residential and industrial uses shall be served by on-site wells or public water systems.

Policy 3.4.33 Community sewer systems shall not be allowed in Rural Industrial zones.

Policy 3.4.34 A 2009 exception (Ordinance 2009-007) included an irrevocably committed exception to Goal 3 and a reasons exception to Goal 14 to allow rural industrial use with a Limited Use Combing Zone for storage, crushing, processing, sale and distribution of minerals.

Policy 3.4.35 A 2010 exception (Ordinance 2010-030) took a reasons exception to Goal 14 with a Limited Use Combing Zone for storage, crushing, processing, sale and distribution of minerals.
Section 3.5 Natural Hazards

Background

The need to address natural hazards has been elevated due to the population growth in the region. The majority of Deschutes County lies within a large basin. While this location makes the county less vulnerable to certain natural disasters such as landslides and windstorms, it does not protect the area from wildland fires, severe winter storms and the low probability of earthquakes and volcano eruption. Recently, Deschutes County has experienced a high number of wildland fires. These fires have impacted environmental health and economic well-being as well as the safety of people and structures.

Natural hazards are addressed in Statewide Planning Goal 7, Areas Subject to Natural Hazards. Goal 7 lists potential natural hazards, such as wildfire or floods, and directs communities to enact comprehensive plan policies and implementing regulations to reduce the risk to people and property. Local governments are directed to respond to new information provided by federal or state agencies in cooperation with other local governments and in a defined timeframe.

Informed by an understanding of natural hazards, Deschutes County can reduce the risks to property, environmental quality, and human safety by planning for land use patterns and site-specific development. The policies in this section of the Plan provide the framework for evaluating land use actions for their exposure to potential harm from natural hazards. The policies guide the identification of areas subject to natural hazards, regulation and protection of citizens, property and the environment. The protection methods prescribed by these policies include prevention and preparedness, land use regulation, use of natural systems to mitigate hazards, public education, and collaboration with other organizations.

Deschutes County Hazard Mitigation Plans

The County maintains plans for natural hazards. In 2004 the County created a Forestry Specialist position to coordinate forest issues, including addressing fire prevention. The 2006 Deschutes County Natural Hazard Mitigation Plan was written collaboratively and adopted by the Deschutes Board of County Commissioners as the official assessment of potential natural hazards. It was the first pre-disaster plan, approved by the Federal Emergency Management Agency in Oregon.

Both the 2006 Natural Hazard Mitigation Plan and its update in 2010 were prepared in close collaboration with partners such as the U.S. Forest Service, Oregon Department of Forestry, local fire districts and municipalities. As Table 3.4.1 indicates, wildfire and severe winter storms are the natural hazards most likely to occur in Deschutes County. Each identified natural hazard is discussed below.
### Table 3.5.1 - Natural Hazard Identification for Deschutes County

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Probability of Occurrence</th>
<th>Vulnerability Assessment</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildland Fire</td>
<td>High</td>
<td>High</td>
<td>1</td>
</tr>
<tr>
<td>Severe Winter</td>
<td>Moderate</td>
<td>High</td>
<td>2</td>
</tr>
<tr>
<td>Storms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flooding</td>
<td>Moderate</td>
<td>Moderate</td>
<td>3</td>
</tr>
<tr>
<td>Volcanic Eruption</td>
<td>Low</td>
<td>Low</td>
<td>4</td>
</tr>
<tr>
<td>Earthquake</td>
<td>Low</td>
<td>Low</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: 2010 Deschutes County Natural Hazard Mitigation Plan

**Wildfire**

Wildland fire is historically a natural and necessary component of forest ecosystems. About 100 years ago these fires were halted to promote livestock grazing, logging and other activities. Forests and other wildlands are now significantly altered due to fire prevention and suppression efforts, resulting in overgrown forests with closed canopies and decaying fuels that burn more intensely than in the past.

In addition, the recent increase in population has led to increased development in the Wildland Urban Interface (WUI), the area where residential and commercial development is intermixed with forested lands. The demand for housing has pushed areas of high density residential development further into sites traditionally covered by wildland vegetation. Between fire controls and population growth, Deschutes County experienced a significant number of large, fast-moving destructive wildland-urban interface wildfires in the last quarter century.

Current land managers are working to restore the open ponderosa pine habitat and its resiliency to fire. Thinning stands to reduce the overall density makes it possible to reintroduce low-severity prescribed fire. These controlled surface fires open the forest floor and recycle nutrients, renewing the native diversity of grasses, shrubs and wildflowers. Additionally, a network of federal, state and local efforts are being directed to preventing wildfires.

![Deschutes County Fire Hazard Zones](image)
Federal Healthy Forests Restoration Act

The Healthy Forests Restoration Act directs federal agencies to collaborate with communities in developing a Community Wildfire Protection Plan (CWPP), which includes the identification and prioritization of areas needing hazardous fuels treatment. It further provides authority to expedite the National Environmental Policy Act process for fuels reduction projects on federal lands. The act also requires that 50% of funding allocated to fuels projects be used in the Wildland Urban Interface. For the first time communities have the opportunity to direct where federal agencies place their fuels reduction efforts. With a CWPP in place, community groups can apply for grants to treat hazardous fuels and address special concerns to reduce the risk of catastrophic loss as a result of wildland fire.

The Healthy Forests Restoration Act requires that the applicable local government, fire departments and state entities responsible for forest management agree to the Community Wildfire Protection Plans. These Plans outline the priorities, strategies and actions for fuels reduction treatments in a specific planning area. Additionally, CWPPs also address special areas of concern and make recommendations for reducing structural vulnerability and creating defensible spaces in sub-regions within the planning area. They are intended to be a living vehicle for fuels reduction, education, and other projects to decrease overall risks of loss from wildland fire. As of 2010 there are seven adopted CWPPs that cover all the land in Deschutes County.

Deschutes County Community Wildfire Protection Plans
- Greater Bend
- Greater La Pine
- Greater Redmond
- Greater Sisters
- Sunriver
- Upper Deschutes River Coalition
- Walker Range

Oregon Forestland-Urban Interface Fire Protection Act

The Oregon Forestland-Urban Interface Fire Protection Act, often referred to as Senate Bill 360, enlists the aid of property owners toward turning fire-vulnerable urban and suburban properties into less-volatile zones where firefighters may more safely and effectively defend homes from wildfires. Basically, the law requires property owners in identified forestland-urban interface areas to reduce excess vegetation which may fuel a fire, around structures and along driveways. In some cases, it is also necessary to create fuel breaks along property lines and roadsides.

Forestland-urban interface areas are identified in each county by a classification committee. A committee is composed of five members -- three appointed by the county, one by the state fire marshal and one by the state forester. The process of identifying forestland-urban interface areas is described in Oregon Administrative Rules 629-044-1005 through 629-044-0145 and includes:
- Lands within the county and also inside an Oregon Department of Forestry protection district.
- Lands that meet the state’s definition of “forestland.”
- Lands that meet the definition of “suburban” or “urban”; in some cases, “rural” lands may be included within a forestland-urban interface area for the purpose of maintaining meaningful, contiguous boundaries.
- Lots that are developed, that are 10 acres in size or smaller, and which are grouped with other lots with similar characteristics in a minimum density of four structures per 40 acres.

Once forestland-urban interface areas are identified, a committee applies fire-risk classifications. The classifications range from “low” to “extreme,” and are used by a property owner to determine the size of a fuel break that needs to be established around a structure. Oregon Department of Forestry supplies information about the acts’ fuel-reduction standards and mails each property owner a certification card, which may be signed and returned to that agency after the fuel-reduction standards have been met.

Deschutes County is one of two counties in Oregon that has fully implemented the Act. Senate Bill 360 requirements have been applied county-wide. Residents can maintain their defensible space through incentive programs such as the spring and fall Fire Free Clean Up days. Local fire departments and the Fire Prevention Co-op provide education. Monitoring is conducted by visits to the area and ongoing educational campaigns for homeowners.

**Firewise Communities**

The national Firewise Communities program is a multi-agency effort designed to involve homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire - before a fire starts. The Firewise Communities approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance. The Central Oregon District has eight Firewise Communities USA neighborhoods nationally recognized in the state of Oregon: Fall River in 2004, Caldera Springs and Wildriver in 2007, Cascade Meadows, Aspen Lakes, Awbrey Glen and River Meadow in 2009 and Crosswater in 2010. Working closely with communities is key in achieving defensible space.

**Project Wildfire**

Project Wildfire is the result of a Deschutes County collaborative effort to create long-term wildfire mitigation strategies and provide for a disaster-resistant community. Created through Deschutes County Code 8.24.010 and governed by a Steering Committee appointed by the Board of County Commissioners, Project Wildfire coordinates and implements strategies to mitigate the effects of losses due to natural disasters. This group reaches out to the community with FireFree, a fire education program. They also facilitate Community Wildfire Protection Plans. Finally Project Wildfire coordinates the implementation of fuel reduction programs and renewable uses for the materials that are removed.

**Project Wildfire Duties**
- To reduce potential loss of life and property through natural and human disasters by enhancing public awareness, expanding community partnerships and prioritizing potential hazard mitigation projects, using stakeholder and citizen input.
- Advise the Board of County Commissioners, Project Wildfire staff and the Deschutes County Office of Emergency Management and other agencies and programs on adoption
and implementation of wildfire mitigation and other natural hazard projects, including but not limited to Hazard Mitigation programs approved by the Federal Emergency Management Agency.

Project Wildfire Advisory Responsibilities

- To make suggestions to stakeholders concerning disaster response plans, needed changes in state or local laws and provide assistance to implement such suggestions.
- To make recommendations on disaster planning as appropriate or as requested by the Board of County Commissioners or other stakeholders.

Partnerships

Project Wildfire builds partnerships, sharing resources and eliminating redundancies that allow the community to succeed where other solo organizations or individuals cannot.

### Table 3.5.2 - Project Wildfire Partner Organizations

<table>
<thead>
<tr>
<th>Deschutes County</th>
<th>Oregon Office of State Fire Marshal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes County Rural Fire Protection District No. 2</td>
<td>Deschutes National Forest - USFS Redmond Fire and Rescue</td>
</tr>
<tr>
<td>Oregon Department of Forestry</td>
<td>Jefferson County Fire District</td>
</tr>
<tr>
<td>Bureau of Land Management</td>
<td>La Pine Rural Fire Protection District</td>
</tr>
<tr>
<td>Central Oregon Fire Prevention Cooperative</td>
<td>Sunriver Fire Department</td>
</tr>
<tr>
<td>Keep Oregon Green</td>
<td>Sisters-Camp Sherman Fire District</td>
</tr>
<tr>
<td>Bend Chamber of Commerce</td>
<td>Southeast Bend Neighborhood Association</td>
</tr>
<tr>
<td>Bend Radio Group</td>
<td>Deschutes River Woods HOA</td>
</tr>
<tr>
<td>Combined Communications</td>
<td>Awbrey Butte Neighborhood Association</td>
</tr>
<tr>
<td>Horizon Broadcasting</td>
<td>City of Bend Fire Department</td>
</tr>
<tr>
<td>Every Idea</td>
<td>Ponderosa Pines HOA</td>
</tr>
<tr>
<td>Redmond Chamber of Commerce</td>
<td>Sunriver</td>
</tr>
<tr>
<td>Awbrey Glen HOA</td>
<td>Tillicum Village HOA</td>
</tr>
<tr>
<td>Woodside Ranch HOA</td>
<td></td>
</tr>
</tbody>
</table>

2005-2010 Accomplishments

Project Wildfire has had many accomplishments, such as those listed below.

- Successfully competed for approximately $8.3 million from a variety of grant funds
- Successfully treated over 2,000 acres of private and county owned lands utilizing National Fire Plan Fuels Treatment grants
- Treated 63,805 acres of private lands for wildland fuels treatment
- Implemented a Low Income Fuels Treatment Assistance program
- Collected 238,562 cubic yards of FireFree woody debris
- Developed a partnership with a biomass company (T2) to grind woody debris from FireFree defensible space efforts and the fuels treatment contracts that the county administers, to produce clean electricity
- Conducted outreach and education seminars
- As liaison with federal and state partners, treated an average of 18,000 acres annually of within the WUI as identified by the CWPPs
- In partnership with Oregon Department of Forestry implemented the Oregon Forestland-Urban Interface Fire Protection Act of 1997
Upper Deschutes Basin Fire Learning Network

The Nature Conservancy, U.S. Forest Service, and the Department of Interior, together with state and local agencies, businesses, landowners, scientists, community groups and conversationalists, created a national Fire Learning Network to catalyze fuel reduction and restoration projects across the county. The Upper Deschutes Watershed, containing 2-million acres is one of the project sites in the first phase of this national network. The Upper Deschutes Fire Learning Network is developing new vegetation maps, forest condition maps and action maps prioritizing treatable areas.

The Upper Deschutes Fire Learning Network is developing a common vision for the landscape utilizing the best available science and incorporating values through collaborative partnerships. The team will also integrate community planning efforts like Community Wildfire Protection Plans with agency and government efforts to generate a vision for future land management. The landscape’s products are timed to complement Deschutes National Forest restoration strategy plans.

**Winter Storms**

Severe winter storms are the second priority in the Natural Hazard Mitigation Plan because of the risk to life and property by creating conditions that disrupt essential regional systems such as public utilities, telecommunications, and transportation routes. Severe winter storms can produce rain, freezing rain, ice, snow, cold temperatures, and wind. Severe winter storms involving heavy snow fall and cold temperatures occur more often than incidences of rain, freezing rain and ice storms. Increased population, including new residents less familiar with cold, snowy winters make Deschutes County more vulnerable to severe winter storms.

A severe winter storm is generally a prolonged event involving snow and cold temperatures. The characteristics of severe winter storms are determined by the amount and extent of snow, air temperature, and event duration. Severe storms have various impacts in different parts of the county. There may be a 20 degree temperature difference from Terrebonne in the north part of the county and La Pine in the south. The recurrence interval for severe winter storms throughout Oregon is about every 13 years, however, there can be many localized storms between these periods according to the Oregon Natural Hazard Assessment Plan.

**Flooding**

The third priority natural disaster is flooding. Generally, river flooding along the Deschutes River has not historically been a serious problem in Deschutes County. This is due to the porous nature of the geology, irrigation diversion canals and reservoir retention. Studies completed by the U.S. Army Corp of Engineers have resulted in designating a 100 year flood plain for the Little Deschutes River and Whychus Creek. Regular flooding events have occurred near the headwaters of Tumalo Creek and in the Tumalo community. Along Whychus Creek, the city of Sisters frequently experiences flooding, with the most significant event occurring in 1964.

A second area of concern focuses on the potential of flooding related to the failure of glacial moraine dams that impound high-altitude lakes around the three Sisters and Broken Top. Much of the Deschutes River Canyon is cut in basaltic lava flows, ash flows, or sedimentary rocks of the Deschutes formation. These rock types are generally stable, but in many places the canyon walls are steep to vertical. Mountain streams that begin in glacial lakes behind dams of ice or moraines can occasionally be emptied rapidly and result in flash floods with accompanying mud
flows. In the event of volcanic, earthquake or a large avalanche of rock or ice into the lakes, these dams could release floods of water and debris whose major impact would be restricted to the hazard zone but which could inundate areas adjacent to streams.

Carver Lake, which lies in the headwaters of the South Fork of Whychus Creek, and the lake on the east side of Broken Top that drains to Sparks Lake by way of Crater Creek and Soda Creek, are judged the most likely lakes to generate future floods or debris flows large enough to affect areas beyond the proximal hazard zone. Others of less hazard include several small lakes in the headwaters of Whychus Creek and the basin below Collier Glacier at the head of White Branch.

A third potential exists for sheet flooding occurring on frozen or impervious ground. These events are rare and generally found in localized areas and may occur during winter months and after significant rain. Flash flooding may occur in areas of moderate to steep slopes with sparse vegetation. With the occurrences of thunderstorms, these areas become susceptible to flooding and subsequent soil erosion. This situation would be typified by the eastern part of Deschutes County and areas without permanent streams.

U.S. Geological Survey scientists and U.S. Corp of Engineer studies indicate the county is at a low level of risk for catastrophic flooding. Studies of Carver Lake estimate the probability of a lake flash flood to be approximately 1-5% annually. Potentially, the Little Deschutes and Whychus Creek are most vulnerable, however greater risks are related to future volcanic eruptions which U.S. Geological Survey scientists place at a low level of risk.

Volcanic Eruption and Earthquakes

Volcanic eruption and earthquakes are tied for fourth priority. The complex geology of Deschutes County, with geologically recent eruptions, increases the potential for these types of natural disasters.

Volcanic Eruptions

Two long-lived volcanic centers, Three Sisters to the west and Newberry Volcano to the south, and many tens of smaller volcanoes have hosted numerous eruptions in geologically recent times that range widely in size and character. Some covered sizable, currently developed areas with lava flows or swiftly moving flows of searing ash and pumice. Others only managed to produce small volumes of ash that blew downwind and were barely detectable in the geologic record, or they produced lava flows in areas now protected as wilderness.

Large snow-covered volcanoes of the Three Sisters volcanic center dominate Central Oregon’s landscape between Santiam Pass in the north and Willamette Pass in the south. Rapidly developing areas in Deschutes County occupy the eastern border of the region. No eruptions have occurred in Deschutes County during the past 1,000 years, however the millennium before experienced numerous eruptions, including several at South Sister, many eruptions in the McKenzie Pass and Belknap Crater areas, and one eruption at Newberry Volcano.

Two types of volcanoes exist in the Three Sisters region and each pose distinct hazards to people and property. South Sister, Middle Sister, and Broken Top are major composite volcanoes clustered near the center of the region and have erupted repeatedly over tens of thousands of years. These volcanoes may erupt explosively in the future. In contrast, mafic volcanoes, which range from small cinder cones to large shield volcanoes like North Sister and
Belknap Crater, are typically short-lived (weeks to centuries) and erupt less explosively than do composite volcanoes. Hazardous events include eruption triggered events such as fallout of volcanic ash or lava flows as well as non-eruption events such as landslides from the steep flanks of large volcanoes or floods.

**Earthquakes**

Earthquakes are possible from four sources, though expert opinions vary regarding the degree of susceptibility from each. The four sources are:

- the off-shore Cascadia Fault Zone,
- deep intraplate events within the subducting Juan de Fuca Plate,
- shallow crustal events within the North American Plate, and
- earthquakes associated with renewed volcanic activity.

All have some tie to the subducting (diving) of the dense, oceanic Juan de Fuca Plate under the lighter, continental North American Plate.

Volcanic earthquakes are commonly smaller than about magnitude 2.5, roughly the threshold for shaking felt by observers close to the event. Swarms of small earthquakes may persist for weeks to months before eruptions, but little or no damage would occur to buildings in surrounding communities. Some volcanic related swarms may include earthquakes as large as about magnitude 5. For the communities of Bend, La Pine, and Sunriver, shallow earthquakes in the magnitude 4-5 range that are located beneath Newberry volcano would cause walls to rattle or windows and dishes to vibrate.

Tectonic earthquakes occur periodically in south-central and southeast Oregon, and they are capable of exceeding the magnitude of volcanic earthquakes. Newberry Volcano lies in an area whose land forms result from earthquake activity. Tectonic earthquakes as large as magnitude 7 may strike areas south and east of Newberry. Statistically speaking, Central Oregon residents are far more likely to feel earthquake shaking than to witness an eruption in the area.

The Cascadia Subduction Zone located off the Oregon Coast generates an earthquake on average every 500-600 years. However, as with any natural processes the average time between events can be misleading. Some of the earthquakes may have been 150 years apart while some closer to 1,000 years apart. Establishing a probability for crustal earthquakes is difficult given the small number of historic events in the region.

The Deschutes County Sheriffs Office Emergency Services has been working closely with the Red Cross on earthquake preparedness in the event of a major quake on the Cascadia Subduction Zone. The focus is less on local earthquake damage, which is anticipated to be minimal, than on secondary impacts. An earthquake could damage the roads that are needed to supply Central Oregon and as the roads re-open could lead to an influx of refugees from west of the Cascade Mountains. Planning ahead allows the County to manage these impacts.
Section 3.5 Natural Hazards Policies

Goal and Policies

Goal 1 Protect people, property, infrastructure, the economy and the environment from natural hazards.

Policy 3.5.1 Adopt by reference the most recent Deschutes County Natural Hazards Mitigation Plan into this Plan.
   a. Review and evaluate this Section of the Comprehensive Plan every five years.
   b. Adopt by reference Community Wildfire Protection Plans and revisions into this Plan.

Policy 3.5.2 Cooperate and coordinate with stakeholders to:
   a. Analyze and address natural hazards;
   b. Raise public awareness of natural hazards;
   c. Support research or studies on natural hazard issues and solutions.

Policy 3.5.3 Coordinate with emergency service providers when new development is proposed.

Policy 3.5.4 Provide incentives and if needed regulations, to manage development in areas prone to natural hazards.

Policy 3.5.5 Development should be designed to minimize alteration of the natural land form in areas subject to slope instability, drainage issues or erosion.

Policy 3.5.6 Critical facilities (schools, churches, hospitals and other facilities as defined by the Federal Emergency Management Agency) should be located outside high risk natural hazard areas, where possible.

Policy 3.5.7 Address wildfire danger particularly in the wildland urban interface.
   a. Survey and map wildfire hazard at risk areas using the Wildfire Hazard Identification and Mitigation System.
   b. Survey and map all areas not protected by structural fire protection agencies.

Policy 3.5.8 Support forest management practices that reduce severe wildfire hazard areas, as identified by the Wildfire Hazard Identification and Mitigation System, to a low or moderate rating, particularly in areas with development.

Policy 3.5.9 Support local fire protection districts and departments in providing and improving fire protection services.

Policy 3.5.10 Regulate development in designated floodplains identified on the Deschutes County Zoning Map based on Federal Emergency Management Act regulations.
   a. Participate in and implement the Community Rating System as part of the National Flood Insurance Program.
   b. Cooperate with other stakeholders to identify alternatives for acquiring and/or relocating existing structures prone to flooding.
Policy 3.5.11 Review and revise County Code as needed to:

a. Ensure that land use activities do not aggravate, accelerate or increase the level of risk from natural hazards.

b. Address wildfire concerns to and from development, through consideration of site location, building construction and design, landscaping, defensible space, fuel management, access and water availability.

c. Require development proposals to include an impact evaluation that reviews the ability of the affected fire agency to maintain an appropriate level of service to existing development and the proposed development.

d. Minimize erosion from development and ensure disturbed or exposed areas are promptly restored to a stable, natural and/or vegetated condition using natural materials or native plants.

e. Ensure drainage from development or alterations to historic drainage patterns do not increase erosion on-site or on adjacent properties.

f. Make the Floodplain Zone a combining zone and explore ways to minimize and mitigate floodplain impacts.

g. Require new subdivisions and destination resorts to achieve FireWise Standards from the beginning of the projects and maintain those standards in perpetuity.
Section 3.6 Public Facilities and Services

Background

Public facilities and services provide the basic infrastructure for urban and rural development. These systems include water and sewer systems, police and fire protection, health and social services, schools, and libraries. Transportation is also a public facility and is addressed separately (see Section 3.7).

Most people have an expectation that the public facilities and services that support our lives, from law enforcement to electricity, will be available. Generally, the provision of facilities and services is more efficient and cost-effective in compact urban areas than in scattered rural development. In some areas of the County, particularly east County, available services are limited due to the large properties and distance from urban centers. Many of the people who choose to reside there consider the limited availability of services and facilities as an acceptable trade off for the ranching lifestyle.

Statewide Planning Goal 11, Public Facilities and Services and the associated Oregon Administrative Rule 660-011 specify that facilities and services should be appropriate for, but limited to, the needs and requirements of rural areas to be served. Public facility plans are not required for rural areas as they are for urban development (except for certain Unincorporated Communities). In fact, Goal 11 and the associated rule define limits to the provision of sewers and water systems in rural areas, in order to limit rural growth.

There are several important issues relating to the provision of public facilities and services.

- Meeting the needs of county residents while supporting the protection of resource lands
- Maintaining health, safety, and security throughout the county
- Cooperating and collaborating among the various providers of public services

Although counties must ensure public facilities and services are planned for, the facilities and services need not be provided by county government. The discussion below highlights who provides the services listed and how the County can manage development impacts on existing facilities and services.

County Facilities and Services

Law Enforcement: The Deschutes County Sheriff’s Office is a full service organization providing patrol, traffic team, criminal investigations, corrections, civil and search and rescue. Special operations include a Marine Patrol, K-9 units, and Forest Patrol. The Sheriff is an elected public official who serves a four year term. A 2006 vote created two taxing districts to permanently fund Sheriff Office operations.

Solid Waste Disposal: The County manages Knott Landing landfill and four transfer stations, Negus, Northwest, Alfalfa and Southwest. Knott Landing landfill receives the transfer and recycling waste from the four transfer stations (see Section 2.9 for recycling). Knott Landfill is anticipated to last until 2029 at which time it is planned to be reclaimed as park land. A replacement site will be identified approximately 10 years prior to the proposed closure date.
As of 2010 an issue that has been discussed is creating a landfill overlay zone to prevent conflicts between landfills and homeowners.

**County Health Department:** The County health department promotes and protects the health of the community through collaboration, education, prevention and the delivery of compassionate care through a variety of supportive programs.

**Government Administration Buildings:** The County provides government functions pertaining to the County Recorder and Licensing, Assessor and Finance departments.

**Fairgrounds:** The County maintains the County Fairgrounds and Expo Center. With panoramic views of the snow-capped Cascade range, the Deschutes County Fair and Expo Center is situated on the outskirts of Redmond just off of Hwy 97 and adjacent to the Redmond Municipal Airport. Due to its central location, the fairgrounds also serves as an emergency center. The fairgrounds hosts the annual County Fair and numerous other events throughout the year.

**Other Agency Facilities and Services**

Where other agencies provide facilities and services, the County role is to coordinate with these agencies and work cooperatively on projects and proposals that benefit County residents. Where there are gaps in the coverage for specific areas, the County can work with providers to fill them. For example, there are gaps in coverage by fire districts that leave some areas unprotected.

**Central Oregon Intergovernmental Council:** COIC began serving the residents and communities of Central Oregon in 1972 as a Council of Governments organized under ORS 190 by Crook, Deschutes and Jefferson Counties and Bend, Culver, Madras, Metolius, Prineville, Redmond and Sisters. COIC provides a wide variety of educational and economic development services such as workforce training, alternative high school education, business loans and public transportation. COIC continues to evolve to meet the needs of Central Oregon.

COIC is governed by a 15-member board made up of elected officials who are appointed by each of the member governments as well as appointed representatives of key economic sectors – business and industry, tourism and recreation, agribusiness and agriculture, timber and wood products, and the unemployed/underemployed. The respective county court or commission makes each appointment.

**School Districts:** There are three school districts in Deschutes County: Bend-La Pine (SD 1), Redmond (SD 2J) and Sisters (SD 6). Additionally, since the school in Brothers closed for lack of students, some residents in the eastern parts of the County attend schools in Crook County School District (SD 15). East County residents have expressed interest in additional, but limited, rural development, to facilitate the reopening of Brothers School. The High Desert Education Service District (ESD) partners with the districts to provide support services such as special education, school improvement, administrative and legal services.

**Fire Districts:** The following fire districts support rural residents: Bend Fire Department, Black Butte Ranch Rural Fire Protection District, Cloverdale Rural Fire Protection District, Crooked River Ranch Rural Fire Protection District, Deschutes County Rural Fire Protection District #1 and #2, La Pine Rural Fire Protection District, Sisters-Camp Sherman Rural Fire Protection District, and Sunriver Service District. Public lands are protected by federal agencies. There are
some areas in Deschutes County not covered by a fire district. (See Section 3.5 for more on fire protection.)

Irrigation Districts: Irrigation districts in Oregon are organized as Special Districts under ORS Chapter 545. They are thus public corporations under Oregon Law, with prescribed rules for purpose, boards, elections, staffing, charges, etc. The districts are created for the purpose of delivering water to their patrons. As such they are effectively non-profit water user associations. In addition to irrigation uses, these districts also supply a number of other uses, including municipal, industrial, and pond maintenance, warranting coordination with municipalities.

Libraries: Deschutes Public Library has branches in Bend, Redmond, Sisters, La Pine and Sunriver. They also operate a bookmobile program that focuses on children and parenting books and a program for supplying books to homebound residents.

Higher Education: Located in Bend, Central Oregon Community College and the Oregon State University Cascade Campus provide secondary educational opportunities. As of 2010 there is considerable discussion about the need for a full four-year university.

Deschutes County Extension and 4-H Service District: In Oregon, 4-H is part of the Oregon State University Extension Service. It is a youth education program with membership available to all Oregon youth in grades 4-12. The 4-H Program in Deschutes County involves approximately 300 volunteer leaders working with about 1,200 youth. Additionally, the Oregon State University Extension Service reaches over 400 youth through non-traditional programs on a continuing basis.

Soil and Water Conservation District: Soil and Water Conservation Districts are uniquely authorized by the State of Oregon to provide for the conservation of its soil and water resources. Working in cooperation with stakeholders, the districts address issues such as control and prevention of soil erosion, conservation and development of water resources, water quality and preserving wildlife. The Deschutes Soil and Water Conservation District is a legally defined subdivision of the state government, but, like all soil and conservation districts, functions as a local unity led by a locally elected board of directors who serve without pay.

Mixed Public and Private Facilities and Services

Water Districts: Water districts include both publically-owned and privately-owned Public Water Systems. Public Water Systems are defined as those that have more than three connections, supply water at least 60 days/year and are used by at least 10 persons/day. All water systems are regulated under the federal 1974 Safe Drinking Water Act and 1981 Oregon Drinking Water Quality Act. Public Water Systems serving over 3,300 people are overseen by the Oregon Department of Human Services Drinking Water Program. The County acts as a contractor for the Department of Human Services to monitor approximately 180 Public Water Systems. Some privately owned systems are, for various reasons, regulated by the Public Utility Commission, which sets rates and rules for public utilities.

Privately Owned Facilities and Services

Utilities: Electricity is provided by Pacific Power around Bend and Redmond. Central Electric Cooperative and Midstate Electric provide service in the rest of the County.
Phone service is provided by Qwest and numerous cell phone providers. Cable is provided by Bend Cable and satellite providers. Internet is provided by a variety of servers.

_Hospitals:_ Cascade Healthcare Community manages two hospitals: St. Charles Bend and St. Charles Redmond. Additionally there are numerous health providers and clinics.

_Sewer Districts:_ Creating or expanding existing sewer systems outside an urban growth boundary or unincorporated community is governed by Statewide Goal 11 and OAR 660-011-0060. In order to protect rural areas from urban-style development, the rules regulate where and when rural sewers are appropriate. Some sewer districts, such as Oregon Water Wonderland Unit 2, have used the Statewide Goal 2 exception process to create or expand a sewer system.

_Vector Control District:_ Four Rivers Vector Control District was formed in 1985 to combat seasonal infestations of mosquitoes. Using environmentally sensitive chemicals, the District fights approximately 22 different species of mosquitoes. The district is located between Sunriver and La Pine. They are the only district in Deschutes County that does aerial mosquito spraying.

**Individual Facilities and Services**

_Private wells:_ Most rural properties are served by private wells that are approved and managed by the Oregon Water Resources Department. The County currently does not track the number of wells. 2009 legislation requires new well diggers to provide a map of the well location and pay $300 that will be used for monitoring groundwater. Wells existing as of the date of the legislation are not required to comply.

_Individual septic systems:_ Most rural properties are served by septic systems that are approved by the County Environmental Soils Division.

**Coordination on Facility and Service Planning**

The County role in planning for facilities and services involves coordination, to assure that as new growth is approved, facilities and services are available. Some specific areas for coordination are listed below.

_Schools:_ ORS 195.110 requires large school districts, cities, and counties to plan for the future and coordinate with one another to assist school districts with obtaining land. Districts are generally required to prepare a 10-year capital improvement plan for sites and facilities. Cities and counties are generally required to help the districts protect or obtain sites and through land use policies and development codes. In specific circumstances, cities and counties may deny applications for residential development if adequate school capacity is not available. The law includes mandates for each entity and delineates responsibilities.

_Other Jurisdictions:_ There are instances where other jurisdictions facilities are located in unincorporated lands. For example, the City of Bend wastewater treatment plant and Airport are sited on lands regulated by the County. Close coordination with cities goes a long way in ensuring adequate operation and maintenance for those facilities.

_Service Districts:_ Close coordination with service providers will assure that as new development is approved adequate facilities and services are available.
Facility Issues 2010

As of 2010 there is controversy over the siting of power facilities and cell towers. These facilities generally provide community-wide benefits with area-specific visual impacts. A review of County Code and how other jurisdictions regulate these uses can identify potential siting and design standards that can be adopted to minimize impacts.
Section 3.6 Public Facilities and Services

Policies

Goal and Policies

Goal 1 Support the orderly, efficient and cost-effective siting of rural public facilities and services.

Policy 3.6.1 Encourage the formation of special service districts to serve rural needs rather than have the County serve those needs.

Policy 3.6.2 Encourage early planning and acquisition of sites needed for public facilities, such as roads, water and wastewater facilities.

Policy 3.6.3 Support community health clinics.

Policy 3.6.4 Where possible, maintain County offices in locations convenient to all areas of the county.

Policy 3.6.5 Support the County Fairgrounds as a community gathering place, event facility and home to the annual County Fair.

Policy 3.6.6 Maintain the County Fairgrounds as an emergency readiness location.

Policy 3.6.7 Before disposing of County-owned property review whether the land is appropriate for needed public projects such as schools, health clinics, fire stations or senior centers.

Policy 3.6.8 Coordinate with rural service districts and providers to ensure new development is reviewed with consideration of service districts and providers needs and capabilities.

Policy 3.6.9 New development shall address impacts on existing facilities and plans through the land use entitlement process.

Policy 3.6.10 Support education districts, library districts and recreation districts in meeting community needs, such as meeting spaces.

Policy 3.6.11 Where possible, locate utility lines and facilities on or adjacent to existing public or private right-of-ways and to avoid dividing farm or forest lands.

Policy 3.6.12 Review public facilities and services to minimize impacts of the facilities on the larger community.
   a. Review and revise as needed County Code to require screening of public facilities including power generating facilities and sewage treatment plants, and to address impacts from cell towers.

Policy 3.6.13 Support the creation of a landfill overlay zone.

Policy 3.6.14 Guide the location and design of rural development so as to minimize the public costs of facilities and services.
Section 3.7 Transportation

The Transportation System Plan was adopted in Ordinance 2012-005 and is hereby incorporated into this Plan as Appendix C. The Deschutes County Transportation System Plan Map will be retained in official replica form as an electronic map layer within the County Geographic Information System and is adopted as part of this Comprehensive Plan.
Section 3.8 Rural Recreation

Background

Recreation is an important quality of life issue for Deschutes County and recreational tourism is an important part of the economy (see Section 3.4). Both residents and visitors are drawn by the extensive public lands, seasonal climate and wide variety of activities and settings. Recreation opportunities include places set aside for specific activities such as campgrounds or sports fields as well as passive spaces such as natural areas. The primary focus of recreation in rural Deschutes County is outdoor recreation.

Outdoor activities promote healthy communities by encouraging people to enjoy an active lifestyle and by providing opportunities to reconnect with the natural world. The Central Oregon Visitor Association, a regional voice for the tourist industry, reported in their 2008 Annual Report that 2.5 million visitors came to Central Oregon in 2006, approximately 60% of whom were here for destination resort vacation travel. That report showed that in 2007 travel impacts for Deschutes County totaled over $470 million and supported over 5,400 jobs.

The Oregon Parks and Recreation Department is the agency responsible for overall coordination on park planning. That agency regularly produces a Statewide Comprehensive Outdoor Recreation Plan (SCORP) which helps in planning and ranking recreation needs.

Statewide Planning Goal 8, Recreation and Oregon Administrative Rule (OAR) 660-034 address recreation, but do not require local governments to provide park and recreation services. The County does not have a parks department. Instead it coordinates with the federal and state agencies, local park districts and private entities that provide park and recreational opportunities. Coordination assures that resources are used efficiently and duplication is avoided.

Federal Recreation

Recreation Opportunities on Federal Lands

The federal government, primarily the U.S. Forest Service and Bureau of Land Management, govern over 76% of the lands in the Deschutes County. Those lands are managed for a mix of uses, including recreation. They provide opportunities for a wide variety of outdoor activities such as hiking, hunting, off-road vehicle riding, rock climbing, kayaking or skiing.

Deschutes National Forest - Sustainable Recreation

The Deschutes National Forest is developing a strategy for sustainable recreation. A national team has been working on this concept and has drafted a framework. Recreational lands provide an opportunity to improve health through physical activity, contribute to local economies, provide needed environmental services such as clean water and preserve important national treasures.

At the same time, there are unprecedented challenges to providing quality recreation, including deteriorating recreation facilities, degraded natural areas, growth in demand for recreational spaces and facilities and inadequate funding.
By focusing on the three spheres that frame sustainability - environmental, social and economic, and investing in a community’s ability to lead, a recreation program for the Deschutes National Forest has the potential to greatly contribute to the agency’s mission.

The majority of the National Forest lands are available for outdoor recreation including the defined areas listed below.

- Winter Recreation Areas – such as Crescent Lake Area, McKenzie Pass Area or Three Creek Lake Area
- Resorts with Special Use Permits from the Deschutes National Forest such as Cultus Lake Resort, Elk Lake Resort or Paulina Lake Resort
- Three Sisters Wilderness Area

Bureau of Land Management (BLM)
The Upper Deschutes Resource Management Plan was completed by the Bureau of Land Management in 2005. The Plan directs management of approximately 400,000 acres of land in Central Oregon. It describes the overall vision and goals for the planning area and includes area-specific plans and objectives.

The majority of the Bureau of Land Management lands are available for outdoor recreation including the defined areas listed below.

- Recreation Areas – such as Cline Buttes Recreation Area, La Pine Recreation Area or Millican Valley OHV Area
- Oregon Badlands Wilderness Area

Other Federal Recreation Sites

State Recreation
Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP)
The SCORP, prepared by the Oregon Parks and Recreation Department (ORPD) was most recently competed and accepted by the National Park Service in 2008. The plan constitutes Oregon’s five-year plan for outdoor recreation (2008-2012). It also provides guidance for the Land and Water Conservation Fund (LWCF), a federal program that provides grants to state and local governments for land acquisition for outdoor recreation, and other ORPD grant programs. In most years, all states receive LWCF grant funds based on a national formula, with state population being the most influential factor. To qualify for statewide LWCF funding, each state must prepare a SCORP every five years. The primary purpose of the SCORP is to provide recommendations to the Oregon State Park System operations, administration, planning, development, and recreation programs. It also provides guidance for other OPRD-administered grant programs including the Local Grant, County Opportunity Grant, Recreational Trails and All-Terrain Vehicle Programs.

Oregon’s Scenic Waterways Act declares recreation, fish, and wildlife as the highest and best water uses in scenic waterways (ORS 390. 835 (1)). The Scenic Waterways Act and case law govern protection of these areas.
State Parks
- Cline Falls State Scenic Viewpoint
- La Pine State Park
- Pilot Butte State Scenic Viewpoint
- Smith Rock State Park (Internationally acclaimed rock climbing site)
- Tumalo State Park

Oregon Scenic Waterways
- Upper Deschutes River (segments)
- Middle Deschutes River (segments)

Oregon Scenic Byways
- Cascade Lakes Scenic Byway
- McKenzie Pass – Santiam Pass Scenic Byway

Local Recreation

There are four local park and recreation special service districts established in Deschutes County. Each is governed by an elected five member Board of Directors. Together they provide a variety of parks and recreational programs for their respective communities.

Bend Park and Recreation District

Bend Park and Recreation District maintains and operates more than 2,000 acres of developed and undeveloped parkland, that includes 74 parks and open spaces and 56 miles of trails. Over 770 recreation programs are offered and a number of special community events are held. In 2006, Bend Park and Recreation District received the National Gold Medal Award for excellence in Park and Recreation management. This award is given to the best park and recreation agency in the nation for its population category.

La Pine Park and Recreation District

The La Pine Park and Recreation District was established in 1990 and covers 85 square miles in south Deschutes County, including the City of La Pine. The first Board of Directors was elected at the time of formation, but a tax rate was not established or approved by voters until May, 2009. Before the tax was approved the district was managed by committed volunteers. The first director was hired in January, 2010 allowing the district to build a solid foundation for future growth.

Redmond Area Park and Recreation District

Redmond Area Park and Recreation District was established in 1975. The district’s facilities include the Cascade Swim Center (CSC) and CSC Park, the RAPRD Activity Center, the High Desert Sports Complex, Borden Beck Park, and undeveloped parks at Majestic Ridge in Redmond and outside the city limits at Tetherow Crossing. The district sponsors a wide variety of recreation programs.

Sisters Park and Recreation District

The Sisters Park & Recreation District was established in 1998 under the name of an earlier non-profit called Sisters Organization of Activities and Recreation (SOAR). The district serves Sisters and the outlying areas of about 14,000 residents. In 2009 the name of the organization was changed from SOAR to Sisters Park & Recreation District.
County Parks

The only public parks the County maintains are a section of the County Fairgrounds and the Worrell Wayside in downtown Bend. However, although there is no County parks department, there are County-owned properties which are designated as park lands. Starting in 1994 the County began to designate certain sensitive properties along rivers, creeks or streams or with wildlife, wetlands or other values, as park lands. The intent was not to develop these lands for park use but rather to preserve lands with valuable resources. The park designation means that the lands would be retained in public ownership unless there was a public hearing and the Board of County Commissioners determined that selling was in the best interest of the public. ORS 275.330 governs the disposal of these lands, stating that if they are sold the proceeds must be dedicated to park or recreation purposes. As of 2009, there were approximately 70 properties designated as park lands. These lands were designated to protect resources such as water, wildlife or rivers (see Section 1.3).

Private Recreation

Private recreational sites are generally open to the public for a fee. They include destination resorts (see Section 3.9) and resort communities (see Section 4.7). Additionally there are 23 golf courses within an hour of Bend/Sunriver including award-winning layouts designed by Jack Nicklaus, Tom Fazio, David McLay Kidd, Peter Jacobsen and Tom Doak.

A different type of recreation is provided by the High Desert Museum. The nationally acclaimed High Desert Museum is dedicated to broadening the understanding of the High Desert’s wildlife, culture, art and natural resources. In doing so, it strives to promote thoughtful decision making to sustain the region's natural and cultural heritage.

Notable Local Sites and Activities

The following are just a sample of the sites and activities available in Deschutes County.

Mt. Bachelor

Mt. Bachelor Ski Resort with a summit of over 9,000 feet, has over 3,700 acres of varied terrain for skiers, snowboarders and Nordic skiers. Mt. Bachelor also offers restaurants, ski shops and numerous activities, from snowshoeing in the winter to hiking in the summer.

Phil’s Trailhead System (Central Oregon Trail Alliance)

The Deschutes National Forest and Bureau of Land Management – Prineville District are recognized for having some of the best mountain biking in the nation. The Central Oregon Trail Alliance, in partnership with those agencies and other land managers build and maintain trails throughout Central Oregon. Central Oregon is a year-round destination for professional and amateur mountain bikers.

Cascade Cycling Classic

The Cascade Cycling Classic is the longest consecutively run elite stage race in the country and has attracted most of North America’s top cyclists and teams over the years. The quality of the race courses, the beauty of Central Oregon and the fun atmosphere of the race has made it a perennial favorite and has the competitors returning year after year.
Fly Fishing
The Upper Deschutes River offers fly fishing opportunities for Brook, Brown and Rainbow trout. The Upper Deschutes River has easy access either by foot, boat or SUV. Fall River, a spring fed high mountain stream 25 miles southwest of Bend is a fly fishing only river in an attractive setting.

Off Highway Vehicles
The Deschutes National Forest and Bureau of Land Management offer numerous challenging off road vehicle trials.

Pole Peddle Paddle
The annual Pole, Pedal, Paddle event draws approximately 2,800 participants competing as teams, tandems and individuals in a race that includes both alpine and Nordic skiing, cycling, running, paddling and sprinting, from Mt. Bachelor Ski Resort to Bend's Les Schwab Amphitheater.

Deschutes River Paddle Trail
The Deschutes Paddle Trail, sponsored by the Bend Paddle Trail Alliance includes the navigable sections of the Deschutes River and the Little Deschutes River in Deschutes County, along with nine of the largest Cascade lakes in the County.

Although the Deschutes Paddle Trail has sections that everyone can safely enjoy, the levels of difficulty include everything from placid easy sections (Class I) to very difficult (and dangerous) sections (Class V) that are for experts only.

Recreational Trends
As of 2009 there were two groups working on separate aspects of recreation planning.

Ad Hoc Committee on Recreational Assets: This committee was created in 2007 to promote economic development, local quality of life and health and wellness. County Commissioner Tammy Baney was co-chair of this committee. The committee identified and prioritized specific improvement projects that will enhance the County’s recreational assets based on the following principles:
- Restore healthy forests in the area bounded by the Deschutes River, Elk Lake and Skyline Forest;
- Promote accessible, dispersed recreation to diverse activities and skill sets;
- Promote connectivity between towns;
- Leverage project investment with user group contributions;
- Coordinate with the Trust for Public Lands.

Deschutes County Greenprint: The non-profit Trust for Public Lands led a collaborative County-wide effort in 2007-2010 to identify lands with important natural resource, open space or recreational value. They also provided strategies for obtaining the funding needed to purchase and manage the lands recommended for preservation. Deschutes County was a partner in this effort (see Section 1.3).
**Future Opportunities**

With federal and state agencies as well as four local park and recreation districts, it is important to work cooperatively to assure wise use of scarce resources. The results of the Recreation Assets Committee and the Trust for Public lands will be useful in providing guidance on priority recreational projects and lands. One potential area for cooperation that came out of the public outreach for this Plan was working with federal and state agencies to ensure safe and convenient access to rivers and streams.

Trails are an element of park and recreation planning where the County has the potential for active involvement. Many of the initiatives identified by the Committee on Recreational Assets are related to trails. There are numerous trails throughout the County and region that have been created and are maintained by various agencies and organizations. The goal is to tie these trails together to make movement between areas possible. Besides connecting trails, there also needs to be work done to minimize the conflicts between hikers, equestrians and bicyclists. Each of these groups has different needs from a trail system.

Recreation planning always needs to address the concern that growth will lead to overuse and degradation of the assets that attract user groups. The demand for recreation can lead to crowds at wilderness areas, trails and mountain lakes, impacting the experience. Working cooperatively with all stakeholders will assure that recreation planning minimizes these potential conflicts and maximizes the available recreational opportunities.
Section 3.8 Rural Recreation Policies

Goal and Policies

Goal 1  Promote a variety of passive and active park and recreation opportunities through a regional system that includes federal and state parks and local park districts.

Policy 3.8.1 Cooperate with public agencies and local park districts to provide park and recreation lands, facilities and opportunities.
   a. The Statewide Comprehensive Outdoor Recreation Plan and State Park Master Plans shall serve as a basis for coordination on County-wide park and recreation issues.
   b. Support exceptions to Statewide Planning Goals for urban fringe areas owned or acquired and operated by park and recreation districts.

Policy 3.8.2 Work cooperatively with public agencies to promote standards for consolidation of public land access and to ensure recreational entry to those lands, especially along rivers and streams.

Policy 3.8.3 Encourage coordination between the U.S. Forest Service, the Bureau of Land Management and off-road vehicle organizations to regulate use of motorized vehicles, including motorbikes, ATVs and snowmobiles in order to minimize environmental degradation, agricultural fragmentation and user conflicts on private property.

Policy 3.8.4 Participate in federal recreation planning on federal lands and state park planning on State lands.

Policy 3.8.5 Support accessible park and recreation opportunities in compliance with the Americans with Disabilities Act.

Policy 3.8.6 Support efforts to coordinate recreation planning between park and recreation districts, school districts, irrigation districts and cities.

Policy 3.8.7 Work with Unincorporated Communities that express an interest in parks, open spaces and community centers.

Policy 3.8.8 Coordinate trail design and funding with transportation system plans and support efforts to provide and manage rural trail segments and bicycle routes.

Policy 3.8.9 Support the Committee on Recreational Assets in identifying priority recreational projects, including incorporating as appropriate, elements of the Committee on Recreational Assets into this Plan.

Policy 3.8.10 Update County Code as needed to define rural recreational uses such as private parks.
SECTION 3.9 DESTINATION RESORTS

Background

Since 1979 destination resorts have increased in importance to the economy of Deschutes County. In 1989, recognizing the importance of tourism to the economy of the State of Oregon, the state legislature and the Land Conservation and Development Commission (“LCDC”) took steps to make it easier to establish destination resorts on rural lands in the state. Statewide Planning Goal 8, the recreation goal, was amended to specify a process for locating destination resorts on rural land without taking an exception to Goals 3, 4, 11 and 14, which govern development in rural resource lands. This was followed by legislation incorporating Goal 8 into Oregon’s land use statutes. By these actions, the State of Oregon recognized destination resorts as a legitimate rural land use. Under these changes, destination resorts may be sited in EFU zones where they weren’t allowed before.

Following the changes to the state regulations, because implementation of destination resort siting under Goal 8 was optional and the county had not undertaken that implementation, the developers of Eagle Crest applied for legislative changes in the County’s comprehensive plan and implementing land use ordinances. The Eagle Crest developers wished to expand their current destination resort onto adjacent lands and wished to do so without going through the exceptions process. They were able to do so when the County adopted a destination resort overlay map. In order, Pronghorn, Caldera Springs, and Tetherow resorts have been sited since that time. Resorts existing prior to the legislative change, such as Black Butte, Sunriver and the Inn of the Seventh Mountain have also expanded and been rezoned to Urban Unincorporated Community and Resort Community, respectively.

In March 1990, LCDC adopted the “forest rule.” This rule allows destination resorts to be sited on forest lands pursuant to Goal 8. The county adopted this rule for land zoned Forest Use-2. Additionally, the legislature, in 2003, amended the state statutes, adding new language allowing counties to remap eligible lands for destination resorts not more frequently than once every thirty (30) months. Remapping is now dependent on creating a process for collecting and processing all proposed map amendments submitted to the county within that thirty (30) month planning period.

In order to allow destination resorts within the county, Goal 8 requires that Deschutes County adopt a map showing which lands are available for destination resort development. The purpose of the map is to provide greater certainty concerning destination resort siting than is available under the exceptions process. To protect forest and farm resources, Goal 8 prescribes that certain classes of lands are off limits to destination resort development. The final map must reflect exclusion of such areas. However, although a property is mapped as eligible for a destination resort, a destination resort may not be permitted outright in that location. In order to be approved, a proposal for a resort must be processed as a conditional use and must comply with the specific standards and criteria established by the county for destination resorts.

Goal 8 and the state statute also recognize that destination resorts can have negative impacts on neighborhoods, transportation facilities and the rural quality of life. These impacts can, however, be substantially mitigated. The County recognizes the importance of balancing protection mechanisms for resource lands and rural land uses with the economic benefits destination.
resorts provide. The County further recognizes that this balance can be struck by the manner in which areas are designated as being available for destination resort development and by establishing thorough siting criteria. In establishing these thorough siting criteria, the County recognizes that it has the option to be more restrictive than state law in the areas it chooses to exclude from destination resort siting through the mapping process.
Goals and Policies

Goal 1  To provide for development of destination resorts in the County consistent with Statewide Planning Goal 8 in a manner that will be compatible with farm and forest uses, existing rural development, and in a manner that will maintain important natural features, such as habitat of threatened or endangered species, streams, rivers and significant wetlands.

Goal 2  To provide a process for the siting of destination resorts on rural lands that have been mapped by Deschutes County as eligible for this purpose.

Goal 3  To provide for the siting of destination resort facilities that enhances and diversifies the recreational opportunities and economy of Deschutes County.

Goal 4  To provide for development of destination resorts consistent with Statewide Planning Goal 12 in a manner that will ensure the resorts are supported by adequate transportation facilities.

Policy 3.9.1  Destination resorts shall only be allowed within areas shown on the “Deschutes County Destination Resort Map” and when the resort complies with the requirements of Goal 8, ORS 197.435 to 197.467, and Deschutes County Code 18.113.

Policy 3.9.2  Applications to amend the map will be collected and will be processed concurrently no sooner than 30 months from the date the map was previously adopted or amended.

Policy 3.9.3  Mapping for destination resort siting.

   a.  To assure that resort development does not conflict with the objectives of other Statewide Planning Goals, destination resorts shall pursuant to Goal 8 not be sited in Deschutes County in the following areas:

   1.  Within 24 air miles of an urban growth boundary with an existing population of 100,000 or more unless residential uses are limited to those necessary for the staff and management of the resort;

   2.  On a site with 50 or more contiguous acres of unique or prime farm land identified and mapped by the Soil Conservation Service or within three miles of farm land within a High-Value Crop Area;

   3.  On predominantly Cubic Foot Site Class 1 or 2 forest lands which are not subject to an approved Goal exception;

   4.  On areas protected as Goal 5 resources in an acknowledged comprehensive plan where all conflicting uses have been prohibited to protect the Goal 5 resource;

   5.  Especially sensitive big game habitat, and as listed below, as generally mapped by the Oregon Department of Fish and Wildlife in July 1984 and
as further refined through development of comprehensive plan provisions implementing this requirement.

i. Tumalo deer winter range;
ii. Portion of the Metolius deer winter range;
iii. Antelope winter range east of Bend near Horse Ridge and Millican;

6. Sites less than 160 acres.

b. To assure that resort development does not conflict with Oregon Revised Statute, destination resorts shall not be sited in Deschutes County in Areas of Critical State Concern.

c. To assure that resort development does not conflict with the objectives of Deschutes County, destination resorts shall also not be located in the following areas:
   1. Sites listed below that are inventoried Goal 5 resources, shown on the Wildlife Combining Zone, that the County has chosen to protect:
      i. Antelope Range near Horse Ridge and Millican;
      ii. Elk Habitat Area; and
      iii. Deer Winter Range;
   2. Wildlife Priority Area, identified on the 1999 ODFW map submitted to the South County Regional Problem Solving Group;
   3. Lands zoned Open Space and Conservation (OS&C);
   4. Lands zoned Forest Use 1 (F-1);
   5. Irrigated lands zoned Exclusive Farm Use (EFU) having 40 or greater contiguous acres in irrigation;
   6. Non-contiguous EFU acres in the same ownership having 60 or greater irrigated acres;
   7. Farm or forest land within one mile outside of urban growth boundaries;
   8. Lands designated Urban Reserve Area under ORS 195.145;
   9. Platted subdivisions;

d. For those lands not located in any of the areas designated in Policy 3.9.3(a) though (c), destination resorts may, pursuant to Goal 8, Oregon Revised Statute and Deschutes County zoning code, be sited in the following areas:
   1. Forest Use 2 (F-2), Multiple Use Agriculture (MUA-10), and Rural Residential (RR-10) zones;
   2. Unirrigated Exclusive Farm Use (EFU) land;
   3. Irrigated lands zoned EFU having less than 40 contiguous acres in irrigation;
   4. Non-contiguous irrigated EFU acres in the same ownership having less than 60 irrigated acres;
   5. All property within a subdivision for which cluster development approval was obtained prior to 1990, for which the original cluster development approval designated at least 50 percent of the development as open space and which was within the destination resort zone prior to the effective date of Ordinance 2010-024 shall remain on the eligibility map;
   6. Minimum site of 160 contiguous acres or greater under one or multiple ownerships;
e. The County shall adopt a map showing where destination resorts can be located in the County. Such map shall become part of the Comprehensive Plan and Zoning Ordinance and shall be an overlay zone designated Destination Resort (DR).

Policy 3.9.4 Ordinance provisions.

a. The County shall ensure that destination resorts are compatible with the site and adjacent land uses through enactment of land use regulations that, at a minimum, provide for the following:
   1. Maintenance of important natural features, including habitat of threatened or endangered species, streams, rivers, and significant wetlands; maintenance of riparian vegetation within 100 feet of streams, rivers and significant wetlands; and
   2. Location and design of improvements and activities in a manner that will avoid or minimize adverse effects of the resort on uses on surrounding lands, particularly effects on intensive farming operations in the area and on the rural transportation system. In order to adequately assess the effect on the transportation system, notice and the opportunity for comment shall be provided to the relevant road authority.
   3. Such regulations may allow for alterations to important natural features, including placement of structures, provided that the overall values of the feature are maintained.

b. Minimum measures to assure that design and placement of improvements and activities will avoid or minimize the adverse effects noted in Policy 3.9.4(a) shall include:
   1. The establishment and maintenance of buffers between the resort and adjacent land uses, including natural vegetation and where appropriate, fenced, berms, landscaped areas, and other similar types of buffers.
   2. Setbacks of structures and other improvements from adjacent land uses.

c. The County may adopt additional land use restrictions to ensure that proposed destination resorts are compatible with the environmental capabilities of the site and surrounding land uses.

d. Uses in destination resorts shall be limited to visitor-oriented accommodations, overnight lodgings, developed recreational facilities, commercial uses limited to types and levels necessary to meet the needs of visitors to the resort, and uses consistent with preservation and maintenance of open space.

e. The zoning ordinance shall include measures that assure that developed recreational facilities, visitor-oriented accommodations and key facilities intended to serve the entire development are physically provided or are guaranteed through surety bonding or substantially equivalent financial assurances prior to closure of sale of individual lots or units. In phased developments, developed recreational facilities and other key facilitated intended to serve a particular phase shall be constructed prior to sales in that phase or guaranteed through surety bonding.
Section 3.10 Area Specific Plans and Policies

Background

There are rural areas around the County experiencing specific challenges that could benefit from a more detailed review. Using public outreach and in-depth analysis, the County can respond to the unique values and issues in defined areas. This can be done through community plans or simply adding specific policies.

Three areas have been identified for area specific plans or policies; South County, Deschutes Junction and the Oregon Military site. Deschutes County adopted a plan for South County in 2013 (see Section 3.11, Newberry Country: A Plan for Southern Deschutes County ). Other areas where community plans or policies might be initiated are Deschutes River Woods and east County. Deschutes County is committed to cooperating with residents on creating specific community plans or policies as requested and as resources permit.

Other Area Specific Policies

Oregon Military Site

The Oregon Military Department has real property interests in lands outside Redmond that is used for military training. Concerns were raised by that department that the noise of their operations could disturb neighboring properties and the use of the land could be questioned. Developing an overlay zone that requires the military be notified of new development and new development be notified of the military’s right to continue operations, would protect the interests of both parties.

Deschutes Junction

A community plan was initiated for the Deschutes Junction area, which includes lands designated Rural Industrial and Rural Commercial. There has been some discussion about whether this area should have been designated as a Rural Service Center during the unincorporated community evaluations. After considerable debate, policies for Deschutes Junction were adopted in Ordinance 2011-005 and incorporated into this Plan in Ordinance 2011-027.

Crooked River Ranch

Crooked River Ranch, a rural subdivision located between the Deschutes and Crooked Rivers, straddles Deschutes and Jefferson counties. It has the largest homeowner association in Oregon and contains approximately 4,000 people. Access to this development occurs in Deschutes County, underscoring the importance of coordinating regularly with its residents and Jefferson County to assure safe, convenient travel routes.
Section 3.10 Area Specific Policies

Goals and Policies

Goal 1 Create area specific land use policies and/or regulations when requested by a community and only after an extensive public process.

Policy 3.10.1 Maintain a list of communities interested in area specific policies and as resources permit, initiate public processes to address local issues.

South Deschutes County

Policy 3.10.2 Develop a south county community plan and adopt it as a subsection of this Plan.

Oregon Military Site

Policy 3.10.3 Support an overlay zone for property owned and/or utilized by the Oregon Military Department to protect the military site and neighboring properties from noise and land use conflicts.

Regional Coordination

Policy 3.10.4 Coordinate with Jefferson County and Crooked River Ranch residents as needed.

Deschutes Junction

Policy 3.10.5 Maximize protection of the rural character of neighborhoods in the Deschutes Junction area while recognizing the intended development of properties designated for commercial, industrial and agricultural uses.

Policy 3.10.6 Review cumulative impacts of future development and future traffic improvements in the Deschutes Junction area in a manner consistent with Deschutes County traffic study requirements at 17.16.115, the Oregon Highway Plan, access management standards of OAR Chapter 734, Division 51, and OAR Chapter 660, Division 12, the Transportation Planning Rule (TPR).

Policy 3.10.7 Support safe and efficient travel around Deschutes Junction, including a frontage road extending north from Tumalo Road on the west side of Highway 97.

Policy 3.10.8 Review Policies 3.10.11 through 3.10.13 and initiate a Deschutes Junction Master Plan.
Section 3.11 Newberry Country: A Plan for Southern Deschutes County

Background

Newberry Country: A Plan for Southern Deschutes County was adopted in Ordinance 2013-007 and is hereby incorporated into this Plan as Appendix D.
Chapter 3 Primary References

References


7. Central Oregon Regional Housing Authority (Housing Works) website at http://www.oregonhousingworks.org


12. 2006 Deschutes County Natural Hazards Mitigation Plan

13. 2010 Deschutes County Natural Hazards Mitigation Plan

14. Deschutes County Community Wildfire Protection Plans


*The references listed are provided for the convenience of the public and are not legally adopted into this Plan.*
18. Oregon Revised Statute 197.435-197.467 Siting of Destination Resorts

19. Oregon Administrative Rules Chapter 660 particularly:
   a. 660-008 Interpretation of Goal 10 Housing
   b. 660-009 Economic Development
   c. 660-011 Public Facilities
   d. 660-012 Transportation

---

2 The references listed are provided for the convenience of the public and are not legally adopted into this Plan.
Chapter 4

Urban Growth

Management
Section 4.1 Introduction

Background

A major emphasis of Oregon’s land use planning program is directing new development into urban areas. Statewide Planning Goal 14, Urbanization, requires cities, in cooperation with counties, to create Urban Growth Boundaries (UGBs). The UGBs are legal lines that contain lands that are anticipated to urbanize over a 20-year period. UGBs allow cities to adequately plan for future urban facilities and services. State laws require that UGBs be adopted by both the city and the county.

Besides the UGBs which define the land needed for city expansion over 20 years, some cities adopt Urban Reserve Areas (URAs), which define land needed beyond a 20 year horizon, typically representing an additional 10 to 30 year land supply. By adopting an URA a city can better plan for expansion and growth. Like UGBs, URAs are done in a partnership between a county and the city.

Deschutes County has four incorporated cities. Bend, Redmond and Sisters were incorporated before 1979. The City of La Pine incorporated on November 7, 2006. Bend, Redmond and Sisters’ Comprehensive Plans are coordinated with the County. Certain elements are adopted into the County’s. In addition, the cities and the County maintain urban growth area zoning ordinances and cooperative agreements for mutually administering the unincorporated urbanizing areas. These areas are located outside city limits but within UGBs. La Pine adopted a Comprehensive Plan and UGB in 2012. Until La Pine adopts its own land use regulations, County land use regulations will continue to be applied inside the city limits though a joint management agreement.

In addition to cities and the associated UGBs and URAs, there are rural locations around the County that contain urban level development. These areas generally existed before the Oregon land use system was enacted in the early 1970s. In 1994 the Land Conservation and Development Commission wrote a new Oregon Administrative Rule (OAR), 660-22, to classify and regulate these unincorporated communities. The OAR created four categories of unincorporated communities and required the County to evaluate existing rural developments under the new Rule.

Purpose

The Urban Growth Management chapter, in concert with the other chapters of this Plan, specifies how Deschutes County will work with cities and unincorporated communities to accommodate growth while preserving rural character and resource lands.

The following issues are covered in this chapter:

- Urbanization (Section 4.2)
- Unincorporated Communities Overview (Section 4.3)
- La Pine Urban Unincorporated Community (Section 4.4)
- Sunriver Urban Unincorporated Community (Section 4.5)
- Terrebonne Rural Community Plan (Section 4.6)
Goal 14 recognizes the following:

**Statewide Planning Goal 14 Urbanization**

“To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.”

**Excerpt from Goal 14 Planning Guidelines**

“Plans should designate sufficient amounts of urbanizable land to accommodate the need for further urban expansion, taking into account (1) the growth policy of the area; (2) the needs of the forecast population; (3) the carrying capacity of the planning area; and (4) open space and recreational needs.”

- Tumalo Rural Community Plan (Section 4.7)
- Black Butte Ranch and Inn of the 7th Mountain/Widgi Creek Rural Resorts (Section 4.8)
- Rural Service Centers (Section 4.9)
Section 4.2 Urbanization

Background
This section describes the coordination between the County and the cities of Bend, La Pine, Redmond and Sisters on Urban Growth Boundaries (UGBs) and Urban Reserve Areas (URAs). Statewide Planning Goal 2 recognizes the importance of coordinating land use plans.

“City, county, state and federal agency and special district plans and actions related to land use shall be consistent with the comprehensive plans of cities and counties and regional plans adopted under ORS Chapter 268.”

Oregon Revised Statute 197.015(5) goes further to define comprehensive plan coordination.

“A plan is “coordinated” when the needs of all levels of governments, semipublic and private agencies and the citizens of Oregon have been considered and accommodated as much as possible.”

Population
An important basis for coordinating with cities is adopted population projections. Having an estimate of anticipated population is the first step to planning for future growth and conservation. ORS 195.025(1) requires counties to coordinate local plans and population forecasts. The County oversees the preparation of a population forecast in close collaboration with cities. This is important because the population of the County has increased significantly in recent decades and a coordinated approach allows cities to ensure managed growth over time.

<table>
<thead>
<tr>
<th>Sources</th>
<th>1980</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Research Center July 1 estimates</td>
<td>62,500</td>
<td>75,600</td>
<td>116,600</td>
<td>172,050</td>
</tr>
<tr>
<td>US Census Bureau April 1 counts</td>
<td>62,142</td>
<td>74,958</td>
<td>115,367</td>
<td>157,733</td>
</tr>
</tbody>
</table>

Source: As noted above

In 1996 Bend, Redmond, Sisters and the County reviewed recent population forecasts from the Portland State University Center Population and Research Center (PRC) and U.S. Census Bureau, Department of Transportation, Woods and Poole, Bonneville Power Administration and Department of Administrative Services Office of Economic Analysis. After reviewing these projections, all local governments adopted a coordinated population forecast. It was adopted by Deschutes County in 1998 by Ordinance 98-084.

The results of the 2000 decennial census and subsequent population estimates prepared by the PRC revealed that the respective populations of the County and its incorporated cities were growing faster than anticipated under the 1998 coordinated forecast. The cities and the County re-engaged in a coordination process between 2002 and 2004 that culminated with the County adopting a revised population forecast that projected population to the year 2025. It was adopted by Ordinance 2004-012 and upheld by the Land Use Board of Appeals on March 28, 2005.

The following table displays the 2004 coordinated population forecast for Deschutes County and the UGBs of the cities of Bend, Redmond, and Sisters.
Table 4.2.2 – Coordinated Population Forecast 2000 to 2025

<table>
<thead>
<tr>
<th>Year</th>
<th>Bend UGB</th>
<th>Redmond UGB</th>
<th>Sisters UGB</th>
<th>Unincorporated County</th>
<th>Total County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>52,800</td>
<td>15,505</td>
<td>975</td>
<td>47,320</td>
<td>116,600</td>
</tr>
<tr>
<td>2005</td>
<td>69,004</td>
<td>19,249</td>
<td>1,768</td>
<td>53,032</td>
<td>143,053</td>
</tr>
<tr>
<td>2010</td>
<td>81,242</td>
<td>23,897</td>
<td>2,306</td>
<td>59,127</td>
<td>166,572</td>
</tr>
<tr>
<td>2015</td>
<td>91,158</td>
<td>29,667</td>
<td>2,694</td>
<td>65,924</td>
<td>189,443</td>
</tr>
<tr>
<td>2020</td>
<td>100,646</td>
<td>36,831</td>
<td>3,166</td>
<td>73,502</td>
<td>214,145</td>
</tr>
<tr>
<td>2025</td>
<td>109,389</td>
<td>45,724</td>
<td>3,747</td>
<td>81,951</td>
<td>240,811</td>
</tr>
</tbody>
</table>


The process through which the County and the cities coordinated to develop the 2000-2025 coordinated forecast is outlined in the report titled "Deschutes County Coordinated Population Forecast 2000-2025: Findings in Support of Forecast."

The fourth city in Deschutes County is the City of La Pine. Incorporated on November 7, 2006, the City of La Pine’s 2006 population estimate of 1,590 was certified by PRC on December 15, 2007. As a result of La Pine’s incorporation, Deschutes County updated its Coordinated Population Forecast with Ordinance 2009-006.

The purpose of this modification was to adopt a conservative 20 year population forecast for the City of La Pine that could be used by city officials and the Oregon Department of Land Conservation and Development to estimate its future land need and a UGB.

The following table displays the coordinated population forecast for Deschutes County, the UGBs of the cities of Bend, Redmond, and Sisters, and La Pine from 2000 to 2025. By extending the growth rate to the year 2025, La Pine’s population will be 2,352. The non-urban unincorporated population decreases by 2,352 from its original projection of 81,951, to 79,599.

Table 4.2.3 – Coordinated Population Forecast 2000 to 2025, Including La Pine

<table>
<thead>
<tr>
<th>Year</th>
<th>Bend UGB</th>
<th>Redmond UGB</th>
<th>Sisters UGB</th>
<th>La Pine UGB</th>
<th>Unincorporated County</th>
<th>Total County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>52,800</td>
<td>15,505</td>
<td>975</td>
<td>-</td>
<td>47,320</td>
<td>116,600</td>
</tr>
<tr>
<td>2005</td>
<td>69,004</td>
<td>19,249</td>
<td>1,768</td>
<td>-</td>
<td>53,032</td>
<td>143,053</td>
</tr>
<tr>
<td>2010</td>
<td>81,242</td>
<td>23,897</td>
<td>2,306</td>
<td>1,697</td>
<td>57,430</td>
<td>166,572</td>
</tr>
<tr>
<td>2015</td>
<td>91,158</td>
<td>29,667</td>
<td>2,694</td>
<td>1,892</td>
<td>64,032</td>
<td>189,443</td>
</tr>
<tr>
<td>2020</td>
<td>100,646</td>
<td>36,831</td>
<td>3,166</td>
<td>2,110</td>
<td>71,392</td>
<td>214,145</td>
</tr>
<tr>
<td>2025</td>
<td>109,389</td>
<td>45,724</td>
<td>3,747</td>
<td>2,352</td>
<td>79,599</td>
<td>240,811</td>
</tr>
</tbody>
</table>


2030 Population Estimate

This Comprehensive Plan is intended to manage growth and conservation in the unincorporated areas of the County until 2030. Because the official population forecast extends only to 2025, County staff used conservative average annual growth rates from the adopted population forecast to estimate population out to 2030. The following table estimates Deschutes County population by extending the adopted numbers out an additional five years.
Table 4.2.4 – Deschutes County 2030 Population Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>Bend UGB</th>
<th>Redmond UGB</th>
<th>Sisters UGB</th>
<th>La Pine UGB</th>
<th>Unincorporated County</th>
<th>Total County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2030</td>
<td>119,009</td>
<td>51,733</td>
<td>4,426</td>
<td>2,632</td>
<td>88,748</td>
<td>266,538</td>
</tr>
</tbody>
</table>

Source: County estimates based on the 2004 Coordinated Population Forecast as shown below

- Bend’s average annual growth rate from 2025 to 2030 is 1.70%
- Redmond’s average annual growth rate from 2025 to 2030 is 2.50%
- Sisters’ based their population on forecasted rates of building growth, residential housing units, and persons per dwelling unit
- La Pine’s average annual growth rate from 2025 to 2030 is 2.20%
- Deschutes County’s unincorporated area average annual growth rate from 2025 to 2030 is 2.20%

As the pie chart below indicates, if population occurs as forecasted, 67% of the County’s population will reside in urban areas by 2030.

**In 2030**

Such growth will undoubtedly require strategically managing the provision of public services and maintaining adequate amounts of residential, commercial and industrial lands. Growth pressures will also require programmatic approaches to maintain open spaces, natural resources, and functional ecosystems that help define the qualities of Deschutes County.

**Urban Growth Boundary Amendments**

**Bend**

The City of Bend legislatively amended its UGB as part of a periodic review acknowledgment in December 2004. The Bend City Council and the Board of County Commissioners adopted concurrent ordinances that expanded the Bend UGB by 500 acres and satisfied a 20 year demand for industrial land.

In July 2007, the Bend-La Pine School District received approvals to expand the City of Bend UGB to include two properties for the location of two elementary schools, one at the Pine Nursery, the other on Skyliner Road. In 2014, the Bend-La Pine School district received approval to include a 33-acre site within the UGB near Skyliners Road to facilitate the construction of a public middle school.

The Bend City Council and the Board of County Commissioners approved a legislative amendment to the Bend UGB in September 2016. The adopted amendment added 2,380 acres of land intended to satisfy a 20-year land need for needed housing, employment, and public uses.
from 2008 to 2028. The adopted UGB amendment also satisfied the terms of a 2010 Remand Order from the Oregon Land Conservation and Development Commission (10-REMAND-PARTIAL ACKNOW-001795).

Sisters
The City of Sisters legislatively amended its UGB in September 2005 when its City Council and the Board of County Commissioners adopted respective ordinances. The Sisters UGB expansion covered 53 acres and satisfied a 20 year demand for residential, commercial, light industrial, and public facility land. In March 2009, Sisters amended their UGB to facilitate the establishment of a 4-acre fire training facility for the Sisters/Camp Sherman Fire District.

Redmond
The City of Redmond legislatively amended its UGB in August 2006 when its City Council and the Board of County Commissioners adopted respective ordinances. The Redmond UGB expansion covered 2,299 acres and satisfied a 20 year demand for residential and neighborhood commercial land.

La Pine
In 2012 La Pine adopted its first Comprehensive Plan. La Pine established a UGB that matches the city limits, because the City contains sufficient undeveloped land for future housing, commercial and industrial needs over a 20-year period. The Plan map includes land use designations intended to provide an arrangement of uses to ensure adequate and efficient provision of public infrastructure for all portions of the City and UGB.

Urban Reserve Area

Redmond
In December 2005, Redmond City Council and the Board of County Commissioners adopted a 5,661 acre URA for the City. It is the first URA in Central Oregon because most cities find planning farther into the future than the 20-year UGB timeframe, challenging.

Coordination
As noted above, Statewide Goal 2 and ORS promote land use planning coordination. The purposes of the urbanization goals and policies in this section are to provide the link between urban and rural areas, and to provide some basic parameters within which the urban areas of Deschutes County can develop, although the specific comprehensive plan for each community remains the prevailing document for guiding growth in its respective area. These policies permit the County to review each city’s comprehensive plan to ensure effective coordination.

The Redmond and Deschutes County Community Development Departments received the Oregon Chapter of American Planning Association’s (OAPA) Professional Achievement in Planning Award in 2006 for the "Redmond Urban Reserve Area / Urban Growth Boundary Expansion Project."

The following quote taken from the Oregon Chapter of the American Planning Association’s 2006 Awards Program shows why the Redmond Community Development Department was chosen for this award.

“An outstanding effort to address Redmond’s rapid population growth, including the successful designation of an Urban Reserve and the imminent
Central Oregon Large Lot Industrial Land Need Analysis

During the 1990s, the Central Oregon region experienced a dramatic transformation from an economy concentrated largely in wood products into a service based economy serving a growing and diverse tourism and household base. Accelerated in-migration and tourism growth gave way to rapid economic expansion, escalation in home prices, and a systematic shift in the local economy from goods producing activities to service oriented industries. While initially representing a diversification of the local economy, this shift led to an over-reliance upon these types of industries.

During the recent recession, the regional economy’s vulnerabilities became apparent. Suitable land for today’s industrial development forms emerged as one of Oregon’s most severe development challenges. In 2010, 2011, and 2012, Deschutes, Crook and Jefferson counties and their respective cities, undertook an unprecedented regional evaluation of the economic opportunities and constraints associated with users of large industrial parcels in the Central Oregon region. The purpose of this evaluation was to aid in providing a more diversified economic base for the region that would accommodate industrial uses with a need for larger lots than possibly may be currently available in any of the Central Oregon cities. As part of that evaluation, Deschutes County hired a consultant to draft an analysis of Central Oregon’s opportunities, competitiveness, ability, and willingness to attract more basic industries. The analysis focused specifically on industries that require large lots. The result was a document called the Central Oregon Regional Economic Opportunity Analysis, and was the basis for Ordinance 2011-017, dated May 31, 2011.

Ordinance 2011-017 was appealed to the Land Use Board of Appeals by 1,000 Friends of Oregon (“1,000 Friends”). The appeal was stayed in early 2012 to allow Deschutes County, the Governor’s Office, and 1,000 Friends to explore a settlement, which was ultimately reached in April, 2012. The settlement consisted of policy concepts focusing entirely on Central Oregon’s short-term need for large-lot industrial sites as well as a commitment from the Department of Land Conservation and Development (“DLCD”) to initiate rule-making that summer. The three counties, their respective cities, 1,000 Friends, and DLCD staff then engaged in drafting a proposed rule. In August, the final draft of that rule was then sent to the Oregon Land Conservation and Development Commission (“LCDC”). As a result, in November, the LCDC adopted Oregon Administrative Rule (OAR) 660-024-0040 and 660-024-0045. That rule provides that that the large lot industrial land need analysis agreed upon by all of the parties, once adopted by each of the participating governmental entities, would be sufficient to demonstrate a need for up to nine large industrial sites in Central Oregon. Six of the sites will be made available initially. Three more sites may be added under the rule as the original sites are occupied. After the adoption of the new OARs, Deschutes County voluntarily repealed Ordinance 2011-017 and adopted a new ordinance, Ordinance 2013-002, in accordance with the OARs.

Utilizing the new OARs, Ordinance 2013-002 emphasized Central Oregon’s short term need for a critical mass of competitive and diverse vacant, developable industrial sites. An additional
necessary component is an intergovernmental agreement (“IGA”) between the region’s jurisdictions and the Central Oregon Intergovernmental Council (“COIC”). Through the IGA, COIC will provide oversight of the short-term land supply of large-lot industrial sites to enable the region to become competitive in industrial recruitment. Once each of the three counties and their respective cities adopt similar ordinances and enter into an IGA with COIC, the large lot sites will enable industrial recruitment opportunities to attract potential industrial users to consider the region that may not have otherwise without the availability of these large lots.

Participating local governments will review the program after all nine sites have been occupied or after ten years, whichever comes first.
Section 4.2 Urbanization Policies

Goals and Policies

**Goal 1** Coordinate with cities, special districts and stakeholders to support urban growth boundaries and urban reserve areas that provide an orderly and efficient transition between urban and rural lands.

Policy 4.2.1 Participate in the processes initiated by cities in Deschutes County to create and/or amend their urban growth boundaries.

Policy 4.2.2 Promote and coordinate the use of urban reserve areas.

Policy 4.2.3 Review the idea of using rural reserves.

**Goal 2** Coordinate with cities, special districts and stakeholders on urban growth area zoning for lands inside urban growth boundaries but outside city boundaries.

Policy 4.2.4 Use urban growth area zoning to coordinate land use decisions inside urban growth boundaries but outside the incorporated cities.

Policy 4.2.5 Negotiate intergovernmental agreements to coordinate with cities on land use inside urban growth boundaries and outside the incorporated cities.

Policy 4.2.6 Develop urban growth area zoning with consideration of the type, timing and location of public facilities and services provision consistent with city plans.

Policy 4.2.7 Adopt by reference the comprehensive plans of Bend, La Pine, Redmond and Sisters, as the policy basis for implementing land use plans and ordinances in each city’s urban growth boundary.

**Goal 3** Coordinate with cities, special districts and stakeholders on policies and zoning for lands outside urban growth boundaries but inside urban reserve areas.

Policy 4.2.8 Designate the Redmond Urban Reserve Area on the County Comprehensive Plan Map and regulate it through a Redmond Urban Reserve Area (RURA) Combining Zone in Deschutes County Code, Title 18.

Policy 4.2.9 In cooperation with the City of Redmond adopt a RURA Agreement consistent with their respective comprehensive plans and the requirements of Oregon Administrative Rule 660-021-0050 or its successor.

Policy 4.2.10 The following land use policies guide zoning in the RURA.

a. Plan and zone RURA lands for rural uses, in a manner that ensures the orderly, economic and efficient provision of urban services as these lands are brought into the urban growth boundary.

b. New parcels shall be a minimum of ten acres.

c. Until lands in the RURA are brought into the urban growth boundary, zone changes or plan amendments shall not allow more intensive uses or uses that
generate more traffic, than were allowed prior to the establishment of the RURA.

d. For Exclusive Farm Use zones, partitions shall be allowed based on state law and the County Zoning Ordinance.

e. New arterial and collector rights-of-way in the RURA shall meet the right-of-way standards of Deschutes County or the City of Redmond, whichever is greater, but be physically constructed to Deschutes County standards.

f. Protect from development existing and future arterial and collector rights-of-way, as designated on the County’s Transportation System Plan.

Policy 4.2.11 Collaborate with the City of Redmond to assure that the County-owned 1,800 acres in the RURA is master planned before it is incorporated into Redmond’s urban growth boundary.

Policy 4.2.12 Deschutes County supports a multi-jurisdictional cooperative effort to pursue a regional approach to establish a short-term supply of sites particularly designed to address out-of-region industries that may locate in Central Oregon.

Policy 4.2.13 Deschutes County recognizes the importance of maintaining a large-lot industrial land supply that is readily developable in Central Oregon.

Policy 4.2.14 The Central Oregon Regional Large Lot Industrial Land Need Analysis (“Analysis”), adopted by Ordinance 2013-002 is incorporated by reference herein.

Policy 4.2.15 Within 6 months of the adoption of Ordinance 2013-002, in coordination with the participating local governments in Central Oregon, Deschutes County shall, execute an intergovernmental agreement (“IGA”) with the Central Oregon Intergovernmental Council (“COIC”) that specifies the process of allocation of large lot industrial sites among the participating local governments.

Policy 4.2.16 In accordance with OAR 660-024-004 and 0045, Deschutes County, fulfilling coordination duties specified in ORS 195.025, shall approve and update its comprehensive plan when participating cities within their jurisdiction legislatively or through a quasi-judicial process designate regionally significant sites.

Policy 4.2.17 Deschutes County supports Economic Development of Central Oregon (“EDCO”), a non-profit organization facilitating new job creation and capital investment to monitor and advocate for the region’s efforts of maintaining an inventory of appropriate sized and located industrial lots available to the market.

Policy 4.2.18 Deschutes County will collaborate with regional public and private representatives to engage the Oregon Legislature and state agencies and their commissions to address public facility, transportation and urbanization issues that hinder economic development opportunities in Central Oregon.
Policy 4.2.19  Deschutes County will strengthen long-term confidence in the economy by building innovative public to private sector partnerships.
Section 4.3 Unincorporated Communities

Background

Besides the four incorporated cities in Deschutes County, there are a number of unincorporated communities. These consist of areas developed with urban uses in rural areas. Generally, unincorporated communities were developed prior to the Oregon planning system and recognized as rural service centers in the 1979 version of this plan. Subsequently, to control their growth, the State initiated unincorporated community classifications and regulations to define allowable uses.

The 1979 comprehensive plan designated the following rural service centers (RSC): Alfalfa, Brothers, Hampton, Millican, La Pine, Whistle Stop, Wickiup Junction, Terrebonne, Wild Hunt, Tumalo, Deschutes Junction and Deschutes River Woods. These areas were designated in that plan as exception areas from Goals 3, Agricultural Lands and 4, Forest Lands. Zoning under the Comprehensive Plan allowed for a mix of residential and commercial uses to support nearby residential developments. Until the early 1990s the scope of those uses was never much of an issue since there was little development pressure.

In 1994 LCDC adopted a new administrative rule, OAR 660-22 to clarify what uses could be allowed in “unincorporated communities” without violating Statewide Planning Goals 11 and 14 relating to public facilities and urbanization. The rule identifies four different kinds of rural communities as shown below.

- Urban Unincorporated Community (UUC)
- Rural Community
- Resort Community
- Rural Service Center (RSC)

In response, Deschutes County reviewed its RSCs to determine which areas fit those four classifications. In addition to the original RSCs listed above, additional developments were identified as communities for review including Black Butte Ranch, Inn of the Seventh Mountain/Widgi Creek and Sunriver.

In reviewing these areas for conformance with OAR 660-22, some did not fit within the parameters of any of the four unincorporated community definitions and were instead zoned Rural Commercial or Rural Industrial. These areas are discussed in the Rural Economy section of this Plan.

Unincorporated Communities

Table 4.3.1 below shows the Deschutes County unincorporated communities as of 2010. La Pine remains listed even though on November 7, 2006, the residents of the La Pine Urban Unincorporated Community voted to incorporate. One parcel was not included and therefore is not within the City of La Pine comprehensive plan. Policies for each unincorporated community can be found in the remaining sections of this chapter.
Table 4.3.1 – Deschutes County Unincorporated Communities 2010

<table>
<thead>
<tr>
<th>Community</th>
<th>Type</th>
<th>Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>La Pine</td>
<td>Urban Unincorporated Community</td>
<td>1996, 2000</td>
</tr>
<tr>
<td>Sunriver</td>
<td>Urban Unincorporated Community</td>
<td>1997</td>
</tr>
<tr>
<td>Terrebonne</td>
<td>Rural Community</td>
<td>1997</td>
</tr>
<tr>
<td>Tumalo</td>
<td>Rural Community</td>
<td>1997</td>
</tr>
<tr>
<td>Black Butte Ranch</td>
<td>Resort Community</td>
<td>2001</td>
</tr>
<tr>
<td>Inn of the 7th Mountain/Widgi Creek</td>
<td>Resort Community</td>
<td>2001</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>Rural Service Center</td>
<td>2002</td>
</tr>
<tr>
<td>Brothers</td>
<td>Rural Service Center</td>
<td>2002</td>
</tr>
<tr>
<td>Hampton</td>
<td>Rural Service Center</td>
<td>2002</td>
</tr>
<tr>
<td>Millican</td>
<td>Rural Service Center</td>
<td>2002</td>
</tr>
<tr>
<td>Whistlestop</td>
<td>Rural Service Center</td>
<td>2002</td>
</tr>
<tr>
<td>Wildhunt</td>
<td>Rural Service Center</td>
<td>2002</td>
</tr>
</tbody>
</table>

Source: Deschutes County Planning Division

The policies for unincorporated communities are based on extensive, relatively recent public input and are for the most part still relevant as of 2010. Consequently, only minor changes have been made to those sections of this Plan. The exceptions are the Community Plans for Tumalo and Terrebonne which are being adopted separately. These have been incorporated into this plan as Sections 4.6 and 4.7.
Section 4.4 La Pine

Background

On November 7, 2006, residents of the La Pine Urban Unincorporated Community voted to incorporate. One 2.7 acre parcel was not included within the City of La Pine or its Urban Growth Boundary and remains within the La Pine Urban Unincorporated Boundary.

Comprehensive Plan Designations

1. Community Facility Limited District. This plan designation includes a 2.7 acre parcel described as Part of Lot 6 of the Newberry neighborhood subdivision and further identified on Deschutes County Assessor’s Tax Map 22-10 as Tax Lot 116.
Section 4.4 La Pine Policies

Goals and Policies

No goals have been defined for the La Pine Urban Unincorporated Community.

Policy 4.4.1 Land use regulations shall conform to the requirements of OAR 660 Division 22 or any successor.
Background

In the fall of 1994 the Oregon Land Conservation and Development Commission adopted a Oregon Administrative Rule (OAR) 660-22, Unincorporated Communities. The new rule required counties to update land use plans and regulations for areas with urban-style development on rural lands. As part of Periodic Review, the County updated the Comprehensive Plan and implementing regulations for Sunriver to comply with the rule.

Under OAR 660-22, Sunriver meets the definition for both an “Urban Unincorporated Community” and a “Resort Community.” With the help of a stakeholder advisory committee comprised of key members of the community who represented a multitude of property owners and development interests, the decision was made to proceed with the planning process for Sunriver as an Urban Unincorporated Community. It was the consensus of the committee that the provisions allotted for Urban Unincorporated Communities under the rule offered the greatest practical degree of flexibility for future growth and development in Sunriver. Subsection OAR 660.22.010(8) defines “Urban Unincorporated Community” as “[a]n unincorporated community that has the following characteristics:

- Includes at least 150 Permanent dwelling units including manufactured homes;
- Contains a mixture of land uses, including three or more public, commercial or industrial land uses;
- Includes areas served by a community sewer system; and,
- Includes areas served by a community water system.

Sunriver met the definition because it historically included land developed with a mixture of residential, commercial and industrial uses. Sunriver utilities operate both a community sewer and water system which serve the existing development. Sunriver has its own fire and police departments and also essential services, such as an elementary school. The Comprehensive Plan designated Sunriver as an Urban Unincorporated Community, enabling it to plan for future growth and development.

Location and History

Sunriver is located in the central portion of Deschutes County, approximately 15 miles south of Bend. Sunriver lies in the Upper Deschutes River Basin, with the Deschutes River generally forming the western boundary of the community. Sunriver includes approximately 3,745 acres which are bounded by the Deschutes National Forest on the east, west and north sides. Small lot residential subdivision development and destination resorts are the predominant land uses to the south of the community boundary.

Development of Sunriver began in 1967 and the first subdivision plat within Sunriver was filed in 1968. Development in Sunriver began during a period of time when the unincorporated areas of Deschutes County were not zoned. In 1972, when the County first adopted a zoning ordinance (PL-5) and Comprehensive Plan, the area identified as Sunriver was zoned A-1-T and designated “planned development” on the Comprehensive Plan map. In 1973, a zone change to planned development (PD) was applied for and granted. As part of the zone change application, a “Master Plan” was developed. The Master Plan consisted of a map showing the proposed...
development of Sunriver. The original area of Sunriver encompassed approximately 5,500 acres. Development occurred in accordance with the PD Zone of PL-5 and the density of development was determined to be 1.5 units per acre overall.

In 1977 approximately 2,200 acres of property originally contemplated for development as part of Sunriver were sold to the U.S. Forest Service. Following the sale, a revised Master Plan for Sunriver Phase II was prepared for its undeveloped portion. In October 1978 the County approved the revised Sunriver Phase II Master Plan with the same PD Zoning designation. In 1980 after a land use application submitted for development within Sunriver generated controversy, the viability of the Sunriver Master Plan was called into question. This was compounded by the fact that PL-15, the County Zoning Ordinance adopted in 1979 to replace PL-5, did not include any provisions for “planned communities.” As a result, the developer of Sunriver agreed to develop a Planned Community (PC) zoning ordinance text and new Master Plan for Sunriver subject to County review and approval. In November 1982, the County amended PL-15 to add a section providing for the Planned Community (PC) Zone, including seven separate Sunriver district designations. A new Sunriver Master Plan was also approved. Between 1982 and 1997 the PC Zoning Ordinance Text and Master Plan remained relatively unchanged and were the guiding documents for the majority of development.

In 1997 the 1982 Master Plan was repealed by Ordinance 97-076 and replaced by comprehensive plan findings and policies for the Sunriver Urban Unincorporated Community. The Sunriver Urban Unincorporated Community zoning districts were adopted at this time and multi-family residential development was allowed in the Commercial District. In 2008 amendments were made to the Sunriver comprehensive plan and zoning text to provide guidelines for restructuring the core commercial area of Sunriver. This was done through the creation of a new Town Center District. As of 2010 the Town Center District had not been applied to any actual property.

**Population and Growth**

2010 County GIS data showed Sunriver having 4,138 residential tax lots. Of those lots 3,182 were developed with single-family homes and 774 with condominiums. 182 residential lots were vacant. While the number of residential lots within the community can be determined with some degree of accuracy, the current and future rate of population growth is difficult to estimate due to the large number of vacation and second homes. The Sunriver Owners Association estimates the number of homes with permanent residents at 475, based on the number of owners who have the Sunriver Scene delivered to a Sunriver zip code. They further suppose that approximately 1,500 housing units are short term rentals, which leaves about half the homes in Sunriver vacant for extended periods of time.

The Deschutes County 2004 Coordinated Population Forecast estimates 1.9 persons/household, a number that was adjusted to account for the number of second homes in the County. Using the estimate of 475 full-time dwellings, that suggests a permanent population of around 900 persons. During the peak tourist months of July and August, the majority of dwellings are occupied with owners and tourists. The Sunriver Owners Association estimates the peak population at between 8,000 and 12,000. Thus, there is a fluctuating population comprised of both year-round and part-time residents as well as tourists.
Community Boundary

2010 County GIS data showed Sunriver had approximately 3,745 acres of land inside the community boundary. Within this area, there were 4,447 total tax lots, including common areas. The community boundary is generally formed by the Deschutes River on the west, Spring River Road/South Century Drive on the south and the Deschutes National Forest on the north and east.

During the 1997 update, the Sunriver Urban Unincorporated Community boundary was amended to add 375-acres along the eastern boundary of the Sunriver Urban Unincorporated Community to be used for sewage effluent storage and disposal.

This area, once part of the Deschutes National Forest, was changed from a comprehensive plan designation of Forest to a comprehensive plan designation of Urban Unincorporated Community Forest. It was added per Oregon Department of Environmental Quality requirements. The effluent and storage capabilities of the existing sewage system were at or near capacity seasonally at that time. Thus, this expansion of the community boundary was necessary to provide adequate sewage disposal services to the existing communities being served at their build-outs.

Existing Land Uses

The predominant land use in Sunriver is residential, the majority of which is single-family residential development. However, since Sunriver was originally developed as a planned community, a number of other uses exist, making it somewhat self-reliant. Uses which support the residential components include a commercial core which contains a variety of retail businesses developed in a pedestrian mall setting, as well as a business park. A large component of development in Sunriver includes resort related amenities such as golf courses, a lodge, convention facilities and overnight accommodations. A fire station, police station and public works facility have also been developed to support these uses.

Land bordering Sunriver on the north, east and west is zoned Forest Use (F-1) and is within the Deschutes National Forest. The National Forest land remains undeveloped and is primarily used for recreational purposes such as hiking, hunting, fishing, snowmobiling, etc. The forest lands and the recreational opportunities that they offer enhance the resort component of Sunriver. Land to the south of Sunriver includes private property which is zoned Rural Residential (RR-10). The majority of the RR-10 properties include small lot (one-half to one acre parcels) subdivisions which were created prior to any zoning laws. There are two newer developments to the south, Crosswater and Caldera Springs. Crosswater, a 600-acre pre-Goal 8 Destination Resort was approved in 1990. Caldera Springs, a 390-acre Goal 8 Destination Resort was approved in 2005.

Comprehensive Plan Designations

The 1997 Deschutes County Comprehensive Plan for the Sunriver Urban Unincorporated Community created eight comprehensive plan designations. In 2008 a ninth plan designation, the Town Center District was added to the plan. The comprehensive plan designations for the Sunriver Urban Unincorporated Community, except for the Town Center District which will be added at a later date if the County receives an application for such a designation, are shown on a map on the County website.
1. Residential District. The Residential District designation on the Comprehensive Plan Map includes the Single Family Residential and Multiple Family Residential Districts as shown on the Zoning Map for the Sunriver Urban Unincorporated Community. This plan designation includes all properties which were previously designated for residential development under the previous Planned Community designation. No change to residential boundaries was made in 1997.

2. Commercial District. The majority of the land designated Commercial includes the commercial core of Sunriver which is commonly referred to as the Sunriver Village Mall. An additional Commercial District is located at the north end of the community and is developed with a grocery store and gas station. The Village Mall is developed as an outdoor pedestrian mall and includes a variety of commercial uses. Many of the existing commercial uses support the tourist component of the community and residents living within Sunriver. In 1997, this plan designation included all areas formerly designated for commercial use. When the Town Center District was added to this Plan in 2008 it was anticipated that much of the Village Mall area would be re-designated to the new district. As of 2010, that re-designation has not taken place.

3. Town Center District. The Town Center District was created in an effort to preserve and enhance the area around the commercial core of Sunriver. The objective for the Town Center District is to combine a mixture of complementary land uses that may include retail, offices, commercial services, residential housing and civic uses to create a vital commercial core that will support the tourist component of the community and residents living within Sunriver. The Town Center District is designed to strengthen the commercial core area of Sunriver as the heart of the community, to improve the community’s economic base and enhance the appearance of the area through high-quality design.

4. Resort District. In general, the Resort plan designation includes properties which are developed with amenities such as the Sunriver Lodge and Great Hall, golf courses, the equestrian and marina facilities and the nature center. These amenities have been developed to foster the recreation and tourist component of Sunriver. For the most part, this designation includes the properties which are owned and managed by Sunriver Resort.

5. Business Park District. The Sunriver Business Park lies at the southern end of the community boundary and is physically separated from the remainder of the community by Spring River Road. This plan designation was originally created to accommodate light industrial development to support the employment needs of the community and surrounding area. Since the inception of zoning regulations for this area, development has been primarily commercial in nature rather than industrial. The zoning ordinance was modified in 1997 to reflect the existing businesses and the trend for commercial development while still allowing for industrial uses to develop.

6. Community District. The Community plan designation includes properties which are primarily developed with public service uses which support all facets of the community. Development includes the fire station, elementary school, community center and corporation/public works facilities. Properties with this designation are primarily owned and administered by the Sunriver Owners Association.
7. Airport District. The Airport plan designation includes areas which in 1997 were developed with airport related amenities, such as runways, hangars, fueling stations and maintenance facilities. This district also includes areas surrounding the actual airport development which are considered to be in the sphere of influence of the airport and in which airport-related impacts and risks are associated. Development in the airport district shall be limited with respect to heights of structures, public gathering places and other potential risks to persons or property related to those uses.

8. Utility District. This plan designation includes properties which in 1997 were developed with amenities such as sewage pump stations, water treatment facilities, water distribution facilities and associated utility improvements. The utility plan designation is intended to provide for the development and expansion of necessary utility facilities on properties which are already devoted to such uses.

9. Forest District. The previous boundary for Sunriver was expanded in 1997 by approximately 366-acres to include land along the eastern boundary that has historically been zoned for forest uses and within the Deschutes National Forest. A recent decision by the U.S. Forest Service to permit an effluent storage pond and effluent irrigation site on approximately 50 acres and a potential land transfer to the Sunriver Utilities Company (now Sunriver Water LLC/Environmental LLC) prompted inclusion of this area within the community boundary. By including this area, future expansion of the sewage disposal system would permit the application of biosolids with the effluent irrigation site and storage pond. This will enable Sunriver to meet Oregon Department of Environmental Quality regulations for treated wastewater storage and disposal stemming from build-out within the community. An exception to Goal 4 was not taken because the only uses allowed in the expansion area are permitted in the Forest zone.

Public Facility Planning

Water and Sewer

The Sunriver Utilities Company was established as a private water and wastewater company and has provided water and sewer services within the community boundary since 1969. It is the largest private water/wastewater company in the State of Oregon. In June of 1998 Sunriver Utilities Company split into two separate LLC’s. Sunriver Water LLC (SRWLLC) which is under the jurisdiction of the Oregon Public Utility Commission (PUC) for rate structure and the Oregon Department of Human Services for water quality and Sunriver Environmental LLC (SRELLC) which is under the jurisdiction of the Oregon Department of Environmental Quality (DEQ). Sunriver Water and Environmental serve not just Sunriver, but also Crosswater, Caldera Springs and seven lots in Vandevert Ranch, with a build-out of 5,400 equivalent dwelling units.

Water: SWLLC in 2010 operates three main wells which are capable of pumping over 7.8 million gallons of water each day. In addition, reservoir capacity for water storage is 2 million gallons. This volume of water production and storage exceeds the needs of the community within the boundaries of Sunriver. As of 2010, SRWLLC serves a total 4,307 water customers. This total includes the following types of service connections: 4,034 residential and condominium units; 147 commercial; 126 for irrigation purposes and 485 fire hydrants. All service connections are metered to measure the amount of water that is being used. The meter
service sizes range from typical 3/4” residential lines to 6” lines for irrigation, commercial and industrial uses.

Sewer: SRELLC’s wastewater treatment facilities are capable of handling/treating an average of 1.5 million gallons of wastewater per day. This includes the 1997 expansion of effluent storage ponds on a parcel along the eastern boundary of Sunriver that is now owned by Sunriver Environmental LLC. The design and flow accommodations will facilitate build out of all 5,400 lots within the communities served.

Effluent from the wastewater treatment facility is used to irrigate the golf course and hay fields. Biosolids from the wastewater facility are used with recycled yard debris and wood chips from forest thinning to make agricultural compost.

In 2009 Deschutes County and the Oregon Department of Environmental Quality commissioned a study by SRELLC to examine the feasibility of constructing a new treatment plant east of Sunriver to serve their current customers as well as approximately 4,000 potential new customers south of Sunriver, where there are concerns regarding nitrate contamination of groundwater from septic systems. The study concluded that such an expansion was physically and financially feasible. As of 2010 a decision regarding expansion of the Sunriver sewer system is being evaluated by the Oregon Department of Environmental Quality.

Public Services

Police and Fire: In 2002 the Sunriver Service District was established to oversee the police and fire departments. A five-member board appointed by the Board of County Commissioners works with the Police and Fire chiefs to provide service to Sunriver.

Sunriver’s police department is responsible for law enforcement within the boundary of the Sunriver Urban Unincorporated Community.

Sunriver’s fire department serves all areas within the boundary of the Sunriver Urban Unincorporated Community, except for the Business Park. The Business Park is provided with fire protection by the La Pine Rural Fire Protection District. Through a mutual aid agreement with the Forest Service, Sunriver’s fire department also responds to wildland fires within five miles of Sunriver. Ambulance services are provided to a 360-mile area centered on Sunriver. The department has a mutual aid agreement with the La Pine Rural Fire Protection District to provide secondary services within each other’s service boundaries on an as needed basis. The La Pine Rural Fire Protection District has a fire station located along South Century Drive approximately 1 1/2 miles south of the community boundary.

Schools

Three Rivers Elementary School, which is under the direction of the Bend-La Pine School District, is currently the only school within the boundary of the Sunriver Urban Unincorporated Community. Three Rivers Elementary offers schooling from kindergarten through 8th grade and as of 2010 had an enrollment of 396 students. The school accepts pupils from both inside and outside the boundary of the Sunriver Unincorporated Community.

Sunriver Owners Association (SROA)

The Sunriver Owners Association has the day-to-day responsibility of overseeing the majority of the community operations. The association is governed by a Board of Directors and a
General Manager. The services and departments operated by the Sunriver Owners Association, as well as the primary function of each, include:

1. Accounting Department – This department is responsible for SROA’s financial transactions including owner maintenance fees and accounts payable and receivable. It also maintains the property owners database and works with the Finance Committee on budgets and reserves.
2. Administration – The administrative offices oversee the day-to-day functions of each component of the association.
3. Communication Department – This department publishes a monthly newspaper (Sunriver Scene) that is distributed to members of the association and the public. Other duties include programming community access TV channel 4 and publishing a resident directory and map.
4. Community Development – This department works with the Design Committee to review new structures to ensure compliance with design and development standards.
5. Environmental Services – This department administers fire and fuels regulations as well as other environmental issues of the community.
6. Public Works Department – This department is responsible for maintenance of roads, recreational paths and amenities as well as fleet maintenance.
7. Recreation Department – This department offers a variety of recreational activities and programs for property owners and visitors and manages pools and tennis courts.

Transportation Planning

Background/Existing Transportation Facilities in Sunriver

The Sunriver Urban Unincorporated Community is accessed via public roadways. These include South Century Drive and Cottonwood Road. Both of these roadways lie within public rights-of-way and are maintained by Deschutes County. South Century Drive and Cottonwood Road connect to Highway 97, which is the primary corridor for vehicular travel throughout Central Oregon. South Century Drive enters Sunriver near the southern community boundary and extends to the residentially developed areas to the south and west. Cottonwood Road enters Sunriver near the northern Sunriver boundary and ends within the community.

Internal roads within Sunriver, except for Venture Lane within the Business Park, are private, open to the public, and maintained by the Sunriver Owners Association. These roads are paved and are generally 20 feet in width. Venture Lane is a public road maintained by the County. The internal roadway network was developed as part of the original design and master plan for Sunriver. The network consists of a series of internal traffic circles or roundabouts, from which spur roads lead to various areas within the community.

A bicycle/pedestrian path system has been developed and integrated throughout the community. Aside from the recreational opportunities provided by the path system, the paths serve as an alternative to vehicular travel as they connect the residential, commercial, school and recreation areas of the community. The paths are paved, maintained in good condition by the Sunriver Owners Association and are used extensively.

Recent Improvements

Road widening improvements were completed in 1996 by the County for the segment of South Century Drive between Highway 97 and the entrance to the Sunriver Business Park.
Improvements to the entrance of the Business Park itself were also completed. The County’s first roundabout was constructed at the intersection of South Century/Abbot Drive in 2007. The improvements were done to improve the safety and longevity of the roadway. Other improvements to County roads outside of Sunriver, included paving and upgrading the old Forest Service 40/45 Road, now called River Summit Drive in 2006-2007 and a grade-separated interchange at South Century Drive and Highway 97 in 2008.

Future Transportation Needs

The existing privately maintained roads and bicycle/pedestrian paths adequately serve the travel needs of the residents and visitors of Sunriver. The existing roads and pathways provide access to all platted and developed areas within the community. There is no projected need for future roads to serve the anticipated development, except possibly within the Sunriver Business Park. Currently there is only one ingress/egress point from South Century Drive to the Business Park. Future development within the Business Park may warrant an additional entrance or improvements to the existing entrance.

South Century Drive and Cottonwood Road are both operating at levels within their vehicular capacity. In the area between the entrance to the Sunriver Village Mall and the Business Park, the 2009 average daily traffic figures for South Century Drive were approximately 6,748 trips per day. This figure is below the general capacity of 9,600 trips per day. Many of the vehicles traveling this roadway are passing through the community, not necessarily to Sunriver, as this road provides a direct link from Highway 97 to the surrounding rural subdivisions. Cottonwood Road, which only extends between Highway 97 and the community boundary, is not subject to the same volume of pass through traffic that occurs on South Century Drive. Thus, the traffic figures for this roadway are much lower at approximately 3,298 trips per day in 2009.
Section 4.5 Sunriver Policies

Goals and Policies

No goals have been defined for the Sunriver Urban Unincorporated Community.

Policy 4.5.1 Land use regulations shall conform to the requirements of OAR 660 Division 22 or any successor.

Policy 4.5.2 County comprehensive plan policies and land use regulations shall ensure that new uses authorized within the Sunriver Urban Unincorporated Community do not adversely affect forest uses in the surrounding Forest Use Zones.

Policy 4.5.3 To protect scenic views and riparian habitat within the community, appropriate setbacks shall be required for all structures built on properties with frontage along the Deschutes River.

Policy 4.5.4 Open space and common area, unless otherwise zoned for development, shall remain undeveloped except for community amenities such as bike and pedestrian paths, and parks and picnic areas.

Policy 4.5.5 Public access to the Deschutes River shall be preserved.

Policy 4.5.6 The County supports the design review standards administered by the Sunriver Owners Association.

Residential District Policies

Policy 4.5.7 Areas designated residential on the comprehensive plan map shall be developed with single family or multiple family residential housing.

Commercial District Policies

Policy 4.5.8 Small-scale, low-impact commercial uses shall be developed in conformance with the requirements of OAR Chapter 660, Division 22. Larger, more intense commercial uses shall be permitted if they are intended to serve the community, the surrounding rural area and the travel needs of people passing through the area.

Policy 4.5.9 No additional land shall be designated Commercial until the next periodic review.

Policy 4.5.10 Multiple-family residences and residential units in commercial buildings shall be permitted in the commercial area for the purpose of providing housing which is adjacent to places of employment. Single-family residences shall not be permitted in commercial areas.

Policy 4.5.11 Approval standards for conditional uses in the commercial district shall take into consideration the impact of the proposed use on the nearby residential and commercial uses and the capacity of the transportation system and public facilities and services to serve the proposed use.
Town Center District Policies

Policy 4.5.12 Small-scale, low-impact commercial uses shall be developed in conformance with the requirements of OAR Chapter 660, Division 22. Larger, more intense commercial uses shall be permitted if they are intended to serve the community, the surrounding rural area or the travel needs of people passing through the area.

Policy 4.5.13 Development standards in the town center district should encourage new development that is compatible with a town center style of development that serves as the commercial core of the Sunriver Urban Unincorporated Community. The following policies should guide development in the Town Center District in Sunriver:

a. Combine a mixture of land uses that may include retail, offices, commercial services, residential housing and civic uses to create economic and social vitality and encourage pedestrian use through mixed use and stand alone residential buildings.

b. Develop a commercial mixed-use area that is safe, comfortable and attractive to pedestrians.

c. Encourage efficient land use by facilitating compact, high-density development that minimizes the amount of land that is needed for development.

d. Provide both formal and informal community gathering places.

e. Provide visitor accommodations and tourism amenities appropriate to Sunriver.

f. Provide design flexibility to anticipate changes in the marketplace.

g. Provide access and public places that encourage pedestrian and bicycle travel.

h. Provide road and pedestrian connections to residential areas.

i. Facilitate development (land use mix, density and design) that supports public transit where applicable.

j. Develop a distinct character and quality design appropriate to Sunriver that will identify the Town Center as the centerpiece/focal point of the community.

Policy 4.5.14 Development within the Town Center (TC) District will be substantially more dense than development elsewhere in Sunriver. This increased density will require changes to existing topography and vegetation in the TC District to allow for screened, underground parking. The requirements of the County’s site plan ordinance shall be interpreted to reflect this fact.

Resort District Policies

Policy 4.5.15 Areas designated resort on the comprehensive plan map shall be designated resort, resort marina, resort golf course, resort equestrian or resort nature center district on the zoning map to reflect a development pattern which is consistent with resort uses and activities.
**Business Park District Policies**

Policy 4.5.16 A variety of commercial uses which support the needs of the community and surrounding rural area, and not uses solely intended to attract resort visitors, should be encouraged.

Policy 4.5.17 Allow small-scale, low-impact commercial uses in conformance with the requirements of OAR Chapter 660, Division 22. Larger more intense commercial uses shall be permitted if they are intended to serve the community, the surrounding rural area and the travel needs of people passing through the area.

Policy 4.5.18 Small-scale, low-impact industrial uses should be allowed in conformance with the requirements of OAR Chapter 660, Division 22.

**Community District Policies**

Policy 4.5.19 Areas designated community on the comprehensive plan map shall be designated community general, community recreation, community limited or community neighborhood district on the zoning map to reflect a development pattern which is consistent community uses and activities.

Policy 4.5.20 Lands designated community shall be developed with uses which support all facets of community needs, be they those of year-round residents or part-time residents and tourists.

Policy 4.5.21 Development shall take into consideration the unique physical features of the community and be sensitive to the residential development within which the community areas are interspersed.

**Airport District Policies**

Policy 4.5.22 Future development shall not result in structures or uses which, due to extreme height or attraction of birds, would pose a hazard to the operation of aircraft.

Policy 4.5.23 Future development should not allow uses which would result in large concentrations or gatherings of people in a single location.

**Utility District Policies**

Policy 4.5.24 Lands designated utility shall allow for development of administrative offices, substations, storage/repair yards, distribution lines and similar amenities for services such as water, sewer, telephone, cable television and wireless telecommunications.

**Forest District Policies**

Policy 4.5.25 Uses and development on property designated forest that are within the Sunriver Urban Unincorporated Community boundary shall be consistent with uses and development of other lands outside of the community boundary which are also designated forest on the Deschutes County comprehensive plan map.

Policy 4.5.26 Forest district property shall be used primarily for effluent storage ponds, spray irrigation of effluent, biosolids application and ancillary facilities necessary to meet Oregon Department of Environmental Quality sewage disposal regulations.
Policy 4.5.27  The development of resort, residential or non-forest commercial activities on Forest district lands shall be prohibited unless an exception to Goal 14 is taken.

General Public Facility Policies

Policy 4.5.28  Residential minimum lot sizes and densities shall be determined by the capacity of the water and sewer facilities to accommodate existing and future development and growth.

Policy 4.5.29  New uses or expansion of existing uses within the Sunriver Urban Unincorporated Community which require land use approval shall be approved only upon confirmation from the Sunriver Utility Company that water and sewer service for such uses can be provided.

Policy 4.5.30  Expansion of the Sunriver Water LLC/Environmental/LLC Water and Sewer District outside of the historic Sunriver boundaries shall adequately address the impacts to services provided to existing property owners.

Water Facility Policies

Policy 4.5.31  Water service shall continue to be provided by the Sunriver Utilities Company.

Sewer Facility Policies

Policy 4.5.32  Sewer service shall continue to be provided by the Sunriver Utilities Company.

Transportation System Maintenance Policies

Policy 4.5.33  Privately-maintained roads within the Sunriver Urban Unincorporated Community boundary shall continue to be maintained by the Sunriver Owners Association.

Policy 4.5.34  The bicycle/pedestrian path system in Sunriver shall continue to be maintained by the Sunriver Owners Association or as otherwise provided by a maintenance agreement.

Policy 4.5.35  The County will encourage the future expansion of bicycle/pedestrian paths within the Sunriver Urban Unincorporated Community boundary in an effort to provide an alternative to vehicular travel.

Policy 4.5.36  All public roads maintained by the County shall continue to be maintained by the County. Improvements to County maintained public roads shall occur as described the County Transportation System Plan.
Section 4.6 Terrebonne Community Plan

Background
The Terrebonne Community Plan was adopted in Ordinance 2010-012 is hereby incorporated into this Plan as Appendix A.
Section 4.7 Tumalo Community Plan

Background
The Tumalo Community Plan was adopted in Ordinance 2010-027 and is hereby incorporated into this Plan as Appendix B.
Section 4.8 Resort Communities

Background

A Resort Community is characterized as an unincorporated community that is established primarily for, and continues to be used primarily for, recreation and resort purposes. It includes residential and commercial uses and provides for both temporary and permanent residential occupancy, including overnight lodging and accommodations.

In the fall of 1994 the Oregon Land Conservation and Development Commission adopted a new administrative rule, OAR 660, Division 22, entitled Unincorporated Communities. This Rule provided guidelines for defining and regulating areas with urban style growth outside of urban growth boundaries. As part of periodic review Deschutes County updated the Comprehensive Plan and implementing zoning regulations for Black Butte Ranch and the Inn/Widgi Creek to comply with the rule.

Black Butte Ranch and Inn of the 7th Mountain/Widgi Creek met the definition of "resort community" because they have historically developed with a mixture of residential and recreation or resort amenities. Commercial-type uses also exist, such as the restaurant and stables. Other retail operations, such as the golf pro shops and retail sales at the tennis shop are associated with specific recreation activities and are not designed as stand alone retail operations intended by themselves to attract the traveling public to Black Butte Ranch or Inn of the 7th Mountain/Widgi Creek.

Black Butte Ranch

Background

Black Butte Ranch is located in the northwestern portion of Deschutes County, eight miles west of the city limits of Sisters. Black Butte Ranch is in the Indian Ford Creek watershed, a tributary to Whychus Creek, itself a tributary to the Deschutes River, and is surrounded by lands within Deschutes National Forest. Since the late 1800s Black Butte Ranch has been a cattle ranch. Cattle operations continue today.

Black Butte Ranch includes 1,830 acres developed in the early 1970s as a planned residential development with both permanent and vacation homes on 1,253 lots and three separate condominium areas. Recreation amenities include two 18-hole golf courses, four swimming pools, 23 tennis courts, horse stables, a sports field, basketball courts and trails for bicycling, jogging and cross country skiing. Conference rooms, a restaurant, lounge and property sales in the Main Lodge, a general store and pro shops at both golf courses provide additional amenities for residents, guests and visitors.

Black Butte Ranch allows public access to its restaurant, golf courses and horse stables, but is primarily oriented to its year-round residents and seasonal guests. Black Butte Ranch is considered by many people to be a "destination resort", however development at Black Butte Ranch preceded the adoption of Statewide Goal 8 and the County’s mapping of lands for the siting of destination resorts. Approximately 96 percent of the area within Black Butte Ranch community boundary is developed.
Development of Black Butte Ranch began in 1970 and the first subdivision plat within Black Butte Ranch was filed in 1970. In 1972, when the County first adopted a zoning ordinance (PL-5) and comprehensive plan, the area identified as Black Butte Ranch, although smaller than today, was zoned "Planned Development" and designated as a "Destination Resort" on the comprehensive plan map. In 1979 the County adopted revised zoning and comprehensive plan maps. In 1992 Black Butte Ranch was designated as a rural residential exception area on the comprehensive plan map. Black Butte Ranch was zoned Rural Residential (RR-10), and was designated "Destination Resort" on the comprehensive plan map.

The population of Black Butte Ranch is difficult to ascertain due to the large number of vacation and second homes within the community that are occupied for only part of the year. In 2001, the Black Butte Ranch Association estimated the number of full-time, year-round residents at 337 persons. During the peak tourist season, the population, including guests who do not own property but are renting residences within the community, is estimated to rise to 5,000 persons.

Black Butte Ranch operates both a community sewer and water system that are in place and serve the existing development. Black Butte Ranch also has its own fire and police departments.

Land Use

The Black Butte Ranch community boundary includes a total of 1,912 acres consisting of: 1) 1,830 acres including the main resort development, the resort's recreational amenities, and the residential areas, and 2) 82 acres located contiguous to the northwest corner used for industrial uses in support of Ranch operations. The community boundary abuts Highway 20 on the northeast. National Forest Service lands and private landholders bound it on the south and west.

The predominant land use in Black Butte Ranch is residential, the majority of which is single-family residential development. However, since Black Butte Ranch was originally developed as a planned community, a number of other uses exist which make Black Butte Ranch a community that is somewhat self-reliant. Uses that support the residential components include a commercial core, which contains a variety of retail businesses developed in a pedestrian mall setting, as well as a business park. A significant component of development in Black Butte Ranch includes recreation amenities such as golf courses, and resort facilities, including a lodge, meeting facilities and a restaurant. A fire station and public works facilities for sewage treatment and water delivery have also been developed. The Black Butte Fire Department serves all areas within the boundary. Utility services will continue to be provided in the current manner.

Inn of the 7th Mountain/Widgi Creek

Background

The Inn of the Seventh Mountain and Widgi Creek Golf community are located approximately five miles southwest of the Bend Urban Growth Boundary on Century Drive. They are both bounded by the Deschutes River to the south.

The Inn of the Seventh Mountain (Inn) has been developed since the late 1960s and has historically been considered to be a stand-alone resort community with overnight lodging and recreation facilities for tourists. It has 230 condominium units, spread among 22 buildings. The initial boundary was established in 1972 and encompasses 22.65 acres. The Inn includes horse stables, tennis courts, golf course, skating rink, swimming pools and other recreation amenities,
and a restaurant, meeting rooms and multi-story lodging units for resort guests. Many of the
dwelling units at the Inn are occupied seasonally but some residences are year round.
Commercial uses open to overnight guests and the public include the restaurant, skating rink
and golf course, guided raft trips on the Deschutes River and a retail/rental sport shop.

Widgi Creek was approved in 1983 as a 237-acre expansion to the Inn and includes a golf
course with surrounding residential lots consisting of 107 for single-family dwellings and 103 for
condominium units.

The use of the site as a destination resort was initiated previous to implementation of the
statewide planning goals in Deschutes County. Upon implementation of the statewide planning
goals, the property was designated as "forest" in compliance with Goal 4, and the use continued to
be permitted as a destination resort. However, in 1993 HB 3661 prohibited destination resorts as
a use in the forest zone except as allowed under Goal 8. This property was not approved as a
Resort Community until the year 2001. At that time a "built and committed" exception based on
Statewide Planning Goal 2 was taken for the entire Inn/Widgi community.

Almost all of the residential uses at the Inn of the Seventh Mountain cater to tourist
accommodations. During the peak tourist season, the population, including guests who do not
own property but are renting residences within the community, is estimated to be
approximately 500 people. In 2001, the number of full-time and part-time residents at Widgi
Creek was approximately 120, consisting of 80 single-family residents and 39 condo residents.
Since there are only four condo units available for rental, there is no significant increase in the
population during the peak tourist season. As currently planned, when the development is fully
built out, the population will increase to a total of 200 full-time and part-time residents
distributed in 107 single-family homes and 46 condominium units.

The Inn/Widgi sewer service (except approved on-site septic systems) and fire protection are
provided by the City of Bend, water by on-site wells, security service by the Inn/Widgi Resort
Community and police services by Deschutes County Sheriff.

Land Use

The Inn of the Seventh Mountain/Widgi Creek community boundary includes 260 acres (23 for
the Inn and 237 for Widgi Creek). The property is used for recreational amenities, rental and
residential units. The western boundary is Century Drive. The southern boundary is generally
the Deschutes River canyon. The entire resort community is bordered by the Deschutes
National Forest.

The predominant land use at the Inn is resort use with overnight lodging and recreational
facilities for tourists, in addition to a restaurant, meeting rooms and a retail/rental sport shop.
The predominant land use is residential, with single-family residential development and
condominium units, in addition to a golf course.
Section 4.8 Resort Community Policies

Goals and Policies

No goals have been defined for Black Butte Ranch or Inn of 7th Mountain / Widgi Creek Resort Communities

General Resort Community Policies

Policy 4.8.1 Land use regulations shall conform to the requirements of OAR 660 Division 22 or any successor.

Policy 4.8.2 Designated open space and common area, unless otherwise zoned for development, shall remain undeveloped except for community amenities such as bike and pedestrian paths, park and picnic areas. Areas developed as golf courses shall remain available for that purpose or for open space/recreation uses.

Policy 4.8.3 The provisions of the Landscape Management Overlay Zone shall apply in Resort Communities where the zone exists along Century Drive, Highway 26 and the Deschutes River.

Policy 4.8.4 Residential minimum lot sizes and densities shall be determined by the capacity of the water and sewer facilities to accommodate existing and future development and growth.

Policy 4.8.5 The resort facility and resort recreation uses permitted in the zoning for Black Butte Ranch and the Inn of the Seventh Mountain/Widgi Creek shall serve the resort community.

Black Butte Ranch General Policies

Policy 4.8.6 County comprehensive plan policies and land use regulations shall ensure that new uses authorized within the Black Butte Ranch Resort Community do not adversely affect forest uses in the surrounding Forest Use Zones.

Policy 4.8.7 The County supports the design review standards administered by the Architectural Review Committee.

Policy 4.8.8 Residential, resort and utility uses shall continue to be developed in accordance with the Master Design for Black Butte Ranch and the respective Section Declarations.

Policy 4.8.9 Industrial activities, including surface mining, shall only occur in the area zoned Black Butte Ranch Surface Mining, Limited Use Combining District (Black Butte Ranch SM/LU) located in the northwest corner of Black Butte Ranch.

Policy 4.8.10 Employee housing shall be located in the area zoned Black Butte Ranch-Utility/Limited Use Combining District (Black Butte Ranch-U/LU).

Policy 4.8.11 Any amendment to the allowable use(s) in either the Resort Community District or the Limited Use Combining District shall require an exception in accordance with applicable statewide planning goal(s), OAR 660-04-018/022 and DCC 18.112 or any successor.
Policy 4.8.12 The westerly 38-acre zoned Black Butte Ranch Surface Mining, Limited Use Combining District (Black Butte Ranch SM/LU) shall be used for the mining and storage of aggregate resources. Uses that do not prevent the future mining of these resources, such as disposal of reclaimed effluent and woody debris disposal from thinning and other forest practices may be allowed concurrently. Other resort maintenance, operational and utility uses, such as a solid waste transfer station, maintenance facility or equipment storage may be allowed only after mining and reclamation have occurred.

Policy 4.8.13 The 18.5 acres zoned Black Butte Ranch-Utility/Limited Use Combining District (Black Butte Ranch-U/LU) may be used for the disposal of reclaimed sludge.

Policy 4.8.14 The area west of McCallister Road and east of the area zoned Black Butte Ranch may be used for large equipment storage, general storage, maintenance uses, RV storage, telephone communications, administration offices, housekeeping facilities and employee housing.

Policy 4.8.15 Employee housing shall be set back at least 250 feet from the eastern boundary of the area zoned Black Butte Ranch Surface Mining, Limited Use Combining District (Black Butte Ranch SM/LU).

Policy 4.8.16 Surface mining within the Black Butte Ranch community boundary shall adhere to the following Goal 5 ESEE “Program to Meet Goal” requirements:

a. Only the westernmost 38 acres of the site shall continue to be mined.

b. Setbacks shall be required for potential conflicting residential and other development. A minimum 50-foot setback shall be maintained from the perimeter of tax lot 202 for all surface mining activity.

c. Noise impact shall be mitigated by buffering and screening.

d. Hours of operation shall be limited to between 7:00 a.m. and 6:00 p.m. weekdays. No operations shall be allowed on weekends and holidays.

e. Processing shall be limited to 45 days in any one year, to be negotiated with Deschutes County in the site plan process in consultation with the Oregon Department of Fish and Wildlife (ODFW).

f. The conditions set forth in the August 10, 1989, letter of ODFW shall be adhered to.

g. Extraction at the site shall be limited to five acres at a time with on-going incremental reclamation (subject to DOGAMI review and approval).

h. Mining operations, siting of equipment, and trucking of product shall be conducted in such a manner that applicable DEQ standards are met and minimizes noise and dust.

i. DOGAMI requirements for a permit once mining affects more than five acres outside the 8.6-acre exemption area shall be met.

j. A conditional use permit shall be obtained from Deschutes County, under the provisions of section 18.128.280. Surface mining of resources exclusively for on-site personal, farm or forest use or maintenance of irrigation canals, before mining activity affects more than five acres outside the 8.6-acre exempt area.
Black Butte Ranch Public Facility Policies

Policy 4.8.17 Police protection services shall be provided by the Black Butte Ranch Police Services District.

Policy 4.8.18 The Black Butte Ranch Water Distribution Company and the Black Butte Ranch Corporation shall confirm the water and sewer service, respectively, can be provided for new uses or expansion of existing uses that require land use approval.

Policy 4.8.19 The Black Butte Ranch Water Distribution Company shall provide water service for the Black Butte Ranch Resort Community.

Policy 4.8.20 The Black Butte Ranch Corporation shall provide sewer service for Black Butte Ranch.

Policy 4.8.21 The Black Butte Ranch Fire Protection District shall provide fire protection services for Black Butte Ranch.

Policy 4.8.22 The roads and the bicycle/pedestrian path system within the Black Butte Ranch Resort Community boundary shall be maintained by the Black Butte Ranch Owners Association.

Inn of the 7th Mountain Widgi Creek General Policies

Policy 4.8.23 Any amendment to the allowable uses in either the Resort Community District or the Widgi Creek Residential District shall require an exception in accordance with applicable statewide planning goal(s), OAR 660-04-018/022 or any successor, and DCC 18.112 or any successor

Policy 4.8.24 The County shall encourage and support land exchanges efforts by and between private property owners, public agencies and public trusts for the purpose of fostering public access to and protection of natural resources, such as rivers, streams, caves, areas/features of historical importance and other natural features.

Inn of the 7th Mountain/Widgi Creek Public Facility Policies

Policy 4.8.25 Police protection services shall be provided under contract with the Deschutes County Sheriff.

Policy 4.8.26 Water service shall be supplied by on-site wells for the Inn/Widgi Resort Community.

Policy 4.8.27 New uses or expansion of existing uses that require land use approval shall be approved only upon confirmation from the City of Bend that sewer service can be provided.

Policy 4.8.28 Fire protection services for the Inn/Widgi shall be provided through a contract with the City of Bend until such time as Inn/Widgi develops another plan to provide adequate fire protection.

Policy 4.8.29 The Resort Community, not Deschutes County, shall maintain roads in the community.
Policy 4.8.30 The bicycle/pedestrian path system shall be maintained by the Inn/Widgi Owners Association.

Policy 4.8.31 Emergency access between Widgi Creek and the Inn of the Seventh Mountain shall be provided in accordance with the approved development plan for the Elkai Woods town homes. The respective resort property owners shall maintain emergency access between the Inn and Widgi Creek.
Section 4.9 Rural Service Centers

Background

A Rural Service Center is characterized as an unincorporated community consisting primarily of commercial or industrial uses providing goods and services to the surrounding rural area or persons traveling through the area, but which also includes some permanent residential dwellings.

In order to comply with OAR 660-022, Deschutes County updated the Comprehensive Plan and implementing zoning regulations in 2002 for the communities of Alfalfa, Brothers, Hampton, Millican, Whistlestop and Wildhunt. The Comprehensive Plan and zoning map boundaries for all of the Rural Service Centers were amended to comply with the requirements of the administrative rule and to reconcile historic mapping inconsistencies between the plan designation and zoning and inconsistencies between community boundaries and historic development patterns.

The predominant land uses in the areas surrounding the Alfalfa, Brothers, Hampton and Millican Rural Service Centers are farming and ranching. The predominant land uses in the areas surrounding Whistlestop and Wildhunt are forest, ranching and rural residential. The unincorporated rural service centers serve the needs of the surrounding areas as well as the needs of the traveling public. Three of the communities are located on Highway 20 east of Bend; Millican is 26 miles, Brothers 42 miles and Hampton 64 miles. Alfalfa is located approximately 11 miles east of Bend on Willard Road. Whistlestop is located approximately 30 miles southwest of Bend on Burgess Road. Wildhunt is located approximately 26 miles south of Bend at the junction of Highway 97 and Highway 31.

The communities of Alfalfa, Brothers and Hampton have approved public water systems that serve the school and combination store/café/post office in Brothers and the stores in Alfalfa and Hampton. The Central Oregon Irrigation District provides water for agricultural uses surrounding Alfalfa. Large ranches and BLM land surround Millican, Brothers and Hampton. Most of the land is used for dry land grazing. Well water provides irrigation for land adjacent to Hampton. Millican, Brothers and Hampton are surrounded by land that is designated as antelope habitat. The area surrounding these communities is sparsely populated. Each community has a few residences within its boundary.

Community Boundaries

The Alfalfa Rural Service Center boundary includes 21.83 acres, with Willard Road as the predominant northern boundary and the remainder surrounded by agricultural lands zoned Exclusive Farm Use (EFU).

The Brothers Rural Service Center boundary includes 48.95 acres. Highway 20 bisects the community from east to west, while Camp Creek Road enters from the north and connects with the highway. The entire community is surrounded by agricultural land zoned EFU.

The Hampton Rural Service Center boundary includes 35.37 acres. Highway 20 forms the southern boundary with the remainder surrounded by agricultural lands zoned EFU.

The Millican Rural Service Center boundary includes 29.55 acres. Highway 20 forms the northern boundary with the remainder surrounded by agricultural lands zoned EFU.
The Whistlestop Rural Service Center boundary includes 7.93 acres. Burgess Road runs east/west and dissects the community from north to south with forest and rural residential uses to the north and east.

The Wildhunt Rural Service Center boundary includes 11.29 acres. Highway 97 forms the western boundary. Highway 31 forms the southern boundary, with forest and rural residential uses to the north and east.

**Land Use Planning**

The existing land uses in the eastern Rural Service Centers of Alfalfa, Brothers, Hampton and Millican are commercial and residential, surrounded by agriculture. In addition to a few residences each of the communities includes commercial development. Alfalfa has a store/gas station and a church/community hall. Brothers includes a school, a combination market/café/post office/gas station, a state highway maintenance field office, and a highway rest area. Hampton has a café and recreational vehicle park. Millican has a market/gas station.

The existing land uses in the rural Service Centers of Whistlestop and Wildhunt are commercial and residential, surrounded by forest.
Section 4.9 Rural Service Center Policies

Goals and Policies

No goals have been defined for the Rural Service Centers.

Policy 4.9.1 Land use regulations shall conform to the requirements of OAR 660, Division 22 or any successor.

Policy 4.9.2 Rural Service Center zoning shall be applied to Alfalfa and Brothers and shall consist of three districts: Commercial/Mixed Use; Residential; and Open Space.

Policy 4.9.3 Rural Service Center zoning shall be applied to Hampton, Whistlestop and Wildhunt and shall consist of a single Commercial/Mixed Use District.

Policy 4.9.4 The area in the Brothers Rural Service Center Boundary that is north of Highway 20 and east of Camp Creek Road shall be zoned as Rural Service Center - Open Space District (RSC-OS).

Policy 4.9.5 In April 2002, Alfalfa area residents expressed a desire to keep the community “the way it is” and to limit commercial activity to 2-acres south of Willard Road that is the site of the Alfalfa Community Store and the community water system. These two acres are designated as a mixed used commercial district in the Comprehensive Plan and shall be zoned mixed use commercial. The remaining 20 acres of the Rural Service Center will continue to be zoned Rural Service Center – Residential District, with a 5-acre minimum lot size. Since the Board of County Commissioners finds it may be necessary to accommodate the need for future commercial expansion 2 acres north of Willard Road are being designated on the Comprehensive Plan for future commercial uses. A zone change to mixed use commercial can be considered only for a specific use and upon findings that the existing commercial area is fully developed.

Policy 4.9.6 County Comprehensive Plan policies and land use regulations shall ensure that new uses authorized within the Alfalfa, Brothers, Hampton, Millican, Whistlestop and Wildhunt Rural Service Centers do not adversely affect agricultural and forest uses in the surrounding areas.

Policy 4.9.7 Zoning in the area shall promote the maintenance of the area’s rural character. New commercial uses shall be limited to small-scale, low impact uses that are intended to serve the community and surrounding rural area or the travel needs of people passing through the area. The commercial/mixed use zoning regulations shall allow a mixed use of residential or small-scale commercial uses.

Policy 4.9.8 Residential and commercial uses shall be served by DEQ approved on-site sewage disposal systems.

Policy 4.9.9 Residential and commercial uses shall be served by onsite wells or public water systems.

Policy 4.9.10 Community water systems, motels, hotels and industrial uses shall not be allowed.
Policy 4.9.11 Recreational vehicle or trailer parks and other uses catering to travelers shall be permitted.

Policy 4.9.12 The County shall consider ways to improve services in the area consistent with the level of population to be served.
Chapter 4 Primary References

References


2. Oregon Administrative Rule 660 particularly:
   a. 660-004 Goal 2 Exception Process
   b. 660-22 Unincorporated Communities

3. Bend Joint Management Agreement 98-12331

4. La Pine Intergovernmental Agreement 2009-044

5. Redmond Joint Management Agreement 2007-110


7. Ordinance 2004-006, Adoption of Deschutes County Coordinated Population Forecast


   Sisters Urban Growth Boundary Amendments


11. Ordinance 2009-006 Adoption of a Coordinated Population Forecast for the City of La Pine

12. Document 2009-051 Sisters Urban Growth Boundary Amendment for a Fire Training Facility

13. City of Bend Community Development Department Bend Comprehensive Plan

14. City of Sisters Community Development Department Sisters Comprehensive Plan

15. City of Redmond Community Development Department Redmond Comprehensive Plan

---

1 The references listed are provided for the convenience of the public and are not legally adopted into this Plan.
Chapter 5

Supplemental

Sections
Section 5.1 Introduction

Background
This chapter provides material that supplements the other chapters of the Plan. There are no goals or policies in these sections.

Purpose
The purpose of this chapter is to provide a glossary, list all acknowledged Goal 5 resources in one location (see Section 2.4) and list all Goal Exceptions and Goal 5 inventories. The final section in this Chapter is a table to track all amendments to this Plan. This table will ensure a clear legislative history is maintained.

The following information is covered in this chapter.

- Glossary and Acronyms (Section 5.2)
- Goal 5 Water Resources (Section 5.3)
- Goal 5 Wildlife Resources (Section 5.4)
- Goal 5 Open Space and Scenic Views and Sites Resources (Section 5.5)
- Goal 5 Energy Resources (Section 5.6)
- Goal 5 Wilderness, Natural Areas and Recreation Trails (Section 5.7)
- Goal 5 Surface Mining Resources (Section 5.8)
- Goal 5 Cultural and Historic Resources (Section 5.9)
- Goal Exception Statements (Section 5.10)
- Goal 5 Adopted Ordinances (Section 5.11)
- Ordinance History (Section 5.12)
Section 5.2 Glossary and Acronyms

Glossary

Note: Terms defined in Deschutes County Code 18.04 (Zoning Code) are not repeated here, but have the same meaning as DCC 18.04.

“Agricultural-tourism” or “Agri-tourism” means a commercial enterprise at a working farm or ranch, operated in conjunction with the primary farm or ranch use, conducted for the enjoyment and/or education of visitors, that promotes successful agriculture, generates supplemental income for the owner and complies with Oregon Statute and Rule.

“Aquifer” means a water-bearing rock, rock formation or a group of formations.

“Common Area” means ‘common property’ as defined in the Oregon Planned Communities Act at ORS 94.550(7).

“Community facilities” means public or privately owned facilities used by the public, such as streets, schools, libraries, parks and playgrounds; also facilities owned and operated by non-profit private agencies such as churches, settlement houses and neighborhood associations.

“Comprehensive Plan” means a generalized, coordinated land use map and policy statement of the governing body of a state agency, city, county or special district that interrelates all functional and natural systems and activities relating to the use of lands, including but not limited to sewer and water, transportation, educational and recreational systems and natural resources and air and water quality management programs. "Comprehensive" means all-inclusive, both in terms of the geographic area covered and functional and natural activities and systems occurring in the area covered by the plan. "Generalized" mean a summary of policies and proposals in broad categories and does not necessarily indicate specific locations of any area, activity or use. A plan is "coordinated" when the needs of all levels of governments, semi-public and private agencies and the citizens have been considered and accommodated as much as possible. "Land" includes water, both surface and subsurface, and the air.

“Conservation” means limiting or minimizing the use or depletion of natural resources, including such things as land, energy, water or wildlife habitat.

“Ecosystem” means the physical and biological components and processes occurring in a given area, which interact to create a dynamic equilibrium.

“Findings” means a fact, determination or reason, based on existing information, which, by itself or in conjunction with other findings, leads to a particular conclusion or course of action.

“Goal Exception” means a land use process through which a local jurisdiction justifies, based on factual evidence, that a policy embodied in a particular statewide planning goal should not apply to a particular property or set of properties.

“Green design” means design and construction practices that significantly reduce the negative impacts of buildings on the environment and occupants.
“Groundwater” means water beneath the earth’s surface between saturated soil and rock that supplies wells and springs.

“Habitat” means a place that provides seasonal or year-round food, water, shelter and other necessities for an organism, community or population of plants and animals.

“In-stream” as defined in ORS 537.332, means within the natural stream channel or lake bed or place where water naturally flows or occurs.

"Instream flow" means the minimum quantity of water necessary to support the public use requested by an agency.

“Police power” means the inherent right of a government to restrict an individual's conduct or his use of his property in order to protect the health, safety, welfare and morals of the community. In the United States, this power must relate reasonably to these ends and must follow due processes of the law; but unlike the exercise of the State's power of eminent domain, no compensation need be paid for losses incurred as a result of police power regulation.

“Post-acknowledgement plan amendment” means an amendment to an adopted and acknowledged Comprehensive Plan.

“Resort community” means an unincorporated community that was established primarily for and continues to be used primarily for recreation and resort purposes. It includes residential and commercial uses and provides for both temporary and permanent residential occupancy, including overnight lodging and accommodations.

“Riparian (zone, habitat, or vegetation)” means of, or pertaining to, the bank of a river, or of a pond or small lake. Riparian habitat is riverbank vegetative cover and food for many wildlife species.

“Rural lands” means those lands outside recognized urban growth boundaries which are necessary and suitable for such uses as:
   A. Exclusive farm use;
   B. General agriculture;
   C. Forest;
   D. Rural residential;
   E. Rural service center;
   F. Destination resort, dude ranch, planned community;
   G. Landscape management;
   H. Special interest;
   I. Open space;
   J. Fish and wildlife protective area;
   K. Recreation;
   L. Surface mining.

Industrial, commercial and urban and suburban residential uses are not generally appropriate on rural lands.

“Rural service center” means an unincorporated convenience-commercial and residential center of a nature and size only as required to serve the convenience-commercial needs of the
surrounding rural lands. Planning area boundaries are not the boundaries for rural service centers.

“Special District” means any unit of local government, other than a city or county, authorized and regulated by statute, which includes but is not limited to water control, irrigation, port districts, fire, hospital, mass transit and sanitary districts, as well as regional air quality control authorities.

“Statewide Planning Goals” means the 19 statewide planning standards adopted by the Land Conservation and Development Commission pursuant to OAR 660-015 to express Statewide policies on land use and related topics. Local comprehensive plans must be consistent with the statewide planning goals.

"Surface mining” means all or any part of the process of mining by removal of the overburden and extraction of natural mineral deposits.

“Urban Growth Boundary” (UGB) means a boundary established to identify for each city, the land area needed to accommodate 20 years of growth for the city, which is determined to be necessary and suitable for future urban uses capable of being served by urban facilities and services.

“Urbanized lands” means those lands within the urban growth boundaries which can be served by urban services and facilities and are necessary and suitable for future expansion of an urban area.

“Urban Reserve Area” means a boundary established to identify for each city, the land area needed to accommodate from 20-50 years of growth for the city.

**Frequently Used Acronyms**

“BLM” stands for Bureau of Land Management

“CCI” stands for Committee for Community Involvement

“DCC” stands for Deschutes County Code

“DLCD” stands for Oregon Department of Land Conservation and Development.

“DEQ” stands for Oregon Department of Environmental Quality

"DOGAMI" stands for Oregon Department of Geology and Mineral Industries

“ESA” stands for the federal Endangered Species Act

"ESEE" stands for Economic, Social, Environmental and Energy in regards to required Goal 5 analyses

“FEMA” stands for Federal Emergency Management Agency

“LCDC” stands for Oregon Land Conservation and Development Commission

“NOAA” stands for National Oceanic Atmospheric Administration

“OAR” stands for Oregon Administrative Rules

“ODFW” stands for Oregon Department of Fish and Wildlife

“ORS” stands for Oregon Revised Statute
“OWRD” stands for Oregon Water Resources Department
“RPS” stands for Regional Problem Solving
“TSP” stands for Transportation System Plan
“UGB” stands for Urban Growth Boundary
“URA” stands for Urban Reserve Area
“USFS” stands for United States Forest Service
“USFWS” stands for United States Fish and Wildlife Service
“USGS” stands for United States Geological Survey
Section 5.3 Goal 5 Inventory
Water Resources

Background
This section contains information from the 1979 Deschutes County Comprehensive Plan as revised and the 1986 Deschutes County/City of Bend River Study. It lists the water resources in Deschutes County. These inventories have been acknowledged by the Department of Land Conservation and Development as complying with Goal 5. No changes have been proposed for the 2010 Comprehensive Plan update.

Goal 5 requires the following water resources be inventoried and the inventories are listed below.

- Riparian corridors, including water and riparian areas and fish habitat
- Wetlands
- Federal Wild and Scenic Rivers
- State Scenic Waterways
- Groundwater Resources

Also included in these inventories are Significant Lakes and Reservoirs.

Riparian Corridors

Inventories

Table 5.3.1 Deschutes County River Miles

<table>
<thead>
<tr>
<th>Waterway</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>97</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>42</td>
</tr>
<tr>
<td>Whychus Creek (lower 6 miles in Jefferson County)</td>
<td>39</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>16</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>10</td>
</tr>
<tr>
<td>Fall River</td>
<td>8</td>
</tr>
<tr>
<td>Crooked River</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Deschutes County/City of Bend River Study 1986

Table 5.3.2 Deschutes County Goal 5 Riparian Inventory

<table>
<thead>
<tr>
<th>Streams</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>1,440</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>2,920</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>846</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>573</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>50</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>47</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>43</td>
</tr>
<tr>
<td>Crooked River</td>
<td>38</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised and Deschutes County/City of Bend River Study 1986
Table 5.3.3 Deschutes County Goal 5 Floodplains Adjacent to Rivers and Streams

<table>
<thead>
<tr>
<th>River or Stream</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Crooked River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Dry River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Cultus Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Deer Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Snow Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Jade Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Charlton Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Shadow Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Crooked River</td>
<td>Federal</td>
</tr>
<tr>
<td>Deschutes River</td>
<td>Federal</td>
</tr>
</tbody>
</table>

Note: All of these streams, except portions of Indian Ford Creek, Cache Creek and Dry Creek, are located on federal land and are subject to either the Deschutes National Forest or the Bureau of Land Management Resource Management Plans.

Source: 1979 Deschutes County Comprehensive Plan as revised

Table 5.3.4 Deschutes County Goal 5 Perennial Streams

<table>
<thead>
<tr>
<th>River or Stream</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottle Creek</td>
<td>Full Creek</td>
</tr>
<tr>
<td>Bridge Creek</td>
<td>Goose Creek</td>
</tr>
<tr>
<td>Brush Draw</td>
<td>Indian Ford Creek</td>
</tr>
<tr>
<td>Bull Creek</td>
<td>Jack Creek</td>
</tr>
<tr>
<td>Cache Creek</td>
<td>Kaleetan Creek</td>
</tr>
<tr>
<td>Charlton Creek</td>
<td>Metolius Creek</td>
</tr>
<tr>
<td>Cultus Creek</td>
<td>Park Creek EF</td>
</tr>
<tr>
<td>Cultus River</td>
<td>Park Creek WF</td>
</tr>
<tr>
<td>Deer Creek</td>
<td>Pole Creek</td>
</tr>
<tr>
<td>Dry Creek</td>
<td>Rock Creek</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>Snow Creek</td>
</tr>
<tr>
<td>Spring Creek</td>
<td>SF Tumalo Creek</td>
</tr>
<tr>
<td>Three Creek</td>
<td>Soda Crater Creek</td>
</tr>
<tr>
<td>NF Trout Creek</td>
<td>NF Tumalo Creek</td>
</tr>
<tr>
<td>Todd Lake Creek</td>
<td>First Creek</td>
</tr>
<tr>
<td>Soap Creek</td>
<td></td>
</tr>
</tbody>
</table>

Note: All of these streams, except portions of Indian Ford Creek, Cache Creek and Dry Creek, are located on federal land and are subject to either the Deschutes National Forest or the Bureau of Land Management Resource Management Plans.

Source: 1979 Deschutes County Comprehensive Plan as revised

Table 5.3.5 Deschutes County Riparian Ownership

<table>
<thead>
<tr>
<th>River or Stream</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Fall River</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Three Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Trout Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Dry Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Cache Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>Private/Federal</td>
</tr>
<tr>
<td>Cultus River</td>
<td>Federal</td>
</tr>
<tr>
<td>Charlton Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Deer Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Cultus Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Quinn Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>Federal</td>
</tr>
<tr>
<td>Moore Creek</td>
<td>Federal</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised
Wetlands

*Inventory:* In 1992 Deschutes County Ordinance 92-045 adopted all wetlands identified on the U. S. Fish and Wildlife Service National Wetland Inventory Maps as the Deschutes County wetland inventory. Additionally, Deschutes County Ordinance 2011-008 adopted a Local Wetland Inventory (LWI) covering 18,937 acres in South Deschutes County.

Federal Wild and Scenic Rivers

*Inventory:* The following segments of the Deschutes River have been designated as Federal Recreation and Scenic rivers by the passage of the 1988 Omnibus Oregon Wild and Scenic Rivers Act of 1988. Congress mandates the US Forest Service to prepare a management plan for these segments of the Deschutes River.

<table>
<thead>
<tr>
<th>Waterway</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>From Wickiup Dam to Fall River (22 miles)</td>
</tr>
<tr>
<td>Deschutes River</td>
<td>Fall River to N boundary Sun River (20 miles)</td>
</tr>
<tr>
<td>Deschutes River</td>
<td>N boundary Sun River to Bend UGB (13 miles)</td>
</tr>
<tr>
<td>Whychus Creek (formerly Squaw Creek)</td>
<td>Includes all tributaries within the Three Sisters Wilderness, Soap Creek and the main stem from the wilderness boundary to the stream flow gauge station</td>
</tr>
</tbody>
</table>

Source: County Ordinance 92-052

Oregon Scenic Waterways

*Inventory:* The following segments of the Deschutes River have been designated as State Scenic Waterways by the State Legislature or a 1988 Ballot.

<table>
<thead>
<tr>
<th>Waterway</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>From Little Lava Lake to Crane Prairie Reservoir (12 miles)</td>
</tr>
<tr>
<td>Deschutes River*</td>
<td>From Wickiup Dam to General Patch Bridge (28 miles)</td>
</tr>
<tr>
<td>Deschutes River</td>
<td>From Harper Bridge to the COI diversion (21 miles)</td>
</tr>
<tr>
<td>Deschutes River*</td>
<td>From Sawyer Park to Tumalo State Park (5 miles)</td>
</tr>
<tr>
<td>Deschutes River</td>
<td>From Upper Deschutes Market Road to the County line (28 miles)</td>
</tr>
<tr>
<td>Little Deschutes</td>
<td>12 miles</td>
</tr>
</tbody>
</table>

Source: County Ordinance 92-052

Groundwater Resources

*Inventory:* Groundwater in the Deschutes River Basin in Deschutes County connects with surface water according to the U.S. Geological Survey.

Landscape Management Rivers and Streams

*Inventory:* Please see Section 5.5 of this Plan for the list of Landscape Management Rivers and Streams.

Significant Lakes and Reservoirs

*Inventory:* The following lakes are significant open space resources in the county. The land adjacent to the lakes is also an important open space and a recreational resource. All of the inventoried lakes and reservoirs except parts of Tumalo Reservoir are under federal ownership and management.
**Table 5.3.8 Deschutes County Significant Lakes and Reservoirs**

<table>
<thead>
<tr>
<th>River or Stream</th>
<th>Township</th>
<th>Range</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobby Lake</td>
<td>T 22S</td>
<td>R 06E</td>
<td>14</td>
</tr>
<tr>
<td>Charlton Lake</td>
<td>T 21S</td>
<td>R 06E</td>
<td>14</td>
</tr>
<tr>
<td>Crane Prairie Reservoir</td>
<td>T 21</td>
<td>R 08E</td>
<td>16</td>
</tr>
<tr>
<td>Cultus Lake</td>
<td>T 20S</td>
<td>R 07E</td>
<td>24</td>
</tr>
<tr>
<td>Deer Lake</td>
<td>T 20S</td>
<td>R 07E</td>
<td></td>
</tr>
<tr>
<td>Devils Lake</td>
<td>T 18 S</td>
<td>R 08E</td>
<td>NW1/2 SEC. 10</td>
</tr>
<tr>
<td>Davis Lake</td>
<td>T 22S</td>
<td>R 07E</td>
<td></td>
</tr>
<tr>
<td>East Lake</td>
<td>T 21S</td>
<td>R 13E</td>
<td>31</td>
</tr>
<tr>
<td>Elk Lake</td>
<td>T 18S/19S</td>
<td>R 07E</td>
<td>5</td>
</tr>
<tr>
<td>Hosmer Lake</td>
<td>T 19S</td>
<td>R 08E</td>
<td>4</td>
</tr>
<tr>
<td>Lava Lake</td>
<td>T 19S</td>
<td>R 08E</td>
<td>22</td>
</tr>
<tr>
<td>Little Cultus Lake</td>
<td>T 20S</td>
<td>R 07E</td>
<td></td>
</tr>
<tr>
<td>Little Lava Lake</td>
<td>T 19S</td>
<td>R 08E</td>
<td>22</td>
</tr>
<tr>
<td>North Twin Lake</td>
<td>T 21S</td>
<td>R 08E</td>
<td>28</td>
</tr>
<tr>
<td>Paulina Lake</td>
<td>T 21S</td>
<td>R 12E</td>
<td>84</td>
</tr>
<tr>
<td>South Twin Lake</td>
<td>T 21S</td>
<td>R 08E</td>
<td>28</td>
</tr>
<tr>
<td>Sparks Lake</td>
<td>T 18S</td>
<td>R 08E</td>
<td>23</td>
</tr>
<tr>
<td>Three Creeks Lake</td>
<td>T 17S</td>
<td>R 09E</td>
<td>14</td>
</tr>
<tr>
<td>Todd Lake</td>
<td>T 18S</td>
<td>R 09E</td>
<td>8</td>
</tr>
<tr>
<td>Upper Tumalo Reservoir</td>
<td>T 16S</td>
<td>R 11E</td>
<td>33</td>
</tr>
<tr>
<td>Winoopee Lake</td>
<td>T 19S</td>
<td>R 11E</td>
<td>33</td>
</tr>
<tr>
<td>Wickiup Reservoir</td>
<td>T 22S</td>
<td>R 09E</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Deschutes County Ordinance 92-052
Section 5.4 Goal 5 Inventory
Wildlife Habitat

Background
This section contains wildlife resource information from the 1979 Deschutes County Comprehensive Plan as revised. These inventories have been acknowledged by the Department of Land Conservation and Development as complying with Goal 5. No changes have been proposed for the 2010 Comprehensive Plan update. However, an updated inventory has been provided as described in Section 2.6 of this Plan and will be incorporated at a later date.

Table 5.4.1 – Bird Inventory

<table>
<thead>
<tr>
<th>Birds</th>
<th>Use Period</th>
<th>Relative Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S = Summer</td>
<td>A = Abundant</td>
</tr>
<tr>
<td></td>
<td>W = Winter</td>
<td>C = Common</td>
</tr>
<tr>
<td></td>
<td>X = Year round</td>
<td>F = Few</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R = Rare</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U = Unknown</td>
</tr>
<tr>
<td>American Avocet</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>American Bittern</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>American Coot</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>American Goldfinch</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>American Destrel</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>American Widgeon</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Anna’s Hummingbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Ash-throated Flycatcher</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Bank Swallow</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Barn Owl</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Barn Swallow</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Barred Owl</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Belted Kingfisher</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Bewick’s Wren</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Black-backed Woodpecker</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Black-billed Magpie</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Black-capped Chickadee</td>
<td>W</td>
<td>F</td>
</tr>
<tr>
<td>Black-chinned Hummingbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Black-crowned Night Heron</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Black-headed Grosbeak</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Black-throated Grey Warble</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Blue Grouse</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Blue-winged Teal</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Bohemian Waxwing</td>
<td>W</td>
<td>F</td>
</tr>
<tr>
<td>Boreal Owl</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Brewer’s Blackbird</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Brewer’s Sparrow</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Brown Creeper</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td><strong>Use Period</strong></td>
<td><strong>Relative Abundance</strong></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Selected List 1992</td>
<td>S = Summer</td>
<td>A = Abundant</td>
</tr>
<tr>
<td>W = Winter</td>
<td>C = Common</td>
<td></td>
</tr>
<tr>
<td>X = Year round</td>
<td>F = Few</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R = Rare</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U = Unknown</td>
<td></td>
</tr>
<tr>
<td>Brown-headed Cowbird</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Bufflehead</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Burrowing Owl</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>California Valley Quail</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Calliope Hummingbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Canada Goose</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Canyon Wren</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Caspian Tern</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Cassin’s Finch</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Cedar Waxwing</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Chipping Sparrow</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Chukar Partridge</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>California Gull</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Clark’s Nutcracker</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Cliff Swallow</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Common Bushtit</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Common Crow</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Common Loon</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>Common Merganser</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Common Nighthawk</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Common Raven</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Common Snipe</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Coopers Hawk</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Dark-eyed Junco</td>
<td>X</td>
<td>A</td>
</tr>
<tr>
<td>Dipper</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Double-crested Cormorant</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Downy Woodpecker</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Dusky Flycatcher</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Eared Grebe</td>
<td>W</td>
<td>F</td>
</tr>
<tr>
<td>Eastern Kingbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Evening Grosbeak</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Ferruginous Hawk</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Flammulated Owl</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Fox Sparrow</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Franklin’s Gull</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Gadwall</td>
<td>W</td>
<td>F</td>
</tr>
<tr>
<td>Golden Eagle</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Golden-crowned Kinglet</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Goldeneye</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Goshawk</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Gray Jay</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Gray Partridge</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>House Sparrow</td>
<td>X</td>
<td>C</td>
</tr>
</tbody>
</table>
### Birds

**Selected List 1992**

<table>
<thead>
<tr>
<th><strong>Use Period</strong></th>
<th><strong>Relative Abundance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use Period</strong></td>
<td><strong>Relative Abundance</strong></td>
</tr>
<tr>
<td>S = Summer</td>
<td>A = Abundant</td>
</tr>
<tr>
<td>W = Winter</td>
<td>C = Common</td>
</tr>
<tr>
<td>X = Year round</td>
<td>F = Few</td>
</tr>
<tr>
<td></td>
<td>R = Rare</td>
</tr>
<tr>
<td></td>
<td>U = Unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bird</th>
<th>Use Period</th>
<th>Relative Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>House Wren</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Killdeer</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Lark Sparrow</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Lazuli Bunting</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Least Sandpiper</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Lesser Goldfinch</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Lesser Scaup</td>
<td>W</td>
<td>C</td>
</tr>
<tr>
<td>Lewis' Woodpecker</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Lincoln's Sparrow</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Loggerhead Shrike</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Long-billed Curlew</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>Long-billed Marsh Wren</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Long-eared Owl</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>MacGillivray's Warbler</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Mallard</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Merlin</td>
<td>W</td>
<td>R</td>
</tr>
<tr>
<td>Mountain Bluebird</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Mountain Chickadee</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Mourning Dove</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Nashville Warbler</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Northern Harrier</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Northern Oriole</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Northern Phalarope</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Three-toed Woodpecker</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Olive-sided Flycatcher</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Orange-crowned Warbler</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Osprey</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Peregrine Falcon</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Pileated Woodpecker</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Pine Grosbeak</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Pine Siskin</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Pinon Jay</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Pintail</td>
<td>W</td>
<td>C</td>
</tr>
<tr>
<td>Prairie Falcon</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Purple Finch</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Pygmy Nuthatch</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Pygmy Owl</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Red Crossbill</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Red-breasted Nuthatch</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Redhead</td>
<td>W</td>
<td>F</td>
</tr>
<tr>
<td>Red-shafted Flicker</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Red-tailed Hawk</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Red-winged Blackbird</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Birds</td>
<td>Use Period</td>
<td>Relative Abundance</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td></td>
<td>S = Summer</td>
<td>A = Abundant</td>
</tr>
<tr>
<td></td>
<td>W = Winter</td>
<td>C = Common</td>
</tr>
<tr>
<td></td>
<td>X = Year round</td>
<td>F = Few</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R = Rare</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U = Unknown</td>
</tr>
<tr>
<td>Ring-billed Gull</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Ring-neck Duck</td>
<td>W</td>
<td>F</td>
</tr>
<tr>
<td>Ring-necked Pheasant</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Robin</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Rock Dove</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Rock Wren</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Rosy Finch</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Rough-legged Hawk</td>
<td>W</td>
<td>C</td>
</tr>
<tr>
<td>Rough-winged Swallow</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Ruby-crowned Kinglet</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Ruffed Grouse</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Ruffous Hummingbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Rufous-sided Towhee</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Sage Grouse</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Sage Sparrow</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>Sage Trasher</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Sandhill Crane</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Song Sparrow</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Sora</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Spotted Owl</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Spotted Sandpiper</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Starling</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Steller's Jay</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Swainson’s Hawk</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>Swainson’s Thrush</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Townsend’s Solitaire</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Tree Swallow</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Turkey</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Turkey Vulture</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Varied Thrush</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Vaux’s Swift</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Vesper Sparrow</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Violet-green Swallow</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Virginia Rail</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Warbling Vireo</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Water Pipit</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Western Bluebird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Western Flycatcher</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Western Grebe</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Western Kingbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Western Meadowlark</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Western Sandpiper</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Western Taager</td>
<td>S</td>
<td>F</td>
</tr>
</tbody>
</table>
### Birds
Selected List 1992

<table>
<thead>
<tr>
<th>Species</th>
<th>Use Period</th>
<th>Relative Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Wood Pewee</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>White-breasted Nuthatch</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>White-crowned Sparrow</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>White-headed Woodpecker</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Wigeon</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Williamson’s Sapsucker</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Willow Flycatcher</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>Wilson’s Phalarope</td>
<td>S</td>
<td>R</td>
</tr>
<tr>
<td>Wilson’s Warbler</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Winter Wren</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Wood Duck</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Yellow Warbler</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Yellow-bellied Sapsucker</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Yellow-headed blackbird</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Yellowthroat</td>
<td>S</td>
<td>F</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised

### Amphibians and Reptiles
Selected List 1992

<table>
<thead>
<tr>
<th>Species</th>
<th>Use Period</th>
<th>Relative Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullfrog</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Cascades Frog</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>N. Grasshopper Mouse</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Northern Water Shrew</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Norway Rat</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>N. Pocket Gopher</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Ord’s Kangaroo Rat</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Pacific Mole</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Pallid Bat</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Pine Marten</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Pinon Mouse</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Porcupine</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Pronghorn Antelope</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Raccoon</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Red Fox</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>River Otter</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Rocky Mtn Elk</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Roosevelt Elk</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Sagebrush Vole</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Amphibians and Reptiles</td>
<td>Use Period</td>
<td>Relative Abundance</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Selected List 1992</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S = Summer</td>
<td>A = Abundant</td>
</tr>
<tr>
<td></td>
<td>W = Winter</td>
<td>C = Common</td>
</tr>
<tr>
<td></td>
<td>X = Year round</td>
<td>F = Few</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R = Rare</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U = Unknown</td>
</tr>
<tr>
<td>Shorttail Weasel</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Silver-haired Bat</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Small-footed Myotis</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Snowshoe Hare</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Striped Skunk</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Townsend Ground Squirrel</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Townsends Big-eared Bat</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Trowbridge Shrew</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Vagrant Shrew</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Water Vole</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Western Gray Squirrel</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Western Harvest Mouse</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Western Jumping Mouse</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Western Pipistrel</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Whitetail Jackrabbit</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Wolverine</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Yellow Pine Chipmunk</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Yellow-bellied Marmot</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Yama Myotis</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Common Garter Snake</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Ensatina</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Gopher Snake</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Great Basin Spadefoot Toad</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Long-toed Salamander</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Night Snake</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Northern alligator Lizard</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Pacific Tree Frog</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Racer</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Red-legged Frog</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Roughskin Newt</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Rubber Boa</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Sagebrush Lizard</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Sharp-tailed Snake</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Short-horned Lizard</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Side-blotched Lizard</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Spotted Frog</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Striped Whipsnake</td>
<td>X</td>
<td>U</td>
</tr>
<tr>
<td>Tailed Frog</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Western Fence Lizard</td>
<td>X</td>
<td>C</td>
</tr>
<tr>
<td>Western Rattlesnake</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Western Skink</td>
<td>X</td>
<td>F</td>
</tr>
<tr>
<td>Western Toad</td>
<td>X</td>
<td>F</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised
Table 5.4.3 – Goal 5 Fish Distribution Inventory

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyee Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hell Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring River</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satan Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soda Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crater Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goose Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trout Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alder Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whytus Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pole Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snow Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deschutes River</td>
<td>3</td>
<td>*</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three Creeks Creek</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sink Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deer Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quinn River</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quinn Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultus Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultus Lake, Big</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultus Lake, Little</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultus River</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moore Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charlton Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Prairie Slough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Browns Creek</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td>#</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall River</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cache Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crane Prairie Res.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wickiup Reservoir</td>
<td>3</td>
<td>3</td>
<td></td>
<td>#</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three Creeks Lake</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Devil's Lake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hosmer Lake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irish Lake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 - Native, naturally reproducing
2 - Introduced, naturally reproducing
3 - Introduced, periodic stocking required to maintain population
* - 1 and 3
# - 2 and 3

Source: 1979 Deschutes County Comprehensive Plan as revised
Table 5.4.4 Recommended Minimum Flows for Fish Life

<table>
<thead>
<tr>
<th>Stream</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River (1)</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Deschutes River (2)</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Deschutes River (3)</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
<td>660</td>
</tr>
<tr>
<td>Deschutes River (4)</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Deschutes River (5)</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Deschutes River (6)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Whychus Creek (7)</td>
<td>20</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Whychus Creek (8)</td>
<td>10</td>
<td>10/20</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3/4</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>35</td>
<td>35</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>10/35</td>
<td>47</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Spring River</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>200</td>
<td>200</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Fall River</td>
<td>70</td>
<td>70</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>70</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Browns Creek</td>
<td>15</td>
<td>15</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Quinn River</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Cultus Creek</td>
<td>20</td>
<td>20</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>20</td>
<td>5</td>
<td>5</td>
<td>5/20</td>
<td>32</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Cultus River</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Snow Creek</td>
<td>15</td>
<td>15</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>30</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Quinn Creek</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Soda Creek</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6/20</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Fall Creek</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20/35</td>
<td>46</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Goose Creek</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4/7</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Three Creek</td>
<td>7</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>2/7</td>
<td>10</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

1 Flows are expressed in cubic feet per second. The recommended flows should arrive at the point of recommendation and continue to the mouth of the stream or to the next point for which a different flow is recommended. Stream flows recommended in Appendix I are designed for game fish production and are not necessarily adequate for wildlife, especially waterfowl and furbearers. Neither would they necessarily be recommended below future impoundments.

(1) Bend to Round Butte Reservoir
(2) L. Deschutes R. to Spring River
(3) Spring River to Bend
(4) Wickip Dam to Little Deschutes River
(5) Crane Prairie Dam to Wickup Reservoir
(6) At USGS Gate 14-0500
(7) Below USGS Gate 14-0750
(8) Below Camp Polk

Source: 1979 Deschutes County Comprehensive Plan as revised
The Oregon Department of Fish and Wildlife (ODFW) has inventoried a former bald eagle nest site in Township 17S, Range 11E, Section 26, Tax Lot 5900. The ODFW identifier for this site is DE0036. The site is described as the area east of Highway 20 that is within a 1/4-mile radius of each nest site.

Site # | Taxlot | Quarter Section | Site Name
--- | --- | --- | ---
DE0036-00 | 17S-11E-26-5900 | Site Name

The ODFW has also inventoried other bald eagle nest sites in the Deschutes R > Columbia R area. The sites are known as Cloverdale and Shevlin Park. The sites are described as the area east of Highway 20 that is within a 1/4-mile radius of each nest site.

Site # | Taxlot | Quarter Section | Site Name
--- | --- | --- | ---
DE0035-00 | 15-10-00-1400 | 23NWNE | Cloverdale NW
DE0035-01 | 15-10-00-1400 | 23NEENE | Cloverdale NE

The sensitive habitat area is identified as the area east of Highway 20 that is within a 1/4-mile radius of each nest site.

### Table 5.4.5 – Instream Water Right Program (3/1/92) Database Summary Report

<table>
<thead>
<tr>
<th>BASIN</th>
<th>STREAM &gt; PARENT STREAM</th>
<th>UPSTREAM LIMIT</th>
<th>DOWNSTREAM LIMIT</th>
<th>SPECIES</th>
<th>APP NO.</th>
<th>CERT #</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>05</td>
<td>Deschutes R &gt; Columbia R</td>
<td>Crn Prairie Res</td>
<td>Wickup Res</td>
<td>RB, BT, BR, CO, K</td>
<td>070764</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Deschutes R &gt; Columbia R</td>
<td>Little Lava Lk</td>
<td>Crn Prairie Res</td>
<td>RB, BT, K, WF</td>
<td>070763</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Deschutes R &gt; Columbia R</td>
<td>193.0</td>
<td>190.0</td>
<td>MPS</td>
<td>59777</td>
<td>11/03/83</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Deschutes R &gt; Columbia R</td>
<td>227.0</td>
<td>193.0</td>
<td>MPS</td>
<td>59776</td>
<td>11/03/83</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Deschutes R &gt; Columbia R</td>
<td>190.0</td>
<td>165.0</td>
<td>MPS</td>
<td>59778</td>
<td>11/03/83</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Fall R &gt; Deschutes R</td>
<td>Gage 14057500</td>
<td>Mouth</td>
<td>RB, BT, BR, WF</td>
<td>070762</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Indian Ford Cr &gt; Whychus Cr</td>
<td>Headwaters</td>
<td>Mouth</td>
<td>RB</td>
<td>070760</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Little Deschutes R &gt; Deschutes R</td>
<td>Crescent Cr</td>
<td>Mouth</td>
<td>RB, BT, BR, WF</td>
<td>070757</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Metolius R &gt; Deschutes R</td>
<td>Metolius Spring</td>
<td>Canyon Cr</td>
<td>BUT, K</td>
<td>070699</td>
<td>09/24/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Snow Cr &gt; Deschutes R</td>
<td>Headwaters</td>
<td>Mouth</td>
<td>RB, BT</td>
<td>070756</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Whychus Cr &gt; Deschutes R</td>
<td>S Fk Whychus Cr</td>
<td>Indian Ford Cr</td>
<td>RB, BT</td>
<td>070754</td>
<td>10/11/90</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Tumalo Cr &gt; Deschutes R</td>
<td>S Fk Tumalo Cr</td>
<td>Mouth</td>
<td>RB, BT, BR</td>
<td>070752</td>
<td>10/11/90</td>
<td></td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised

**Bird Sites** – source: 1979 Deschutes County Comprehensive Plan as revised

**Bald Eagle Habitat Sites on Non-Federal Land or with Non-Federal Sensitive Habitat Areas.**

The Oregon Department of Fish and Wildlife (ODFW) has identified two bald eagle nests in Township 15S, Range 10E, Section 23, Tax Lot 1400. The ODFW identifiers for these sites are DE0035-00 and DE0035-01. The sites are also known as Cloverdale. The sites are described in the Oregon Department of Fish and Wildlife Central Region Administrative Report No. 93-1. The sensitive habitat area is identified as the area east of Highway 20 that is within a 1/4-mile radius of each nest site.

**Site # | Taxlot | Quarter Section | Site Name**
--- | --- | --- | ---
DE0035-00 | 15-10-00-1400 | 23NWNE | Cloverdale NW
DE0035-01 | 15-10-00-1400 | 23NEENE | Cloverdale NE

The Oregon Department of Fish and Wildlife (ODFW) has inventoried a former bald eagle nest site in Township 17S, Range 11E, Section 26, Tax Lot 5900. The ODFW identifier for this site is DE0036-00. The site is also known as Shevlin Park. The site is described in the Oregon Department of Fish and Wildlife Central Region Administrative Report No. 93-1.
Site #     Taxlot          Site Name
DE0037-00  22S-09E-04-4500  Wickiup Reservoir

The Oregon Department of Fish and Wildlife (ODFW) has identified a bald eagle nest in Township 22S, Range 09E, Section 04, Tax Lot 500. The ODFW identifier for this site is DE0037-00, Wickiup Reservoir. The site is described in the Oregon Department of Fish and Wildlife Central Region Administrative Report No. 93-1.

Site #     Taxlot          Site Name
DE0038-00  22S-09E-34-500  Haner Park

The Oregon Department of Fish and Wildlife (ODFW) has identified a bald eagle nest in Township 22S, Range 09E, Section 34, Tax Lot 500. The ODFW identifier for this site is DE0038-00, Haner Park. The site is described in the Oregon Department of Fish and Wildlife Central Region Administrative Report No. 93-1. The sensitive habitat area includes the area within one-quarter mile of the nest site.

Site #     Taxlot          Site Name
DE0039-00  22S-09E-06-500  Wickiup Dam

The Oregon Department of Fish and Wildlife (ODFW) has identified a bald eagle nest in Township 22S, Range 09E, Section 06, Tax Lot 500. The ODFW identifier for this site is DE0039-00, Wickiup Dam. The site is described in the Oregon Department of Fish and Wildlife Central Region Administrative Report No. 93-1.

Site #     Taxlot          Quarter Section     Site Name
DE0046-00  20-10-34-3401    34NWSE             Bates Butte

The Oregon Department of Fish and Wildlife (ODFW) has identified a bald eagle nest in Township 20S, Range 10E, Section 34, Tax Lot 3401. The ODFW identifier for this site is DE0046-00, Bates Butte. The site is described in the Oregon Department of Fish and Wildlife Central Region Administrative Report No. 93-1. The sensitive habitat area includes the area within one-quarter mile of the nest site.

Great Blue Heron Rookery – Black Butte Ranch

The Oregon Department of Fish and Wildlife (ODFW) identified a great blue heron rookery in Township 14S, Range 9E, Section 10 SENE. The County inventoried and adopted this site as a Goal 5 resources in Ordinance 92-041.
**Golden Eagle Sites**

**Table 5.4.6 – Golden Eagle Nest Site Inventory on Non-Federal Land or with Non-Federal Sensitive Habitat Area**

<table>
<thead>
<tr>
<th>ODFW Site #</th>
<th>Taxlot</th>
<th>Quarter Section</th>
<th>General Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE-0002-00</td>
<td>14-13-11-100</td>
<td>11/SENW</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0002-01</td>
<td>14-13-11-100</td>
<td>11/SENW</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0002-02</td>
<td>14-13-11-100</td>
<td>11/SENW</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0002-03</td>
<td>14-13-11-100</td>
<td>11/NWNE</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0002-04</td>
<td>14-13-11-100</td>
<td>11/NWNE</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0002-05</td>
<td>14-13-11-100</td>
<td>11/NWNE</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0002-06</td>
<td>14-13-11-100</td>
<td>11/NWNE</td>
<td>Smith Rock State Park</td>
</tr>
<tr>
<td>DE-0006-00</td>
<td>15-12-00-1502</td>
<td>35/SENE</td>
<td>Mid Deschutes</td>
</tr>
<tr>
<td>DE-0006-01</td>
<td>15-12-00-1502</td>
<td>35/SENE</td>
<td>Mid Deschutes</td>
</tr>
<tr>
<td>DE-0006-02</td>
<td>15-12-00-1502</td>
<td>35/SENE</td>
<td>Mid Deschutes</td>
</tr>
<tr>
<td>DE-0006-04</td>
<td>15-12-00-1502</td>
<td>35/SENE</td>
<td>Mid Deschutes</td>
</tr>
<tr>
<td>DE-0006-05</td>
<td>15-12-00-1503</td>
<td>35/NESE</td>
<td>Mid Deschutes</td>
</tr>
<tr>
<td>DE-0009-00</td>
<td>14-12-22D-300</td>
<td>23/NWSW</td>
<td>N. Odlin Falls</td>
</tr>
<tr>
<td>DE-0011-00</td>
<td>15-12-00-100</td>
<td>1/NWSE</td>
<td>Radio Tower/Deschutes</td>
</tr>
<tr>
<td>DE-0011-01</td>
<td>15-12-00-100</td>
<td>1/NESE</td>
<td>Radio Tower/Deschutes</td>
</tr>
<tr>
<td>DE-0012-00</td>
<td>16-11-00-800</td>
<td>3/NWSE</td>
<td>Upper Deep Canyon</td>
</tr>
<tr>
<td>DE-0013-01</td>
<td>14-11-00-400</td>
<td>3/SENE</td>
<td>Whychus Creek</td>
</tr>
<tr>
<td>DE-0013-00</td>
<td>14-11-00-400</td>
<td>3/SESW</td>
<td>Kimrock Ranch</td>
</tr>
<tr>
<td>DE-0029-00</td>
<td>15-10-00-1400</td>
<td>25/SENE</td>
<td>Twin Pines</td>
</tr>
<tr>
<td>DE-0034-00</td>
<td>15-10-00-1400</td>
<td>15/SESW</td>
<td>Lazy Z/USFS</td>
</tr>
<tr>
<td>DE-0034-01</td>
<td>15-10-00-1400</td>
<td>15/SESW</td>
<td>Lazy Z/USFS</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised

**Table 5.4.7 – Prairie Falcon Nest Site Inventory on Non-Federal Land or with Non-Federal Sensitive Habitat Area**

<table>
<thead>
<tr>
<th>ODFW Site #</th>
<th>Taxlot</th>
<th>Quarter Section</th>
<th>General Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE 0016-00</td>
<td>22-16-00-100</td>
<td>12/SWSE</td>
<td>Dickerson Flat</td>
</tr>
<tr>
<td>DE 0031-00</td>
<td>16-11-00-5600</td>
<td>20/NESE</td>
<td>Tumalo Dam</td>
</tr>
<tr>
<td>DE 0031-01</td>
<td>16-11-20-400</td>
<td>20/SESW</td>
<td>Tumalo Dam</td>
</tr>
<tr>
<td>DE 0794-01</td>
<td>14-13-11-100</td>
<td>11/NWSW</td>
<td>Smith Rock State Park</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised

**Table 5.4.8 – Osprey Nest Site Inventory on Non-Federal Land or with Non-Federal Sensitive Habitat Area**

<table>
<thead>
<tr>
<th>ODFW Site #</th>
<th>Taxlot</th>
<th>Quarter Section</th>
<th>General Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE 0080-00</td>
<td>20-11-00-1300</td>
<td>07/NWNE</td>
<td>Sunriver/ Meadowland</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised
### Table 5.4.9 – Upland Game Bird Habitat

<table>
<thead>
<tr>
<th>Species</th>
<th>Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring-necked Pheasant</td>
<td>200</td>
</tr>
<tr>
<td>Valley Quail</td>
<td>10,000</td>
</tr>
<tr>
<td>Mountain Quail</td>
<td>50</td>
</tr>
<tr>
<td>Chukar Partridge</td>
<td>300</td>
</tr>
<tr>
<td>Turkey</td>
<td>50</td>
</tr>
<tr>
<td>Blue Grouse</td>
<td>900</td>
</tr>
<tr>
<td>Sage Grouse</td>
<td>1,800</td>
</tr>
<tr>
<td>Ruffed Grouse</td>
<td>100</td>
</tr>
<tr>
<td>Mourning Dove</td>
<td>8,000</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised

### Table 5.4.10 – Sage Grouse Lek Inventory on Non-Federal Lands or with Non-Federal Sensitive Habitat Areas

<table>
<thead>
<tr>
<th>ODFW Site #</th>
<th>Taxlot</th>
<th>Quarter Section</th>
<th>General Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE 0994-01</td>
<td>20-18-00-700</td>
<td>05/SWSE</td>
<td>Circle F Reservoir</td>
</tr>
<tr>
<td>DE 0995-01</td>
<td>20-19-00-800</td>
<td>06/NWSE</td>
<td>Merril Rd</td>
</tr>
<tr>
<td>DE 0996-01</td>
<td>22-17-00-600</td>
<td>06/SWSW</td>
<td>Dickerson Well</td>
</tr>
<tr>
<td>DE 0997-01</td>
<td>20-16-00-2400</td>
<td>25/SENW</td>
<td>Moffit Ranch</td>
</tr>
<tr>
<td>DE 0997-02</td>
<td>20-16-00-2400</td>
<td>26/NENE</td>
<td>Moffit Ranch Satellite</td>
</tr>
<tr>
<td>DE 0998-01</td>
<td>20-14-00-400</td>
<td>10/NVNW</td>
<td>Evans Well</td>
</tr>
<tr>
<td>DE 0998-02</td>
<td>20-14-00-400</td>
<td>10/SVNW</td>
<td>Evans Well Satellite</td>
</tr>
<tr>
<td>DE 0999-01</td>
<td>19-14-00-2200</td>
<td>26/SESE</td>
<td>Millican Pit</td>
</tr>
</tbody>
</table>

Source: 1979 Deschutes County Comprehensive Plan as revised
Section 5.5 Goal 5 Inventory
Open Spaces, Scenic Views and Sites

Background
This section contains information from the 1979 Deschutes County Comprehensive Plan as revised. It lists the open spaces, scenic views and sites resources in Deschutes County. These inventories have been acknowledged by the Department of Land Conservation and Development as complying with Goal 5. No changes have been proposed for the 2010 Comprehensive Plan update.

To protect scenic views, landscape management areas have been defined and a combining zone created. On lands outside urban growth boundaries and rural service centers along the portions of roadways listed below, landscape management zoning applies and a case-by-case site plan review is required. The area extends ¼ mile on either side from the centerline of the roadways and includes all areas designated as State and Federal Wild, Scenic or recreational waterways and within 660 feet from either side of designated rivers and streams as measured from the ordinary high water level.

Landscape Management Roads, Rivers and Streams

Inventory: All land within one-quarter of a mile, as measured at right angles from the centerline, of any of the following designated Landscape Management Roadways. All land within the boundaries of a state scenic waterway or a federal wild and scenic river corridor; and all land within 660 feet of the ordinary high water mark of portions the following designated rivers and streams which are not designated as state scenic waterways or federal wild and scenic rivers.

Table 5.5.1 – Deschutes County Landscape Management Areas

<table>
<thead>
<tr>
<th>Landscape Management Roads</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Highway 97 North County line to Redmond UGB</td>
<td>7.5</td>
</tr>
<tr>
<td>U.S. Highway 97 Redmond UGB to Bend UGB</td>
<td>12</td>
</tr>
<tr>
<td>U.S. Highway 97 Bend UGB to South County line</td>
<td>35</td>
</tr>
<tr>
<td>U.S. Highway 20-126 North County line to Sisters UGB</td>
<td>11</td>
</tr>
<tr>
<td>U.S. Highway 126 Sisters UGB to Redmond UGB</td>
<td>21.5</td>
</tr>
<tr>
<td>U.S. Highway 20 Sisters UGB to Bend UGB</td>
<td>23</td>
</tr>
<tr>
<td>Smith Rock Road Highway 97 to Smith Rock</td>
<td>3.5</td>
</tr>
<tr>
<td>Sisemore Road Cloverdale to Bend UGB</td>
<td>19</td>
</tr>
<tr>
<td>Skyliner Road</td>
<td>15.5</td>
</tr>
<tr>
<td>Century Drive Bend to Mt Bachelor</td>
<td>25</td>
</tr>
<tr>
<td>South Century Drive</td>
<td>27</td>
</tr>
<tr>
<td>Cascade Lakes Highway</td>
<td>46</td>
</tr>
<tr>
<td>Waldo Lake Road</td>
<td>10</td>
</tr>
<tr>
<td>Cultus Lake Road</td>
<td>2</td>
</tr>
<tr>
<td>Little Cultus Lake Road</td>
<td>6</td>
</tr>
</tbody>
</table>
### Landscape Management Roads

<table>
<thead>
<tr>
<th>Name</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twin Lakes Road</td>
<td>6</td>
</tr>
<tr>
<td>Keefer Road (East Crane Prairie Road)</td>
<td>16.5</td>
</tr>
<tr>
<td>East Deschutes Road</td>
<td>14</td>
</tr>
<tr>
<td>Deschutes Road</td>
<td>9</td>
</tr>
<tr>
<td>Wickiup Road</td>
<td>4</td>
</tr>
<tr>
<td>Pringle Falls Loop</td>
<td>8</td>
</tr>
<tr>
<td>La Pine Recreation Area Access Road</td>
<td>10</td>
</tr>
<tr>
<td>Paulina-East Lake Road</td>
<td>22.5</td>
</tr>
<tr>
<td>Lava Cast Forest Road</td>
<td>20.5</td>
</tr>
<tr>
<td>Highway 20 east to the County Line</td>
<td>25</td>
</tr>
<tr>
<td>Pine Mountain Road</td>
<td>7.5</td>
</tr>
<tr>
<td>Ford Road</td>
<td>6.5</td>
</tr>
<tr>
<td>Three Creeks Lake Road</td>
<td>16</td>
</tr>
<tr>
<td>Three Trappers Road</td>
<td>20.5</td>
</tr>
<tr>
<td>Dillon Falls Road</td>
<td>60</td>
</tr>
<tr>
<td>Matsen Road</td>
<td>2</td>
</tr>
<tr>
<td>State Highway 31</td>
<td>2.5</td>
</tr>
<tr>
<td>Road to Benham Falls</td>
<td>4.5</td>
</tr>
<tr>
<td>State Highway 242 McKenzie Highway</td>
<td></td>
</tr>
</tbody>
</table>

### Landscape Management Rivers and Streams

<table>
<thead>
<tr>
<th>Name</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td></td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>43</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>19</td>
</tr>
<tr>
<td>Fall River</td>
<td>8</td>
</tr>
<tr>
<td>Spring River</td>
<td>1.2</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>16.3</td>
</tr>
<tr>
<td>Whychus Creek (formerly Squaw Creek)</td>
<td></td>
</tr>
<tr>
<td>Crooked River</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Deschutes County Ordinance 92-052

### Areas of Special Concern Inventory

**Inventory:** The Resource Element of the Deschutes County Year 2000 Comprehensive Plan (1979) identified sites as Open Spaces and Areas of Special Concern. Table 5.5.2, lists the inventory of sites identified as Areas of Special Concern located on federal land.

#### Table 5.5.2 “2A” Areas of Special Concern

<table>
<thead>
<tr>
<th>ID #</th>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Bachelor Butte</td>
<td>T18S R09E SEC 29-32</td>
</tr>
<tr>
<td>11</td>
<td>Pine Mt. Observatory</td>
<td>T20S R15E SEC 33</td>
</tr>
<tr>
<td>13</td>
<td>Dry River</td>
<td>T19S R15E SEC 19 &amp; 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T19S R14E SEC 2, 11, 13, 14 &amp; 24</td>
</tr>
<tr>
<td>14</td>
<td>Arnold Ice Caves</td>
<td>T19S R13 E SEC 22</td>
</tr>
<tr>
<td>15</td>
<td>Charcoal Cave</td>
<td>T19S R13 E SEC 22</td>
</tr>
<tr>
<td>16</td>
<td>Skeleton Cave</td>
<td>T19S R13E SESE SEC 4</td>
</tr>
<tr>
<td>17</td>
<td>Wind Cave</td>
<td>T19S R13E NW ¼ SEC 23; SW ¼ SEC 14</td>
</tr>
<tr>
<td>31</td>
<td>Tumalo Falls</td>
<td>T18S R10E NW ¼ SEC 08</td>
</tr>
<tr>
<td>33</td>
<td>Lava River Caves</td>
<td>T19S R11E SE ¼ SEC 26</td>
</tr>
</tbody>
</table>
Land Needed and Desirable for Open Space and Scenic Resources

Inventory: The following list shows land needed and desirable for open space and scenic resources:

Table 5.5.3 Land Needed and Desirable for Open Spaces and Scenic Resources

<table>
<thead>
<tr>
<th>ID #</th>
<th>Name</th>
<th>Location</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Pringle Falls Experimental Forest</td>
<td>T21S R09E SEC 21-23, 27 &amp; 28</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Benham Falls</td>
<td>T19S R11E SW ¼ SEC 9</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Paulina Mountain</td>
<td>T22S R12E SEC 1-3 &amp; 10-12</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Lavacile Cave</td>
<td>T22S R16E SENE SEC 05</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Lava Cast Forest</td>
<td>T20S R12E SEC 15, 16, 21, 22, 27-35</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Lava Butte Geologic Area</td>
<td>T19S R11E SEC 18</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Pine Mountain North Slope</td>
<td>T20S R15E SEC 28, 29 &amp; 33</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>McKenzie Summit</td>
<td>T15S R07E SEC 17</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Newberry Crater</td>
<td>T21 R12E SEC 34-36</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Bend Watershed</td>
<td>T17S R09E SEC 35 &amp; 26</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Bat Cave</td>
<td>T19S R13E SE ¼ SEC 14</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Boyd Cave</td>
<td>T19S R13E SENE SEC 8</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Frederick Butte</td>
<td>T22S R19E SEC 32</td>
<td></td>
</tr>
</tbody>
</table>

Source: Deschutes County Ordinance 92-052
Section 5.6 Goal 5 Inventory
Energy Resources

Background
This section contains information from the 1979 Deschutes County Comprehensive Plan as revised. It lists the energy resources in Deschutes County. These inventories have been acknowledged by the Department of Land Conservation and Development as complying with Goal 5. No changes have been proposed for the 2010 Comprehensive Plan update.

Hydroelectric Resources of the Upper Deschutes River Basin

Inventory: Available information is adequate to indicate that the resource is significant. The City of Bend/Deschutes County River Study inventoried 16 proposed hydroelectric project sites in Deschutes County. Twelve were located on the Deschutes River; two on Tumalo Creek; two on Whychus Creek; and one on the Crooked River in Deschutes County. For a more detailed discussion of the hydroelectric resources in Deschutes County see the Deschutes County/City of Bend River Study, April 1986 (River Study), Chapters 2, 3, and 4. Also refer to the River Study staff report. The River Study and River Study staff report are incorporated herein by reference.

Table 5.6.1 Hydroelectric Resources of the Upper Deschutes Basin *

<table>
<thead>
<tr>
<th>Deschutes River</th>
<th>River Mile</th>
<th>Capacity (megawatts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crane Prairie</td>
<td>239</td>
<td>0.6</td>
</tr>
<tr>
<td>Wickiup Dam</td>
<td>226.8</td>
<td>7.0</td>
</tr>
<tr>
<td>Pringle Falls</td>
<td>217</td>
<td>1.6</td>
</tr>
<tr>
<td>Lava Diversion</td>
<td>182.4</td>
<td>11.5</td>
</tr>
<tr>
<td>Dillon Falls</td>
<td>177.6</td>
<td>7.2</td>
</tr>
<tr>
<td>Aspen Diversion</td>
<td>175.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Island Diversion</td>
<td>174.6</td>
<td>7.5</td>
</tr>
<tr>
<td>Arnold Flume</td>
<td>174.5</td>
<td>4.2</td>
</tr>
<tr>
<td>COI Siphon</td>
<td>170.0</td>
<td>6.5</td>
</tr>
<tr>
<td>North Canal Dam</td>
<td>164.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Bend Canal Diversion</td>
<td>162.4</td>
<td>3.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tumalo Creek</th>
<th>River Mile</th>
<th>Capacity (megawatts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia Southern</td>
<td>9.5</td>
<td>9.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Whychus Creek</th>
<th>River Mile</th>
<th>Capacity (megawatts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whychus Creek</td>
<td>25</td>
<td>0.6</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>30.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crooked River</th>
<th>River Mile</th>
<th>Capacity (megawatts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crooked River Drop</td>
<td>164.8</td>
<td>10.7</td>
</tr>
</tbody>
</table>

Source: Deschutes County Ordinance 92-052

* Note that the conflicting use analysis from the River Study and subsequent amendments prohibit new hydroelectric facilities that are not physically connected to an existing dam, diversion or conduit. (Ord.86-017, 86-018, 86-019, 92-052)

The prohibition refers to the following:
1. Deschutes River, from its headwaters to River Mile 227, above but not including Wickiup Dam, and from Wickiup Dam to River Mile 171 below Lava Island Falls;
2. Crooked River;
3. Fall River;
4. Little Deschutes River;
5. Spring River;
6. Paulina Creek;
7. Whychus Creek (was Squaw Creek);
8. Tumalo Creek.

**Geothermal Resources**

*Inventory:* The County adopted Ordinance 85-001 which complies with Goal 5 (OAR 660-016). The ordinance amended the Comprehensive Plan and adopted a Geothermal Resource Element including a resource inventory and ESEE analysis.
Section 5.7 Goal 5 Inventory
Wilderness, Natural Areas and Recreation

Background
This section lists wilderness areas, natural areas and recreation trail resources in Deschutes County.

Wilderness Areas

Inventory: Wilderness areas are represented by all lands within the existing Mt. Washington and Three Sisters Wilderness Areas as shown on the Deschutes National forest Land and Resource Management Plan Map, and all lands included in the Bureau of Land Management’s (BLM) State of Oregon Wilderness Status Map for Deschutes County and BLM Wilderness Study Areas (WSA) as shown on the Brothers / La Pine Resource Management Plan.

Table 5.7.1 Wilderness Areas

<table>
<thead>
<tr>
<th>Name</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt. Washington Wilderness Area</td>
<td>13,563</td>
</tr>
<tr>
<td>Three Sisters Wilderness Area</td>
<td>92,706</td>
</tr>
<tr>
<td>Badlands</td>
<td>32,261</td>
</tr>
<tr>
<td>Hampton Butte</td>
<td>10,600</td>
</tr>
<tr>
<td>Steelhead Falls</td>
<td>920</td>
</tr>
</tbody>
</table>

Source: Deschutes County Ordinance 92-052

Ecologically and Scientifically Significant Natural Areas

Inventory: The following sites are the inventories ecologically significant natural areas in Deschutes County by the Oregon Natural Heritage Program and there is sufficient information based on site reports from the Heritage Program to complete the Goal 5 review process.

Table 5.7.2 Ecologically and Scientifically Significant Natural Areas

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Quality</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pringle Falls Research Natural Area</td>
<td>T21S, R9E, SEC 3, 34 &amp; 35</td>
<td>Excellent</td>
<td>1,160 acres</td>
</tr>
<tr>
<td>Horse Ridge Research Natural Area</td>
<td>T19S, R14S, SEC 15 &amp; 22</td>
<td>Excellent</td>
<td>600 acres</td>
</tr>
<tr>
<td>West Hampton Butte</td>
<td>T22S, R20E, SEC 31 &amp; 32</td>
<td>Good</td>
<td>1,280 acres</td>
</tr>
<tr>
<td>Little Deschutes River / Deschutes River Confluence</td>
<td>T20S, R11E, SEC 7</td>
<td>Excellent</td>
<td>400 acres</td>
</tr>
<tr>
<td>Davis Lake</td>
<td>T22S, R7 E, SEC 25 &amp; 26 T22S, R8E, SEC 31</td>
<td>Good</td>
<td>4,000 acres</td>
</tr>
</tbody>
</table>

Source: Deschutes County Ordinance 92-052

Approved Oregon Recreation Trails
None listed
Section 5.8 Goal 5 Inventory
Mineral and Aggregate Resources

Background
This section contains information from the 1979 Deschutes County Comprehensive Plan as revised. It lists the surface mining resources in Deschutes County. These inventories have been acknowledged by the Department of Land Conservation and Development as complying with Goal 5. No changes have been proposed for the 2010 Comprehensive Plan update.

Table 5.8.1 – Deschutes County Surface Mining Mineral and Aggregate Inventory

<table>
<thead>
<tr>
<th>#</th>
<th>Taxlot</th>
<th>Name</th>
<th>Type</th>
<th>Quantity*</th>
<th>Quality</th>
<th>Access/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>246</td>
<td>151010-00-00205, 207, 300, 302, 303</td>
<td>Tewalt</td>
<td>S &amp; G</td>
<td>10,000</td>
<td>Good</td>
<td>Hwy 20</td>
</tr>
<tr>
<td>248</td>
<td>151012-00-00100</td>
<td>Cyrus</td>
<td>Cinders</td>
<td>30.2 M</td>
<td>Excellent</td>
<td>Cloverdale Road</td>
</tr>
<tr>
<td>251</td>
<td>151211-D0-01400, 151214-A0-00800</td>
<td>Cherry</td>
<td>S &amp; G</td>
<td>125,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>151200-00-04700, 04701</td>
<td>Thornburgh</td>
<td>Rock</td>
<td>2.5 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>271</td>
<td>151036-00-00800</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>2 M</td>
<td>Mixed</td>
<td>Harrington Loop Road</td>
</tr>
<tr>
<td>273</td>
<td>151117-00-00100</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>75,000</td>
<td>Excellent</td>
<td>Fryrear Rd/Redmond-Sisters</td>
</tr>
<tr>
<td>274</td>
<td>151117-00-00700</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td></td>
<td>Excellent</td>
<td>Fryrear Road</td>
</tr>
<tr>
<td>275</td>
<td>151100-00-02400</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>175,000</td>
<td>Good</td>
<td>Fryrear Landfill</td>
</tr>
<tr>
<td>277</td>
<td>151011-00-01100</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>100,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>278</td>
<td>151140-A0-00901, 151121-D0-01200</td>
<td>State of Oregon</td>
<td>S &amp; G</td>
<td>18,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>282</td>
<td>171000-00-00100</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>100,000</td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>283</td>
<td>171000-00-00100</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>50,000</td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>288</td>
<td>171111-00-00700</td>
<td>Tumalo Irrigation</td>
<td>S &amp; G</td>
<td>250,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>292</td>
<td>171112-00-00900</td>
<td>RL Coats</td>
<td>S &amp; G</td>
<td>326,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>293</td>
<td>171112-00-00500, 600, 700, 800</td>
<td>RL Coats</td>
<td>S &amp; G</td>
<td>3 M</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Taxlot</td>
<td>Name</td>
<td>Type</td>
<td>Quantity*</td>
<td>Quality</td>
<td>Access/Location</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>-----------------</td>
<td>------------</td>
<td>-----------</td>
<td>----------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>296</td>
<td>171100-00-02702</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>100,000</td>
<td>Excellent</td>
<td>Shevlin Park/Johnson Rd</td>
</tr>
<tr>
<td>297</td>
<td>171123-00-00100</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>60,000</td>
<td></td>
<td>Johnson Rd/Tumalo</td>
</tr>
<tr>
<td>303</td>
<td>171207-00-00300</td>
<td>Cascade Pumice</td>
<td>Pumice</td>
<td>750,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>171207-00-00300</td>
<td>Cascade Pumice</td>
<td>S &amp; G</td>
<td>10,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>313</td>
<td>171433-00-00600</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>100,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>313</td>
<td>171433-00-00600</td>
<td>Deschutes County</td>
<td>Storage</td>
<td></td>
<td></td>
<td>Dodds Road/Alfalfa</td>
</tr>
<tr>
<td>314</td>
<td>171332-00-01100</td>
<td>Deschutes County</td>
<td>Dirt</td>
<td>150,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>315</td>
<td>140900-00-02100</td>
<td>Stott</td>
<td>Rock</td>
<td>93,454 tons</td>
<td>ODOT Specs</td>
<td>Highway 20</td>
</tr>
<tr>
<td>316</td>
<td>140900-00-00202</td>
<td>Black Butte Ranch</td>
<td>S &amp; G</td>
<td>7 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>317</td>
<td>140900-00-01300</td>
<td>Willamette Ind</td>
<td>Cinders</td>
<td>1.2 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>322</td>
<td>141200-00-01801</td>
<td>Fred Gunzner</td>
<td>S &amp; G</td>
<td>1.5 M</td>
<td>Mixed</td>
<td>Lower Bridge/Terrebonne</td>
</tr>
<tr>
<td>322</td>
<td>141200-00-01801</td>
<td>Gunzner</td>
<td>Diatomite</td>
<td>500,000</td>
<td>Good</td>
<td>Lower Bridge/Terrebonne</td>
</tr>
<tr>
<td>324</td>
<td>141200-00-00702</td>
<td>ODVA</td>
<td>S &amp; G</td>
<td>490,000</td>
<td>Good</td>
<td>Lower Bridge/Terrebonne</td>
</tr>
<tr>
<td>326</td>
<td>141236-00-00300, 301</td>
<td>US Bank Trust</td>
<td>S &amp; G</td>
<td>1.5 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>141328-00-00702, 703</td>
<td>Larry Davis</td>
<td>Cinders</td>
<td>50,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>331</td>
<td>141329-00-00100, 103</td>
<td>EA Moore</td>
<td>Cinders</td>
<td>100,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>332</td>
<td>141329-00-00102</td>
<td>RL Coats</td>
<td>Cinders</td>
<td>2 M</td>
<td>Good</td>
<td>Northwest Way/Terrebonne</td>
</tr>
<tr>
<td>333</td>
<td>141329-00-00104</td>
<td>Robinson</td>
<td>Cinders</td>
<td>2.7 M</td>
<td>Good</td>
<td>Pershall Way/Redmond</td>
</tr>
<tr>
<td>335</td>
<td>141333-00-00890</td>
<td>Erwin</td>
<td>Cinders</td>
<td>100,000</td>
<td>Excellent</td>
<td>Cinder Butte/Redmond</td>
</tr>
<tr>
<td>336</td>
<td>141333-00-00400, 500</td>
<td>US Bank Trust</td>
<td>Cinders</td>
<td>4.5 M</td>
<td>Good</td>
<td>Cider Butte/Redmond</td>
</tr>
<tr>
<td>339</td>
<td>141132-00-01500</td>
<td>Deschutes County</td>
<td>Dirt</td>
<td>200,000</td>
<td>Fill</td>
<td>Goodard Loop/Bend</td>
</tr>
<tr>
<td>341</td>
<td>161000-00-00106</td>
<td>Young &amp; Morgan</td>
<td>S &amp; G</td>
<td>1 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Taxlot</td>
<td>Name</td>
<td>Type</td>
<td>Quantity*</td>
<td>Quality</td>
<td>Access/Location</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------</td>
<td>----------------------</td>
<td>--------</td>
<td>-----------</td>
<td>---------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>342</td>
<td>220900-00-00203</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>200,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>345</td>
<td>161000-00-01000</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>50,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>346</td>
<td>161000-00-01000</td>
<td>Crown Pacific</td>
<td>Cinders</td>
<td>50,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>347</td>
<td>161101-00-00300</td>
<td>Deschutes County</td>
<td>Dirt</td>
<td>10,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>351</td>
<td>161112-00-01401, 1700, 2000</td>
<td>Gisler/Russell</td>
<td>Cinders</td>
<td>150,000</td>
<td>Good</td>
<td>Innes Mkt/Innes Butte</td>
</tr>
<tr>
<td>357</td>
<td>161136-D0-00100, 161100-00-10400, 10300</td>
<td>Tumalo Irrigation</td>
<td>Cinders</td>
<td>1 M</td>
<td></td>
<td>Johnson Road/Tumalo</td>
</tr>
<tr>
<td>357</td>
<td>161136-D0-00100, 161100-00-10400, 10300</td>
<td>Tumalo Irrigation</td>
<td>S &amp; G</td>
<td>500,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>357</td>
<td>161136-D0-00100, 161100-00-10400, 10300</td>
<td>Tumalo Irrigation</td>
<td>Pumice</td>
<td>500,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>358</td>
<td>161231-D0-01100</td>
<td>Gisler</td>
<td>S &amp; G</td>
<td>100,000</td>
<td>ODOT Specs</td>
<td>Hwy 20/Tumalo</td>
</tr>
<tr>
<td>361</td>
<td>161222-C0-02800</td>
<td>Oregon State Hwy</td>
<td>Cinders</td>
<td>700,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>366</td>
<td>161230-00-00000</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>40,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>368</td>
<td>161220-00-00200</td>
<td>Bend Aggregate</td>
<td>S &amp; G</td>
<td>570,000</td>
<td>Excellent</td>
<td>Twin Bridges/Tumalo</td>
</tr>
<tr>
<td>370</td>
<td>161231-D0-00400</td>
<td>Bend Aggregate Plant Site</td>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>379</td>
<td>181100-00-01600</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>500,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>381</td>
<td>181125-C0-12600, 181126-00-01600</td>
<td>Pieratt Bros</td>
<td>Cinders</td>
<td>50,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>390</td>
<td>181214-00-00500, 100</td>
<td>Deschutes County</td>
<td>Dirt</td>
<td>2 M</td>
<td></td>
<td>Landfill</td>
</tr>
<tr>
<td>391</td>
<td>181221-00-00200</td>
<td>Central OR Pumice</td>
<td>Cinders</td>
<td>500,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>392</td>
<td>181223-00-00300</td>
<td>Rose Rock</td>
<td>Rock</td>
<td>10 M Est</td>
<td>Mixed</td>
<td></td>
</tr>
<tr>
<td>392</td>
<td>181223-00-00300</td>
<td>Rose Dirt</td>
<td>Dirt</td>
<td>7.5 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Taxlot</td>
<td>Name</td>
<td>Type</td>
<td>Quantity*</td>
<td>Quality</td>
<td>Access/Location</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>-----------------------</td>
<td>----------</td>
<td>-----------</td>
<td>---------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>393</td>
<td>181225-00-01400</td>
<td>LT Contractors</td>
<td>Cinders</td>
<td>12.5 M</td>
<td>Good</td>
<td>Arnold Mkt Rd/SE of Bend</td>
</tr>
<tr>
<td>394</td>
<td>181200-00-04400, 04411</td>
<td>Windlinx</td>
<td>Cinders</td>
<td>270,000</td>
<td>Coarse</td>
<td>Hwy 97/South of Bend</td>
</tr>
<tr>
<td>395</td>
<td>181200-00-04300</td>
<td>Oregon State Hwy</td>
<td>Cinders</td>
<td>100,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>181300-00-04501, 04502</td>
<td>Eric Coats</td>
<td>S &amp; G</td>
<td>2.5 M</td>
<td>ODOT</td>
<td></td>
</tr>
<tr>
<td>404</td>
<td>191400-00-00200</td>
<td>Moon</td>
<td>S &amp; G</td>
<td>1.3 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>404</td>
<td>191400-00-00200</td>
<td>Moon</td>
<td>Rock</td>
<td>800,000 - 2 M</td>
<td>Good</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>405</td>
<td>191400-00-00600</td>
<td>Oregon State Hwy</td>
<td>Aggregate</td>
<td>50,000</td>
<td>ODOT</td>
<td></td>
</tr>
<tr>
<td>408</td>
<td>191600-00-01500</td>
<td>RL Coats</td>
<td>S &amp; G</td>
<td>3 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>413</td>
<td>201500-00-01400</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>414</td>
<td>201500-00-01500</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>415</td>
<td>201716-00-00700</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>416</td>
<td>201716-00-00200</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>417</td>
<td>201716-00-00900</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>418</td>
<td>201716-00-01000</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>419</td>
<td>201716-00-01300</td>
<td>Deschutes County</td>
<td>S &amp; G</td>
<td>30,000</td>
<td>Good/Ex</td>
<td>Hwy 20/East of Bend</td>
</tr>
<tr>
<td>421</td>
<td>212000-00-00900</td>
<td>RL Coats</td>
<td>S &amp; G</td>
<td>500,000</td>
<td>Excellent</td>
<td>Hwy 20/Tumalo</td>
</tr>
<tr>
<td>423</td>
<td>211106-C0-00700</td>
<td>Ray Rothbard</td>
<td>S &amp; G</td>
<td>100,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>426</td>
<td>211100-00-00702</td>
<td>La Pine Redi-Mix</td>
<td>S &amp; G</td>
<td>1 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>427</td>
<td>211100-00-00701</td>
<td>Bill Bagley</td>
<td>S &amp; G</td>
<td>40,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>431</td>
<td>221100-00-00600</td>
<td>Russell</td>
<td>Cinders/ Rock</td>
<td>12 M/1.2 M</td>
<td>Good</td>
<td>Finley Butte</td>
</tr>
<tr>
<td>432</td>
<td>221100-00-00500</td>
<td>State of Oregon</td>
<td>Cinders</td>
<td>160,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>433</td>
<td>211300-00-00101</td>
<td>La Pine Pumice</td>
<td>Lump Pumice</td>
<td>10 M</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>441</td>
<td>150903-00-00300</td>
<td>Willamette Ind</td>
<td>S &amp; G</td>
<td>11 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>442</td>
<td>150909-00-00400</td>
<td>Willamette Ind</td>
<td>S &amp; G</td>
<td>6 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Taxlot</td>
<td>Name</td>
<td>Type</td>
<td>Quantity*</td>
<td>Quality</td>
<td>Access/Location</td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-------------------</td>
<td>---------</td>
<td>-----------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>443</td>
<td>150917-00-00600</td>
<td>Willamette Ind</td>
<td>Rock</td>
<td>150,000</td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>453</td>
<td>161209, 10-00-00600, 301</td>
<td>Robert Fullhart</td>
<td>S &amp; G</td>
<td>704,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>459</td>
<td>141131-00-05200</td>
<td>Deschutes County</td>
<td>Cinders</td>
<td>50,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>461</td>
<td>141200-1501, 1502</td>
<td>Nolan</td>
<td>S &amp; G</td>
<td>211,000</td>
<td>Good</td>
<td>Does not meet ODOT specs</td>
</tr>
<tr>
<td>461</td>
<td>141200-1501, 1502, 1600</td>
<td>Franklin Nolan</td>
<td>Diatomite</td>
<td>2 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>465</td>
<td>141333-00-00900</td>
<td>Oregon State Hwy</td>
<td>Cinders</td>
<td>100,000</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>466</td>
<td>141333-00-00600</td>
<td>Fred Elliott</td>
<td>Cinders</td>
<td>5.5 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>467</td>
<td>141333-00-00601</td>
<td>Knorr Rock Co</td>
<td>Cinders</td>
<td>5 M</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>469</td>
<td>141131-00-00100</td>
<td>Deschutes County</td>
<td>Cinders</td>
<td>2 M</td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>475</td>
<td>151012-00-00600</td>
<td>Deschutes County</td>
<td>Cinders</td>
<td>200,000</td>
<td>Good</td>
<td>Cloverdale Road</td>
</tr>
<tr>
<td>482</td>
<td>151300-00-00103</td>
<td>Deschutes County</td>
<td>Dirt</td>
<td>2 M</td>
<td>Good</td>
<td>Negus Landfill</td>
</tr>
<tr>
<td>488</td>
<td>161230-00-00100, 600, 2000, 2100</td>
<td>Bend Aggregate</td>
<td>S &amp; G</td>
<td>400,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>496</td>
<td>191400-00-00500</td>
<td>Taylor</td>
<td>S &amp; G</td>
<td>1.8 M</td>
<td>Mixed</td>
<td>Hwy 20</td>
</tr>
<tr>
<td>498</td>
<td>191400-00-02200</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>200,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>499</td>
<td>191533-00-00200</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>50,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>191500-00-00999</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>130,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>501</td>
<td>191500-00-01600</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>50,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>503</td>
<td>191600-00-01300</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>200,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>505</td>
<td>201600-00-00400</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>275,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>506</td>
<td>201600-00-00600, 700, 800</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>36,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>508</td>
<td>201700-00-01000</td>
<td>State of Oregon</td>
<td>S &amp; G</td>
<td>100,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>515</td>
<td>201801-00-00100</td>
<td>Oregon State Hwy</td>
<td>S &amp; G</td>
<td>100,000</td>
<td>ODOT Specs</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Taxlot</td>
<td>Name</td>
<td>Type</td>
<td>Quantity*</td>
<td>Quality</td>
<td>Access/Location</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------</td>
<td>-----------------------</td>
<td>------</td>
<td>-----------</td>
<td>---------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>522</td>
<td>211900-00-01000</td>
<td>Oregon State Hwy S &amp; G</td>
<td>300,000</td>
<td>ODOT Specs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>524</td>
<td>212000-00-01900</td>
<td>Oregon State Hwy S &amp; G</td>
<td>300,000</td>
<td>ODOT Specs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>528</td>
<td>222110-00-00600</td>
<td>Oregon State Hwy S &amp; G</td>
<td>45,000</td>
<td>ODOT Specs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>529</td>
<td>221100-00-00300</td>
<td>Oregon State Hwy S &amp; G</td>
<td>31,000</td>
<td>ODOT Specs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>533</td>
<td>222100-00-00800</td>
<td>Oregon State Hwy S &amp; G</td>
<td>1 M</td>
<td>ODOT Specs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>541</td>
<td>141035-00-02000</td>
<td>Cyrus Aggregate</td>
<td>528,000</td>
<td>Good</td>
<td>Inc Portions of TL 1800/1900</td>
<td></td>
</tr>
<tr>
<td>542</td>
<td>151001-00-02700</td>
<td>Swarens Aggregate</td>
<td>80,000</td>
<td>Good</td>
<td></td>
<td></td>
</tr>
<tr>
<td>543</td>
<td>151013-00-00100</td>
<td>Cyrus Aggregate</td>
<td>1.1 M</td>
<td>Good</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>191400-00-00700</td>
<td>Robinson S &amp; G</td>
<td>3.8 M</td>
<td>Good</td>
<td>Hwy 20/East of Bend</td>
<td></td>
</tr>
<tr>
<td>601</td>
<td>211100-00-00700</td>
<td>La Pine Redi Mix S &amp; G</td>
<td>479,000</td>
<td>DEQ Specs</td>
<td>Paulina Lake Road</td>
<td></td>
</tr>
</tbody>
</table>

* Quantity in cubic yards unless otherwise noted
Source: 1979 Deschutes County Comprehensive Plan as revised
### Table 5.8.2 – Deschutes County Non-Significant Mining Mineral and Aggregate Inventory

<table>
<thead>
<tr>
<th>Site #</th>
<th>Taxlot</th>
<th>Name</th>
<th>Type</th>
<th>Quantity*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>15-10-13-700</td>
<td>Whychus Creek Irrigation District—Watson Reservoir I.</td>
<td>Silt, sand, &amp; dirt</td>
<td>200,000 cy</td>
<td>Reservoir Size is 80 acres.</td>
</tr>
<tr>
<td>101</td>
<td>15-10-13-700</td>
<td>Whychus Creek Irrigation District—Watson Reservoir II.</td>
<td>sand &amp; dirt</td>
<td>600,000 cy</td>
<td>Reservoir size is 40 acres.</td>
</tr>
<tr>
<td>102</td>
<td>14-11-33-500</td>
<td>Whychus Creek Irrigation District—McKenzie Reservoir</td>
<td>Silt, sand, &amp; dirt</td>
<td>100,000 cy</td>
<td>Reservoir size is 12 acres</td>
</tr>
<tr>
<td>103</td>
<td>14-11-33-500</td>
<td>Whychus Creek Irrigation District—McKenzie Reservoir Expansion</td>
<td>Sand &amp; dirt</td>
<td>250,000 to 300,000 cy</td>
<td>Reservoir Expansion size is 20 acres</td>
</tr>
</tbody>
</table>

*Quantity in cubic yards unless otherwise noted

Source: 1979 Deschutes County Comprehensive Plan as revised
Section 5.9 Goal 5 Inventory
Cultural and Historic Resources

Background
This section contains information from the 1979 Deschutes County Comprehensive Plan, as revised. It lists the cultural and historic resources in Deschutes County. These inventories have been acknowledged by the Department of Land Conservation and Development as complying with Goal 5. One minor change has been made to acknowledge an already approved and existing change to Number 30, the Tumalo Creek Diversion Dam and Headgate of the Feed Canal.

Inventory

1. Alfalfa Grange: Grange building and community center, built in 1930, located on Willard Road, Alfalfa. 17-14-26 TL 400.

2. Allen Ranch Cemetery: Oldest cemetery in Deschutes County. 30' by 40' fenced cemetery plot. Situated 100 yards west of South Century Drive, one-half mile south of Road 42. Two marble gravestones, two wooden markers. 20-11-7 TL 1300.

3. Fall River Fish Hatchery “Ice House”: The hatchery “Ice House” dates from the beginning of fishery management in Oregon, circa 1920. It is an 18 foot by 18 foot improvement, the only original building remaining on the property, and the only significant building or structure on the site. Located at 15055 S. Century Drive, E½; NE¼; Section 32, Township 20S, Range 10 E, Tax Lot 100. (Ordinance 94-006 §1, 1994).

4. Long Hollow Ranch – Black Butte: Headquarters complex of historic ranch, located on Holmes Road in Lower Bridge area, including headquarters house, ranch commissary, equipment shed, barn and bunkhouse. 14-11-1 TL 101.

5. Swamp Ranch – Black Butte: The present day site of the Black Butte Ranch was part of the vast holdings of the Black Butte Land and Livestock Company in 1904. No buildings from the period exist. 14-9-10A, 10B, 15B, 15C, 16A, 21A, 21B, 21C, 22A, 22B.

6. Brothers School: Only one-room schoolhouse currently in use in Deschutes County, located on Highway 20 in Brothers. 20-18-00 TL 3200.

7. Bull Creek Dam: The Bull Creek Dam, a component of the Tumalo Irrigation Project was constructed in 1914 to form a water storage reservoir to increase the amount of irrigated acreage at Tumalo. It is a gravity type of overflow dam. Two cut off walls are extended into solid formation, one at the upper toe and the other at the lower toes of the concrete dam. The dam proper is about 17 feet high from the foundation, although the completed structure is about 25 feet. Located on Tumalo Reservoir-Market Road. 16-11-33 TL 2700 SW-¼; SW-¼.

8. Bull Creek Dam Bridge (Tumalo Irrigation Ditch Bridge): Built in 1914, the bridge, which spans the dam, consists of five continuous filled spandrel, barrel-type concrete deck arch spans, each 25 feet long. The concrete piers are keyed into notches in the arch structure.
The structure is the oldest bridge in Deschutes County. On Tumalo Reserve-market Road. 16-11-33 TL 2700/ SW-¼; SW-¼.

9. Camp Abbot Site, Officers’ Club: Officers’ Club for former military camp, currently identified as Great Hall in Sunriver and used as a meeting hall. 20-11-5B TL 112.

10. Camp Polk Cemetery: One of the last remaining pioneer cemeteries, located off Camp Polk Road near Sisters. The site is composed of a tract of land, including gravestones and memorials, containing 2.112 acres in the Southwest Quarter of the Southeast Quarter of Section 27, Township 14 South, Range 10 E.W.M., TL 2100, described as follows: Beginning at a point North 20 degrees 06’ 20” West 751 feet from the corner common to Sections 26, 27, 34 and 35 in Township 14 South Range 10 E.W.M. and running thence South 88 degrees 30’ West 460 feet; thence North 1 degree 30’ East 460 feet; thence South 1 degree 30’ 200 feet to the point of beginning.

11. Camp Polk Military Post Site: One of the oldest military sites in Deschutes County. Located on Camp Polk Cemetery Road. Site includes entire tax lots, listed as follows 14-10-34 TL 100, 300.

12. Cline Falls Power Plant: Early hydropower site on the Deschutes River, located off Highway 126 on White Rock Road west of Redmond. Site includes dam, penstock and powerhouse. 15-12-14 TL 901.


15. Enoch Cyrus Homestead Hay Station and Blacksmith Shop: The Enoch Cyrus Homestead was the original homestead of Oscar Maxwell, built in 1892 and purchased in 1900 by Enoch Cyrus. Important stage/store stop for early travelers. The homestead house, including a back porch and cistern, and the Blacksmith Shop are designated. 15-11-10 TL 700.


17. Harper School: One-room schoolhouse, located west of South Century Drive, south of Sunriver, moved halfway between the Allen Ranch and the Vandevert Ranch from the former townsite of Harper. 20-11-17 TL 1900.

18. Improved Order of Redmond Cemetery: Historic cemetery used by residents of La Pine/Rosland area. Located on Forest Road 4270, east of Highway 97. A 40-acre parcel described as: The Southwest one-quarter of the Southeast one-quarter (SW-¼; SE-¼) Section 7, Township 22 south, Range 11, East of the Willamette Meridian, Deschutes County, Oregon.

19. Laidlaw Bank and Trust: One of the few remaining commercial buildings from the community of Laidlaw, located at 64697 Cook Avenue, Tumalo. 16-12-31A TL 2900.
20. La Pine Commercial Club: Building was built in 1912 as a community center, serving as a regular meeting place for civic organizations and occasionally served as a church. One of the oldest and continuously used buildings in La Pine. Located at 51518 Morrison Street, La Pine. 22-10-15AA TL 4600.

21. Lynch and Roberts Store Advertisement: Ad advertising sign painted on a soft volcanic ash surface. Only area example of early advertising on natural material. Lynch and Roberts established mercantile in Redmond in 1913. Roberts Field near Redmond was named for J. R. Roberts. Site includes the bluff. 14-12-00 TL 1501.

22. Maston Cemetery: One of the oldest cemeteries in County. Oldest grave marker is 1901. About one-half mile from site of Maston Sawmill and Homestead. Site includes the gravestones and memorials and the entire tax lot, identified as 22-09-00 TL 1800.

23. George Millican Ranch and Mill Site: Ranch established in 1886. Well dug at or near that date. Remains of vast cattle ranching empire. 19-15-33 TLs 100, 300.

24. George Millican Townsite: Town established 1913. Site includes store and garage buildings, which retain none of the architectural integrity from era. 19-15-33 TL 500.

25. Petersen Rock Gardens: The Petersen Rock Gardens consist of stone replicas and structures erected by Rasmus Petersen. A residence house and museum are part of the site. The site has been a tourist attraction for over 60 years. Located at 7930 SW 77th, Redmond. Site includes entire tax lot. 16-12-11 TL 400.

26. Pickett’s Island: After originally settling in Crook County, Marsh Awbrey moved to Bend and then homesteaded on this island in the Deschutes River south of Tumalo. The site was an early ford for pioneers. Located in Deschutes River near Tumalo State Park. 17-12-6 NE-¼ TL 100. Portion between Deschutes River and Old Bend Road is designated.

27. Rease (Paulina Prairie) Cemetery: Historic cemetery on Elizabeth Victoria Castle Rease and Denison Rease’s homestead. Earliest known grave is of their son, George Guy Rease, born in 1879, who was also a homesteader on Paulina Prairie. George Guy Rease died of smallpox on the Caldwell Ranch on May 2, 1903. Other known burials are William Henry Caldwell, 1841-October 15, 1910, died on the Caldwell Ranch of injuries sustained on a cattle drive; Melvin Raper, 1892-1914, died in a tent of tuberculosis; Addie Laura Caldwell, 1909-November 16, 1918, died of the Spanish influenza epidemic; and Emma Nimtz Deedon, 1886-April 15, 1915, died of complications from a pregnancy. There are several unmarked graves. The cemetery is a county-owned one-acre parcel on the north edge of Paulina Prairie, two miles east of Highway 97. 210-11-29, SE-¼; NW-¼ TL 99.

28. Terrebonne Ladies Pioneer Club: The Club was organized in 1910. The building has been a community-meeting place since 1911. Located at 8334 11th Street, Terrebonne. 14-13-16DC TL 700.

29. Tetherow House and Crossing: Site is an excellent example of an early Deschutes River crossing. Major route from Santiam Wagon Road to Prineville. Tetherow House was built in 1878. The Tetherows operated a toll bridge, store and livery stable for travelers. Oldest house in County. Site includes house and entire tax lot. 14-12-36A TL 4500.

30. Tumalo Creek – Diversion Dam The original headgate and diversion dam for the feed canal was constructed in 1914. The feed canal’s purpose was to convey water from
Tumalo Creek to the reservoir. The original headworks were replaced and the original 94.2 ft low overflow weir dam was partially removed in 2009/2010 to accommodate a new fish screen and fish ladder. The remaining original structure is a 90 foot (crest length) section of dam of reinforced concrete. Tax Map 17-11-23, Tax Lot 1600.

31. Tumalo Community Church: The building is the oldest church in the County, built in 1905. It stands in the former town of Laidlaw, laid out in 1904. Located at 64671 Bruce Avenue, Tumalo. 16-12-31A TL 3900.

32. Tumalo Project Dam: Concrete core, earth-filled dam 75 feet high. First project by State of Oregon to use State monies for reclamation project. On Tumalo Creek. 16-11-29.

33. William P. Vandever Ranch Homestead House: The Vandever Ranch House stands on the east bank of the Little Deschutes River at 17600 Vandever Road near Sunriver. The homestead was established in 1892, and has been recently relocated and renovated. Vandever family history in the area spans 100 years. 20-11-00 TL 1900.

34. Kathryn Grace Vandevert Grave: Kathryn Grace Vandevert, daughter of William P. Vandevert, died of influenza during the epidemic of 1918. Her grave is located across a pasture due south of the Vandevert House, 50 feet east of the Little Deschutes River. Site includes gravestone and fenced gravesite measuring is approximately 15 feet by 25 feet. 20-11-00 TL 1900.

35. Young School: Built in 1928, it is an excellent example of a rural “one-room” school which served homesteaders of the 1920s. Located on Butler Market Road. 17-13-19 TL 400.

36. Agnes Mae Allen Sottong and Henry J. Sottong House and Barn. House and barn are constructed with lumber milled on the property in a portable sawmill run by the Pine Forest Lumber Company in 1911. Henry was awarded homestead patent 7364 issued at The Dalles on Dec 1, 1904. Henry was president of the Mountain States Fox Farm. A flume on the Arnold Irrigation District is named the Sottong Flume. The structures are also associated with William Kuhn, a president of the Arnold Irrigation District; Edward and Margaret Uffelman, who were part of the group that privatized and developed the Hoo Doo Ski Resort; and Frank Rust Gilchrist, son of the founder of the town of Gilchrist and Gilchrist Mill and president of the Gilchrist Timber Company from the time of his father’s death in 1956 to 1988. Frank R. Gilchrist served on the Oregon Board of Forestry under four governors and was appointed by the governors to serve as a member of the Oregon Parks and Recreation Advisory Committee. He served on the Oregon State University’s Forest Products Research Lab and was a director and president of the National Forest Products Association. T18 R12 Section 22, 00 Tax lot 01600.

Inventory note: Unless otherwise indicated the inventoried site includes only the designated structure. No impact areas have been designated for any inventoried site or structure.
Section 5.10 Goal Exception Statements

Background

The purpose of this section is to identify the lands where Deschutes County demonstrated an exception to meeting the requirements of the Statewide Planning Goals. The intent of goal exceptions is to allow some flexibility in rural areas under strictly defined circumstances. Goal exceptions are defined and regulated by Statewide Planning Goal 2 and Oregon Administrative Rule 660-004 (excerpt below).

660-004-0000(2) An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals in accordance with the process specified in Goal 2, Part II, Exceptions. The documentation for an exception must be set forth in a local government’s comprehensive plan. Such documentation must support a conclusion that the standards for an exception have been met.

Statewide Planning Goals with Deschutes County Exceptions

- Goal 3 Agricultural Lands
- Goal 4 Forest Lands
- Goal 11 Public Facilities and Services
- Goal 14 Urbanization

Three types of exceptions are permitted by Oregon Administrative Rule 660-004

- Irrevocably committed
- Physically developed
- Reasons

The summary below identifies approved goal exceptions and identifies the adopting ordinance for those interested in further information. The ordinances listed are incorporated by reference into this Plan.

1979 Exceptions

Comprehensive Plan entire County – PL 20 - 1979

During the preparation of the 1979 Comprehensive Plan it was apparent that many rural lands had already received substantial development and were committed to non-resource uses. Areas were examined and identified where Goal 3 and 4 exceptions were taken. At this time exceptions to Goals 11 and 14 were not required.

The total area excepted was 41,556 acres. These lands were residentially developed, committed to development or needed for rural service centers.

Additional Exceptions

Bend Municipal Airport – Ordinances 80-203, 1980 and 80-222, 1980

The Bend Municipal Airport received an exception to Goal 3 to allow for the necessary and expected use of airport property.

La Pine UUC Boundary – Ordinance 98-001, 1998

Exceptions to Goals 3, 11 and 14 were taken to allow lands to be included in the La Pine UUC boundary and planned and zoned for commercial use.
A reasons exception was taken to Goal 14 to allow the establishment of the Spring River Rural Service Center on residentially designated lands.

Burgess Road and Highway 97 – Ordinance 97-060, 1997
An exception was taken to Goal 4 to allow for road improvements.

Rural Industrial Zone – Ordinances 2010-030, 2010; 2009-007, 2009
Two separate ordinances for rural industrial uses. The 2009 exception included an irrevocably committed exception to Goal 3 and a reasons exception to Goal 14 with a Limited Use Combining Zone for storage, crushing, processing, sale and distribution of minerals. The 2010 exception took a reasons exception to Goal 14 with a Limited Use Combining Zone for storage, crushing, processing, sale and distribution of minerals.

Prineville Railway – Ordinance 98-017
An exception was taken to Goal 3 to accommodate the relocation of the Redmond Railway Depot and the use of the site for an historic structure to be utilized in conjunction with the Crooked River Dinner Train operations.

Resort Communities – Ordinance 2001-047, 2001
An exception was taken to Goal 4 for Black Butte Ranch and Inn of the 7th Mountain/Widgi Creek during the designation of those communities as Resort Communities under OAR 660-22.

A reasons exception was taken to Goal 3 to include certain property within the Sisters Urban Growth Boundary.

A reasons exception was taken to Goal 3 to include certain property within the Sisters Urban Growth Boundary.

Sisters Organization of Activities and Recreation and Sisters School District #6 – Ordinance 2003-017, 2003
A reasons exception was taken to Goal 4 to include certain property within the Sisters Urban Growth Boundary.

A reasons exception was taken to Goals 4 and 11 to allow uses approved by the Board of County Commissioners in PA-02-5 and ZC-02-3 as amended by PA-09-4.

City of Bend Urban Growth Boundary Amendment (Juniper Ridge) – Ordinance 97-060. 1997
An exception was taken to Goal 3 to allow an amendment of the Bend Urban Growth Boundary to incorporate 513 acres for industrial uses.

Joyce Coats Revocable Trust Johnson Road and Tumalo Reservoir Road Properties – Ordinance 2005-015, 2005
An irrevocably committed exception was taken to Goal 3 to allow a change of comprehensive plan designation from Surface Mining to Rural Residential Exception Area and zoning from Surface Mining to Multiple Use Agriculture for Surface Mine Sites 306 and 307.
An exception was taken to Goal 3 to include a portion of agricultural property.

An exception was taken to Goal 3 to include a portion of agricultural property.

An exception was taken to Goal 3 to include a portion of agricultural property.

An exception was taken to Goal 4 to include a portion of forest property.

An exception was taken to Goal 3 to include a portion of agricultural property.

An irrevocably committed exception was taken to Goal 3 to allow reclassification and zoning from Surface Mine to Rural Residential Exception Area and Rural Residential 10 acre for Surface Mine Site 294.

A reasons exception was taken to Goal 4 to include a portion of forest property. To ensure that the uses in the Sunriver Utility District Zone on the approximate 4.28 acre site of Tax Lot 102 on Deschutes County Assessor’s Map 19-11-00 are limited in nature and scope to those justifying the exception to Goal 4 for the site, the Sunriver Forest (SUF) zoning on the subject site shall be subject to a Limited Use Combining Zone, which will limit the uses on the subject site to a fire training facility and access road for the Sunriver Service District and Sunriver Fire Department.

An “irrevocably committed” exception was taken to Goal 14 to allow for reclassification and rezoning from agricultural property to Rural Industrial for a 2.65 acre portion of a parcel zoned EFU/RI.
Section 5.11 Goal 5 Adopted Ordinances

As noted in Section 2.4 of this Plan, adopted and acknowledged Goal 5 inventories, ESEEs and programs are retained in this Plan. Generally the Goal 5 inventories and ESEEs were adopted into the previous Comprehensive Plan or Resource Element and the Goal 5 programs were adopted into the Zoning Code. The County does not have a complete listing of Goal 5 inventory and ESEE ordinances, but will continue to research those ordinances. The following list is a start in listing all Goal 5 ordinances that are retained in this Plan.

- 80-203 Misc. Goal 5
- 85-001 Geothermal Resources
- 86-019 Deschutes River Corridor
- 90-025 Mining
- 90-028 Mining
- 90-029 Mining
- 92-018 Historic and Cultural
- 92-033 Open Space, LM
- 92-040 Fish and Wildlife
- 92-041 Fish and Wildlife (wetlands and riparian)
- 92-045 Wetlands RE
- 92-051 Misc. including Goal 5
- 92-052 Misc. Goal 5
- 92-067 Mining
- 93-003 Misc. Goal 5
- 94-003 Misc. Goal 5
- 94-006 Historic and Cultural
- 94-007 Wetlands and Riparian areas
- 94-050 Mining
- 95-038 Misc. Goal 5
- 95-041 Mining
- 96-076 Mining
- 99-019 Mining
- 99-028 Mining
- 2001-027 Mining
- 2001-038 Mining
- 2001-047 Mining
- 2001-018 Fish and Wildlife
- 2003-019 Mining
- 2005-025 Historic and Cultural
- 2005-031 Mining
- 2007-013 Mining
- 2008-001 Mining
- 2011-008 South Deschutes County LWI
- 2011-014 Mining
Section 5.12 Legislative History

Background
This section contains the legislative history of this Comprehensive Plan.

Table 5.11.1 Comprehensive Plan Ordinance History

<table>
<thead>
<tr>
<th>Ordinance</th>
<th>Date Adopted/Effective</th>
<th>Chapter/Section</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-027</td>
<td>10-31-11/11-9-11</td>
<td>2.5, 2.6, 3.4, 3.10, 3.5, 4.6, 5.3, 5.8, 5.11, 23.40A, 23.40B, 23.40.065, 23.01.010</td>
<td>Housekeeping amendments to ensure a smooth transition to the updated Plan</td>
</tr>
<tr>
<td>2012-005</td>
<td>8-20-12/11-19-12</td>
<td>23.60, 23.64 (repealed), 3.7 (revised), Appendix C (added)</td>
<td>Updated Transportation System Plan</td>
</tr>
<tr>
<td>2012-012</td>
<td>8-20-12/8-20-12</td>
<td>4.1, 4.2</td>
<td>La Pine Urban Growth Boundary</td>
</tr>
<tr>
<td>2012-016</td>
<td>12-3-12/3-4-13</td>
<td>3.9</td>
<td>Housekeeping amendments to Destination Resort Chapter</td>
</tr>
<tr>
<td>2013-002</td>
<td>1-7-13/1-7-13</td>
<td>4.2</td>
<td>Central Oregon Regional Large-lot Employment Land Need Analysis</td>
</tr>
<tr>
<td>2013-009</td>
<td>2-6-13/5-8-13</td>
<td>1.3</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Agriculture to Rural Residential Exception Area</td>
</tr>
<tr>
<td>2013-012</td>
<td>5-8-13/8-6-13</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, including certain property within City of Bend Urban Growth Boundary</td>
</tr>
<tr>
<td>2013-007</td>
<td>5-29-13/8-27-13</td>
<td>3.10, 3.11</td>
<td>Newberry Country: A Plan for Southern Deschutes County</td>
</tr>
<tr>
<td>Year</td>
<td>Date</td>
<td>Resolution</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2013-016</td>
<td>10-21-13/10-21-13</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, including certain property within City of Sisters Urban Growth Boundary</td>
</tr>
<tr>
<td>2014-005</td>
<td>2-26-14/2-26-14</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, including certain property within City of Bend Urban Growth Boundary</td>
</tr>
<tr>
<td>2014-012</td>
<td>4-2-14/7-1-14</td>
<td>3.10, 3.11</td>
<td>Housekeeping amendments to Title 23.</td>
</tr>
<tr>
<td>2014-021</td>
<td>8-27-14/11-25-14</td>
<td>23.01.010, 5.10</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Sunriver Urban Unincorporated Community Forest to Sunriver Urban Unincorporated Community Utility</td>
</tr>
<tr>
<td>2014-021</td>
<td>8-27-14/11-25-14</td>
<td>23.01.010, 5.10</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Sunriver Urban Unincorporated Community Forest to Sunriver Urban Unincorporated Community Utility</td>
</tr>
<tr>
<td>2014-027</td>
<td>12-15-14/3-31-15</td>
<td>23.01.010, 5.10</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Agriculture to Rural Industrial</td>
</tr>
<tr>
<td>2015-021</td>
<td>11-9-15/2-22-16</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Agriculture to Surface Mining.</td>
</tr>
<tr>
<td>2015-029</td>
<td>11-23-15/11-30-15</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Tumalo Residential 5-Acre Minimum to Tumalo Industrial</td>
</tr>
<tr>
<td>2015-018</td>
<td>12-9-15/3-27-16</td>
<td>23.01.010, 2.2, 4.3</td>
<td>Housekeeping Amendments to Title 23.</td>
</tr>
<tr>
<td>Year</td>
<td>Date Range</td>
<td>Reference Numbers</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>------------------</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2015-010</td>
<td>12-2-15/12-2-15</td>
<td>2.6</td>
<td>Comprehensive Plan Text and Map Amendment recognizing Greater Sage-Grouse Habitat Inventories</td>
</tr>
<tr>
<td>2016-001</td>
<td>12-21-15/04-5-16</td>
<td>23.01.010; 5.10</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from, Agriculture to Rural Industrial (exception area)</td>
</tr>
<tr>
<td>2016-007</td>
<td>2-10-16/5-10-16</td>
<td>23.01.010; 5.10</td>
<td>Comprehensive Plan Amendment to add an exception to Statewide Planning Goal 11 to allow sewers in unincorporated lands in Southern Deschutes County</td>
</tr>
<tr>
<td>2016-005</td>
<td>11-28-16/2-16-17</td>
<td>23.01.010, 2.2, 3.3</td>
<td>Comprehensive Plan Amendment recognizing non-resource lands process allowed under State law to change EFU zoning</td>
</tr>
<tr>
<td>2016-022</td>
<td>9-28-16/11-14-16</td>
<td>23.01.010, 1.3, 4.2</td>
<td>Comprehensive Plan Amendment, including certain property within City of Bend Urban Growth Boundary</td>
</tr>
<tr>
<td>2016-029</td>
<td>12-14-16/12/28/16</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from, Agriculture to Rural Industrial</td>
</tr>
<tr>
<td>2017-007</td>
<td>10-30-17/10-30-17</td>
<td>23.01.010</td>
<td>Comprehensive Plan Map Amendment, changing designation of certain property from Agriculture to Rural Residential Exception Area</td>
</tr>
<tr>
<td>2018-002</td>
<td>1-3-18; 1-25-18</td>
<td>23.01, 2.6</td>
<td>Comprehensive Plan Amendment permitting churches in the Wildlife Area Combining Zone</td>
</tr>
</tbody>
</table>