



# MEMORANDUM

To: Crook County & Prineville Planning Commissions  
 From: Tim Brooks and Greg Winterowd  
 Date: June 5, 2007  
 Re: ***Recommended Natural Features Program Outline***

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## INTRODUCTION

The *Recommended Program Outline* represents the “limited protection program” that has resulted from the *Prineville Goal 5 ESEE Analysis*. Should the Planning Commissions approve this document – or approve it with modifications – it would replace previous iterations prepared by Winterbrook Planning. The latest of these iterations – the *Revised Program Outline* – was accepted by the City Council in March of 2007 for purposes of preparing an ESEE (economic, social, environmental, and energy consequences) Analysis.<sup>1</sup> The ESEE Analysis, and comments from property owners, has resulted in changes to the *Revised Program Outline*.

The five types of Goal 5 resources to be considered in the ESEE analysis are described and mapped in the *Prineville Natural Features Inventory* or NFI. They include:

- riparian corridors including associated wetlands
- isolated wetlands
- wildlife habitat
- scenic area, and
- groundwater

A Goal 5 ESEE Analysis is required to protect primary and secondary scenic resources and bird nesting habitat. However, an ESEE is not required to protect most significant natural features in Prineville, including:

- riparian corridors (protected under existing County regulations, the approved Iron Horse ODP, and the “safe harbor” provisions of the new Goal 5 administrative rule),
- isolated wetlands (protected by conditions approving Angler’s Canyon),
- top-of-rimrock setbacks and deer range (protected by existing Crook County regulations),
- groundwater drinking water resources (protected by Goal 6), and
- floodplain and slope hazards (protected by Goal 7).

As noted above, changes have already been made in the program as a result of the ESEE Analysis and public review process. Following approval by the Planning Commissions and adoption by elected officials, the *Recommended Program Outline* will serve as the basis for drafting land use regulations to protect significant Goal 5, 6 and 7 resources. As discussed at the May 22, 2007 Planning Commission work session, such regulations should be ready for Planning Commission review later this summer.

The *Recommended Program Outline* is organized by groups of Goal 5 resource categories (i.e., surface water resources, wildlife habitat, scenic areas, and groundwater resources). In many cases, the resource categories and Goal 7 hazards overlap geographically and functionally; for this reason, the proposed resource protection strategies are considered in relation to one another. However, in each case, the Statewide Planning Goal(s) that serve(s) as the basis for the regulation are identified.

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<sup>1</sup> The new Goal 5 rule defines “ESEE consequences” as “the positive and negative economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use.”

## SURFACE WATER FEATURES

Significant surface water features include the following Goal 5, 6 and 7 resource categories:

1. Fish-bearing streams and their riparian corridors – including associated wetlands (Goal 5);
2. Other riparian corridors (e.g., Hudspeth Drainage) – including associated wetlands (Goal 5);
3. Isolated Wetlands (Goal 5);
4. Floodplains (Goal 7); and
5. Dry Washes (Goals 6 and 7).



The eastern (upstream) reach of Ochoco Creek flows through grasslands and areas of recent development.

Protection of these water-related resources also affect Goal 6 related to water quality. Floodplains are proposed for regulation under Goal 7; but, because development within floodplains directly affects riparian corridors, the floodplain outside the defined riparian corridor is considered to be a Goal 5 “impact area.” Dry washes would be protected to minimize erosion under Goal 7 and to maintain water quality under Goal 6.

As discussed below, a two-tiered Goal 5 protection program is recommended for riparian corridors and associated wetlands. As noted below, conflicts with all remaining isolated wetlands were resolved with the adoption of the Angler’s Canyon Outline Development Plan (ODP).

### Riparian Corridors

Crooked River, Ochoco Creek and Ryegrass Ditch are “fish-bearing streams” within the Prineville UGB, as shown on Oregon Department of Forest (ODF) maps. Hudspeth Drainage is not a fish-bearing stream; however, most of the remaining riparian corridor has already been protected in the approval of the Iron Horse ODP. All have average annual flows of less than 1,000 cubic feet per second (CFS) and all have adjacent, or “associated” wetlands.

#### Existing City and County Programs

Comprehensive Plan Policy 8 calls for the protection of Crooked River and Ochoco Creek floodplains:

*The Ochoco Creek and Crooked River floodplains lying within the urban growth boundary shall be protected as greenway by such zoning restrictions as deemed necessary.*

This policy is implemented in part by the Prineville Title XV – Land Usage and Crook County Article 15 – Zoning Regulations. Prineville Chapter 153 – Flood Damage Control regulates how development may occur within the 100-year floodplain and prohibits most types of development within the “floodway.” Crook County Section 3.170 – Floodplain Combining Zone, sets forth similar limitations on development within the 100-year floodplain, but does not require building setbacks. Both of these sections address how development is allowed within the riparian corridor; however, neither are effective in resolving conflicts between development and riparian values.

Outside the Prineville City Limits, but inside the UGB, Crook County Section 4.190 establishes a 100-foot building setback from lakes and reservoirs, both of which qualify as “wetlands.” The Hudspeth reservoir would appear to be protected by this County provision. Otherwise, neither the City nor County has specific wetland protection standards (other than setbacks from Ochoco Creek and the Crooked River), and simply refers requests to fill wetlands to the Department of State Lands.

Prineville Section 153.088 – Riparian Habitat establishes a 50-foot setback for development along the Crooked River and a 25-foot setback for development along Ochoco Creek. Both setbacks are measured from the “ordinary high water line or identified stream channel.” Outside the Prineville City Limits, but inside the UGB, Crook County Section 4.190 establishes a 100-foot building setback from Class I and II streams (i.e., from Crooked River and Ochoco Creek). Exceptions are allowed where “a narrower riparian area protects equivalent habitat values” as determined by the Oregon Department of Fish and Wildlife. However, the setback cannot be reduced below 50 feet (the Crooked River) and 25 feet (Ochoco Creek).

In 1998, Prineville adopted Section 153.064, Significant Resource Combining Zone, to resolve conflicts between significant Goal 5 resources and development. This section is based on the “old” Goal 5 administrative rule (OAR Chapter 660, Division 016). Subsection 153.064(E)(2) is intended to supplement the provisions of Section 153.088 (Riparian Habitat) described above. If applied within the Prineville UGB, Subsection (E)(2) would require a 50-foot setback from Ochoco Creek and a 100-foot setback from the Crooked River. Exceptions to this building setback could be granted base on a site-specific evaluation. However, the minimum setback could not be less than 25 feet for Ochoco Creek or 50 feet for the Crooked River.<sup>2</sup>

#### **Approved Outline Development Plans**

In 2006, the City approved the Iron Horse PUD in January 2006. The approved **Iron Horse Outline Development Plan (ODP)** resolved Goal 5 conflicts for (a) Hudspeth Drainage, (b) Scenic resource areas (primary, secondary and impact areas), and wildlife habitat (bird nesting sites). In April of 2007, the City of Prineville approved the **Angler’s Canyon ODP**, which resolved Goal 5 conflicts related to isolated wetlands.

#### **Recommended Program Outline for Streams, Rivers and Associated Wetlands**

A two-tiered approach to resolving development conflicts<sup>3</sup> within the Ochoco Creek, Crooked River, Hudspeth Drainage and Ryegrass Ditch riparian corridors that builds upon existing regulations is recommended. This approach minimizes the complexity of the Goal 5 process and detailed analysis of ESEE consequences by relying on a combination of: (a) existing adopted regulations; and (b) the “safe harbor” provisions of the “new” Goal 5 administrative rule.<sup>4</sup> The riparian corridor safe harbor

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<sup>2</sup> This provision is similar to the “safe harbor” provisions of the new Goal 5 administrative rule as applied to riparian corridors. (OAR 660-023-090)

<sup>3</sup> A “conflicting use” is defined in the new Goal 5 administrative rule as “a land use, or other activity reasonably and customarily subject to land use regulations, that could adversely affect a significant Goal 5 resource ... Local governments are not required to regard agricultural practices as conflicting uses.” Conflicting uses in riparian corridors are vegetation removal, grading and construction.

<sup>4</sup> As defined in OAR 660-023-020(2): “A ‘safe harbor’ consists of an optional course of action that satisfies certain requirements under the standard process. Local governments may follow safe harbor requirements rather than addressing certain requirements in the standard Goal 5 process. For example, a jurisdiction may choose to identify ‘significant’ riparian corridors using the safe harbor criteria under OAR 660-023-0090(5) rather than follow the general requirements for determining ‘significance’ in the standard Goal 5 process under OAR 660-023-0030(4). Similarly, a jurisdiction may adopt

provisions also provide for flexibility in highly disturbed areas, by allow for setbacks to be reduced by up to 50% with mitigating riparian corridor restoration and enhancement.

1. **Tier 1** standards would be applied only to the Crooked River reaches and Hudspeth Reservoir located within unincorporated areas of the Prineville UGB, as shown on Surface Water Resources Inventory Figure 2. Tier 1 standards would continue to rely on adopted Crook County riparian regulations and would remain in effect as land is annexed to the City. Like safe harbor regulations, Crook County allows for setback reductions based on riparian corridor mitigation.
2. **Tier 2** standards would be based on the “safe harbor” provisions of the new Goal 5 administrative rule and applied to the Crooked River, Ochoco Creek, Hudspeth Drainage and Ryegrass Ditch – and to their associated wetlands.”<sup>5</sup> Consistent with safe harbor standards, a 50-foot setback would be required from the “top of bank” or edge of the associated wetland. Limited setback reductions (up to 50% of the required 50-foot setback) may be permitted “upon a demonstration that equal or better protection for identified resources will be ensured through restoration of riparian areas, enhanced buffer treatment, or similar measures.” (OAR 660-023-090(8)(e)) As noted above, safe harbor provisions mirror adopted city and county standards and do not require an ESEE analysis.

## **Dry Washes and Isolated Wetlands**

Dry washes and isolated wetlands are shown on Inventory Figures 1, 2, 6 and 7, as amended as a result of the ESEE Analysis. Dry washes are protected by Goals 6 and 7, to minimize erosion hazards and related water quality impacts. These intermittent natural drainages provide a storm water conveyance function. As development occurs, flows become more concentrated in dry washes, there is an increased likelihood of erosion, slope failure, and attendant adverse impacts on water quality. Isolated wetlands perform a host of natural functions, including water quality, stormwater storage, and wildlife habitat.

### **Proposed Program Outline for Dry Washes**

Mapped dry washes would be protected by (a) prohibiting most types of development within 50 feet of the centerline of the ravine or dry wash, and (b) using best management practices when ravines and washes must be crossed by streets and utilities. These standards are recommended for maintaining and improving soil stability and downstream water quality.

### **Recommended Program Outline for Isolated Wetlands**

Since conflicts with isolated wetlands have *already* been resolved through the approval of the Angler’s Canyon ODP, no further action is necessary under the Goal 5 rule.

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a wetlands ordinance that meets the requirements of OAR 660-023-0100(4)(b) in lieu of following the ESEE decision process in OAR 660-023-0040.”

<sup>5</sup> As noted in OAR 660-023-090(5)(c): “Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.”

**Table 1. Summary of Recommend Water Resources Protection Program**

| Resource  | Location                         | Protection Level | Summary   |
|---|----------------------------------|------------------|---|
| The Crooked River and Hudspeth Reservoir (Goal 5) | Outside City Limits / Inside UGB | Tier 1           | 100-foot setback from top of bank; adjustable if no loss in resource value with restoration and enhancement |
| The Crooked River* (Goal 5)                       | Inside City Limits               | Tier 2           | 50-foot setback; adjustable if no loss in resource value with riparian restoration and enhancement          |
| Ochoco Creek* (Goal 5)                            | Within City and UGB              |                  |   |
| Hudspeth Drainage* (Goal 5)                       |                                  |                  |   |
| Ryegrass Ditch* (Goal 5)                          |                                  |                  |   |
| Isolated Wetlands (Goal 5)                        | Within City and UGB              | Tier 3           | Conflicts resolved through Angler's Canyon ODP.   |
| Dry Washes (Goals 6 and 7)                        | Within City and UGB              |                  | 50-foot setback from ravine centerline  |

\* Includes associated wetlands.

Program recommendations require amendments to the Prineville Comprehensive Plan and to City and County zoning regulations.

## WILDLIFE HABITAT

Wildlife habitat areas in Prineville include the riparian corridors and wetland complexes located along the Crooked River, Ochoco Creek, the Hudspeth Drainage and Ryegrass Ditch/Drainage as shown on Inventory Figure 3. These corridors provide forage, water, cover and movement corridors for a variety of birds, mammals, and other terrestrial wildlife. For example, as many as 187 species of birds have been documented using these riparian areas within the county, and many of these species occur along Prineville's water resources. The Crooked River and Ochoco Creek provide important aquatic habitat as well, supporting populations of native redband trout and seven other game fish species.



Prairie falcons nest on Barnes Butte

Important upland habitats include Barnes Butte and the rimrocks. The butte's rock crevices, vegetation, dry wash canyons, and the neighboring wetlands complexes (most notably along the Hudspeth Drainage) provide forage, cover and nesting habitat for a variety of wildlife. Prairie falcon, golden eagle, red tailed hawk and osprey all nest on the slopes of Barnes Butte and its adjacent lowlands. Similar nest sites (e.g., golden eagle) are found along the Crooked River rimrocks.

### Existing City and County Programs

Natural/Scenic/Buffer Areas Policy 4 of the Comprehensive Plan identifies several other significant habitats, as follows:

***Crucial deer winter range and waterfowl nesting habitat shall be protected and preserved. Elk and antelope habitat shall also be protected in accordance with Oregon Fish and Wildlife management plans.***

These habitats are mapped by federal and state resource agencies. Deer winter range habitat borders the eastern boundary of the City's UGB and includes the Combs Flat area. Deer habitat also occurs south of the City along the Crooked River. Antelope year round habitat is mapped in the southwestern edge of the City's UGB. The County's Comprehensive Plan "Wildlife Resources" map shows waterfowl nesting habitat along Crooked River and Ochoco Creek in Prineville.

The County's Sensitive Bird Habitat Area (Section 4.220) provides protections for sensitive species such as bald eagle, golden eagle, and prairie falcon. "Sensitive habitat sites" for these species are identified as 1320 feet (1/4 mile) from nest or roost sites. The "Site Plan" review criteria are summarized below:

- "Prevent destruction of the subject site and...reasonably avoid causing the site to be abandoned";
- "Development activities... shall be prohibited during the nesting season identified in the site specific ESEE analysis and decision for each habitat site, or based on current information from ODF&W or the U.S. Fish and Wildlife Service";
- "New roads, driveways, or public trails shall be located at the greatest distance possible from the nest site";
- "Existing vegetation or other landscape features that are located on the subject property and obscure the view of the nest from the proposed development shall be preserved and maintained";
- "No partitions or subdivisions shall be permitted which would force location of a dwelling or other structure...within the designated sensitive habitat area";
- "All exterior lighting...shall be sited and shielded so that the light is directed downward and does not shine on the subject site"; and
- "The site plan shall conform with the requirements of the ESEE decision for the subject Sensitive Bird Habitat Area contained in the Crook County Comprehensive Plan."

Subsection H of the Sensitive Bird Habitat Area provisions notes that: "In regard to those sites for which ESEE's have not been completed, no conflicting uses shall be permitted until ESEE analyses have been performed. Within 120 days from the date of this Ordinance, ESEE analyses shall be completed for those sites."

### **Recommended Wildlife Habitat Program Outline**

Much of Prineville's wildlife habitat is found along the stream and wetland corridors as identified above. The proposed program to for riparian corridors and isolated wetlands will provide limited protection for significant wildlife habitat located in these areas. For upland habitat areas, the County's existing Sensitive Bird Habitat Area standards and ODFW protection measures serve as the basis for habitat protection program. The species of interest and the mapping of sensitive sites must be made explicit. If development occurs within the quarter mile setback area surrounding bird nests, then application of discretionary land use criteria will be applied, with public notice and opportunity for appeal.

Significant upland habitats are largely associated with scenic Barnes Butte and the Rimrock areas in Prineville and therefore are also addressed in the proposed scenic protection program under Goal 5,

and in Goal 7 provisions to prohibit most types of development on slopes of 25% or greater. However, some significant nesting sites are located within riparian corridors. One site is located within a developed urban area.

The program outline for wildlife habitat can be summarized as follows:

- Apply Wetland and Riparian Corridor program standards to address protection of wetland and riparian wildlife habitats.
- Apply ODFW standards specific to the timing, location and construction activities within a quarter mile of sensitive bird habitats. Proposed development or tree removal within designated impact areas would be subject to City review with input from ODFW. Because ODFW standards currently do not apply within the City Limits, an ESEE analysis is required.
- Apply Goal 7 natural hazard and Goal 5 scenic program standards to address upland habitat protection in those areas.
- Rely on existing County EFU regulations that protect deer and antelope range habitat until urban zoning is applied within the Prineville UGB.

The ESEE Analysis recognizes that the Osprey nesting site located on school property near is located outside of any protected Goal 5 or 7 areas. The limited protection program in the *Revised Program Outline* would simply require coordination with ODFW on the timing of construction within a quarter mile of the site during nesting season. However, given the projected level of development in this unincorporated area of Prineville, construction delays could have substantial economic consequences.

**After considering the ESEE consequences of the limited protection program the Planning Commissions may decide to (a) continue to recommend the limited protection program for the Osprey nesting site, or (b) recommend that conflicting construction uses be allowed fully, and that “no protection” be provided by the City or County.**

## SCENIC AREAS

Scenic areas are defined in the *Crook County Comprehensive Land Use Plan* as “Lands that are valued for their aesthetic appearance.” The Plan describes several scenic viewpoints within or adjacent to Prineville. These include Ochoco Wayside Viewpoint, Oregon Scenic Highways (Oregon 126/U.S. 26), Barnes Butte, and the Rimrocks. Scenic areas are a Goal 5 resource, although Goal 7 slope restrictions apply to slopes of greater than 18% that are commonly found in scenic butte and rimrock areas. The *Prineville Comprehensive Plan* also places great importance on protection of scenic values as documented in the *Prineville Goal 5 ESEE Analysis*.

### Wayside Viewpoint and the Oregon Scenic Highways

Of the scenic areas identified, the Plan identified no conflicting uses for Ochoco Wayside Viewpoint and the Oregon Scenic Highways. Passive park use (trails, directional and educational signage, and similar low-impact uses), if properly constructed, do not conflict with full protection scenic values of the Protection of the Barnes Butte primary scenic area. These scenic sites are protected Goal 5 Resource Sites and no further analysis is needed.

### Rimrock

#### *Existing City and County Programs*

Natural/Scenic/Buffer Areas Policy 7 of the Plan identifies significant Rimrock areas and a protection program as follows:

***Rimrocks from the intersection of Elliot Lane and O’Neil Highway, including Westwood Subdivision and Ochoco Wayside Viewpoint, to Stearns Ranch; and those rimrocks paralleling Juniper Canyon, Combs Flat Road and Ochoco Creek to Ochoco Reservoir shall be protected against manmade structures by such zoning restrictions as deemed necessary. Restrictions addressing setbacks and building restrictions shall be applied to protect scenic values.***



The Crooked River Rimrocks provide a dramatic southern backdrop to the city.

The County completed a conflicting use and ESEE analysis for development which “breaks the skyline when viewed from the valley floor.” In this analysis, the County determined reduced aesthetic quality would result in adverse economic impacts in the form of tourism interest in the area. Detrimental environmental and social impacts were also identified. As part of its Goal 5 program, the County adopted a 200-foot setback from the top of the Rimrock edge for structures (Ordinance 18, Section 4.210). Natural/Scenic/Buffer Areas Policy 15 reads as follows:

***Relative to the protection and preservation of the scenic and aesthetic values of the Prineville Valley “rimrock” a site development plan shall be required for all land use/ development proposals. A specific procedure shall be incorporated into the Zoning Ordinance to provide clear and objective criteria to review all proposed land use development proposals.***

Crook County Natural Hazards Policy 5 discourages development in areas having “low carrying capacities and high or severe physical limitations.” The criteria to be considered include areas with “slopes greater...than 30%” and maintaining a “safe distance from rimrock scarps, talus debris and fractures.”

### **Recommended Rimrock Program Outline**

There are no existing standards that protect the scenic and aesthetic values of the rimrock face and visible talus slopes at the base of the rimrock. These areas are shown on Figure 4 as primary (the rock face) and secondary (talus debris slope) scenic areas. The area 200 feet back from the top of the rimrock is protected, already, by County regulations. This area is shown on Figure 4 as the rimrock scenic impact area.

To implement policies of the Prineville Comprehensive Plan, the area between the rimrock face and the base of the talus debris slope, shown on Figure 4 as secondary scenic area, would be subject to Goal 5 design standards related to residential construction and grading. These standards would be the same as applied within the Barnes Butte secondary scenic area, as discussed below.

As noted above, Goal 7 slope hazards would apply to areas shown on Figure 6 as follows:

- (a) No development would be allowed on slopes of 25 percent or greater, or within mapped dry wash canyons; and
- (b) development on slopes from 18-24 percent, or within 100 feet from the base of the talus debris slope (the potential rock fall hazard area), would be subject to a geological analysis prepared by a licensed engineering geologist and approved by the City Engineer. These Goal 7 standards would apply throughout the UGB, and would protect the public from natural hazards associated with rimrock scarps, talus debris and fractures, and landslides and erosion. These standards reinforce, but do not substitute for, Goal 5 scenic requirements in primary and secondary scenic areas.

**However, in reviewing the *Revised Program Outline*, the level of Goal 5 protection (as opposed to Goal 7 protection) to be afforded secondary rimrock areas was unclear to at least one property owner. For this reason, the Planning Commissions should carefully review the ESEE consequences of requiring density, height and design standards in rimrock secondary scenic areas.**

## **Barnes Butte**

Barnes Butte is a geologic landmass that forms a backdrop to the City of Prineville. It has important scenic qualities recognized in both City and County planning documents dating back at least as far as the Crook County Comprehensive Land Use Plan of 1978. Other features of the butte include its steep slopes, rimrock areas, and large rock outcrops which contribute to these scenic qualities. Between areas of exposed rock, the vegetative cover on the butte includes bunchgrasses and forbs, a light cover of shrubs, and juniper trees.



The view from the north and east shows Barnes Butte rising abruptly from the valley as a coherent and continuous landmass.

Barnes Butte's side slopes are carved by multiple dry wash canyons, whose channels are subject to periodic inundation and flooding from heavy rains. The butte's vegetation and dry wash canyons further contribute to its scenic qualities.

For the purpose of the Goal 5 scenic inventory, Barnes Butte is defined as the landmass rising abruptly from the surrounding valley floor and visible from identified viewpoints.<sup>6</sup> In terms of assessing the scenic quality of the butte, however, not all of the butte is of equal value. Visually, from the elevated Ochoco Viewpoint or from Barnes Butte Road to the east, the entire landmass is recognizable as a butte. However, from most vantage points in town, the terrace from the central topographic saddle south is more difficult to recognize as an integral part of the butte. This distinction has resulted in two levels of significance: **the primary backdrop** (the more prominent northern section with the pinnacle) and the **secondary backdrop** (the southern terrace and the steep slopes along the base of the butte). Thus, while the whole of the butte is considered a significant scenic resource for Goal 5 purposes, two levels of significance are identified and mapped on NFI Figure 4.

The primary backdrop on Barnes Butte includes the northern pinnacle (at elevation 3,549 feet) and the top approximately 200 feet of the northern ridge that is visible from all vantage points, including multiple sites within downtown and from the Northridge neighborhood. The secondary backdrop includes the southern terrace, discernable as an integral part of the butte from the east from Barnes Butte Road, from higher elevations (e.g., Ochoco Viewpoint), and from the Ochoco Highway coming into town. The visible and steep sides of the butte (which generally, but not exclusively, exceed 18 percent slope), also form part of the secondary backdrop by defining the edges and base of the larger mass.

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<sup>6</sup> The term "butte" is defined in the *Webster's Unabridged Dictionary* (1996) as "an isolated hill or mountain rising abruptly above the surrounding land." This "abrupt rise" is quite distinct when viewing Barnes Butte from a variety of vantage points, and when studying topographic maps of the area. The surrounding land, the floor of the broad Crooked River valley, has gentle slopes of approximately 0-5 percent. Rising from this gentle terrain, the side slopes of the butte exceed 30 percent for much of its perimeter. On the southwest side, slopes range between 10 and 35 percent.

### Existing City and County Programs

Natural/Scenic/Buffer Areas Policy 6 of the County Comprehensive Plan states as follows:

*Barnes Butte shall be protected against development of any structures except for transmission lines or communication towers, either by the existing park reserve zone or by adopting an open space zone similar to the one described in the Parks and Recreation and Open Space Study for the greater Prineville area.*

Without defining Barnes Butte, this policy offers two “program” options (i.e., a park reserve zone and an open space zone), both of which are typically applied to publicly owned lands. However, when large tracts of land on Barnes Butte included within the UGB in 2003, most private land was assumed to be buildable for residential purposes. Thus, these program options may be overly limiting.

### Recommended Barnes Butte Program Outline

A two-tiered protection program for Barnes Butte is proposed. The scenic protection program is addressed in the *Prineville Goal 5 ESEE Analysis*.

- **Primary Scenic Resource Area:** Limited development would be allowed on the mapped primary Goal 5 scenic resource area. The draft ESEE Analysis provides two Goal 5 options for determining development limitations on private residential land (Areas 2A and 3 as identified in 2003 UGB amendments):
  - Allow only passive recreational uses and activities (trails, directional and educational signs, viewpoints and the like); or
  - Allow passive recreational uses + limited residential development (maximum density of one unit per gross acre) with restrictive and effective height, density and design standards.
  
- **Secondary Scenic Resource Area:** Specific Goal 5 density, height (maximum of 35 feet measured from finished grade), and design standards would apply to residential development within the secondary scenic area. Residential design standards would address such issues as building density (maximum of two units per gross acre), height (maximum of 35 feet from finished grade), separation (minimum of 30 feet between buildings), exterior materials (non-reflective, neutral tones) and orientation. Earthwork design standards would limit and mitigate for cuts and fills that would otherwise scar the face of the butte.

### Scenic Program Summary

Table 2 summarizes the proposed Goal 5 protection program for primary and secondary scenic areas. Goal 5 standards would be supplemented by Goal 7 geological hazard studies in areas with slopes of 18% or greater. To address slide hazards, a geologic study would be required for development on slopes of 18% or greater, both inside and outside of scenic areas. Dry washes are protected by Goals 6 and 7 in all scenic areas (primary, secondary and impact areas), as discussed under the “surface water features” section of this memorandum. Development would not be permitted on slopes of 25% or greater.

**Table 2. Summary of Recommended Goal 5 Scenic Protection Program**

| Resource  | Location (Fig. 4)                               | Summary   |
|---|---|---|
| Rimrock Primary Scenic Area                     | Rimrock face between rim and talus debris slope | No development permitted  |
| Barnes Butte Primary Scenic Area                | Primary scenic resource area                    | Very limited development (just passive recreation) <u>OR</u> one residential unit per gross acre with design standards on private land + passive recreational uses:<br><b>Policy determination depends on ESEE Analysis</b> |
| Barnes Butte and Rimrock Secondary Scenic Areas | Moderate slopes visible off-site                | Specific density (max 2 units per gross acre) , height, and design grading standards apply; subject to approved ODPs  |
| Barnes Butte Impact Area                        | Part of approved Iron Horse ODP                 | Subject to design standards approved during ODP review process  |

## GROUNDWATER

Groundwater resources are recognized as both Goal 5 and 6 resources. However, programs designed to protect drinking water supplies are not subject to the Goal 5 ESEE process.

In Prineville, groundwater is the water source for the public water supply and irrigation. Because it serves the public water supply, it is important to the health of the community to protect the groundwater from possible contamination. Prineville's water table is relatively high, which means that ground and surface waters have greater interaction and the shallow water table in general is more vulnerable to contamination from lands above.

The Prineville Groundwater Inventory is shown on Figure 6 and is based on information provided by the Department of Environmental Quality (DEQ) regarding Significant Groundwater Areas and Potential Contaminant Sources. Significant Groundwater Areas are defined by the Oregon Drinking Water Program (DWP) based on the susceptibility of groundwater to contamination in relation to the length of time it takes for water to infiltrate an aquifer. The length of time is a function of the soils and geology surrounding the aquifer and the depth from surface to aquifer. As water passes through layers of soil, it may be stripped of many possible contaminants, ideally minimizing the transport of contaminants from the surface to the aquifer. The less time it takes for water to infiltrate, the more susceptible the aquifer and the groundwater in the aquifer are to contamination.

The DWP, and Figure 6, also identify Potential Contaminant Sources (PCS) in Prineville. For public water systems served by groundwater sources, the most threatening "potential contaminant sources" from the higher risk categories of inventoried sites include<sup>7</sup>:

- Housing - High Density (more than 1 house per half acre)
- Transportation - Freeways/state highways/other heavy use roads
- Large Capacity Septic Systems (serves more than 20 people)
- Sewer Lines - Close proximity to public water system

<sup>7</sup> DEQ - <http://www.deq.state.or.us/wq/dwp/riskoverview.htm> (accessed 1/15/2007)

- Above Ground Storage Tanks - Excluding water and residential tanks
- Crops - Irrigated (inc. orchards, vineyards, nurseries, greenhouses)
- Automobiles - Repair shops
- Septic Systems - High density (more than 1 system per acre)

Significant Groundwater Areas with potential aquifer infiltration of less than 2 years were considered significant, as were Potential Contaminant Sources listed as “higher” hazards. The remaining area within DEQ’s Significant Groundwater Area outside of the > 2-year sensitivity zone is shown as the groundwater Impact Area. These areas are mapped on Inventory Figure 5, Groundwater Resources.

**Table 3. Groundwater Resources and Potential Threats in Prineville**

| <b>Resource</b>                                  | <b>City</b> | <b>UGB</b> |
|--|-------------|------------|
| Drinking Water Source Area < 2 years             | 581 acres   | 1060 acres |
| Groundwater Impact Area                          | 1924 acres  | 2827 acres |
| Potential Contaminate Source (PCS) ranked “high” | 105 sites   | 200 sites  |

**Existing City and County Programs**

Development of comprehensive stormwater and wellhead planning, management and regulatory strategies was identified as a priority in the Draft Lower Crooked River Watershed Assessment, 2006.

**Recommended Groundwater Program Outline**

Because this is primarily a Goal 6 (Water Quality) exercise related to drinking water quality, an ESEE analysis is not required by the Goal 5 rule. A three part Goal 6 program to protect groundwater resources is recommended:

1. Adopt the proposed Goal 5 program to protect riparian corridors and isolated wetlands, to reduce the risk of contamination through surface water and groundwater interaction;
2. Obtain technical assistance from DEQ to develop and implement a drinking water protection strategy to assure a safe and adequate drinking water supply for Prineville over the long term; and
3. In coordination with DEQ, adopt a model groundwater protection ordinance that reduces the risk of potential contaminants in local drinking water protection areas, particularly within the 2-year sensitivity zone areas mapped in Figure 5 of the Inventory.