

Appendix 1 : GLOSSARY

The following terms were used in our assessment, and are defined here in the manner in which they are used in our document.

Abundance—The total number of organisms in an area; contrast with density (Lancia et al. 1994). See [Chapter 7](#) of our document regarding use of the term “habitat abundance” as part of the analysis of groups of species.

Accuracy—(1) The closeness of computations or estimates to the exact or true value (Marriott 1990:2); (2) the magnitude of systematic errors or degree of bias associated with an estimation procedure which affects how well the estimated value represents the true value (not synonymous with precision) (Ministry of Environment, Lands, and Parks 1998). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Accuracy, classification—Upon completion of a landcover map it is vital to check the accuracy of the technique in assigning items to a particular class, which is often done using a confusion matrix. This is a table of actual and predicted classes, which plots the two against each other to allow easy comparison (Association for Geographic Information 1996). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Accuracy, spatial—The degree to which a position (on a map) is measured or depicted, relative to its correct value (on the ground) established by a more accurate process (adapted from Association for Geographic Information 1996). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Alliance—“The alliance is a physiognomically uniform group of plant associations sharing one or more dominant or diagnostic species, which as a rule are found in the uppermost strata of the vegetation... dominant species are often emphasized in the absence of detailed floristic information (such as quantitative plot data), whereas diagnostic species (including characteristic species, dominant differential, and other species groupings based on constancy) are used where detailed floristic data are available” (Reid et al. 2002).

Association—A group of species living in the same place at the same time (Ricklefs 1979:865).

Aridisols—Soils that are too dry to grow mesophytic plants. They may have a clay-enriched subsoil and/or cemented to noncemented deposits of salts or carbonates. These soils are commonly in the deserts of Western states. Technical definition: mineral soils that have an aridic moisture regime, an ochric epipedon, and other pedogenic horizons but no oxic horizon (Soil Survey Staff 1998).

Bias—The mean difference from the real value of a measure by estimators of that measure; a result of systematic error in data collection (Ministry of Environment, Lands, and Parks 1998). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Bioregionally outstanding—One of 4 categories used to characterize ecoregions according to their biological distinctiveness. The 4 criteria of biological distinctiveness include species richness, endemism, rare phenomenon, and rare habitat types. A bioregionally outstanding ecoregion is one that is noteworthy among ecoregions within the same major habitat types and subregional areas of North America (Ricketts et al. 1999:17).

Bottom-up processes—Ecological patterns and mechanisms unique to local areas and conditions (Peterson and Parker 1998). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Change detection—The sensing of environmental changes that uses two or more remotely sensed images covering the same geographic area acquired over two or more different periods of time (Canada Centre for Remote Sensing 2000).

Classification—In the process of classification, an attempt is made to group data into classes according to some common characteristics thereby reducing the number of data elements. Classification tends to be based upon the attributes or characteristics of data rather than their geometry. In digital image processing, images are usually classified according to the spectral properties of the pixels composing the image. In spatial analysis, a map can be classified according to any attribute value (e.g., soil types, population density). The result of performing classification is a thematic derived map (Association for Geographic Information 1996).

Cluster analysis (hierarchical)—A procedure that places objects into groups or clusters suggested by the data, so that objects in a given cluster tend to be similar to one another, and objects from different clusters tend to be dissimilar. In hierarchical cluster analysis, clusters are arranged such that a cluster may be contained entirely within another cluster; however, no other type of overlap between clusters is allowed (Wisdom et al. 2000). See [Chapter 7](#) of our document regarding use of cluster analysis as part of methods to group species.

Coarse-filter—The occurrence, abundance, and location of ecological communities are used to predict individual or multi-species species response. The implication is that if the full range of ecological communities is present in adequate amounts, conservation of species is assured (also see Fine-filter; Roloff et al. 2001). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Condition—Describing the ability of a community or ecosystem to function naturally. Good condition refers to a strong ability for natural function, whereas poor condition refers to dysfunction or unnatural functions. Causes of poor condition include (but are not limited to) invasion by non-native species, losses of native species, and changes in the proportions of native species (Nevada Natural Heritage Program 2002).

Connectivity— The degree to which habitats for a species are continuous or interrupted across a spatial extent, where habitats defined as continuous are within a prescribed distance over which a species can successfully conduct key activities (e.g., effective dispersal distances of seeds or juveniles, mean distances moved for foraging, nesting, and brood-rearing), and habitats defined as interrupted are outside the prescribed distance.

Cover type—A vegetation classification depicting genera, species, group of species, or life form of tree, shrub, grass, or sedge, or a dominant physical feature (for example water or rock) or land use (for example urban or road). When a genus or species name is given to the cover type at a broad scale, it is typically representative of a complex of species or genera with similar characteristics (Wisdom et al. 2000). Cover types used in remote-sensed data typically represent the species of vegetation that dominate the overstory of a given pixel or polygon. See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Digital elevation model (DEM)—Digital data file containing an array of elevation information over a portion of the earth's surface (Remote Sensing Advisory Team and Remote Sensing Applications Center 1999).

Disjunct—Organisms that are separated into distinct spatial segments, with each segment constituting an interacting population, with little or no interaction between segments. See Wisdom et al. (2003) regarding the use of this term as it relates to use of range maps for regional assessment of habitats for species of conservation concern.

Dispersal—The movement of organisms away from the place of birth or from centers of population density (Ricklefs 1979:868).

Dispersal, breeding—Movement of individuals that have reproduced between successive breeding sites (Greenwood 1980:1141).

Disturbance regime—Natural pattern of periodic disturbances, such as fire or flood, followed by a period of recovery from the disturbance (e.g., regrowth of a forest after a fire) (Wisdom et al. 2000).

Ecological Province—Large areas defined by similarity in abiotic and biotic conditions, similar to an ecoregion, but typically smaller. Ecological provinces generally encompass millions of hectares, with several provinces fitting within an ecoregion. See West et al. (1998) and Miller et al. (1999) for ecological provinces that occur within or overlap the Great Basin Ecoregion.

Ecological risk assessment—A process that evaluates the likelihood that adverse ecological effects may occur or are occurring as a result of exposure to one or more stressors. Ecological risk assessment may evaluate one or many stressors and ecological components (Risk Assessment Forum 1992:2).

Ecoregion—A large area of similar climate where similar ecosystems occur on similar sites (those having the same landform, slope, parent material, and drainage characteristics); for example, beach ridges throughout the Subarctic ecoregion usually support a dense growth of black spruce or jack pine (Bailey 2002). Ecoregions in the United States have been defined and mapped by The Nature Conservancy (Groves et al. 2000; http://gis.tnc.org/data/MapbookWebsite/map_page.php?map_id=9). Bailey (1995) and Omernik (1987) present slightly different ecoregion delineations for North America.

Ecosystem—The totality of components of all kinds that make up a particular environment; the complex of biotic community and its abiotic, physical environment (McNeely et al. 1990:153).

Ecosystem management (ecosystem-based strategy)—" . . . management driven by explicit goals, executed by policies, protocols, and practices, and made adaptable by monitoring and research based on our best understanding of the ecological interactions and processes necessary to sustain ecosystem composition, structure, and function" (Ecological Society of America 1996).

Endangered species—Species defined under the Endangered Species Act as those in danger of becoming extinct throughout all or a significant portion of their range because their habitat is threatened with destruction, drastic modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors (Wisdom et al. 2000, Edge 2002)

Endangered Species Act-1973—Act of U.S. Congress, amended several times subsequently, that elevates the goal of conservation of listed species above virtually all other considerations. The Act provides for identifying (listing) endangered and threatened species or distinct segments of species, monitoring candidate species, designating critical habitat, preparing recovery plans, consulting by federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitats, restricting importation and trade in endangered species or products made from them, and restricting the taking of endangered fish and wildlife. The act also provides for cooperation between the federal government and the states (adapted from Rohlf 1989:25-35).

Endemic—Plants or animals that occur naturally in a certain region and whose distribution is limited to a particular locality (Wisdom et al. 2000).

Endemism—See endemic.

Environment—All the factors which might affect organisms, including abiotic influences (e.g., soils, air temperature, rainfall) and biotic influences (other organisms) (Nevada Natural Heritage Program 2002).

Exotic—Not native; an organism or species that has been introduced into an area, and is thus outside of its native range.

Extent, spatial—(1) The area over which observations are made (e.g., the boundaries of a study area, a species range) (Milne 1997); (2) The geographic extent of a geographic data set specified by the minimum bounding rectangle (i.e., xmin, ymin and xmax, ymax) (Association for Geographic Information 1999). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Extinction—(1) The complete disappearance of a species from the earth (Miller 1991:A5); (2) the total disappearance of a species from an island (this does not preclude later recolonization) (see also Extirpation) (MacArthur and Wilson 1967:187).

Extirpation—The loss or removal of a species from 1 or more specific areas but not from all areas (Johnson and O'Neil 2001).

Fine scale—An area mapped or measured at high resolution, which typically require small pixel or polygon size used as mapping units, or which typically require field measurements taken at small plots. See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Fine-filter—An assessment of the response of a single species to environmental changes (Roloff et al. 2001). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Flagship species—Species that are used to attract the attention of the public. Such species are generally popular with the public and have experienced habitat or population loss, or both (Caro and O'Doherty 1999).

Focal species—(1) Surrogate measures used in the evaluation of ecological sustainability, including species and ecosystem diversity. The key characteristic of a focal species is that its status and trend provide insights to the integrity of the larger ecological system to which it belongs (USDA Forest Service 2000); (2) a suite of species whose requirements for persistence define the attributes that must be present if a landscape is to meet the requirements for all species that occur there (Lambeck 1997).

Fragmentation—The breaking up of an organism's habitat into discontinuous portions, particularly for organisms that have difficulty moving from one of those areas to another. Fragmentation can be caused by removal of vegetation over large areas for human development, or even by small roads breaking up the habitat of (for example) amphibians that are resistant to crossing roads or are frequently killed when crossing roads. Power lines can fragment sage-grouse habitat by providing convenient perches for avian predators (Nevada Natural Heritage Program 2002).

Fragmented—The degree to which habitats are subdivided into smaller and more isolated patches, where subdivisions are measured by the relation between the length of habitat edge and the size of habitat patches. Many variations of this basic definition are described by McGarigal and Marks (1995).

GAP analysis—A process designed to provide information on the distribution, stewardship and management status of several elements of biological diversity. This is accomplished by producing and then intersecting maps of land cover types or predicted distributions for selected animal species with a map of land stewardship and management status. The results are summarized by tabulating the area and percentage of total mapped distribution of each element in different land stewardship and management categories (Scott et al. 1993).

Geographic information system (GIS)—The term frequently applied to geographically oriented computer technology. In its broadest sense, GIS is a system for capturing, storing, checking, manipulating, analyzing, and displaying data that are spatially referenced to the Earth (Lachowski et al. 1995).

Grain—The smallest resolvable unit of study (e.g., 1- x 1-m quadrant); generally determines the lower limit of what can be studied (Morrison and Hall 2001). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Grain, spatial—Mapping resolution at which spatial patterns are measured (Wisdom et al. 2000). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Group (of species)—A collection of species in our analysis with similarities in source habitats; groups may be delineated by using hierarchical cluster analysis, and subsequently refined after consultation with species experts (Wisdom et al. 2000).

Habitat fragmentation—The alteration of a large habitat patch to create isolated or tenuously connected patches of the original habitat that are interspersed with an extensive mosaic of other habitat types (Wiens 1989a:201).

Habitat network—A mapped set of interrelated habitats across a large spatial extent that are defined by different environmental characteristics important to a species or set of species (adapted from Hobbs [2002]). For example, Wisdom et al. (2002a) mapped 3 habitat conditions by watershed within the Interior Columbia Basin, with the 3 conditions making up a network for groups of species of concern

Habitat patches—Areas distinguished from their surroundings by environmental discontinuities. Patches are organism-defined (i.e., the edges or discontinuities have biological significance to an organism; adapted from Wiens 1976).

Habitat quality—The ability of an area to provide conditions appropriate for individual and population persistence (Hall et al. 1997). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Herptile—A generic term that includes the reptile and amphibian classes of species.

Home range—The area traversed by an animal during its activities during a specified period of time (Morrison and Hall 2001).

Hydrologic unit code (HUC)—A nested delineation of watersheds of similar size and scale, four levels of which were developed by the U.S. Geological Survey. The broadest level is the region, 2nd is the subregion, 3rd is the basin, 4th is the subbasin, 5th is the watershed, and 6th is the subwatershed (Wisdom et al. 2000).

Imperiled—A species may be considered imperiled because of rarity or because of some factor(s) making it very vulnerable to extinction or elimination (adapted from Master 1991).

Index—(1) The proportional relation of counts of objects or signs associated with a given species to counts of that species on a given area; (2) counts of individuals (e.g., at a feeding station) reflecting changes in relative abundance on a specified or local area (Ralph 1981:578).

Invasive—A species capable of asserting itself in communities where it did not naturally occur. Usually a species not native to the area (Nevada Natural Heritage Program 2002).

Keystone species—A species whose abundance dramatically alters the structure and dynamics of ecological systems (Brown and Heske 1990).

Land cover type—A classification of the observed (bio)physical cover on the earth's surface (Di Gregorio and Jansen 2000). For our prototype assessment, we used the classification of land cover types developed by Comer et al. (2002), which consisted of any of >50 categories of vegetation estimated to dominate the overstory of each 90- x 90-m pixel in the “sagestitch” map. See SAGEMAP <http://sagemap.wr.usgs.gov> for details about the sagestitch map, and Wisdom et al. (2003) for use of this map in regional assessment of habitats for species of conservation concern.

Landscape—(1) The landforms of a region in the aggregate; the land surface and its associated habitats at scales of hectares to many square kilometers (for most vertebrates) (Turner 1989); (2) a spatially heterogeneous area; mosaic of habitat types occupying a spatial scale intermediate between an organism's normal home-range size and its regional distribution (Dunning et al. 1992).

Layer (GIS)—A digital information storage unit, also known a theme. Different kinds of information (e.g., roads, boundaries, lakes, or vegetation) can be grouped and stored as separate digital layers or themes in a GIS (Lachowski et al. 1995).

Life history—A system of interrelated adaptive traits forming a set of reproductive tactics (Stearns 1976).

Local endemics—Plants or animals that occur naturally in a certain region and whose distribution is limited to a particular locality (Wisdom et al. 2000).

Macro-habitats—Characteristics of habitat that can be estimated accurately with pixel sizes typically used for regional assessments, such as a 90- x 90-m pixel size or larger. See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Management indicator species—Those species whose response to environmental conditions is assumed to index like responses of a larger number of species and whose habitats can therefore be managed to benefit a larger set of species; more broadly, species for which a set of management guidelines has been written (Wisdom et al. 2000).

Map unit—A collection of features defined and named the same in terms of their landscape characteristics. Each map unit differs in some respect from all others within a geographic extent (USDA Soil Survey Division Staff 1993).

Measurement bias—A systematic under- or overestimation of the true values due to a difference between the actual measurement and what one intends to measure (adapted from Gilbert 1987:11).

Micro-habitats—Characteristics of habitat that cannot be estimated accurately with pixel sizes typically used for regional assessments, such as a 90- x 90-m pixel size or larger. See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Minimum mapping unit—Smallest map feature delineated; requirements vary for different map levels.

Minimum viable population—A threshold number of individuals that will ensure (with some probability level) that a population will persist in a viable state for a given interval of time (adapted from Gilpin and Soule 1986:19).

Model—Any formal representation of the real world. A model may be conceptual, diagrammatic, mathematical, or computational (Morrison and Hall 2001).

Monitoring—(1) Measuring population trends using any of various counting methods (Ralph et al. 1993); (2) A process of collecting information to evaluate whether or not objectives of a project are being realized. In land management, monitoring is used to describe continuous or regular measurement of conditions that can be used to validate assumptions, alter decisions, change implementation, or maintain current management direction (Wisdom et al. 2000).

Moving Window Analysis—A spatial assessment of environmental conditions that is based on an area of fixed size, or “window,” with the window incrementally moved across a map and new estimates made of conditions after each incremental move. Results of these estimates are displayed on a new map, and can vary substantially based on the size of the window and the distance of the incremental movement.

Native—Indigenous; living naturally within a given area (Wisdom et al. 2000).

Niche—Multidimensional utilization distribution, giving a population's use of resources ordered along resource axes (Schoener 1989:79).

Patch— A distinct area, such as a polygon or pixel, characterized by a specific habitat type, cover type, or other homogeneous environmental condition.

Patch dynamics—The change in the distribution of habitat patches in a landscape generated by patterns of disturbance and subsequent patterns of vegetative succession (Pickett and Thompson 1978).

Patch Size—The area (hectares) constituting a separate piece of habitat for a species, where the piece is defined as the pixels of habitat adjacent to one another (pixels touching one another on

any side or corner), or the piece is defined by some alternative rule set designed specifically for a species.

Pattern—A statement about relationships among several observations of nature. It connotes a particular configuration of properties of the system under investigation (Wiens 1989b:18).

Pixel—A contraction of the words "picture element." A data element of a raster matrix or grid map; equivalent to a cell; square or hexagonal in shape, and which represents the smallest mapping unit used to estimate environmental conditions (adapted from Wisdom et al. 2000).

Pixel size—Size of a grid cell; usually expressed as the length of 1 side in meters, such as 90- x 90-m cell used for regional assessment (Wisdom et al. 2000, 2003).

Population—(1) A biologically, geographically, or politically defined group of animals composed of all of the individuals of a species in a particular area (Edge 2002); (2) a group of coexisting (conspecific) individuals that interbreed if they are sexually reproductive (Sinclair 1989).

Population dynamics—The study of changes in the number and composition of individuals in a population, and the factors that influence those changes (Edge 2002).

Population sink—Areas in which mortality rates are such that populations decline in these areas, rather than increase or remain stationary (Wisdom et al. 2000).

Population viability—The likelihood of continued existence of a well-distributed population or species for a specified time period. For most scientific analyses, the time period is 100 years. For example, high viability is a high likelihood of continued existence of well-distributed populations for a long time period (e.g., 50 yrs or longer) (Beissinger and McCullough [2002], Morris and Doak [2002]).

Polygon—Boundaries that enclose an area of interest. A polygon can be of any size and shape, and often are used to define different habitat or cover types for regional assessments.

Population viability analysis (PVA)—Analysis that estimates minimum viable populations (syn. population vulnerability analysis) (Gilpin and Soule 1986:19).

Precision—The closeness to each other of repeated measurements of the same quantity; not synonymous with accuracy (Zar 1984:4).

Range—The polygon or polygons that encompass the outer boundaries of a species' geographic occurrence within an ecoregion. A species' range can consist of 1 or more polygons, with each polygon encompassing an interacting population (Wisdom et al. 2003).

Regional assessment—A spatial or temporal analysis of environmental conditions for species of conservation concern that is conducted for areas typically encompassing $\geq 100,000$ hectares ($\geq 250,000$ acres), and often encompassing areas > 1 million hectares (> 2.5 million acres) (Wisdom et al. 2003).

Regional scales—Spatial extents that encompass large areas, such as ecoregion, ecological province, subbasin, or watershed, and which are typically used to evaluate top-down processes.

Resolution—A measure of the ability to detect quantities. High resolution implies a high degree of discrimination but has no implication as to accuracy (Association for Geographic Information 1996).

Resolution, spatial—(1) The smallest area at which we portray discontinuities in biotic and abiotic factors in map form (Hargis et al. 1997); (2) spatial resolution refers to the area on the ground that an imaging system, such as a satellite sensor, can distinguish, such as a 90- x 90-m pixel (Association for Geographic Information 1996). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Restoration—The act of returning a resource to some prior condition by re-establishing ecological processes and functions (Edge 2002). For sagebrush and other shrubland habitats addressed in our assessment, the term refers to the act of

Richness, species—The number of species in a given area (Ralph 1981:578).

Riparian—A term that refers to the habitat adjacent to streams, lakes, ponds, and wetlands that is influenced by the presence of water (Edge 2002).

Sagebrush obligate species—Species that are “restricted to sagebrush habitats during the breeding season or year-round” (Paige and Ritter 1999).

Scale—The resolution at which patterns are measured, perceived, or represented. Scale can be broken into several components, including grain and extent (Morrison and Hall 2001). See Wisdom et al. (2003) regarding the use of this term as it relates to regional assessment of habitats for species of conservation concern.

Scale, temporal—A measure of time, usually in years or groups of years (Wisdom et al. 2000).

Sensitive species—A species not formally listed as threatened or endangered under the Endangered Species Act, but considered to be at risk, as evidenced by a significant current or predicted downward trend in population numbers or density, or a significant current or predicted downward trend in habitat capability that would reduce a species' existing distribution (Johnson and O'Neil 2001).

Shrubsteppe—Habitats characterized in western North America by woody, mid-height shrubs and perennial bunchgrasses; typically arid, with annual precipitation averaging <36 cm (14 inches) over much of the region (Wisdom et al. 2000).

Sink environment—The composite of all environmental conditions occurring in a specified area and time that result in decreasing population growth (Wisdom et al. 2000).

Sink habitat—A habitat in which reproduction is insufficient to balance local mortality. The population can persist in the habitat only by being a net importer of individuals (adapted from Pulliam 1988).

Sink population—A population that occupies habitat types in which reproductive output is inadequate to maintain local population levels. The population may be replenished by emigrants from source populations (Wiens and Rotenberry 1981:531).

Source environment—The composite of all environmental conditions occurring in a specified area and time that result in stationary or positive population growth (Wisdom et al. 2000).

Source habitat—(1) A habitat that is a net exporter of individuals (Pulliam 1988); (2) those characteristics of macro-vegetation that contribute to stationary or positive population growth. Distinguished from habitats associated with species occurrence; such habitats may or may not contribute to long-term population persistence. Source habitats contribute to source environments (Wisdom et al. 2000).

Source population—A population that occupies habitat suitable for reproduction, in which the output of offspring results in a population that exceeds the carrying capacity of the local habitat, promoting dispersal (adapted from Wiens and Rotenberry 1981:531).

Spatial—See Extent, spatial.

Spatial framework—A mapped set of geographic areas that supports agency programs or studies (McMahon et al. 2001).

Species at risk—A group of organisms for which loss of viability, including reduction in distribution or abundance, is a concern (USDA Forest Service 2000).

Species of concern—Species with declining or rare habitats or populations, also called species of conservation concern (Wisdom et al. 2002*b*)

Species of conservation concern—See Species of concern.

Species richness—See Richness, species.

Stochasticity—The inherent variation in the process, item, system, or environment under consideration. Often the variation is random.

Subbasin—The 4th delineation within the hydrologic unit code system. Provides a delineation generally of a river, or group of rivers, that flow into a basin (Wisdom et al. 2000)

Subwatershed—The 6th delineation within the hydrologic unit code system. Provides a delineation of a group of streams that flow into a watershed (Wisdom et al. 2000).

Theme—A group of data that represent a place or thing such as soils, vegetation, or roads (see Layer).

Thematic—Relating to, or consisting of a theme or themes (see Theme).

Threatened species—A wildlife species officially designated under the Endangered Species Act as having its existence threatened in a localized area, such as a state or smaller area, because its habitat is threatened with destruction, drastic modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors (Wisdom et al. 2000).

Top-down Processes—The dominant spatial and temporal ecological patterns and mechanisms that manifest consistently across large areas (Peterson and Parker 1998).

Umbrella species—A large-bodied (usually), popular species having a large home range and broad requirements for habitats and resources, that can be managed to also provide habitats and resources for other species (Caro and O'Doherty 1999, Wisdom et al. 2000).

Watershed—The 5th delineation within the hydrologic unit code system; provides a delineation of a group of streams that flow into a subbasin (Wisdom et al. 2000).

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