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## Oregon and Washington Wildlife Species and Their Habitats

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### Introduction

In this chapter, we address the fundamental issues of developing a common nomenclature for wildlife species, and determining their occurrence and breeding status within the two-state area. We then describe the methods used to identify the 32 wildlife-habitat types. Combined, the species list and habitats form the backbone for the rest of this book, associated maps, and CD-ROM.

### Developing the Wildlife Species List

For almost two hundred years, information has been collected about Oregon's and Washington's wildlife species. These data have been obtained from field studies, surveys, and general observations. Most of this information now resides in either museum collections throughout the United States, or as records in journals, publications, and public agency files. Over time, each state has developed, mostly independently, its own wildlife species list based on these data sets. Thus, a first step for us was to bring both states' wildlife lists together into a regional data set. As we developed the joint species list, we simultaneously determined the occurrence and breeding status for each of the species. Developing the combined species list, and status categories, proved somewhat challenging because the common and scientific names for many species have changed over the decades, and the status of some species have been confusingly described as "common," "regular," "irregular," "incidental," "accidental," or "vagrant."

Once the joint species list was compiled, a variety of sources were used to establish current taxonomic nomenclature (i.e., scientific and common names) for each species. For most species, initial nomenclatures were obtained from the Oregon Species Information System.<sup>36</sup> Collins et al.,<sup>13</sup> Leonard et al.,<sup>31</sup> and Storm and Leonard<sup>42</sup> were used to update the amphibians and reptiles. Bird nomenclature follows the recent Checklist of North American Birds, Seventh Edition by the American Ornithologists' Union<sup>2</sup>. Verts and Carraway<sup>45</sup> and Wilson and Reeder<sup>48</sup> were used as the primary sources of scientific names for mammals; Jones et al.<sup>30</sup> and Hall<sup>23</sup> were used as secondary sources for scientific and common mammal names. Frost and Timm<sup>19</sup> and van Zyll de Jong<sup>44</sup> were consulted for bat nomenclature.

We used a number of primary sources to establish/confirm species occurrences: Atlas of Oregon Wildlife,<sup>14</sup> Land Mammals of Oregon,<sup>45</sup> Mammals of the Pacific States,<sup>26</sup> The Mammals of North America,<sup>23</sup> The Mammals and Life Zones of Oregon,<sup>6</sup> Birds of Oregon,<sup>20</sup> Oregon Species Information System,<sup>36</sup> Oregon Wildlife Diversity Plan,<sup>38</sup> Amphibians and Reptiles of Washington State: Location Data and Predicted Distributions,<sup>18</sup> Terrestrial Mammals of Washington State: Location Data and Predicted Distributions,<sup>29</sup> Breeding Birds of Washington State: Location Data and Predicted Distributions,<sup>40</sup> and Oregon and Washington Marine Mammal and Seabird Survey.<sup>10</sup> We also supplemented the above references with Alexander,<sup>1</sup> Aubry,<sup>4,5</sup> Best,<sup>7</sup> and Bradley.<sup>8</sup>

Scientific and common names and species occurrence status by state were reviewed by Dick Johnson (Washington State University), B. J. Verts (Oregon State University), Tom O'Neil (Northwest Habitat Institute), Rolf Johnson (Washington Department of Fish and Wildlife [WDFW]), Derek Stinson (WDFW), Kelly Bettinger (WDFW), Charlie Bruce (Oregon Department of Fish and Wildlife [ODFW]), Kelly McAllister (WDFW), Bruce Mate (Oregon State University Marine Science Lab), Steven Jeffries (WDFW), and Robin Brown (ODFW). Taxonomic order follows regional publications or commonly accepted national books so that cross-referencing could be made easier. The publications that guided taxonomic order were Leonard et al.<sup>31</sup> for amphibians; Storm and Leonard<sup>42</sup> for reptiles; The American Ornithologists' Union Checklist of North American Birds, Seventh edition<sup>2</sup> for birds; and Hall<sup>23</sup> and Verts and Carraway<sup>45</sup> for mammals and marine mammals.

We settled on five occurrence status categories for the species: Occurs, Accidental, Non-native, Reintroduced, and Extirpated; the species could be listed as any one of these categories in either state. To list a species as having an Occurs status within each state required >15 documented observations, that is, they are considered to be regularly occurring species for the area. This figure of 15 documented observations was derived from its use by the states' ornithological groups. Accidental denotes those species with <15 documented occurrences, or >15 records but Oregon and Washington are not a regular part of the species' range; Non-native denotes species that are not native but now are found in Oregon or Washington;

Reintroduced denotes native species that were eliminated from Oregon or Washington or reduced to such low population levels that additional individuals were required to supplement or re-establish the species; and Extirpated refers to a native species whose populations have been completely removed from Oregon or Washington. Additionally, several categories were used to describe the breeding status of the species. Breeds is for those species with >5 documented breeding records by separate pairs unless professionals familiar with the species believed that breeding is probable but has not yet been documented. Non-breeder refers to those species that occur in the state(s) but do not breed, or have <5 documented breeding records. Bred Historically refers to those species that used to breed in the state(s) but currently do not.

Comparing the species lists helps us determine, for the first time, the degree of commonality and uniqueness of wildlife that exists between Oregon and Washington. The combined list of 743 wildlife species now allows us to jointly determine common and scientific names for each species (Appendix, page 687). The combined species list further allows us to characterize the occurrence and breeding status of each species by state (Table 1, at end of chapter). These steps towards standardization are fundamental for building a common understanding about our wildlife because species' names (both common and scientific), occurrence, and breeding status have fluctuated over time. Reaching agreement on these lists not only brings the information up to date, but also becomes the basis for identifying which wildlife species are associated with the various habitat types.

A total of 743 wildlife species occur in Oregon and Washington; 700 of these species occur in Oregon and 651 species in Washington. Some 593 species (80%) occur in both states, whereas 92 species are unique to Oregon and 43 are unique to Washington. In the following breakdown we list the species totals for both states, followed by the total for each state. A total of 479 species Occur in both states (548 OR, 501 WA), 80 species are Accidental in both states (120 OR, 116 WA), 22 are Non-native in both states (24 OR, 28 WA), no similar species have been Reintroduced in both states (2 OR, 2 WA), and 2 species have been Extirpated from both states (6 OR, 4 WA). A total of 385 species Breed in both states, 187 are Non-breeders, and 2 Bred Historically. A summary of the breeding status of the wildlife species in each state is shown in Figure 1.

### Determining the Wildlife-Habitats in Oregon and Washington

In this book, we use the term wildlife-habitat type or habitat types to mean a group of vegetation cover types (or land use/land cover types) that were determined based on the similarity of wildlife use. Our habitat types are based on actual conditions (e.g., current vegetation), and therefore can be mapped, and we assume they contain all the essential needs for a species' maintenance and viability. Wildlife-habitat types are not species-specific because they

are based on the similarity of many wildlife species using a suite of vegetation types. However, a wildlife species' "habitat" refers to an individual, species-specific use of a wildlife-habitat type. Thus, habitat is fundamentally linked to the distribution and abundance of species and underlies explanations of the factors, patterns, and processes that support the fitness of wildlife at the individual, population, and community levels, as well as their continuing evolution.

Too often the term "habitat type" is misused and is misunderstood. The term was initially used by Daubenmire<sup>15</sup> as a way to characterize forest vegetation associations by describing the potential of that association to reach a specific climax stage and was later refined and expanded to forest management.<sup>16, 17, 37</sup> This early use of the term "habitat type" described vegetative associations in relationship to seral stage, and actually had no wildlife species use clearly identified with it. Further, Daubenmire's habitat types classification dealt with the potential of a vegetative association at a site to move towards a climax stage, hence, the forest classification described future, not current, conditions. Wildlife use an area because of current conditions, not future ones. Thus, to a large extent, our past thinking revolved around vegetation classification schemes developed essentially for forest production and inventory purposes, and then overlaid with wildlife attributes.

Recently, Hall et al.<sup>24</sup> reviewed the literature for the appropriate use of the term "habitat type" and concluded that based on the Daubenmire definition the term should not be used when discussing wildlife-habitat relationships. While we agree in part with Hall et al.'s<sup>24</sup> statement, we recognize that the problem stems not from usage of the term in wildlife studies, but rather, that the term needs to be redefined by recognizing the interrelationships of wildlife with different vegetation types. Further, as Hall et al.<sup>24</sup> stated, there is also a need to standardize terminology. Hence, if we are willing to accept the definition of "habitat" as the resources and conditions present in an area to result in occupancy by a given wildlife

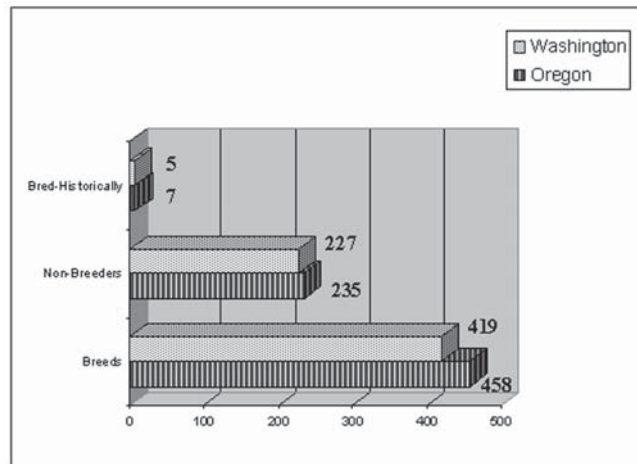


Figure 1. The total number of breeding wildlife species in Oregon and Washington.

species, then a redefinition of the term for wildlife is appropriate. Wildlife species affect, and are affected by their habitats, thus we have approached wildlife-habitat types as a collection of wildlife species interacting with different vegetation communities.

Several authors have advocated that wildlife-habitat relationships be placed in the proper spatial and temporal scales when they are being assessed.<sup>34, 47</sup> That is, we need to recognize that wildlife-habitat relationships are scale dependent. For example, Johnson<sup>28</sup> and Hutto<sup>25</sup> suggested that animals select habitat in a hierarchical manner: the first level is determined by the species' geographic range; the second is at a level where a species conducts its daily/seasonal activities (i.e., home range); and the third level is for habitat components that are local or site-specific within their home ranges. In recognizing the scale dependency of wildlife-habitat relationships, we have also structured the wildlife-habitat data associated with this book to go from a coarse level or wildlife-habitat type (that includes the essential components for a species to survive and reproduce), to an intermediate spatial level or structural condition, to the finest level of habitat elements that can be found at a specific site. Our hope is that knowing the species' relationship with its habitat type, structural conditions and habitat elements will help us make better predictions for species occurrences and ecological conditions for an area. Knowing that ecological condition is based on physical parameters should also help us to identify the ecological processes that are operating (as well as missing) in an area.

Presently, our ability to identify floristic types is greater than our ability to identify associated fauna. Therefore, each identifiable vegetation type probably does not represent a unique wildlife-habitat.<sup>33</sup> We present an approach to classify vegetation alliances into wildlife-habitat types based on the similarity of native breeding terrestrial vertebrate species. The basis for this approach has been discussed in detail by O'Neil et al.<sup>35</sup> This approach has its advantage because the status of our knowledge of wildlife and their habitat relationships has increased dramatically, and the process is quantitative and repeatable. We summarize the approach as follows.

Our initial task was to identify plant alliances, as defined by dominant plant species that are found in Oregon and Washington. We used the national vegetation classification system of Grossman et al.<sup>22</sup> and Anderson et al.<sup>3</sup> as the basis for identifying the 287 plant alliances found in Oregon and Washington. Although there are many vegetation classification systems available, we chose this classification system because it addresses current natural vegetation cover, allowed both states a unified classification scheme, and was hierarchical in design, thus providing sufficient detail for linking it to wildlife use.

Upon review of the 287 plant alliances, we recognized that the plant alliances represented a level of detail too fine for ascribing wildlife use. To remedy this, we contracted with a member(s) from each state's Natural Heritage Program to create alliance groupings based on similar vegetative communities; this effort resulted in

pooling the 287 alliances into 85 vegetative groups<sup>12</sup>. To these groups, we added 5 agricultural land cover types and 1 urban classification. Twenty-eight marine classifications were also identified, based on a series of meetings with a multi-agency team of marine experts. Thus, a total of 119 vegetative/land and aquatic/marine cover types were identified, and used in the subsequent analysis steps.

We linked the associations of wildlife species with the following three steps:

- 1) Existing wildlife-habitat relationships matrixes<sup>9, 11, 33, 43</sup> were incorporated into the Oregon Species Information System that supported the Oregon Gap Analysis project.
- 2) The Oregon Gap data were then brought together with other regional projects that classified vegetation for wildlife purposes, namely the Washington Gap Analysis and the Interior Columbia Basin Ecosystem Management Project. Although these efforts, taken individually, only covered a portion of the two-state area, taken in composite, these efforts offered information for the entire area, and contained the desired presence/absence information on the wildlife species for the suite of the vegetation/land use groupings.
- 3) Crosswalks were then developed between the vegetative and land use cover types from each of the projects to the appropriate 85 vegetative groups, 5 agricultural land cover, and 1 urban types. Links to the wildlife occurrence data occurred simultaneously. We then reviewed the wildlife occurrence data (from the combined projects) for inconsistencies.

We selected 541 native breeding species to use in conjunction with the 119 classes of vegetative/land cover/marine types for the subsequent analysis. We used native breeding species because we believe existing habitat information for breeders is more accurate and species preferences for breeding habitat are more specific than for other associations.<sup>35</sup> We then used the group of wildlife species associated with each of the 119 classes as a set of attributes to describe each class. This increased class specificity increased our ability to discriminate effectively among similar vegetative/land cover/marine types.

We constructed a matrix of 119 rows (vegetation/land cover/marine types) by 541 columns (wildlife species), and populated it with wildlife use data. In the matrix, a "1" indicate that the wildlife species could be found using the vegetation/land cover/marine class, and a "0" indicated absence or limited use of the class. A wildlife species could have an association with any number of the 119 classes.

Multivariate statistics were then used to undertake a cluster analysis process. Consistent patterns of wildlife association within groups suggest that wildlife species perceive the groups as a similar habitat. From this matrix we calculated wildlife species similarity between each pair of types using two different coefficients (Jaccard and Ochiaia) as a measure of species' association.<sup>21, 27, 32</sup> The difference between the two coefficients is that the Jaccard

gives equal weight to the absence or presence of a species sharing a vegetation type and the Ochaia gives weight to species sharing vegetation type(s). In general, the two coefficients gave similar results. We then created a distance matrix (species' dissimilarity) for vegetation types (119 x 119) by subtracting the Jaccard or Ochaia coefficients from 1. To groups whose vegetation types had high species' similarities, we performed a cluster analysis using the distance matrix and Ward linkage method,<sup>46</sup> a sequential, agglomerative, hierarchic, nonover-lapping cluster strategy,<sup>41</sup> which minimizes the within-cluster variance to the between-cluster variance at each step. We then reviewed each vegetation type's membership (and the wildlife species associated with it) with each set of clusters to see that it was consistent with our ecological understanding of plant and wildlife associations. If we questioned the vegetation membership within a cluster group then we also reviewed the wildlife species associated with the particular vegetation type. Experts then reviewed our initial groups and made suggestions for refining them. A total of 32 wildlife-habitats in Oregon and Washington were determined from this process. Table 2 illustrates the results that were achieved using this method. The Frontispiece reflects the mapping of these 32 wildlife habitats.

### Wildlife-Habitat Data Matrix

To maximize the utility of wildlife-habitat relationship information, a digital database that links wildlife with its habitats can be found on the CD-ROM included with this book. Wildlife occurrence with a particular habitat type was determined through an expert panel process held during the summer of 1998. The expert panels while cloistered had available to them range maps for each species, wildlife-habitat types distribution maps, statewide vegetation maps, and a variety of reference materials. These sources of material helped the panelists to determine wildlife species occurrence with a particular habitat type. The codes used were: Y—Yes the species occurs, H—Historically occurred, and U—Unsure. Alongside the occurrence category, the panelist also identified the types of activity that the species performs while utilizing the habitat. The activity codes for the wildlife species within a particular habitat were: B—Both feeds and breeds, F—Feeds only, R—Reproduces only, and O—Other. The Other category reflects activities such as roosting/resting, hibernacula, or use of the habitat for cover (thermal and hiding) purposes.

### Defining the Level of Associations Between Wildlife and the Habitats

The science of wildlife ecology continues to embrace new concepts and frameworks. The relatively new paradigm of ecosystem management challenges us to broaden traditional definitions and incorporate concepts that allow us to assess the value of landscapes to single as well as multi-species strategies. One such concept that we are building on is the degree of association between wildlife species and their habitats.<sup>39</sup> For our purpose, the panelists

used the following categories for characterizing the degree of association:

**Closely Associated.** A species is widely known to depend on a habitat or structural condition for part or all of its life history requirements. Identifying this association implies that the species has an essential need for this habitat or structural condition for its maintenance and viability. Some species may be closely associated with more than one habitat or structural condition, others may be closely associated with only one habitat or structural condition. Examples of species exhibiting close associations are red-winged blackbirds to wetland habitats, and spotted owls to mature and giant tree structural conditions.

**Generally Associated.** A species exhibits a high degree of adaptability and may be supported by a number of habitats or structural conditions. In other words, the habitats or structural conditions play a supportive role for its maintenance and viability. Examples include the black bear's association with a variety of forested habitats or black-tailed deer associated with a number of structural conditions.

**Present.** A species demonstrates occasional use of a habitat or structural condition. The habitat or structural condition provides marginal support to the species for its maintenance and viability. Examples are the rough-legged hawk in desert playa and salt scrub or mink in a montane mixed conifer forest. Table 3 depicts the total number of species associated with each wildlife habitat.

Finally, the expert panelists assigned an overall confidence rating to the occurrence and activity headings for each species within each habitat type. The confidence ratings were simply high (e.g., many peer or published accounts), moderate, and low (e.g., few or no published accounts). By ascribing a confidence rating, our objective was to offer users an evaluation of the overall strength of the scientific evidence. We understand that this is the first time a confidence rating system has been applied to wildlife-habitat relationship information of this type.

### Literature Cited

1. Alexander, L. F. 1996. A morphometric analysis of geographic variation within *Sorex monticolus* (Insectivora: Soricidae). Miscellaneous Publication. University of Kansas, Natural History Museum 88: 1-54.
2. American Ornithologists' Union. 1998. Checklist of North American birds. Seventh Edition, American Ornithologists' Union, Washington D.C.
3. Anderson, M. P. Bourgeron, M. Bryer, R. Crawford, L. Engelking, D. Faber-Langendoen, M. Gallyoun, D. H. Grossman, K. Goodin, S. Landaal, K. Metzler, K. P. Patterson, M. Pyne, M. Reid, L. Sneddon, A. W. Weakley. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume II: List of vegetation types. The Nature Conservancy, Boulder, CO.
4. Aubry, K. B. 1982. The recent history and present distribution of the red fox in Washington. Paper presented at the 63rd annual meeting, Pacific Northwest Bird and Mammal Society, May 1, 1982.
5. ———, and D. B. Houston. 1992. Distribution and status of the fisher (*Martes pennanti*) in Washington. *Northwestern Naturalist* 73: 69-79.
6. Bailey, V. 1936. The mammals and life zones of Oregon. U.S. Department of Agriculture, Bureau of Biological Survey, North America Fauna No. 55: 1-416.

7. Best, T. L. 1988. Morphologic variation in the spotted bat *Euderma maculatum*. *American Midland Naturalist* 119: 244-252.
8. Bradley, W. P. 1982. Some observations on feral horses on the Yakima Reservation. Paper presented at the 63rd annual meeting of the Pacific Northwest Bird and Mammal Society, May 1, 1982.
9. Brown, E. R., technical editor. 1985. Management of wildlife and fish habitats in forests of western Oregon and Washington (Volume 1 & 2). U.S. Forest Service, Publication R6-F&WL-192-1985. Pacific Northwest Region, Portland, OR.
10. Brueggeman, J. J. 1992. Oregon and Washington marine mammal and seabird surveys. Pacific OCS Region, Mineral Management Service, U.S. Department of Interior, Los Angeles, CA.
11. Capp, J., B. Carter, J. Diebert, J. Inman, and E. Styskel. 1976. Wildlife habitats relations of south central Oregon. U.S. Forest Service, Bend, OR.
12. Chappell, C., R. Crawford, J. Kagen, and P. Doran. 1997. A vegetation, land use, and habitat classification system for the terrestrial and aquatic systems of Oregon and Washington. Wildlife habitats and species associations in Oregon and Washington—building a common understanding. Progress Report 3. Washington Department of Fish and Wildlife, Olympia, WA.
13. Collins, J. T. 1990. Standard common and current scientific names for North American amphibians and reptiles, Third edition. Society for the Study of Amphibians and Reptiles, University of Kansas, Herpetological Circular Number 19, Lawrence, KA.
14. Csuti, B., A. J. Kimmerling, T. A. O'Neil, M. M. Shaughnessy, E. P. Gaines, M. M. P. Huso. 1997. Atlas of Oregon wildlife. Oregon State University Press, Corvallis, OR.
15. Daubenmire, R. 1952. Forest vegetation on northern Idaho and adjacent Washington, and its bearing on concepts of vegetation classification. *Ecological Monographs* 22: 301-330.
16. ———. 1968. Plant communities: a textbook of plant synecology. Harper and Row, New York, NY.
17. ———, and J. B. Daubenmire. 1968. Forest vegetation of eastern Washington and northern Idaho. Washington Agriculture Experimental Station, Technical Bulletin 60.
18. Dvornich, K. M., K. R. McAllister, and K. Aubry. 1997. Amphibians and reptiles of Washington State: Location data and predicted distributions in: K. M. Cassidy, C. E. Grue, M. R. Smith, and K. M. Dvornich, editors. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, WA.
19. Frost, D. R., and R. M. Timm. 1992. Phylogeny of plecotine bats (Chiroptera: Vespertilionidae): summary of the evidence and proposal of a logically consistent taxonomy. *American Museum Novitate* 3034: 1-16.
20. Gilligan, J., M. Smith, D. Rogers, and A. Contreras. Birds of Oregon. Cinclus Publications, McMinnville, OR.
21. Goodall, D. W. 1973. Sample similarity and species correlation. Pp. 99-149 in: R. H. Whittaker, editor. Ordination and classification of communities. W. Junk, The Hague.
22. Grossman, D. H., D. Faber-Langendoen, A. W. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid and L. Sneddon. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume 1: The National Vegetation Classification Standard. The Nature Conservancy, Boulder, CO.
23. Hall, R. E. 1981. The mammals of North America. Second Edition. John Wiley & Sons, New York, NY.
24. Hall, L. S., P. R. Krausman, and M. L. Morrison. 1997. The habitat concept and a plea for standard terminology. *Wildlife Society Bulletin* 25 (1): 173-182.
25. Hutto, R. L. 1985. Habitat selection by nonbreeding, migratory land birds. Pp. 455-476 in: M. L. Cody, editor. Habitat selection in birds. Academic Press, Orlando, FL.
26. Ingles, L. G. 1965. Mammals of the Pacific States. Stanford University Press, Stanford, CA.
27. Jaccard, P. 1901. Distribution de la flore alpine dans le Bassin des Dranes et dans quelques regions voisines. *Bulletin Societe Vaudoise des Sciences Naturelles* 37: 241-272.
28. Johnson, D. 1980. The comparison of usage and availability measurements for evaluating resource preference. *Ecology* 61: 65-71.
29. Johnson, R. E. and K. M. Cassidy. 1997. Terrestrial mammals of Washington State: Location data and predicted distributions. Volume 3 in: K. M. Cassidy, C. E. Grue, M. R. Smith, and K. M. Dvornich, editors. Washington State Gap Analysis, Final Report. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, WA.
30. Jones, J. K., R. S. Hoffman, D. W. Rice, C. Jones, R. J. Baker, and M. D. Engstrom. 1992. Revised checklist of North American mammals north of Mexico, 1991. Occasional Papers, The Museum Texas Tech University, Lubbock, TX.
31. Leonard, W. P., H. A. Brown, L. L. C. Jones, K. R. McAllister, and R. M. Storm. 1993. Amphibians of Washington and Oregon. Published by the Seattle Audubon Society, Seattle, WA.
32. Ludwig, J. A., and J. F. Reynolds. 1988. Statistical ecology. John Wiley and Sons, New York, NY.
33. Maser, C. J., J. W. Thomas, and R. G. Anderson. 1984. Wildlife habitats in managed rangelands—the Great Basins of southeastern Oregon. U.S. Forest Service, Pacific Northwest Forest and Range and Experiment Station, General Technical Report PNW-172. Portland, OR.
34. Morrison, M., B. G. Marcot, and R. Mannan. 1992. Wildlife-habitat relationships: concepts and applications. Univ. Wisconsin Press, Madison, WI.
35. O'Neil, T. A., R. J. Steidl, W. D. Edge, and B. Csuti. 1995. Using wildlife communities to improve vegetation classification for conserving biodiversity. *Conservation Biology*, Volume 9 No. 6, 1482-1491.
36. Oregon Department of Fish and Wildlife. 1994. Oregon species information system. User manual developed by W. McKenzie, S. Olson-Edge, and T. O'Neil. Corvallis, OR.
37. Pfister, R., B. Kovalchik, S. Arno, and R. Presby. 1977. Forest habitat types of Montana. U.S. Forest Service General Technical Report INT-34. Intermountain Forest & Range Experiment Station, Ogden, UT.
38. Puchy, C., and D. Marshall. 1993. Oregon wildlife diversity plan. Oregon Department of Fish and Wildlife, Portland, OR.
39. Ruggiero, L., L. Jones, and K. Aubry. 1991. Plant and animal habitat associations in Douglas-fir forests of the Pacific Northwest: an overview. Pp. 447-450 in: Wildlife and vegetation of unmanaged Douglas-fir forests. U.S. Forest Service General Technical Report PNW-GTR-285. Portland, OR.
40. Smith, M. R., P. W. Mattocks Jr., and K. M. Cassidy. 1997. Breeding birds of Washington State: Location data and predicted distributions. Volume 4 in: K. M. Cassidy, C. E. Grue, M. R. Smith, and K. M. Dvornich, editors. Washington State Gap Analysis, Final Report. Seattle Audubon Society Publications in Zoology No. 1, Seattle, WA.
41. Sneath, P. H. A., and R. R. Sokal. 1973. Numerical taxonomy. W. H. Freeman, San Francisco, CA.
42. Storm, R. M., and W. P. Leonard. 1995. Reptiles of Oregon and Washington. Seattle Audubon Society, Seattle, WA.
43. Thomas, J. W., technical editor. 1979. Wildlife habitats in managed forests: the Blue Mountains of Oregon and Washington. U.S. Forest Service, Agriculture Handbook 553. Washington, D.C.
44. van Zyll de Jong, C. 1984. Taxonomic relationships of Nearctic small-footed bats of the *Myotis leibii* group (Chiroptera: Vespertilionidae). *Canadian Journal of Zoology* 62: 2519-2526.
45. Verts, B. J., and L. N. Carraway. 1998. Land mammals of Oregon. University of California Press, Berkeley and Los Angeles, CA.
46. Ward, J. H., Jr. 1963. Hierarchical grouping to optimize an objective function. *Journal of the American Statistical Association* 58: 236-244.
47. Wiens, J. A. 1981. Scale problems in avian censusing. *Studies in Avian Biology* 6: 513-521.
48. Wilson, D. E., and D. M. Reeder. 1993. Mammal species of the world, 2nd edition. Smithsonian Institution Press, Washington, D.C.

## 6 Wildlife–Habitat Relationships in Oregon and Washington

**Table 1. Wildlife species occurrence and breeding status in Oregon and Washington.**

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
<b>Amphibians</b>				
Tiger Salamander	Occurs	Breeds	Occurs	Breeds
Northwestern Salamander	Occurs	Breeds	Occurs	Breeds
Long-toed Salamander	Occurs	Breeds	Occurs	Breeds
Cope's Giant Salamander	Occurs	Breeds	Occurs	Breeds
Pacific Giant Salamander	Occurs	Breeds	Occurs	Breeds
Olympic Torrent Salamander	Does Not Occur	Not Applicable	Occurs	Breeds
Columbia Torrent Salamander	Occurs	Breeds	Occurs	Breeds
Southern Torrent Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
Cascade Torrent Salamander	Occurs	Breeds	Occurs	Breeds
Rough-skinned Newt	Occurs	Breeds	Occurs	Breeds
Dunn's Salamander	Occurs	Breeds	Occurs	Breeds
Larch Mountain Salamander	Occurs	Breeds	Occurs	Breeds
Van Dyke's Salamander	Does Not Occur	Not Applicable	Occurs	Breeds
Western Red-backed Salamander	Occurs	Breeds	Occurs	Breeds
Del Norte Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
Siskiyou Mountains Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
Ensatina	Occurs	Breeds	Occurs	Breeds
Clouded Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
Black Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
Oregon Slender Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
California Slender Salamander	Occurs	Breeds	Does Not Occur	Not Applicable
Tailed Frog	Occurs	Breeds	Occurs	Breeds
Great Basin Spadefoot	Occurs	Breeds	Occurs	Breeds
Western Toad	Occurs	Breeds	Occurs	Breeds
Woodhouse's Toad	Occurs	Breeds	Occurs	Breeds
Pacific Chorus (Tree) Frog	Occurs	Breeds	Occurs	Breeds
Red-legged Frog	Occurs	Breeds	Occurs	Breeds
Cascades Frog	Occurs	Breeds	Occurs	Breeds
Oregon Spotted Frog	Occurs	Breeds	Occurs	Breeds
Columbia Spotted Frog	Occurs	Breeds	Occurs	Breeds
Foothill Yellow-legged Frog	Occurs	Breeds	Does Not Occur	Not Applicable
Northern Leopard Frog	Occurs	Breeds	Occurs	Breeds
Bullfrog	Non-native	Breeds	Non-native	Breeds
Green Frog	Does Not Occur	Not Applicable	Non-native	Breeds
<b>Reptiles</b>				
Snapping Turtle	Non-native	Non-Breeder	Non-native	Breeds
Painted Turtle	Occurs	Breeds	Occurs	Breeds
Western Pond Turtle	Occurs	Breeds	Occurs	Breeds
Red-eared Slider Turtle	Non-native	Breeds	Non-native	Breeds
Loggerhead Sea Turtle	Accidental	Non-Breeder	Accidental	Non-Breeder
Green Sea Turtle	Accidental	Non-Breeder	Accidental	Non-Breeder
Pacific Ridley Sea Turtle	Accidental	Non-Breeder	Accidental	Non-Breeder
Leatherback Turtle	Occurs	Non-Breeder	Occurs	Non-Breeder
Northern Alligator Lizard	Occurs	Breeds	Occurs	Breeds
Southern Alligator Lizard	Occurs	Breeds	Occurs	Breeds
Mojave Black-collared Lizard	Occurs	Breeds	Does Not Occur	Not Applicable
Long-nosed Leopard Lizard	Occurs	Breeds	Does Not Occur	Not Applicable
Short-horned Lizard	Occurs	Breeds	Occurs	Breeds
Desert Horned Lizard	Occurs	Breeds	Does Not Occur	Not Applicable
Sagebrush Lizard	Occurs	Breeds	Occurs	Breeds
Western Fence Lizard	Occurs	Breeds	Occurs	Breeds
Side-blotched Lizard	Occurs	Breeds	Occurs	Breeds
Western Skink	Occurs	Breeds	Occurs	Breeds

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Western Whiptail	Occurs	Breeds	Does Not Occur	Not Applicable
Plateau Striped Whiptail	Non-native	Breeds	Does Not Occur	Not Applicable
Rubber Boa	Occurs	Breeds	Occurs	Breeds
Racer	Occurs	Breeds	Occurs	Breeds
Night Snake	Occurs	Breeds	Occurs	Breeds
Sharptail Snake	Occurs	Breeds	Occurs	Breeds
Ringneck Snake	Occurs	Breeds	Occurs	Breeds
Night Snake	Occurs	Breeds	Occurs	Breed
Common Kingsnake	Occurs	Breeds	Does Not Occur	Not Applicable
California Mountain Kingsnake	Occurs	Breeds	Occurs	Breeds
Striped Whipsnake	Occurs	Breeds	Occurs	Breeds
Gopher Snake	Occurs	Breeds	Occurs	Breeds
Western Ground Snake	Occurs	Breeds	Does Not Occur	Not Applicable
Pacific Coast Aquatic Garter Snake	Occurs	Breeds	Does Not Occur	Not Applicable
Western Terrestrial Garter Snake	Occurs	Breeds	Occurs	Breeds
Northwestern Garter Snake	Occurs	Breeds	Occurs	Breeds
Common Garter Snake	Occurs	Breeds	Occurs	Breeds
Western Rattlesnake	Occurs	Breeds	Occurs	Breeds
<b>Birds</b>				
Red-throated Loon	Occurs	Non-Breeder	Occurs	Non-Breeder
Pacific Loon	Occurs	Non-Breeder	Occurs	Non-Breeder
Common Loon	Occurs	Non-Breeder	Occurs	Breeds
Yellow-billed Loon	Accidental	Non-Breeder	Occurs	Non-Breeder
Pied-billed Grebe	Occurs	Breeds	Occurs	Breeds
Horned Grebe	Occurs	Breeds	Occurs	Breeds
Red-necked Grebe	Occurs	Breeds	Occurs	Breeds
Eared Grebe	Occurs	Breeds	Occurs	Breeds
Western Grebe	Occurs	Breeds	Occurs	Breeds
Clark's Grebe	Occurs	Breeds	Occurs	Breeds
Shy Albatross	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Laysan Albatross	Occurs	Non-Breeder	Occurs	Non-Breeder
Black-footed Albatross	Occurs	Non-Breeder	Occurs	Non-Breeder
Short-tailed Albatross	Occurs	Non-Breeder	Occurs	Non-Breeder
Northern Fulmar	Occurs	Non-Breeder	Occurs	Non-Breeder
Murphy's Petrel	Accidental	Non-Breeder	Accidental	Non-Breeder
Mottled Petrel	Accidental	Non-Breeder	Accidental	Non-Breeder
Cook's Petrel	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Pink-footed Shearwater	Occurs	Non-Breeder	Occurs	Non-Breeder
Flesh-footed Shearwater	Occurs	Non-Breeder	Occurs	Non-Breeder
Buller's Shearwater	Occurs	Non-Breeder	Occurs	Non-Breeder
Sooty Shearwater	Occurs	Non-Breeder	Occurs	Non-Breeder
Short-tailed Shearwater	Occurs	Non-Breeder	Occurs	Non-Breeder
Manx Shearwater	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Black-vented Shearwater	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Wilson's Storm-petrel	Accidental	Non-Breeder	Accidental	Non-Breeder
Fork-tailed Storm-petrel	Occurs	Breeds	Occurs	Breeds
Leach's Storm-petrel	Occurs	Breeds	Occurs	Breeds
Black Storm-petrel	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Red-billed Tropicbird	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Blue-footed Booby	Does Not Occur	Not Applicable	Accidental	Non-Breeder
American White Pelican	Occurs	Breeds	Occurs	Breeds
Brown Pelican	Occurs	Non-Breeder	Occurs	Non-Breeder
Brandt's Cormorant	Occurs	Breeds	Occurs	Breeds
Double-crested Cormorant	Occurs	Breeds	Occurs	Breeds
Pelagic Cormorant	Occurs	Breeds	Occurs	Breeds
Magnificent Frigatebird	Accidental	Non-Breeder	Accidental	Non-Breeder
American Bittern	Occurs	Breeds	Occurs	Breeds

## 8 Wildlife-Habitat Relationships in Oregon and Washington

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Least Bittern	Occurs	Breeds	Does Not Occur	Not Applicable
Great Blue Heron	Occurs	Breeds	Occurs	Breeds
Great Egret	Occurs	Breeds	Occurs	Breeds
Snowy Egret	Occurs	Breeds	Accidental	Non-Breeder
Little Blue Heron	Accidental	Non-Breeder	Accidental	Non-Breeder
Tricolored Heron	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Cattle Egret	Occurs	Breeds	Occurs	Non-Breeder
Green Heron	Occurs	Breeds	Occurs	Breeds
Black-crowned Night-heron	Occurs	Breeds	Occurs	Breeds
Yellow-crowned Night-heron	Does Not Occur	Not Applicable	Accidental	Non-Breeder
White-faced Ibis	Occurs	Breeds	Occurs	Non-Breeder
Turkey Vulture	Occurs	Breeds	Occurs	Breeds
California Condor	Extirpated	Bred Historically*	Extirpated	Bred Historically*
Fulvous Whistling-Duck	Accidental	Non-Breeder	Accidental	Non-Breeder
Greater White-fronted Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Emperor Goose	Accidental	Non-Breeder	Accidental	Non-Breeder
Snow Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Ross's Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Canada Goose	Occurs	Breeds	Occurs	Breeds
Western Canada Goose	Occurs	Breeds	Occurs	Breeds
Giant Canada Goose	Non-native	Breeds	Non-native	Breeds
Taverner's Canada Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Aleutian Canada Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Cackling Canada Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Dusky Canada Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Vancouver Canada Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Lesser Canada Goose	Occurs	Non-Breeder	Occurs	Non-Breeder
Brant	Occurs	Non-Breeder	Occurs	Non-Breeder
Mute Swan	Non-native	Breeds	Non-native	Breeds
Trumpeter Swan	Occurs	Breeds	Occurs	Breeds
Tundra Swan	Occurs	Non-Breeder	Occurs	Non-Breeder
Whooper Swan	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Wood Duck	Occurs	Breeds	Occurs	Breeds
Gadwall	Occurs	Breeds	Occurs	Breeds
Falcated Duck	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Eurasian Wigeon	Occurs	Non-Breeder	Occurs	Non-Breeder
American Wigeon	Occurs	Breeds	Occurs	Breeds
American Black Duck	Accidental	Non-Breeder	Non-native	Breeds
Mallard	Occurs	Breeds	Occurs	Breeds
Blue-winged Teal	Occurs	Breeds	Occurs	Breeds
Cinnamon Teal	Occurs	Breeds	Occurs	Breeds
Northern Shoveler	Occurs	Breeds	Occurs	Breeds
Northern Pintail	Occurs	Breeds	Occurs	Breeds
Garganey	Accidental	Non-Breeder	Accidental	Non-Breeder
Baikal Teal	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Green-winged Teal	Occurs	Breeds	Occurs	Breeds
Canvasback	Occurs	Breeds	Occurs	Breeds
Redhead	Occurs	Breeds	Occurs	Breeds
Ring-necked Duck	Occurs	Breeds	Occurs	Breeds
Tufted Duck	Accidental	Non-Breeder	Accidental	Non-Breeder
Greater Scaup	Occurs	Non-Breeder	Occurs	Non-Breeder
Lesser Scaup	Occurs	Breeds	Occurs	Breeds
Steller's Eider	Accidental	Non-Breeder	Accidental	Non-Breeder
King Eider	Accidental	Non-Breeder	Accidental	Non-Breeder
Harlequin Duck	Occurs	Breeds	Occurs	Breeds
Surf Scoter	Occurs	Non-Breeder	Occurs	Non-Breeder
White-winged Scoter	Occurs	Non-Breeder	Occurs	Non-Breeder



Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Black Scoter	Occurs	Non-Breeder	Occurs	Non-Breeder
Long-tailed Duck (Oldsquaw)	Occurs	Non-Breeder	Occurs	Non-Breeder
Bufflehead	Occurs	Breeds	Occurs	Breeds
Common Goldeneye	Occurs	Non-Breeder	Occurs	Breeds
Barrow's Goldeneye	Occurs	Breeds	Occurs	Breeds
Smew	Accidental	Non-Breeder	Accidental	Non-Breeder
Hooded Merganser	Occurs	Breeds	Occurs	Breeds
Common Merganser	Occurs	Breeds	Occurs	Breeds
Red-breasted Merganser	Occurs	Non-Breeder	Occurs	Non-Breeder
Ruddy Duck	Occurs	Breeds	Occurs	Breeds
Osprey	Occurs	Breeds	Occurs	Breeds
White-tailed Kite	Occurs	Breeds	Occurs	Breeds
Bald Eagle	Occurs	Breeds	Occurs	Breeds
Northern Harrier	Occurs	Breeds	Occurs	Breeds
Sharp-shinned Hawk	Occurs	Breeds	Occurs	Breeds
Cooper's Hawk	Occurs	Breeds	Occurs	Breeds
Northern Goshawk	Occurs	Breeds	Occurs	Breeds
Red-shouldered Hawk	Occurs	Breeds	Accidental	Non-Breeder
Broad-winged Hawk	Accidental	Non-Breeder	Accidental	Non-Breeder
Swainson's Hawk	Occurs	Breeds	Occurs	Breeds
Red-tailed Hawk	Occurs	Breeds	Occurs	Breeds
Ferruginous Hawk	Occurs	Breeds	Occurs	Breeds
Rough-legged Hawk	Occurs	Non-Breeder	Occurs	Non-Breeder
Golden Eagle	Occurs	Breeds	Occurs	Breeds
American Kestrel	Occurs	Breeds	Occurs	Breeds
Merlin	Occurs	Bred-Historically	Occurs	Breeds
Gyr Falcon	Occurs	Non-Breeder	Occurs	Non-Breeder
Peregrine Falcon	Occurs	Breeds	Occurs	Breeds
Prairie Falcon	Occurs	Breeds	Occurs	Breeds
Chukar	Non-native	Breeds	Non-native	Breeds
Gray Partridge	Non-native	Breeds	Non-native	Breeds
Ring-necked Pheasant	Non-native	Breeds	Non-native	Breeds
Ruffed Grouse	Occurs	Breeds	Occurs	Breeds
Greater Sage-grouse	Occurs	Breeds	Occurs	Breeds
Spruce Grouse	Occurs	Breeds	Occurs	Breeds
White-tailed Ptarmigan	Does Not Occur	Not Applicable	Occurs	Breeds
Blue Grouse	Occurs	Breeds	Occurs	Breeds
Sharp-tailed Grouse	Reintroduced	Breeds	Occurs	Breeds
Wild Turkey	Non-native	Breeds	Non-native	Breeds
Mountain Quail	Occurs	Breeds	Occurs	Breeds
Scaled Quail	Does Not Occur	Not Applicable	Non-native	Non-Breeder
California Quail	Occurs	Breeds	Non-native	Breeds
Northern Bobwhite	Non-native	Breeds	Non-native	Breeds
Yellow Rail	Occurs	Breeds	Accidental	Non-Breeder
Virginia Rail	Occurs	Breeds	Occurs	Breeds
Sora	Occurs	Breeds	Occurs	Breeds
Common Moorhen	Accidental	Non-Breeder	Does Not Occur	Not Applicable
American Coot	Occurs	Breeds	Occurs	Breeds
Sandhill Crane	Occurs	Breeds	Occurs	Breeds
Black-bellied Plover	Occurs	Non-Breeder	Occurs	Non-Breeder
American Golden-Plover	Occurs	Non-Breeder	Occurs	Non-Breeder
Pacific Golden-Plover	Occurs	Non-Breeder	Occurs	Non-Breeder
Mongolian Plover	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Snowy Plover	Occurs	Breeds	Occurs	Breeds
Semipalmated Plover	Occurs	Non-Breeder	Occurs	Non-Breeder
Piping Plover	Accidental	Non-Breeder	Accidental	Non-Breeder
Killdeer	Occurs	Breeds	Occurs	Breeds
Mountain Plover	Accidental	Non-Breeder	Accidental	Non-Breeder

## 10 Wildlife-Habitat Relationships in Oregon and Washington

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Eurasian Dotterel	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Black Oystercatcher	Occurs	Breeds	Occurs	Breeds
Black-necked Stilt	Occurs	Breeds	Occurs	Breeds
American Avocet	Occurs	Breeds	Occurs	Breeds
Greater Yellowlegs	Occurs	Non-Breeder	Occurs	Non-Breeder
Lesser Yellowlegs	Occurs	Non-Breeder	Occurs	Non-Breeder
Spotted Redshank	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Solitary Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Willet	Occurs	Breeds	Occurs	Non-Breeder
Wandering Tattler	Occurs	Non-Breeder	Occurs	Non-Breeder
Gray-tailed Tattler	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Spotted Sandpiper	Occurs	Breeds	Occurs	Breeds
Upland Sandpiper	Occurs	Breeds	Extirpated	Bred Historically
Whimbrel	Occurs	Non-Breeder	Occurs	Non-Breeder
Bristle-thighed Curlew	Accidental	Non-Breeder	Accidental	Non-Breeder
Long-billed Curlew	Occurs	Breeds	Occurs	Breeds
Hudsonian Godwit	Accidental	Non-Breeder	Accidental	Non-Breeder
Bar-tailed Godwit	Accidental	Non-Breeder	Accidental	Non-Breeder
Marbled Godwit	Occurs	Non-Breeder	Occurs	Non-Breeder
Ruddy Turnstone	Occurs	Non-Breeder	Occurs	Non-Breeder
Black Turnstone	Occurs	Non-Breeder	Occurs	Non-Breeder
Surfbird	Occurs	Non-Breeder	Occurs	Non-Breeder
Great Knot	Accidental	Non-Breeder	Accidental	Non-Breeder
Red Knot	Occurs	Non-Breeder	Occurs	Non-Breeder
Sanderling	Occurs	Non-Breeder	Occurs	Non-Breeder
Semipalmated Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Western Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Red-necked Stint	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Little Stint	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Long-toed Stint	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Least Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
White-rumped Sandpiper	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Baird's Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Pectoral Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Sharp-tailed Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Rock Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Dunlin	Occurs	Non-Breeder	Occurs	Non-Breeder
Curlew Sandpiper	Accidental	Non-Breeder	Accidental	Non-Breeder
Stilt Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Buff-breasted Sandpiper	Occurs	Non-Breeder	Occurs	Non-Breeder
Ruff	Occurs	Non-Breeder	Occurs	Non-Breeder
Short-billed Dowitcher	Occurs	Non-Breeder	Occurs	Non-Breeder
Long-billed Dowitcher	Occurs	Non-Breeder	Occurs	Non-Breeder
Common Snipe	Occurs	Breeds	Occurs	Breeds
Wilson's Phalarope	Occurs	Breeds	Occurs	Breeds
Red-necked Phalarope	Occurs	Non-Breeder	Occurs	Non-Breeder
Red Phalarope	Occurs	Non-Breeder	Occurs	Non-Breeder
South Polar Skua	Occurs	Non-Breeder	Occurs	Non-Breeder
Pomarine Jaeger	Occurs	Non-Breeder	Occurs	Non-Breeder
Parasitic Jaeger	Occurs	Non-Breeder	Occurs	Non-Breeder
Long-tailed Jaeger	Occurs	Non-Breeder	Occurs	Non-Breeder
Laughing Gull	Accidental	Non-Breeder	Accidental	Non-Breeder
Franklin's Gull	Occurs	Breeds	Occurs	Non-Breeder
Little Gull	Accidental	Non-Breeder	Accidental	Non-Breeder
Black-headed Gull	Accidental	Non-Breeder	Accidental	Non-Breeder
Bonaparte's Gull	Occurs	Non-Breeder	Occurs	Non-Breeder
Heermann's Gull	Occurs	Non-Breeder	Occurs	Non-Breeder

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Mew Gull	Occurs	Non-Breeder	Occurs	Non-Breeder
Ring-billed Gull	Occurs	Breeds	Occurs	Breeds
California Gull	Occurs	Breeds	Occurs	Breeds
Herring Gull	Occurs	Non-Breeder	Occurs	Non-Breeder
Thayer's Gull	Occurs	Non-Breeder	Occurs	Non-Breeder
Iceland Gull	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Slaty-backed Gull	Accidental	Non-Breeder	Accidental	Non-Breeder
Western Gull	Occurs	Breeds	Occurs	Breeds
Glaucous-winged Gull	Occurs	Breeds	Occurs	Breeds
Glaucous Gull	Occurs	Non-Breeder	Occurs	Non-Breeder
Sabine's Gull	Occurs	Non-Breeder	Occurs	Non-Breeder
Black-legged Kittiwake	Occurs	Non-Breeder	Occurs	Non-Breeder
Red-legged Kittiwake	Accidental	Non-Breeder	Accidental	Non-Breeder
Ross's Gull	Accidental	Non-Breeder	Accidental	Non-Breeder
Ivory Gull	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Caspian Tern	Occurs	Breeds	Occurs	Breeds
Elegant Tern	Occurs	Non-Breeder	Occurs	Non-Breeder
Common Tern	Occurs	Non-Breeder	Occurs	Non-Breeder
Arctic Tern	Occurs	Non-Breeder	Occurs	Breeds
Forster's Tern	Occurs	Breeds	Occurs	Breeds
Least Tern	Accidental	Non-Breeder	Accidental	Non-Breeder
Black Tern	Occurs	Breeds	Occurs	Breeds
Common Murre	Occurs	Breeds	Occurs	Breeds
Thick-billed Murre	Accidental	Non-Breeder	Accidental	Non-Breeder
Pigeon Guillemot	Occurs	Breeds	Occurs	Breeds
Long-billed Murrelet	Accidental	Non-Breeder	Accidental	Non-Breeder
Marbled Murrelet	Occurs	Breeds	Occurs	Breeds
Kittlitz's Murrelet	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Xantus's Murrelet	Accidental	Non-Breeder	Accidental	Non-Breeder
Ancient Murrelet	Occurs	Non-Breeder	Occurs	Non-Breeder
Cassin's Auklet	Occurs	Breeds	Occurs	Breeds
Parakeet Auklet	Accidental	Non-Breeder	Accidental	Non-Breeder
Rhinoceros Auklet	Occurs	Breeds	Occurs	Breeds
Horned Puffin	Accidental	Non-Breeder	Accidental	Non-Breeder
Tufted Puffin	Occurs	Breeds	Occurs	Breeds
Rock Dove	Non-native	Breeds	Non-native	Breeds
Band-tailed Pigeon	Occurs	Breeds	Occurs	Breeds
White-winged Dove	Accidental	Non-Breeder	Accidental	Non-Breeder
Mourning Dove	Occurs	Breeds	Occurs	Breeds
Black-billed Cuckoo	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Yellow-billed Cuckoo	Occurs	Bred Historically	Extirpated	Bred Historically
Barn Owl	Occurs	Breeds	Occurs	Breeds
Flammulated Owl	Occurs	Breeds	Occurs	Breeds
Western Screech-owl	Occurs	Breeds	Occurs	Breeds
Great Horned Owl	Occurs	Breeds	Occurs	Breeds
Snowy Owl	Occurs	Non-Breeder	Occurs	Non-Breeder
Northern Hawk Owl	Accidental	Non-Breeder	Accidental	Non-Breeder
Northern Pygmy-owl	Occurs	Breeds	Occurs	Breeds
Burrowing Owl	Occurs	Breeds	Occurs	Breeds
Spotted Owl	Occurs	Breeds	Occurs	Breeds
Barred Owl	Occurs	Breeds	Occurs	Breeds
Great Gray Owl	Occurs	Breeds	Occurs	Breeds
Long-eared Owl	Occurs	Breeds	Occurs	Breeds
Short-eared Owl	Occurs	Breeds	Occurs	Breeds
Boreal Owl	Occurs	Breeds	Occurs	Breeds
Northern Saw-whet Owl	Occurs	Breeds	Occurs	Breeds
Common Nighthawk	Occurs	Breeds	Occurs	Breeds
Common Poorwill	Occurs	Breeds	Occurs	Breeds

12 Wildlife-Habitat Relationships in Oregon and Washington

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Black Swift	Occurs	Breeds	Occurs	Breeds
Vaux's Swift	Occurs	Breeds	Occurs	Breeds
White-throated Swift	Occurs	Breeds	Occurs	Breeds
Black-chinned Hummingbird	Occurs	Breeds	Occurs	Breeds
Anna's Hummingbird	Occurs	Breeds	Occurs	Breeds
Costa's Hummingbird	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Calliope Hummingbird	Occurs	Breeds	Occurs	Breeds
Broad-tailed Hummingbird	Occurs	Breeds	Does Not Occur	Not Applicable
Rufous Hummingbird	Occurs	Breeds	Occurs	Breeds
Allen's Hummingbird	Occurs	Breeds	Accidental	Non-Breeder
Belted Kingfisher	Occurs	Breeds	Occurs	Breeds
Lewis's Woodpecker	Occurs	Breeds	Occurs	Breeds
Acorn Woodpecker	Occurs	Breeds	Occurs	Non-Breeder
Williamson's Sapsucker	Occurs	Breeds	Occurs	Breeds
Yellow-bellied Sapsucker	Accidental	Non-Breeder	Accidental	Non-Breeder
Red-naped Sapsucker	Occurs	Breeds	Occurs	Breeds
Red-breasted Sapsucker	Occurs	Breeds	Occurs	Breeds
Nuttall's Woodpecker	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Downy Woodpecker	Occurs	Breeds	Occurs	Breeds
Hairy Woodpecker	Occurs	Breeds	Occurs	Breeds
White-headed Woodpecker	Occurs	Breeds	Occurs	Breeds
Three-toed Woodpecker	Occurs	Breeds	Occurs	Breeds
Black-backed Woodpecker	Occurs	Breeds	Occurs	Breeds
Northern Flicker	Occurs	Breeds	Occurs	Breeds
Pileated Woodpecker	Occurs	Breeds	Occurs	Breeds
Olive-sided Flycatcher	Occurs	Breeds	Occurs	Breeds
Western Wood-pewee	Occurs	Breeds	Occurs	Breeds
Eastern Wood-pewee	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Willow Flycatcher	Occurs	Breeds	Occurs	Breeds
Least Flycatcher	Occurs	Non-Breeder	Occurs	Breeds
Hammond's Flycatcher	Occurs	Breeds	Occurs	Breeds
Gray Flycatcher	Occurs	Breeds	Occurs	Breeds
Dusky Flycatcher	Occurs	Breeds	Occurs	Breeds
Pacific-slope Flycatcher	Occurs	Breeds	Occurs	Breeds
Cordilleran Flycatcher	Occurs	Breeds	Occurs	Breeds
Black Phoebe	Occurs	Breeds	Accidental	Non-Breeder
Eastern Phoebe	Accidental	Non-Breeder	Accidental	Non-Breeder
Say's Phoebe	Occurs	Breeds	Occurs	Breeds
Vermilion Flycatcher	Accidental	Non-Breeder	Accidental	Non-Breeder
Ash-throated Flycatcher	Occurs	Breeds	Occurs	Breeds
Tropical Kingbird	Accidental	Non-Breeder	Accidental	Non-Breeder
Western Kingbird	Occurs	Breeds	Occurs	Breeds
Eastern Kingbird	Occurs	Breeds	Occurs	Breeds
Scissor-tailed Flycatcher	Accidental	Non-Breeder	Accidental	Non-Breeder
Fork-tailed Flycatcher	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Loggerhead Shrike	Occurs	Breeds	Occurs	Breeds
Northern Shrike	Occurs	Non-Breeder	Occurs	Non-Breeder
White-eyed Vireo	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Bell's Vireo	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Yellow-throated Vireo	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Plumbeous Vireo	Occurs	Non-Breeder	Does Not Occur	Not Applicable
Cassin's Vireo	Occurs	Breeds	Occurs	Breeds
Hutton's Vireo	Occurs	Breeds	Occurs	Breeds
Warbling Vireo	Occurs	Breeds	Occurs	Breeds
Philadelphia Vireo	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Red-eyed Vireo	Occurs	Breeds	Occurs	Breeds
Gray Jay	Occurs	Breeds	Occurs	Breeds
Steller's Jay	Occurs	Breeds	Occurs	Breeds
Blue Jay	Accidental	Non-Breeder	Accidental	Non-Breeder

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Western Scrub-Jay	Occurs	Breeds	Occurs	Breeds
Pinyon Jay	Occurs	Breeds	Accidental	Non-Breeder
Clark's Nutcracker	Occurs	Breeds	Occurs	Breeds
Black-billed Magpie	Occurs	Breeds	Occurs	Breeds
American Crow	Occurs	Breeds	Occurs	Breeds
Northwestern Crow	Occurs	Non-Breeder	Occurs	Breeds
Common Raven	Occurs	Breeds	Occurs	Breeds
Sky Lark	Does Not Occur	Not Applicable	Non-native	Breeds
Horned Lark	Occurs	Breeds	Occurs	Breeds
Purple Martin	Occurs	Breeds	Occurs	Breeds
Tree Swallow	Occurs	Breeds	Occurs	Breeds
Violet-green Swallow	Occurs	Breeds	Occurs	Breeds
Northern Rough-winged Swallow	Occurs	Breeds	Occurs	Breeds
Bank Swallow	Occurs	Breeds	Occurs	Breeds
Cliff Swallow	Occurs	Breeds	Occurs	Breeds
Barn Swallow	Occurs	Breeds	Occurs	Breeds
Black-capped Chickadee	Occurs	Breeds	Occurs	Breeds
Mountain Chickadee	Occurs	Breeds	Occurs	Breeds
Chestnut-backed Chickadee	Occurs	Breeds	Occurs	Breeds
Boreal Chickadee	Does Not Occur	Not Applicable	Occurs	Breeds
Oak Titmouse	Occurs	Breeds	Does Not Occur	Not Applicable
Juniper Titmouse	Occurs	Breeds	Does Not Occur	Not Applicable
Bushtit	Occurs	Breeds	Occurs	Breeds
Red-breasted Nuthatch	Occurs	Breeds	Occurs	Breeds
White-breasted Nuthatch	Occurs	Breeds	Occurs	Breeds
Pygmy Nuthatch	Occurs	Breeds	Occurs	Breeds
Brown Creeper	Occurs	Breeds	Occurs	Breeds
Rock Wren	Occurs	Breeds	Occurs	Breeds
Canyon Wren	Occurs	Breeds	Occurs	Breeds
Bewick's Wren	Occurs	Breeds	Occurs	Breeds
House Wren	Occurs	Breeds	Occurs	Breeds
Winter Wren	Occurs	Breeds	Occurs	Breeds
Marsh Wren	Occurs	Breeds	Occurs	Breeds
American Dipper	Occurs	Breeds	Occurs	Breeds
Golden-crowned Kinglet	Occurs	Breeds	Occurs	Breeds
Ruby-crowned Kinglet	Occurs	Breeds	Occurs	Breeds
Blue-gray Gnatcatcher	Occurs	Breeds	Accidental	Non-Breeder
Northern Wheatear	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Western Bluebird	Occurs	Breeds	Occurs	Breeds
Mountain Bluebird	Occurs	Breeds	Occurs	Breeds
Townsend's Solitaire	Occurs	Breeds	Occurs	Breeds
Veery	Occurs	Breeds	Occurs	Breeds
Gray-cheeked Thrush	Accidental	Non-Breeder	Accidental	Non-Breeder
Swainson's Thrush	Occurs	Breeds	Occurs	Breeds
Hermit Thrush	Occurs	Breeds	Occurs	Breeds
Wood Thrush	Accidental	Non-Breeder	Does Not Occur	Not Applicable
American Robin	Occurs	Breeds	Occurs	Breeds
Varied Thrush	Occurs	Breeds	Occurs	Breeds
Wrentit	Occurs	Breeds	Does Not Occur	Not Applicable
Gray Catbird	Occurs	Breeds	Occurs	Breeds
Northern Mockingbird	Occurs	Non-Breeder	Occurs	Breeds
Sage Thrasher	Occurs	Breeds	Occurs	Breeds
Brown Thrasher	Accidental	Non-Breeder	Accidental	Non-Breeder
California Thrasher	Accidental	Non-Breeder	Does Not Occur	Not Applicable
European Starling	Non-native	Breeds	Non-native	Breeds
Siberian Accentor	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Yellow Wagtail	Does Not Occur	Not Applicable	Accidental	Non-Breeder
White Wagtail	Does Not Occur	Not Applicable	Accidental	Non-Breeder

14 Wildlife-Habitat Relationships in Oregon and Washington

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Black-backed Wagtail	Accidental	Non-Breeder	Accidental	Non-Breeder
Red-throated Pipit	Does Not Occur	Not Applicable	Accidental	Non-Breeder
American Pipit	Occurs	Breeds	Occurs	Breeds
Bohemian Waxwing	Occurs	Non-Breeder	Occurs	Non-Breeder
Cedar Waxwing	Occurs	Breeds	Occurs	Breeds
Phainopepla	Accidental	Non-Breeder	Accidental	Non-Breeder
Blue-winged Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Golden-winged Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Tennessee Warbler	Occurs	Non-Breeder	Accidental	Non-Breeder
Orange-crowned Warbler	Occurs	Breeds	Occurs	Breeds
Nashville Warbler	Occurs	Breeds	Occurs	Breeds
Virginia's Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Lucy's Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Northern Parula	Accidental	Non-Breeder	Accidental	Non-Breeder
Yellow Warbler	Occurs	Breeds	Occurs	Breeds
Chestnut-sided Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Magnolia Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Cape May Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Black-throated Blue Warbler	Occurs	Non-Breeder	Accidental	Non-Breeder
Yellow-rumped Warbler	Occurs	Breeds	Occurs	Breeds
Black-throated Gray Warbler	Occurs	Breeds	Occurs	Breeds
Black-throated Green Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Townsend's Warbler	Occurs	Breeds	Occurs	Breeds
Hermit Warbler	Occurs	Breeds	Occurs	Breeds
Blackburnian Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Yellow-throated Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Pine Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Prairie Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Palm Warbler	Occurs	Non-Breeder	Occurs	Non-Breeder
Bay-breasted Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Blackpoll Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Black-and-white Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
American Redstart	Occurs	Breeds	Occurs	Breeds
Prothonotary Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Worm-eating Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Ovenbird	Accidental	Non-Breeder	Accidental	Non-Breeder
Northern Waterthrush	Occurs	Breeds	Occurs	Breeds
Kentucky Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Mourning Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Macgillivray's Warbler	Occurs	Breeds	Occurs	Breeds
Common Yellowthroat	Occurs	Breeds	Occurs	Breeds
Hooded Warbler	Accidental	Non-Breeder	Accidental	Non-Breeder
Wilson's Warbler	Occurs	Breeds	Occurs	Breeds
Canada Warbler	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Yellow-breasted Chat	Occurs	Breeds	Occurs	Breeds
Summer Tanager	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Scarlet Tanager	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Western Tanager	Occurs	Breeds	Occurs	Breeds
Green-tailed Towhee	Occurs	Breeds	Occurs	Breeds
Spotted Towhee	Occurs	Breeds	Occurs	Breeds
California Towhee	Occurs	Breeds	Does Not Occur	Not Applicable
American Tree Sparrow	Occurs	Non-Breeder	Occurs	Non-Breeder
Chipping Sparrow	Occurs	Breeds	Occurs	Breeds
Clay-colored Sparrow	Occurs	Non-Breeder	Occurs	Breeds
Brewer's Sparrow	Occurs	Breeds	Occurs	Breeds
Black-chinned Sparrow	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Vesper Sparrow	Occurs	Breeds	Occurs	Breeds
Lark Sparrow	Occurs	Breeds	Occurs	Breeds

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Black-throated Sparrow	Occurs	Breeds	Occurs	Breeds
Sage Sparrow	Occurs	Breeds	Occurs	Breeds
Lark Bunting	Accidental	Non-Breeder	Accidental	Non-Breeder
Savannah Sparrow	Occurs	Breeds	Occurs	Breeds
Grasshopper Sparrow	Occurs	Breeds	Occurs	Breeds
LeConte's Sparrow	Accidental	Non-Breeder	Accidental	Non-Breeder
Nelson's Sharp-tailed Sparrow	Does Not Occur	Not Applicable	Accidental	Non-Breeder
Fox Sparrow	Occurs	Breeds	Occurs	Breeds
Song Sparrow	Occurs	Breeds	Occurs	Breeds
Lincoln's Sparrow	Occurs	Breeds	Occurs	Breeds
Swamp Sparrow	Occurs	Non-Breeder	Occurs	Non-Breeder
White-throated Sparrow	Occurs	Non-Breeder	Occurs	Non-Breeder
Harris's Sparrow	Occurs	Non-Breeder	Occurs	Non-Breeder
White-crowned Sparrow	Occurs	Breeds	Occurs	Breeds
Golden-crowned Sparrow	Occurs	Non-Breeder	Occurs	Non-Breeder
Dark-eyed Junco	Occurs	Breeds	Occurs	Breeds
McCown's Longspur	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Lapland Longspur	Occurs	Non-Breeder	Occurs	Non-Breeder
Chestnut-collared Longspur	Accidental	Non-Breeder	Accidental	Non-Breeder
Rustic Bunting	Accidental	Non-Breeder	Accidental	Non-Breeder
Snow Bunting	Occurs	Non-Breeder	Occurs	Non-Breeder
Mckay's Bunting	Accidental	Non-Breeder	Accidental	Non-Breeder
Rose-breasted Grosbeak	Accidental	Non-Breeder	Accidental	Non-Breeder
Black-headed Grosbeak	Occurs	Breeds	Occurs	Breeds
Blue Grosbeak	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Lazuli Bunting	Occurs	Breeds	Occurs	Breeds
Indigo Bunting	Accidental	Non-Breeder	Accidental	Non-Breeder
Painted Bunting	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Dickcissel	Accidental	Non-Breeder	Accidental	Non-Breeder
Bobolink	Occurs	Breeds	Occurs	Breeds
Red-winged Blackbird	Occurs	Breeds	Occurs	Breeds
Tricolored Blackbird	Occurs	Breeds	Does Not Occur	Not Applicable
Western Meadowlark	Occurs	Breeds	Occurs	Breeds
Yellow-headed Blackbird	Occurs	Breeds	Occurs	Breeds
Rusty Blackbird	Accidental	Non-Breeder	Accidental	Non-Breeder
Brewer's Blackbird	Occurs	Breeds	Occurs	Breeds
Common Grackle	Accidental	Non-Breeder	Accidental	Non-Breeder
Great-tailed Grackle	Accidental	Non-Breeder	Accidental	Non-Breeder
Brown-headed Cowbird	Occurs	Breeds	Occurs	Breeds
Orchard Oriole	Accidental	Non-Breeder	Accidental	Non-Breeder
Hooded Oriole	Accidental	Non-Breeder	Accidental	Non-Breeder
Streak-backed Oriole	Accidental	Non-Breeder	Does Not Occur	Not Applicable
Baltimore Oriole	Accidental	Non-Breeder	Accidental	Non-Breeder
Bullock's Oriole	Occurs	Breeds	Occurs	Breeds
Scott's Oriole	Accidental	Non-Breeder	Accidental	Non-Breeder
Brambling	Accidental	Non-Breeder	Accidental	Non-Breeder
Gray-crowned Rosy-Finch	Occurs	Breeds	Occurs	Breeds
Black Rosy-finch	Occurs	Breeds	Does Not Occur	Not Applicable
Pine Grosbeak	Occurs	Breeds	Occurs	Breeds
Purple Finch	Occurs	Breeds	Occurs	Breeds
Cassin's Finch	Occurs	Breeds	Occurs	Breeds
House Finch	Occurs	Breeds	Occurs	Breeds
Red Crossbill	Occurs	Breeds	Occurs	Breeds
White-winged Crossbill	Occurs	Non-Breeder	Occurs	Breeds
Common Redpoll	Occurs	Non-Breeder	Occurs	Non-Breeder
Hoary Redpoll	Accidental	Non-Breeder	Accidental	Non-Breeder
Pine Siskin	Occurs	Breeds	Occurs	Breeds
Lesser Goldfinch	Occurs	Breeds	Occurs	Breeds
Lawrence's Goldfinch	Accidental	Non-Breeder	Does Not Occur	Not Applicable

16 Wildlife-Habitat Relationships in Oregon and Washington

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
American Goldfinch	Occurs	Breeds	Occurs	Breeds
Evening Grosbeak	Occurs	Breeds	Occurs	Breeds
House Sparrow	Non-native	Breeds	Non-native	Breeds
<b>Mammals</b>				
Virginia Opossum	Non-native	Breeds	Non-native	Breeds
Masked Shrew	Does Not Occur	Not Applicable	Occurs	Breeds
Preble's Shrew	Occurs	Breeds	Occurs	Breeds
Vagrant Shrew	Occurs	Breeds	Occurs	Breeds
Montane Shrew	Occurs	Breeds	Occurs	Breeds
Baird's Shrew	Occurs	Breeds	Does Not Occur	Not Applicable
Fog Shrew	Occurs	Breeds	Does Not Occur	Not Applicable
Pacific Shrew	Occurs	Breeds	Does Not Occur	Not Applicable
Water Shrew	Occurs	Breeds	Occurs	Breeds
Pacific Water Shrew	Occurs	Breeds	Occurs	Breeds
Trowbridge's Shrew	Occurs	Breeds	Occurs	Breeds
Merriam's Shrew	Occurs	Breeds	Occurs	Breeds
Pygmy Shrew	Does Not Occur	Not Applicable	Occurs	Breeds
Shrew-mole	Occurs	Breeds	Occurs	Breeds
Townsend's Mole	Occurs	Breeds	Occurs	Breeds
Coast Mole	Occurs	Breeds	Occurs	Breeds
Broad-footed Mole	Occurs	Breeds	Does Not Occur	Not Applicable
California Myotis	Occurs	Breeds	Occurs	Breeds
Western Small-footed Myotis	Occurs	Breeds	Occurs	Breeds
Yuma Myotis	Occurs	Breeds	Occurs	Breeds
Little Brown Myotis	Occurs	Breeds	Occurs	Breeds
Long-legged Myotis	Occurs	Breeds	Occurs	Breeds
Fringed Myotis	Occurs	Breeds	Occurs	Breeds
Keen's Myotis	Does Not Occur	Not Applicable	Occurs	Breeds
Long-eared Myotis	Occurs	Breeds	Occurs	Breeds
Silver-haired Bat	Occurs	Breeds	Occurs	Breeds
Western Pipistrelle	Occurs	Breeds	Occurs	Breeds
Big Brown Bat	Occurs	Breeds	Occurs	Breeds
Hoary Bat	Occurs	Non-Breeder	Occurs	Non-Breeder
Spotted Bat	Accidental	Non-Breeder	Occurs	Breeds
Townsend's Big-eared Bat	Occurs	Breeds	Occurs	Breeds
Pallid Bat	Occurs	Breeds	Occurs	Breeds
Brazilian Free-tailed Bat	Occurs	Breeds	Does Not Occur	Not Applicable
American Pika	Occurs	Breeds	Occurs	Breeds
Pygmy Rabbit	Occurs	Breeds	Occurs	Breeds
Brush Rabbit	Occurs	Breeds	Does Not Occur	Not Applicable
Eastern Cottontail	Non-native	Breeds	Non-native	Breeds
Nuttall's (Mountain) Cottontail	Occurs	Breeds	Occurs	Breeds
European Rabbit	Does Not Occur	Not Applicable	Non-native	Breeds
Snowshoe Hare	Occurs	Breeds	Occurs	Breeds
White-tailed Jackrabbit	Occurs	Breeds	Occurs	Breeds
Black-tailed Jackrabbit	Occurs	Breeds	Occurs	Breeds
Mountain Beaver	Occurs	Breeds	Occurs	Breeds
Least Chipmunk	Occurs	Breeds	Occurs	Breeds
Yellow-pine Chipmunk	Occurs	Breeds	Occurs	Breeds
Townsend's Chipmunk	Occurs	Breeds	Occurs	Breeds
Allen's Chipmunk	Occurs	Breeds	Does Not Occur	Not Applicable
Siskiyou Chipmunk	Occurs	Breeds	Does Not Occur	Not Applicable
Red-tailed Chipmunk	Does Not Occur	Not Applicable	Occurs	Breeds
Yellow-bellied Marmot	Occurs	Breeds	Occurs	Breeds
Hoary Marmot	Does Not Occur	Not Applicable	Occurs	Breeds
Olympic Marmot	Does Not Occur	Not Applicable	Occurs	Breeds



Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
White-tailed Antelope Squirrel	Occurs	Breeds	Does Not Occur	Not Applicable
Townsend's Ground Squirrel	Occurs	Breeds	Occurs	Breeds
Merriam's Ground Squirrel	Occurs	Breeds	Does Not Occur	Not Applicable
Piute Ground Squirrel	Occurs	Breeds	Does Not Occur	Not Applicable
Washington Ground Squirrel	Occurs	Breeds	Occurs	Breeds
Wyoming Ground Squirrel	Extirpated	Bred Historically	Does Not Occur	Not Applicable
Belding's Ground Squirrel	Occurs	Breeds	Does Not Occur	Not Applicable
Columbian Ground Squirrel	Occurs	Breeds	Occurs	Breeds
California Ground Squirrel	Occurs	Breeds	Occurs	Breeds
Golden-mantled Ground Squirrel	Occurs	Breeds	Occurs	Breeds
Cascade Golden-mantled Ground Squirrel	Does Not Occur	Not Applicable	Occur	Breeds
Eastern Gray Squirrel	Non-native	Breeds	Non-native	Breeds
Eastern Fox Squirrel	Non-native	Breeds	Non-native	Breeds
Western Gray Squirrel	Occurs	Breeds	Occurs	Breeds
Red Squirrel	Occurs	Breeds	Occurs	Breeds
Douglas' Squirrel	Occurs	Breeds	Occurs	Breeds
Northern Flying Squirrel	Occurs	Breeds	Occurs	Breeds
Northern Pocket Gopher	Occurs	Breeds	Occurs	Breeds
Western Pocket Gopher	Occurs	Breeds	Occurs	Breeds
Camas Pocket Gopher	Occurs	Breeds	Does Not Occur	Not Applicable
Botta's (Pistol Riv.) Pocket Gopher	Occurs	Breeds	Does Not Occur	Not Applicable
Townsend's Pocket Gopher	Occurs	Breeds	Does Not Occur	Not Applicable
Great Basin Pocket Mouse	Occurs	Breeds	Occurs	Breeds
Little Pocket Mouse	Occurs	Breeds	Does Not Occur	Not Applicable
Dark Kangaroo Mouse	Occurs	Breeds	Does Not Occur	Not Applicable
Ord's Kangaroo Rat	Occurs	Breeds	Occurs	Breeds
Chisel-toothed Kangaroo Rat	Occurs	Breeds	Does Not Occur	Not Applicable
California Kangaroo Rat	Occurs	Breeds	Does Not Occur	Not Applicable
American Beaver	Occurs	Breeds	Occurs	Breeds
Western Harvest Mouse	Occurs	Breeds	Occurs	Breeds
Deer Mouse	Occurs	Breeds	Occurs	Breeds
Columbian Mouse	Does Not Occur	Not Applicable	Occurs	Breeds
Canyon Mouse	Occurs	Breeds	Does Not Occur	Not Applicable
Pinon Mouse	Occurs	Breeds	Does Not Occur	Not Applicable
Northern Grasshopper Mouse	Occurs	Breeds	Occurs	Breeds
Desert Woodrat	Occurs	Breeds	Does Not Occur	Not Applicable
Dusky-footed Woodrat	Occurs	Breeds	Does Not Occur	Not Applicable
Bushy-tailed Woodrat	Occurs	Breeds	Occurs	Breeds
Southern Red-backed Vole	Occurs	Breeds	Occurs	Breeds
Western Red-backed Vole	Occurs	Breeds	Does Not Occur	Not Applicable
Heather Vole	Occurs	Breeds	Occurs	Breeds
White-footed Vole	Occurs	Breeds	Does Not Occur	Not Applicable
Red Tree Vole	Occurs	Breeds	Does Not Occur	Not Applicable
Meadow Vole	Does Not Occur	Not Applicable	Occurs	Breeds
Montane Vole	Occurs	Breeds	Occurs	Breeds
Gray-tailed Vole	Occurs	Breeds	Occurs	Breeds
California Vole	Occurs	Breeds	Does Not Occur	Not Applicable
Townsend's Vole	Occurs	Breeds	Occurs	Breeds
Long-tailed Vole	Occurs	Breeds	Occurs	Breeds
Creeping Vole	Occurs	Breeds	Occurs	Breeds
Water Vole	Occurs	Breeds	Occurs	Breeds
Sagebrush Vole	Occurs	Breeds	Occurs	Breeds
Muskrat	Occurs	Breeds	Occurs	Breeds
Northern Bog Lemming	Does Not Occur	Not Applicable	Occurs	Breeds
Black Rat	Non-native	Breeds	Non-native	Breeds
Norway Rat	Non-native	Breeds	Non-native	Breeds
House Mouse	Non-native	Breeds	Non-native	Breeds
Western Jumping Mouse	Occurs	Breeds	Occurs	Breeds
Pacific Jumping Mouse	Occurs	Breeds	Occurs	Breeds
Common Porcupine	Occurs	Breeds	Occurs	Breeds

18 Wildlife-Habitat Relationships in Oregon and Washington

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
Nutria	Non-native	Breeds	Non-native	Breeds
Coyote	Occurs	Breeds	Occurs	Breeds
Gray Wolf	Extirpated	Bred Historically	Occurs	Breeds
Red Fox	Occurs	Breeds	Occurs	Breeds
Kit Fox	Occurs	Breeds	Does Not Occur	Not Applicable
Gray Fox	Occurs	Breeds	Does Not Occur	Not Applicable
Black Bear	Occurs	Breeds	Occurs	Breeds
Grizzly Bear	Extirpated	Bred Historically	Occurs	Breeds
Ringtail	Occurs	Breeds	Does Not Occur	Not Applicable
Raccoon	Occurs	Breeds	Occurs	Breeds
American Marten	Occurs	Breeds	Occurs	Breeds
Fisher	Occurs	Breeds	Occurs	Breeds
Ermine	Occurs	Breeds	Occurs	Breeds
Long-tailed Weasel	Occurs	Breeds	Occurs	Breeds
Mink	Occurs	Breeds	Occurs	Breeds
Wolverine	Occurs	Breeds	Occurs	Breeds
American Badger	Occurs	Breeds	Occurs	Breeds
Western Spotted Skunk	Occurs	Breeds	Occurs	Breeds
Striped Skunk	Occurs	Breeds	Occurs	Breeds
Northern River Otter	Occurs	Breeds	Occurs	Breeds
Mountain Lion	Occurs	Breeds	Occurs	Breeds
Lynx	Occurs	Breeds	Occurs	Breeds
Bobcat	Occurs	Breeds	Occurs	Breeds
Wild Burro	Non-native	Breeds	Does Not Occur	Not Applicable
Feral Horse	Non-native	Breeds	Non-native	Breeds
Feral Pig	Non-native	Breeds	Non-native	Non-Breeder
Roosevelt Elk	Occurs	Breeds	Occurs	Breeds
Rocky Mountain Elk	Occurs	Breeds	Occurs	Breeds
Black-tailed Deer	Occurs	Breeds	Occurs	Breeds
Mule Deer	Occurs	Breeds	Occurs	Breeds
Columbian White-tailed Deer	Occurs	Breeds	Occurs	Breeds
White-tailed Deer (Eastside)	Occurs	Breeds	Occurs	Breeds
Moose	Accidental	Non-Breeder	Occurs	Breeds
Mountain Caribou	Does Not Occur	Not Applicable	Occurs	Breeds
Pronghorn Antelope	Occurs	Breeds	Extirpated	Bred Historically
Bison	Extirpated	Bred Historically	Extirpated	Bred Historically*
Mountain Goat	Reintroduced	Breeds	Occurs	Breeds
Rocky Mountain Bighorn Sheep	Reintroduced	Breeds	Reintroduced	Breeds
California Bighorn Sheep	Reintroduced	Breeds	Reintroduced	Breeds
Northern Fur Seal	Occurs	Non-Breeder	Occurs	Non-Breeder
Northern (Steller) Sea Lion	Occurs	Breeds	Occurs	Non-Breeder
California Sea Lion	Occurs	Non-Breeder	Occurs	Non-Breeder
Harbor Seal	Occurs	Breeds	Occurs	Breeds
Northern Elephant Seal	Occurs	Breeds	Occurs	Non-Breeder
Sea Otter	Extirpated	Bred Historically	Reintroduced	Breeds
Gray Whale	Occurs	Non-Breeder	Occurs	Non-Breeder
Minke Whale	Occurs	Breeds	Occurs	Breeds
Sei Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Blue Whale	Occurs	Non-Breeder	Occurs	Non-Breeder
Fin Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Humpback Whale	Occurs	Non-Breeder	Occurs	Non-Breeder
Northern Right Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Striped Dolphin	Accidental	Non-Breeder	Accidental	Non-Breeder
Common Saddle-backed Dolphin	Accidental	Non-Breeder	Accidental	Non-Breeder

Common Name	Oregon		Washington	
	Occurrence	Breeding Status	Occurrence	Breeding Status
False Killer Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Short-finned Pilot Whale	Occurs	Non-Breeder	Occurs	Non-Breeder
Killer Whale	Occurs	Breeds	Occurs	Breeds
Northern Right-whale Dolphin	Occurs	Non-Breeder	Occurs	Non-Breeder
Harbor Porpoise	Occurs	Breeds	Occurs	Breeds
Dall's Porpoise	Occurs	Breeds	Occurs	Breeds
North Pacific Bottle-nosed Whale	Occurs	Non-Breeder	Occurs	Non-Breeder
Goose-beaked Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Bering Sea Beaked Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Arch-beaked Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Pygmy Sperm Whale	Accidental	Non-Breeder	Accidental	Non-Breeder
Sperm Whale	Occurs	Non-Breeder	Occurs	Non-Breeder
Beluga Whale	Does Not Occur	Not Applicable	Accidental	Non-Breeder

\*Historical Breeding Unknown.

**Table 2. The 32 wildlife-habitat types as determined from the cluster analysis procedure using 541 native breeding species and 119 Pacific Northwest vegetation, land use, and marine groupings.**

Wildlife-Habitat Types Vegetative/Land Use/Marine Groupings	Wildlife-Habitat Types Vegetative/Land Use/Marine Groupings
<p><b>Westside Lowland Conifer-Hardwood Forest</b>                      Alnus rubra-Acer macrophyllum Upland Forests                      Picea sitchensis-Tsuga heterophylla Forests                      Pseudotsuga menziesii-Alnus rubra-Acer macrophyllum Forests                      Maritime Tsuga heterophylla-Thuja plicata Forests                      Forested Dunes</p>	<p><b>Ponderosa Pine Forest and Woodlands</b>                      Pinus ponderosa Woodlands                      Eastside Pinus ponderosa-Quercus garryana Forest and Woodlands                      Eastside Quercus garryana Woodlands</p>
<p><b>Westside Oak and Dry Douglas-fir Forest and Woodlands</b>                      Westside Quercus garryana Forests and Woodlands                      Westside Quercus garryana-Pseudotsuga menziesii Forests                      Westside Dry Pseudotsuga menziesii Forests                      Pseudotsuga menziesii-Arbutus menziesii Forests</p>	<p><b>Upland Aspen Forest</b>                      Populus tremuloides Upland Forests</p>
<p><b>Southwest Oregon Mixed Conifer-Hardwood Forest</b>                      Abies concolor Mixed Conifer Forests                      Pinus jeffreyi Woodlands                      Pseudotsuga menziesii-Lithocarpus densiflorus Forests                      Southwest Oregon Low Elevation Mixed Conifer Forests</p>	<p><b>Subalpine Parklands</b>                      Subalpine and Alpine Wetlands                      Pinus albicaulis-Abies lasiocarpa Woodlands and Parklands                      Tsuga mertensiana Parklands</p>
<p><b>Montane Mixed Conifer Forest</b>                      Abies amabilis-Tsuga heterophylla Forests                      Abies lasiocarpa-Picea engelmannii Forests                      Abies magnifica var. shastensis Forests and Woodlands                      Tsuga mertensiana Forests                      Tsuga mertensiana-Abies amabilis Forests</p>	<p><b>Alpine Grasslands and Shrublands</b>                      Subalpine and Alpine Grasslands                      Alpine Dwarf Shrublands-Fellfields and Sedge Turf</p>
<p><b>Eastside (Interior) Mixed Conifer Forest</b>                      Eastside Abies grandis-Pseudotsuga menziesii Forests                      Eastside Pseudotsuga menziesii-Pinus ponderosa Forests                      Eastside Tsuga heterophylla-Thuja plicata Forests</p>	<p><b>Westside Grasslands</b>                      Westside Festuca idahoensis var. romeri-Danthonia californica</p>
<p><b>Lodgepole Pine Forest and Woodlands</b>                      Pinus contorta Grass understory                      Pinus contorta Shrub understory                      Pinus contorta Subalpine Forests                      Pinus contorta Woodlands and Forests on Pumice</p>	<p><b>Ceanothus-Manzanita Shrublands</b>                      Chaparral</p>
	<p><b>Western Juniper and Mountain Mahogany Woodlands</b>                      Juniperus occidentalis Scablands                      Juniperus occidentalis-Artemisia tridentata Tall Shrublands                      Juniperus occidentalis/Bunchgrass                      Cercocarpus ledifolius</p>
	<p><b>Eastside (Interior) Canyon Shrublands</b>                      Eastside Moist Deciduous Shrublands</p>
	<p><b>Eastside (Interior) Grasslands</b>                      Pseudoroegneria spicata Grasslands                      Eastside Low-to-Mid-elevation Festuca idahoensis Grasslands                      Eastside Modified Grasslands                      Sporobolus cryptandrus-Aristida purpurea var. longiseta Grasslands</p>

Wildlife-Habitat Types

Vegetative/Land Use/Marine Groupings

**Shrub-steppe**

Artemisia tripartita Shrub-steppe  
 Artemisia cana Shrub-steppe  
 Artemisia tridentata ssp. tridentata and ssp. wyomingensis Shrub-steppe  
 Artemisia tridentata ssp. vaseyana Shrublands  
 Purshia tridentata Shrub-steppe  
 Sandy steppe and Shrub-steppe

**Dwarf Shrub-steppe**

Artemisia rigida/Eriogonum spp./Poa secunda Dwarf-Shrub Scabland  
 Artemisia arbuscula Dwarf-Shrub-steppe  
 Artemisia nova Dwarf-Shrublands

**Desert Playa and Salt Scrub**

Alkali Grasslands and Wetlands  
 Atriplex confertifolia Shrublands  
 Mixed Saltdesert Shrub-Non-Playa  
 Mixed Saltdesert Shrub-Playa  
 Sarcobatus vermiculatus Shrublands

**Agriculture, Pasture, and Mixed Environs\***

Cultivated Croplands  
 Improved Pasture  
 Modified Grasslands  
 Orchard/Vineyard/Nursery  
 Unimproved Pasture

**Urban and Mixed Environs\***

High Density  
 Moderate Density  
 Low Density

**Open Water-Lakes, Rivers, Streams**

Riverine  
 Lacustrine -Open Water

**Herbaceous Wetlands**

Graminoid Wet Meadow  
 Freshwater Aquatic Beds  
 Herbaceous and Sedge Wetlands

**Westside Riparian - Wetlands**

Alnus viridis ssp. sinuata-Acer circinatum Shrublands  
 Westside Riparian and Wetland Deciduous Forests  
 Picea sitchensis Wetland Forests and Woodlands  
 Tsuga heterophylla-Thuja plicata coniferous wetlands  
 Westside Riparian/Wetland Shrublands  
 Shrub/herbaceous Sphagnum Bogs  
 Wooded Bogs

**Montane Coniferous Wetlands**

Westside Montane Coniferous Wetlands  
 Picea engelmannii Forested Wetlands

**Eastside (Interior) Riparian - Wetlands**

Eastside Midmontane Alnus incana-Salix spp. Riparian Shrublands  
 Eastside Lowland Riparian Shrublands  
 Eastside Populus balsamifera ssp. trichocarpa  
 Alnus rhombifolia Riparian

Wildlife-Habitat Types

Vegetative/Land Use/Marine Groupings

Pinus ponderosa Riparian Woodlands  
 Populus tremuloides Riparian/Wetland Forests and Woodlands

**Coastal Dunes and Beaches**

Coastal Dune Grasslands  
 Coastal Dune Shrublands

**Coastal Headlands and Islets**

Coastal Headland Shrublands and Grasslands

**Bays and Estuaries\***

Bays and Estuaries (includes Intertidal Marshes)

**Inland Marine Deeper Waters\***

Puget Sound to Strait of Juan de Fuca

**Marine Nearshore\***

Marine environment from shore line to 20 m depth

**Marine Shelf\***

Marine environment from 20 m to 200 m depth

**Oceanic\***

Marine environment greater than 200 m depth

\*Wildlife-habitats that were determined by an expert panel process rather than through the cluster analysis effort.

**Table 3. Number of wildlife species by habitat and by their association.**

Wildlife-Habitat Types	Number of Species*				
	Total	Closely Associated	Generally Associated	Present	Unsure
Westside Lowland Conifer-Deciduous Forest	233	48	155	29	1
Westside Oak and Dry Douglas-fir Forest and Woodlands	229	34	148	40	7
Southwest Oregon Mixed Conifer-Deciduous Forest	236	35	163	33	5
Montane Mixed Conifer Forest	221	35	138	38	10
Eastside (Interior) Mixed Conifer Forest	225	38	146	35	6
Lodgepole Pine Forest and Woodlands	166	15	95	48	8
Ponderosa Pine Forest and Woodlands	247	26	160	46	15
Upland Aspen Forest	144	4	85	42	13
Subalpine Parkland	184	19	92	69	4
Alpine Grasslands and Shrublands	132	19	35	71	7
Westside Grasslands	157	12	105	39	1
Ceanothus-Manzanita Shrublands	138	4	89	39	6
Western Juniper and Mountain Mahogany Woodlands	173	17	113	36	7
Eastside (Interior) Canyon Shrubland	147	13	84	38	12
Eastside (Interior) Grasslands	174	33	100	38	3
Shrub-steppe	184	47	100	34	3
Dwarf Shrub-steppe	149	23	86	32	8
Desert Playa and Salt Scrub	143	27	78	33	5
Agriculture and Pastures Mixed Environs	346	68	174	99	5
Urban and Mixed Environs	266	18	144	102	2
Open Water - Lakes, Rivers, Streams	162	96	53	13	0
Herbaceous Wetlands	228	105	90	31	2
Westside Riparian/Wetlands	256	74	145	35	2
Montane Coniferous Wetlands	148	17	101	28	2
Eastside (Interior) Riparian/Wetlands	271	81	149	36	5
Coastal Dunes and Beaches	155	31	79	41	4
Coastal Headlands and Islets	118	28	63	24	3
Bays and Estuaries	175	66	74	34	1
Inland Marine Deeper Waters	61	26	20	15	0
Marine Nearshore	86	38	33	14	1
Marine Shelf	72	41	20	11	0
Oceanic	44	31	8	5	0

\* Historical associations are not shown.