

VI. GLOSSARY

(where a definition is a direct quotation, quotation marks are omitted but the source is cited)

active lek For the purpose of this plan, we primarily adopt the Connelly et al. 2000 definition of an active lek as a open area that has been attended by ≥ 2 male sage-grouse in ≥ 2 of the previous 5 years. However, this definition is derived mainly from observations of leks in large, stable populations and may not be appropriate for small populations with reduced numbers of males attending leks in fragmented sagebrush communities. Therefore, for the smaller GUSG populations outside of the Gunnison Basin, an active lek is defined as an open area where one or more sage-grouse have been observed on more than one occasion, engaging in courtship or breeding behavior. An area used by displaying males in the last 5 years is considered an active lek.

additive mortality Occurs when a factor causes mortality in a population in addition to natural mortality caused by predators, disease, etc.

adult A sage-grouse that is at least 15 months of age and has entered or is about to enter its second breeding season (Connelly et al. 2003).

adulticide An insecticide that specifically targets the adult form of an insect species

age structure The relative number of individuals of each age in a population (Campbell et al. 1999).

air sacs A part of the respiratory system unique to birds; a thin-walled structure through which air flows during respiration. With the lungs, the air sacs allow air to flow along a one-way route so that newly inhaled air does not mix with older air in the system, unlike the dead-end respiration system of mammals (Elphick et al. 2001). Male sage-grouse inflate and “pop” their air sacs during their mating display.

alien (plant species) A species that is not indigenous to a region (Science Dictionary 2004).

allele A particular form of a gene, where multiple such forms occur (Wilson 1992).

anemometer An instrument to measure wind speed (Science Dictionary 2004).

antibody A protein (immunoglobulin) molecule, produced by the immune system, that recognizes a particular foreign antigen and binds to it; if the antigen is on the surface of a cell, this binding leads to cell aggregation and subsequent destruction (Science Dictionary 2004).

antigen A molecule whose shape triggers the production of antibodies (immunoglobulins) that will bind to the antigen. A foreign substance capable of triggering an immune response in an organism (Science Dictionary 2004).

arena An area where sage-grouse display.

aspergillosis A respiratory tract infection caused by fungi of the genus *Aspergillus*, of which *A. fumigatus* is the primary species responsible for infections in wild birds (Friend and Franson 1999).

banding Marking individual birds by placing metal or plastic rings (bands) on the legs, making the birds individually identifiable when recaptured (Elphick et al. 2001).

behavioral ecology A heuristic approach based on the expectation that Darwinian fitness (reproductive success) is improved by optimal behavior (Campbell et al. 1999).

best management practice Methods that have been determined to be the most effective, practical means of maintaining or reaching a habitat management goal.

biological diversity (or biodiversity) Refers to the variety among living organisms and the complexity of the ecological systems in which they live. Diversity is defined by the number of different types of items in a system and the relative frequency of these different types (Decker et al. 1991).

biological control The management of a pest species by the introduction of a natural enemy or predator.

bottleneck A reduction of a population, typically by a natural disaster, such that the surviving population is no longer genetically representative of the original population (Campbell et al. 1999).

breeding habitat If GUSG breeding habitat has not been mapped, it is defined as sagebrush communities delineated within 4 miles of an active strutting ground (lek(see “GUSG Disturbance Guidelines”, Appendix I, for discussion). Breeding habitat includes active strutting grounds (leks), nesting and early brood-rearing habitat (Connelly et al. 2000), usually in use from mid-March through late-June.

brooding A behavior in which parents warm nestlings or young that cannot maintain their own body temperatures. While young are still in the nest, a brooding adult may appear to be incubating eggs (Elphick et al. 2001).

brushbeat A management practice that is used to “thin” sagebrush areas that are too thick (do not allow for enough under-story for sage-grouse habitat).

brush mow A management practice that is used to “thin” sagebrush in habitat areas that are too thick (do not have enough under-story that is suitable for sage-grouse). Instead of beating the over-story, the area is mowed.

candidate species A species that will be or is being considered for listing as endangered or threatened by the ESA.

canopy cover a) The percentage of the ground included in a vertical projection of imaginary polygons drawn about the total natural spread of foliage of the individuals of a species (usually used for the herbaceous plants); or b) The percentage of the ground covered by a projection of the crown, stems, and leaves of the plant onto the ground surface (usually used for shrubs) (Connelly et al. 2003).

carpel A measurement from the wrist to the tip of the longest primary feather, with wing slightly flattened.

census A complete count of a species in a given area (Patton 1992)

chick A sage-grouse up to 10 weeks of age (Connelly et al. 2003).

chronic wasting disease A wildlife disease (akin to bovine spongiform encephalitis) that affects deer and elk.

clutch size The number of eggs laid by an individual female.

Coleoptera An order of insects; includes beetles.

compensatory mortality Occurs when another factor is a replacement for the natural mortality caused by predators, disease, and so forth (Patton 1992).

consensus (approach) Using an approach where unanimity is required for decisions.

conservation easement A legal agreement which places a restriction upon the use of land, which advances conservation goals.

Conservation Reserve Program A program, created in the Food Security Act of 1985, to retire from production up to 45 million acres of highly erodible and environmentally sensitive farmland. Landowners who sign contracts agree to keep retired lands in approved conserving uses for 10-15 years. In exchange, the landowner receives an annual rental payment, cost-share payments to establish permanent vegetative cover and technical assistance. The CRP reportedly has reduced erosion by up to 700 million tons per year. The FAIR Act of 1996 extends authorization to enroll land through 2002 and caps maximum CRP acreage at 36.4 million acres, its 1995 level. The Act also makes the program spending mandatory and finances it through the Commodity Credit Corporation. (Science Dictionary 2004).

conservation strategy An approach for protecting a particular species, habitat, or ecosystem.

contiguous touching; meeting or joining at the surface or border (McKechnie 1983).

controlled burn A fire set intentionally, with specific vegetation and weather prescriptions, in order to achieve a specific resource objective.

corridor A more or less continuous connection between land masses or habitats. In terms of conservation biology, a connection between habitat fragments in a fragmented landscape (Science Dictionary 2004).

Corvidae Taxonomic family of birds that includes crows, ravens, jays and magpies.

cover An indication of the relative amount of shelter or protection of all vegetation at a given point; normally used to assess nesting habitat (Connelly et al. 2003).

crude protein The approximate amount of protein in foods that is calculated from the determined nitrogen content by multiplying by a factor (as 6.25 for many foods and 5.7 for wheat) derived from the average percentage of nitrogen in the food proteins and that may contain an appreciable error if the nitrogen is derived from nonprotein material or from a protein of unusual composition.

cruising radius The maximum distance that a male sage-grouse travels on and around a lek during lekking season.

cryptic Appearance that allows something to match its background

culmen On birds, a region or measurement from the tip of upper mandible to the insertion of feathers above mandible (Schroeder et al.1999).

curtailment Reduction in extent or quantity; imposition of a restriction.

defoliation Process in which a plant loses its leaves.

demographic (rates) The specific properties of a population regarding birth rates, death rates, age distributions, sex ratios, and size of population (Wilson 1992).

density dependent Having influence on individuals in a population that varies with the degree of crowding in the population (Ricklefs 1979).

density independent Having influence on individuals in a population that does not vary with the degree of crowding in the population (Ricklefs 1979).

depredated The act of a nest being destroyed by a predator.

desiccate To become dry.

determinate layer A bird species that will not continue to lay eggs indefinitely if eggs are removed or disappear from the nest.

discrete generation A age cohort that is individually separate and distinct from all others.

dispersal Movement of individuals to new living areas. Includes both the initial movements from the place of birth to the first site at which the bird will attempt to breed (natal dispersal) and subsequent movement from one breeding location to another (adult dispersal). Also, wandering by individuals away from the breeding range and habitats in late summer, especially in herons and related species (postbreeding dispersal) (Elphick et al. 2001).

display A ritualized signal intended to convey a specific message (Elphick et al. 2001).

distribution The area or range over which a species is found (Elphick et al. 2001).

diversity Variety, or a range of different things.

dixie harrow A particular piece of equipment used to thin older sagebrush stands in an effort to stimulate understory growth of forbs and grasses.

dominant males The males of a lek who obtain the most area of the lek, who win wing fights, facing pasts, and chases, and, typically, mates more than other males on the lek. Also see Schroeder et al. 1999.

dryland farming A method of farming in semiarid areas without the aid of irrigation, using drought-resistant crops and conserving moisture.

ecosystem A biological community of interacting organisms and their physical environment.

effective population size The number of individuals that would give rise to the calculated loss of heterozygosity, inbreeding or variance in allele frequencies if they behaved in the manner of an idealized population (Frankham et al. 2002).

endangered species An organism in imminent danger of extinction throughout all or a significant portion of its range (Elphick et al. 2001).

exotic (game bird) A species that is not indigenous to a region (Science Dictionary 2004).

extinction The state or process of ceasing or causing something to cease to exist: the state or process of a species, family, or larger group being or becoming extinct.

extinction vortex A small population incurs inbreeding and random genetic drift which leads to the loss of genetic variability, then a reduction in individual fitness and population adaptability, which leads to lower reproduction and higher mortality, ending with a smaller population.

extirpated Eradicated, or exterminated from a given region.

extrapolate In statistics to estimate or infer (a value, etc.) on the basis of certain variables within the known range (McKechnie 1983).

exurban Having to do with a region beyond the suburbs of a city or town.

F_{ST} A measure of genetic structure (or lack of it). F_{ST} values close to 0 mean that there is essentially enough gene flow among groups to consider them one panmictic group. Values significantly higher than 0 represent cases (such as with GUSG) where there is very little gene flow, which results in highly differentiated groups.

federal recovery plan A document that will be referred to for guidelines for maintaining, protecting, and preserving a species and its habitat if the species is listed as threatened or endangered by the USFWS.

fee-title acquisition The acquiring of land in fee title through donation, bargain sale, or outright purchase.

filoplume Specialized feather; in sage-grouse, long black feathers arising at the back of the neck

fire suppression When natural or prescribed burning is not allowed.

(Darwinian or reproductive) fitness A measure of the relative contribution of an individual to the gene pool of the next generation (Campbell et al. 1999).

forb An herbaceous plant which is not a grass (Science Dictionary 2004).

gallinaceous Belonging or pertaining to the Order Galliformes, comprising the grouse, pheasants, turkeys, partridges, domestic fowls, etc. (Cooperrider et al. 1986).

gene flow The movement of genes from one population to another by way of interbreeding of individuals in the two populations (Science Dictionary 2004).

genetic Of or relating to genes or heredity.

genetic distance An estimate of the number of electrophoretically detectable amino acid (codon) differences between homologous proteins (genes) in different species. (Ricklefs 1979)

genetic diversity (or variation) The variation that exists in a given set of genes, whether in an organism or a population. The ability of a population to provide the hereditary mechanisms needed for adaptive change and dynamic evolution to future breeding individuals of the species (Emmel 1976).

genetic drift Change in the gene pool as a result of chance and not as a result of selection, mutation, or migration (Keeton and Gould 1986).

genetically discrete units A group or population that is more genetically similar to themselves than any other group.

genotype The specific allelic composition of a cell, either of the entire cell or more commonly for a certain gene or a set of genes. The genes that an organism possesses (Science Dictionary 2004).

Geographic Information System (GIS) A system of spatially referenced information, including computer programs that acquire, store, manipulate, analyze, and display spatial data in a geographic context. (Science Dictionary 2004).

geographic isolation When a group of individuals within a population becomes separated by man-made or natural barriers can no longer mate with individuals outside of the population. No individual is able to enter or exit the population without being born there or dying.

geographically closed (population) A population that is separated by some physical barrier from other populations, and which has no dispersal with any other population of the same species.

habitat Place where an animal normally lives or where individuals of a population live (Lindzey 2001).

(habitat) connectivity A measurement of how habitat areas are spatially arranged relative to each other.

(habitat) degradation Decline in the quality of a habitat.

habitat fragmentation The breaking up of a habitat into unconnected patches interspersed with other habitat which may or may not be inhabitable by species occupying the habitat that was broken up. The breaking up is usually by human action, as, for example, the clearing of forest or grassland for agriculture, or residential development (Science Dictionary 2004).

(habitat) linkage Areas between existing habitat patches, that, if made into suitable habitat, will increase movement between populations and will decrease the probability of extinction of the species by stabilizing population dynamics.

(habitat) polygon In a GIS, a separate patch of a given habitat.

(habitat) treatment An action that alters a given habitat, usually to improve its quality.

haplotype A set of closely linked genetic markers present on one chromosome which tend to be inherited together (not easily separable by recombination). Some haplotypes may be in linkage disequilibrium (Science Dictionary 2004).

hatching success The proportion or percentage of eggs that successfully hatch from a clutch.

herbaceous (vegetation) Having characteristics of an herb; a plant with no persistent woody stem above ground (Science Dictionary 2004).

herbicide A chemical pesticide designed to control or destroy plants, weeds, or grasses (Science Dictionary 2004).

heterozygote advantage A mechanism that preserves variation in eukaryotic gene pools by conferring greater reproductive success on heterozygotes over individuals homozygous for any one of the associated alleles (Campbell et al. 1999).

heterozygous Having two different alleles for a given genetic character (Campbell et al. 1999).

historic habitat Areas where viable populations have not occurred within five years or more.

historic lek A formerly active lek that has not been utilized for display or breeding within the last 10 years (Colorado Division of Wildlife 2004a).

horizontal cover An average calculation/estimation of the vegetation that provides aerial cover to the ground.

horizontal structure The type of plants that actually provide the horizontal cover to the ground (e.g., sagebrush, bitterbrush, rabbitbrush, greasewood).

hydroaxe Hydraulic powered mower that can mulch large diameter woody species.

Hymenoptera The order of insects including ants, wasps, bees, and sawflies.

imprint(ing) Period of rapid and usually stable learning during a critical period of early development of a member of a social species, involving recognition of its own species; may involve attraction to the first moving object seen (Lindzey 2001).

inactive lek To be considered inactive for a given season, a lek must have zero males in attendance for at least two count periods. For the official status of a lek to be considered Inactive, a lek needs to be seasonally Inactive for five consecutive years (Colorado Division of Wildlife 2004a).

inbreeding coefficient The probability of homozygosity by descent (having common ancestors). The probability that a zygote obtains copies of the same ancestral gene from both its parents because they are related (Science Dictionary 2004).

inbreeding depression A decline in reproductive fitness due to mating of related individuals.

incubate The natural or artificial heating of an egg that has been laid. Incubation is required for embryo development. The average incubation period for GUSG is 27 days.

index A relative measure used as an indicator of the true state of nature (Thompson et al. 1998).

index monitoring An assessment protocol that collects data that usually represent at best a rough guess at population trends (and at worst may lead to an incorrect conclusion) (Thompson et al. 1998).

inference A conclusion derived from reasoning.

insecticide A pesticide compound specifically used to kill or prevent the growth of insects (Science Dictionary 2004).

interlek Area or distance between leks.

introgression The transplantation of genes between species resulting from fertile hybrids mating successfully with one of the parent species (Campbell et al. 1999).

juvenile A sage-grouse that is more than 10 weeks of age but has not entered into its first breeding season (Connelly et al. 2003).

Lagomorpha Order of mammals including hares, rabbits, and pikas.

landscape structure The characteristics (biotic and abiotic) that make up the landscape.

larvicide Insecticide that specifically targets the larval stage of an insect species.

lek An arena where male sage-grouse display for the purpose of gaining breeding territories and attracting females. These arenas are usually open areas with short vegetation within sagebrush habitats, usually on broad ridges, benches, or valley floors where visibility and hearing acuity are excellent.

lek area A grouping of leks that is loosely based on proximity to other leks and the potential for birds to move between multiple leks (Colorado Division of Wildlife 2004a).

lek count The high count of males from all lek sites on the same day; which are taken at 7-10 day intervals between late March and mid-May.

life cycle The entire lifespan of an organism from the moment it is conceived (usually at fertilization) to the time it reproduces (Wilson 1992).

life history The significant features of the life cycle through which an organism passes, with particular reference to strategies influencing survival and reproduction (Science Dictionary 2004).

limiting factor A condition whose absence or excessive concentration, is incompatible with the needs or tolerance of a species or population and which may have a negative influence on their ability to thrive (Science Dictionary 2004).

lipid A small water-insoluble biomolecule generally containing fatty acids, sterols, or isoprenoid compounds (Science Dictionary 2004).

local conservation plan A document, prepared by landowners, stakeholders and (non-federal) government agencies to address conservation concerns for a given species in a given area.

local work group In the case of GUSG, a group formed to address GUSG conservation concerns and to write a local conservation plan.

locus The position of a gene, DNA marker or genetic marker on a chromosome (Science Dictionary 2004).

major histocompatibility complex A group of highly polymorphic genes whose products appear on the surface of cells imparting the property of self (belonging to that organism). A genetic region found in all mammals whose products are primarily responsible for the rapid rejection of tissue grafts between individuals (Science Dictionary 2004).

mark-resight Estimating the number of individuals in a population by capturing, marking, and re-capturing individuals. This assumes that there is not birth, death, immigration, or emigration within the population (White et al. 1982).

mating skew An unequal sharing in reproduction by group members.

meadow Year-round wet areas that form in low depressions along the drainage patterns of the high sagebrush plains (Taylor 1992).

mean The arithmetic average; the sum of the data divided by the sample size (Science Dictionary 2004).

Meleagridinae The subfamily of turkey species.

mesic Referring to habitats with plentiful rainfall and well-drained soils (Ricklefs 1979).

mesopredator Lower trophic level predator (as opposed to dominant predator).

metapopulation A set of local populations within some larger area, where typically migration from one local population to at least some other patches is possible" (Hanski and Simberloff 1997).

microsatellite Any of numerous short segments of DNA that are distributed throughout the genome, that consist of repeated sequences of usually 2 to 5 nucleotides, and that are often useful markers in studies of genetic linkage because they tend to vary from one individual to another.

minimum viable population The smallest isolated population size that has a specified percent chance of remaining extant for a specified period of time (Meffe and Carroll 1997).

mitochondrial marker A genetic element which can be readily detected by phenotype, cytological or molecular techniques, and used to follow a mitochondrial chromosome or chromosomal segment during genetic analysis (Life Science Glossary 2004).

model A simplified representation of a real system.

Monte Carlo (model) A population modeling method in which a large quantity of randomly generated numbers are studied using a problematic model to find an approximate solution to a numerical problem that would be difficult to solve by other methods.

morphological The physical make up of the species. One of the characteristics that makes species unique.

mutation A rare change in DNA of genes that ultimately creates genetic diversity (Campbell et al. 1999).

neighbor-joining tree A method of illustrating the relatedness of different phyletic groups.

nest success A measurement of the success (completion of the laying, incubating, and hatching process) of a nest, even if the chicks do not live beyond hatching.

nonnative (plant) A species that is not indigenous to a region (Science Dictionary 2004).

non-use (locations)

nuclear DNA DNA (deoxyribonucleic acid) found in the nucleus of a cell.

nuclear markers A genetic element which can be readily detected by phenotype, cytological or molecular techniques, and used to follow a nuclear chromosome or chromosomal segment during genetic analysis (Life Science Glossary 2004).

oakbrush *Quercus gambelii*.

obligate Essential, necessary; unable to exist in any other state, mode, or relationship; restricted to one particularly characteristic mode of life (Science Dictionary 2004).

occupied habitat As defined for mapping used in the RCP: Areas of suitable habitat known to be used by GUSG within the last 10 years from the date of mapping. Areas of suitable habitat contiguous with areas of known use, which do not have effective barriers to sage-grouse movement from known use areas, are mapped as occupied habitat unless specific information exists that documents the lack of sage-grouse use. This category can be delineated from any combination of telemetry locations, sightings of sage-grouse or sage-grouse sign, local biological expertise, GIS analysis, or other data sources.

olfactory cues Signals transmitted by odor.

Overburden Rock and soil cleared away before mining (Science Dictionary 2004).

parameter A variable, measurable property (Science Dictionary 2004).

parasite load A measure of the number of parasites carried by an organism.

patchy A distribution that is not continuous.

pesticide Substance or mixture intended for preventing, destroying, repelling, or mitigating any pest. Also, any substance or mixture intended for use as a plant regulator, defoliant, or desiccant (Science Dictionary 2004).

petitioner In the case of this plan, a person or entity who petitions the USFWS to have a species considered for endangered or threatened status under the ESA.

phenotypic expression The observable manifestation of a specific genetic makeup; those observable properties of structure and function of an organism as modified by genetic structure in conjunction with the environment (Science Dictionary 2004).

Phasianidae The avian family that includes all upland games species except quail and Northern Bobwhite (Elphick et al. 2001).

photoperiod The length of time an organism is daily exposed to light, especially with regard to how that exposure affects growth and development (Science Dictionary 2004).

piñon-juniper A vegetation community that contains both *Pinus* spp. and *Juniperus* spp.

polygamous Having a mating system in which one male mates with more than one female (polygyny) or one female mates with more than one male (polyandry).

polymorphism Occurrence of more than one distinct form of individuals in a population (Ricklefs 1979).

(demographic) population A biological unit at the level of ecological integration where it is meaningful to speak of a birth rate, a death rate, a sex ratio and an age structure in describing the properties of the unit (Emmel 1976).

(genetic) population A group of sexually interbreeding individuals (Strickberger 1985).

population structure A description of a population using estimates of the numbers of individuals in different age and sex categories.

population trend An important average change in magnitude and direction of some population parameter within a specified area across multiple time intervals (Thompson et al. 1998).

potentially suitable habitat As defined for mapping used in the RCP: Unoccupied habitats that could be suitable for occupation of sage-grouse if practical restoration were applied. Soils or other historic information (photos, maps, reports, etc.) indicate sagebrush communities occupied these areas. As examples, these sites could include areas overtaken by piñon-juniper or converted to rangeland.

precocial Pertaining to birds and mammals born with their eyes and ears open, covered by down or fur, and able to run about shortly after hatching or birth (Lindzey 2001).

prescribed burn A fire set intentionally, with specific vegetation and weather prescriptions, in order to achieve a specific resource objective.

presettlement (habitat) Habitat that existed prior to European settlement in North America.

proventriculus The division of the stomach in birds that secretes digestive enzymes and passes food from the crop to the gizzard.

pyrethroid Any of several synthetic compounds similar to pyrethrin, used as an insecticide.

quantitative Capable of being measured (McKechnie 1983).

radiotelemetry A technique used to study wildlife by attaching a radio transmitter to an animal.

range The geographic area or spatial distribution in which a species is normally found (Elphick et al. 2001).

Rangeland A habitat in which the native vegetation is predominantly grasses, grass-like plants, forbs, or shrubs. This includes lands revegetated naturally or artificially when routine management of the vegetation is through manipulation of grazing. Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

rangewide In this case, it includes all of the populations of GUSG found in Colorado and Utah.

recessive An allele that is not expressed in the heterozygous condition (Science Dictionary 2004)

recruitment The influx of new members into a population by reproduction or immigration (Science Dictionary 2004).

renest Any nesting attempt that follows the loss of an initial nest (Connelly et al. 2003).

riparian (habitat) Areas adjacent to rivers and streams with a different density, diversity, and productivity of plant and animal species relative to nearby uplands (Science Dictionary 2004).

roost Rest or sleep. Also a place where birds rest or sleep.

sagebrush steppe ecosystem A steppe ecosystem dominated by various species of sagebrush (Taylor 1992).

satellite lek A relatively small lek (usually less than 15 males) that develops near a large lek during years with relatively high grouse populations (Connelly et al. 2003).

septicemic A systemic disease caused by pathogenic organisms or their toxins in the bloodstream.

seral (stage) A stage that occurs as a habitat succeeds from one community type to another.

sex ratio The ratio of one gender to another within a given population (usually expressed as the ratio of males to females).

sexual dimorphism The phenomenon when males and females in a species have different appearances.

shrub-steppe Temperate zone vegetation with the understory dominated by grasses and a conspicuous shrub element providing a relatively open understory above the grass layer (Connelly et al. 2003).

single species (management) Management that focuses on one species without considering other species in the community.

species A taxon that is a subset of a genus and that may contain one or more subspecies (races) (Connelly et al. 2003).

species richness The absolute number of species in an assemblage or community (Science Dictionary 2004).

stakeholder An individual who has an interest in a particular issue or topic.

steppe A non-forested region dominated by grasses and low shrubs (Taylor 1992).

stochasticity the quality of lacking any predictable order or plan .

STRUCTURE A software program that delineates how many genetically discrete "units" are best described by the data. It considers each individual's collective genotypes without regard to what "population" was previously assigned to it. It clusters all individuals with similar genotypes into groups. It then assigns each individual a probability of belonging to each.

subpopulation A group of organisms of the same species living within a sufficiently restricted geographical area such that any member can potentially mate with any other member (Hartl and Clark 1997).

succession The chronological sequence of vegetation and associated animals in an area; or, continuous colonization, extinction, and replacement of species' populations at a particular site, due either to environmental changes or to the intrinsic properties of the plants and animals (Science Dictionary 2004).

summer – fall habitat If GUSG summer – fall habitat has not been mapped it is defined as vegetation communities including sagebrush, agricultural fields, and wet meadows (Connelly et al. 2000) that are within 4 miles of an active strutting ground (lek) (see “GUSG Disturbance Guidelines”, Appendix I, for discussion).

sundry notice a standard form to notify of or approve well operations subsequent to an Application for Permit to Drill, in accordance with Forest Service or BLM regulations

systemic organophosphate Any of several organic compounds containing phosphorus, some of which are used as fertilizers and pesticides.

tarsus (plural tarsi) The lower leg. The major bone in this region of the leg is the tarsometatarsus, which is a fusion of structures called ankle and foot bones in mammals (Elphick et al. 2001).

taxonomy Classification, especially of animals and plants into phyla, species, etc. (McKechnie 1983).

Tetraoninae A Phasianidae subfamily that includes prairie chickens, ptarmigan, and grouse species.

threatened species An organism likely to become endangered within the foreseeable future throughout all or a significant portion of its range (Elphick et al. 2001).

topography The surface features of an area.

trophic level Position in the food chain determined by the number of energy-transfer steps to that level (Ricklefs 1979)

understory The vegetation layer between the overstory or canopy and the groundcover of a forest community, usually formed by shade tolerant or young individuals of emergent species. May also refer to the groundcover if no trees or shrub layer is present (Science Dictionary 2004).

vacant/unknown habitat As defined for mapping used in the RCP: Suitable habitat for sage-grouse that is separated (not contiguous) from occupied habitats that either (1) has not been adequately inventoried, or (2) has not had documentation of grouse presence in the past 10 years.

variable A property that may have different values in various cases (Science Dictionary 2004).

variance In statistics, a measure of the variation around the central class of a distribution; the average squared deviation of the observations from their mean value (Science Dictionary 2004).

variation The differences among parents and their offspring or among individuals in a population (Science Dictionary 2004).

whirling disease An infectious, often fatal disease of salmonid fish (as trout and salmon) that is caused by a protozoan (*Myxobolus cerebralis* syn. *Myxosoma cerebralis*) of the order Myxosporidia which attacks cartilage of the head and spinal cord especially of young fish and that causes the fish to swim in circles and is marked by skeletal deformities.

wildland fire use The management of naturally ignited wildland fires to accomplish pre-stated resource management objectives in predefined areas that are within fire management plans (National Interagency Fire Center).

wing barrel A barrel or other container placed in areas frequented by bird hunters and used as a collection site for wings from hunter-harvested birds (Connelly et al. 2003).

wing data Information resulting from samples collected from wing barrels.

winter habitat sagebrush areas (Connelly et al. 2000) within 6 miles of an active strutting ground (lek) (see “GUSG Disturbance Guidelines”, Appendix I, for discussion) that have sufficient shrub height to be above winter snow cover.

yearling A sage-grouse that has entered its first breeding season but not completed its second summer molt, normally between 10 and 17 months of age (Connelly et al. 2003).