

## 2013 ODFW OREGON BIG GAME WINTER HABITAT

This document summarizes the Oregon Department of Fish and Wildlife's (Department) criteria and rationale for identifying, categorizing, and mapping big game winter habitat in Oregon.

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### **1. Overview:**

The Department's mission includes managing big game populations at healthy and sustainable levels compatible with the primary uses of the land (ORS 496.012). The Department has no authority to regulate land uses and must rely on a variety of other federal, state and county agencies to address habitat needs and/or concerns. Sustainable habitats for big game populations are considered essential and/or important for their long-term conservation and persistence.

### **2. Species:**

This document addresses one species of deer (mule deer: *Odocoileus hemionus hemionus*), one species of elk (Rocky Mountain elk: *Cervus elaphus nelsoni*), and two subspecies of bighorn sheep (California bighorn sheep: *Ovis canadensis californicus* and Rocky Mountain bighorn sheep *O. canadensis canadensis*). Winter habitats for the four species/subspecies are considered both limited and essential for the long-term conservation of the species and populations.

Other big game species, including black-tailed and white-tailed deer, pronghorns and mountain goats are not addressed in this document.

### **3. General Big Game Habitat and Winter Habitat:**

Generally, big game species need habitat which provides a combination of food, water, and security to survive and reproduce. Abundance, distribution, and connectivity of these habitats are crucial to species survival and may vary seasonally depending on a specific species dependence on migratory or non-migratory behavior to fulfill life history requirements.

Winter Habitat: Winter habitat includes areas identified and mapped as providing essential and limited function and values (e.g. thermal cover, security from predation and harassment, forage quantity, adequate nutritional quality, escape from disturbance, etc.) for certain big

game species from December through April. Winter Habitat includes mapped areas of “Winter Range” use by predominately migratory mule deer and Rocky Mountain elk and mapped areas of “Occupied Habitat” use by predominately non-migratory bighorn sheep use areas from December through April.

**4. Other Habitat Definitions Used to Categorize Big Game Winter Habitats per the Department Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0000 through 0025):**

Essential Habitat: Any habitat condition or set of habitat conditions which, if diminished in quality or quantity, would result in depletion of a fish and wildlife species.

Habitat: The physical and biological conditions within the geographic range of occurrence of a species, extending over time, which affect the welfare of the species or any sub-population or members of the species.

Important Habitat: Any habitat recognized as a contributor to sustaining fish and wildlife populations on a physiographic province basis over time.

Limited Habitat: An amount of habitat insufficient or barely sufficient to sustain fish and wildlife populations over time.

Physiographic Province: Any of one of the ten major geographical areas within the State of Oregon based on differences in topography, climate, and vegetation as defined in the Oregon Wildlife Diversity Plan (OAR 635-100-0001 through 0040).

**5. Designation of Big Game Winter Range as Habitat Category 2:**

Definition:

As defined in the ODFW Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0025(2), “**Habitat Category 2**” is essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population, or unique assemblage.

Process:

Designating fish or wildlife habitats into the appropriate Habitat Category (1-6) requires answering a sequence of yes or no questions, also known as a dichotomous key, ultimately resulting in a specific habitat categorization based on the relative function and value the habitat provides for the specie(s) and the relative scarcity of the habitat on the landscape. (Figure 1).

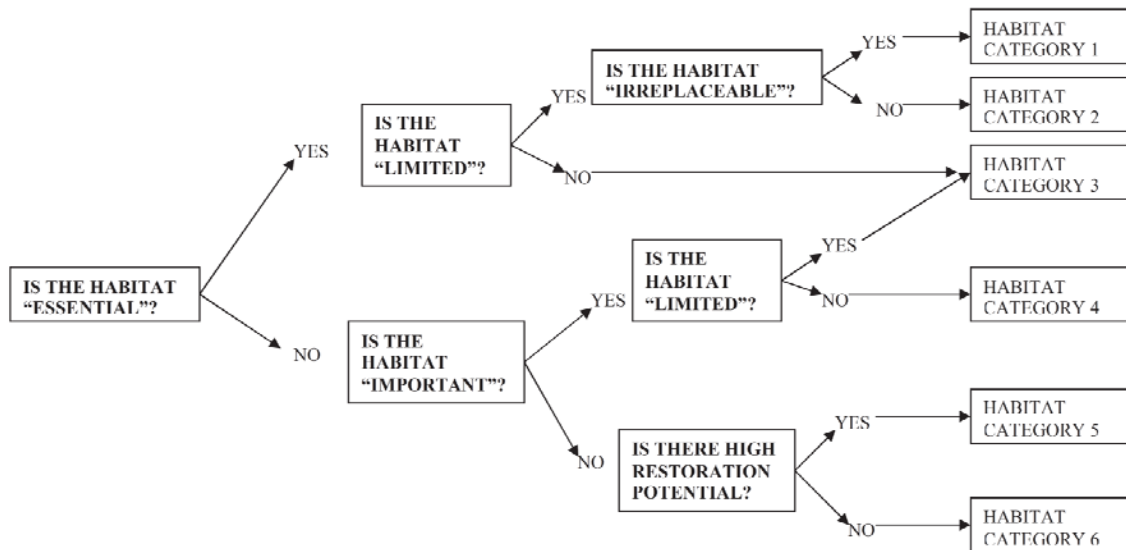


Figure 1. Decision process for identification of habitat function and value relative to habitat category designation.

Step 1: Is the Habitat “Essential”? **Yes.**

“Essential Habitat” means any habitat condition or set of habitat conditions which if diminished in quality or quantity, would result in depletion of a fish or wildlife species.

Winter survival and subsequent reproduction of big game is the primary limiting factor influencing species abundance and distribution in Oregon. Not all winter habitats provide the same functions and values year to year (e.g. thermal cover, security from predation and harassment, forage quantity, adequate nutritional quality, escape from disturbance, etc.) Winter habitats vary in area, elevation, aspect, precipitation, and vegetation association all influencing the relative quantity and quality of available habitat on both an annual and seasonal basis. Factors such as habitat abundance, distribution, and species access to relatively undisturbed winter habitat dictate the specific functions and values winter habitat provides to big game.

Periodic severe winters can result in events of high adult mortality known as “winter die-offs.” Individuals that survive severe winters may not recover adequate body condition or health to successfully reproduce later that spring or become reproductive again the following fall. Specific big game distribution and patterns of essential winter habitat use vary greatly depending on site specific influences. Depending on the year, big game animals may use many portions of their winter range. During severe winters, lower elevation portions of the range may become essential and the only remaining available winter habitat. However, even in mild winters, big game will make seasonal movements up/down slope to take advantage of new plant growth with warmer temperatures at lower elevations, to move out of temporary heavy

snow zones and to move out of areas of heavy mud. In other areas, big game may be required to make daily up/down slope movement between draws providing essential thermal cover and wind-blown ridges which provide the only accessible forage during deeper snow periods.

Step 2: Is the Habitat “Limited”? **Yes.**

“Limited Habitat” means an amount insufficient or barely sufficient to sustain fish and wildlife populations over time.

In areas of increasing land use development and human disturbance, big game have been forced to alter historic patterns and use winter habitats that are less suitable and more fragmented. Many of the highest quality historic big game winter habitats have been converted to cultivated agriculture, housing developments, subdivisions, or fragmented by highways and are no longer suitable for use by wintering big game due to conflict with primary land uses. Remaining available big game habitat is often less functional. This is generally due to lower productivity soils, steeper slopes, and less precipitation, all of which make these areas less suitable for intensive farmed agriculture or other development. However, these lands are frequently important forage areas for private livestock operations, further limiting available forage quality and quantity for big game. Additionally, increasing human disturbance diminishes function and value of habitat for big game. In some areas of Oregon, big game winter habitats occur only within very specific narrow elevation bands between higher snow dominated elevations and lower and dryer elevations incapable of supporting significant forage quantity or quality.

Step 3: Is the Habitat “Irreplaceable”? **No.**

“Irreplaceable” means that successful in-kind habitat mitigation to replace lost habitat quantity and/or quality is not feasible within an acceptable period of time or location, or involves an unacceptable level of risk or uncertainty, depending on the habitat under consideration and the fish and wildlife species or populations that are affected. “Acceptable”, for the purposes of this definition, means in a reasonable time frame to benefit the affected fish and wildlife species.

In some areas, opportunities may exist to successfully mitigate for impacts to big game winter habitats. Restoration of less suitable or degraded existing winter habitats to a functional vegetative condition or allowing wintering big game access to these habitats can increase quality and/or quantity of winter habitats and ultimately, the specific functions and values those habitats provide for the species. Both have been successfully accomplished in the past and can occur within an “acceptable” period of time considering the life history of big game. However, in areas where big game winter habitats are limited due to very specific narrow elevation bands between higher snow dominated elevations and lower and dryer elevations, mitigation should focus in these areas as much as possible.

Cultivated Agriculture: Although some areas of historic big game winter habitat which have been converted to cultivated agriculture could still support wintering big game from a forage quantity and quality perspective, most landowners are unwilling to allow wintering big game to occupy and “damage” cultivated agriculture. Therefore, specific historic big game winter habitat parcels which have been converted to cultivated agriculture should be excluded from habitats otherwise categorized as big game winter habitat Category 2 Habitats and categorized based on functions and values provided to other species using the habitat.

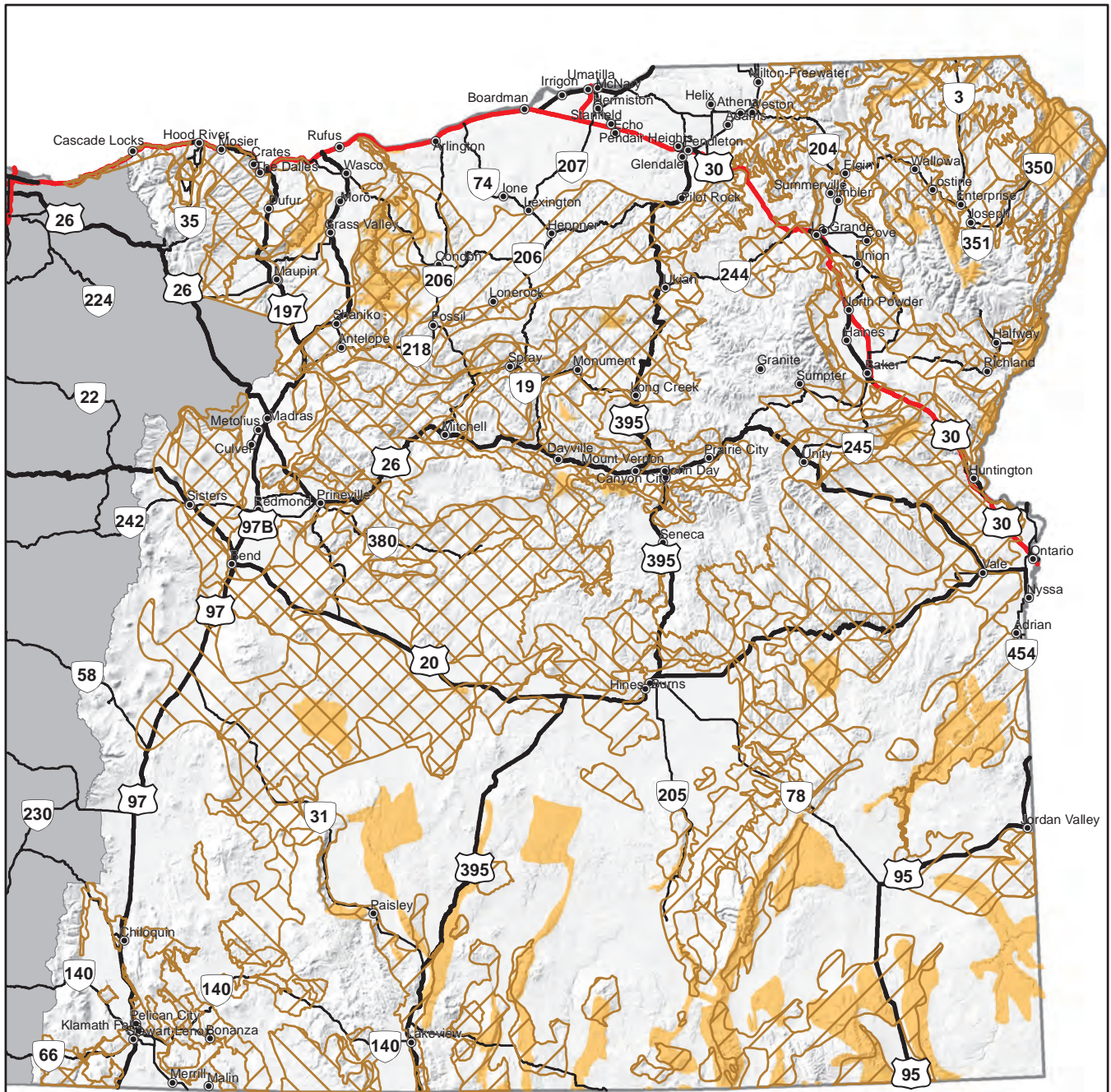
Department Elk De-emphasis Areas: The Department has identified a few Wildlife Management Units as Elk De-emphasis Areas (EDAs). These areas are typified by a very high percentage of private land with extensive areas of agricultural uses that may incur severe damage as elk populations increase or concentrate. In EDAs there is no elk population Management Objective for elk and the primary emphasis is to address property damage. However, winter habitat is important in these areas, because it may still provide an alternative to elk concentrating on lands where they cause property damage. Currently, the two identified EDAs are in the East Beulah Management Unit and in the Columbia Basin Management Units (Columbia Basin, Biggs, and Maupin Management Units).

#### **6. Identifying and Mapping Big Game Winter Habitats:**

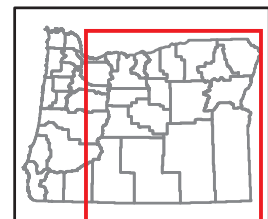
The Department has iteratively identified and mapped big game winter habitats over the past half a century or more as information has become available, research has been completed, and as observations of big game winter habitat use have been collected. A statewide effort to systematically collect historic and current data as well as analyze and map current winter range habitats for mule deer and Rocky Mountain elk using GIS shape files was completed in 2009 and subsequently updated in 2012 to refine maps for The Lower Deschutes Watershed and add GIS shape files for bighorn sheep occupied habitats (Appendix A).

These mapping efforts included the comprehensive review of both existing internal and external mapped big game winter habitats and incorporated agency research data, observational big game winter use habitat (both air and ground observations), and professional judgment as available for each individual game management unit. Existing mapped big game winter habitats also included incorporation of information from district specific Department big game winter range maps, big game occupied habitat maps, County Land Use Goal 5 winter habitat maps, Western Association of Fish and Wildlife Agencies (WAFWA) Mule Deer Habitats of the West maps, and Rocky Mountain Elk Foundation (RMEF).

# ODFW Big Game Winter Habitat: Deer & Elk Winter Range, Bighorn Sheep Occupied Habitat for Eastern Oregon



- ODFW Deer Winter Range 2009 (Updates to the Dalles & Heppner Districts 2012)
- ODFW Elk Winter Range 2009 (Updates to The Dalles District 2012)
- Bighorn Sheep Occupied Habitat
- Winter Habitat Not Mapped



ODFW GIS; July 29, 2013; Deer and elk data are available from:  
<https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=885.xml>