Glossary

Acronyms

Ae: Acid equivalent

Ai: Active ingredient

ADP: Adenosine diphosphate

AEL: Adverse-effect level

ANC: acid neutralizing capacity

APCD: Air pollution control district

AQRV: Air quality related values

ATP: Adenosine triphosphate

BE/BA: Biological Evaluation/ Biological Assessment

BLM: Bureau of Land Management

BMP: Best Management Practice

BCF: Bioconcentration factor

CANSAC: California and Nevada Smoke and Air Consortium

CAR: Critical Aquatic Refuge

CARB: California Air Resources Board

CATs: Californians for Alternatives to Toxics

CO: Carbon monoxide

CWHR: California Wildlife Habitats Relationships System

DBH: Diameter at Breast Height

DEIS: Draft environmental impact statement

DFC: Desired future condition

DHS: (California) Department of Health Services

DPR: (California) Department of Pesticide Regulation

DWEL: Drinking water equivalent level

EA: Environmental assessment

EIS: Environmental impact statement

EPA: Environmental Protection Agency

ERA: Equivalent roaded acres

ESA: Endangered Species Act

FARSITE: Fire area simulator

FEIS: Final environmental impact statement

GIS: Geographic information system

g: gram

gpa: gallons per acre

HAP: Hazardous air pollutants

HQ: Hazard quotient

IWM: Integrated Weed Management

kcal/g: Kilocalories per gram

LC50: Lethal concentration for 50% of population

LD50: Lethal dose for 50% of population

LOAEL: Lowest observed adverse effects level

LOEC: Lowest observable effect concentration

LOEL: Lowest observed effects level

LOP: Limited Operating Period

MCL: Maximum contaminant level

meq/l: milliequivalents per liter

mg/kg: milligrams per kilogram

Mg/L: Milligrams per liter

MIS: Management Indicator Species

Modoc NF: Modoc National Forest

MRL: Minimal risk level

NAAQS: National ambient air quality standard

NEPA: National Environmental Policy Act

NF: National forest

NFS: National Forest System

NFMA: National Forest Management Act

NOAEL: No observed adverse effects level

NOEL: No observed effects level

NOI: Notice of Intent

NOX: Nitrous oxide

NO2: Nitrogen dioxide

NPE: Nonylphenol polyethoxylate

NRC: National Research Council

NTMB: Neotropical migratory bird

NVUM: National Visitor Use Monitoring Survey

O3: Ozone

Pb: Lead

PH: Acidity

PM2.5: Particulate matter smaller than 2.5 microns

PM10: Particulate matter smaller than 10 microns

PAC: Protected Activity Center

POEA: Ethoxylated tallow amine surfactant

ppb: Parts per billion

ppm: Parts per million

RD: Ranger District

RfD: Reference dose

RCA: Riparian Conservation Area

ROD: Record of Decision

SMZ: Streamside Management Zone

TOC: Threshold of concern

ug: microgram

SAT: Scientific Advisory Team

SERA: Syracuse Environmental Research Associates

SIP: State implementation plan

SNEP: Sierra-Nevada Ecosystem Project

SNFPA: Sierra-Nevada Forest Plan Amendment

SOHA: Spotted Owl Habitat Area

TES: Threatened and endangered species

TMRC: Theoretical maximum residue concentration

UF: Uncertainty factor

USDA: United State Department of Agriculture

USFWS: Untied States Fish and Wildlife Service

WRAP: Western Regional Air PartnershipTerms

Definitions

Absorption: The process by which the agent is able to pass through the body membranes and enter the bloodstream. The main routes by which toxic agents are absorbed are the gastrointestinal tract, lungs, and skin.

Acetylcholine: A naturally occurring herbicide responsible for the transmission of impulses between nerve cells or between nerve cells and an effector cell (such as a muscle cell). Broken down to inactive compounds by acetylcholinesterase.

Acetylcholinesterase: An enzyme responsible for the degradation of acetylcholine to acetic acid and chlorine. The inhibition of this enzyme leads to an excess of acetylcholine in nerve tissue. This can lead to a broad spectrum of clinical effects (Table 7-2).

Acid equivalent (a.e.): The acid equivalent of a salt or ester form of the active ingredient of an herbicide is that portion of the molecule that represents the parent acid form of the molecule.

Active ingredient (a.i.): The main ingredient produces the desired effect.

Acute exposure: A single exposure or multiple exposures occurring within a short time (24 hours or less).

Additive effect: A situation in which the combined effects of two chemicals is equal to the sum of the effect of each chemical given alone. The effect most commonly observed when two chemicals are given together is an additive effect.

Adenosine Diphosphate (ADP): A molecule used as a substrate in metabolism of nutrients in which the herbicide energy in the nutrient is converted to ATP.

Adenosine Triphosphate (ATP): A molecule used as an energy source in many bioherbicide reactions in living things. During the energy transfer process, the ATP is converted to ADP and inorganic phosphorous.

Adjuvant(s): Formulation factors used to enhance the pharmacological or toxic agent effect of the active ingredient.

Adrenergic: A type of nerve that uses an adrenaline like substance as a neurotransmitter.

Adsorption: The tendency of one herbicide to adhere to another material.

Adverse-Effect Level (AEL): Signs of toxicity that must be detected by invasive methods, external monitoring devices, or prolonged systematic observations. Symptoms that are not accompanied by grossly observable signs of toxicity. In contrast to Frank-effect level.

Aerobes: Organisms that require oxygen.

Affected Environment: The physical, biological, social, and economic environment where human activity is proposed.

Alkaline phosphatase: An enzyme that occurs in various normal and malignant tissues. The activity of the enzyme in blood is useful in diagnosing many illnesses.

Allelopathic effects: Literally reciprocal pathology. In plant pathology, the term is used to describe the release of substances from one plant that may have an adverse effect on another plant.

Allometric: Pertaining to allometry, the study and measure of growth. In toxicology, the study of the relationship of body size to various physiological, pharmacological, pharmacokinetic, or toxicodynamic processes among species.

Alternative: In project planning, a given combination of resource uses and mix of management practices that achieve a desired management direction, goal, or emphasis.

Ameliorate: To improve or become more satisfactory.

Anaerobes: Organisms that do not require oxygen.

Aquatic ecosystems: The stream channel, lake, or estuary bed, water, biotic communities, and habitat features that occur therein.

Ascites: The accumulation of fluid in the peritoneal cavity. This condition may be caused by increased venous pressure or decreased plasma albumin and is often associated with cardiac failure, cirrhosis of the liver, or renal deficiency.

Ataxia: inability to coordinate muscle activity; loss of balance

Best Management Practices (BMPs): A practice, or combination of practices, that is determined by the state to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing, or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.

Bioconcentration factor (BCF): The concentration of a compound in an aquatic organism divided by the concentration in the ambient water of the organism.

Biodiversity: The distribution and abundance of different plant and animal communities and species, habitats, seral stages, and special habitat components in an ecosystem.

Biologically sensitive: A term used to identify a group of individuals who, because of their developmental stage or some other biological condition, are more susceptible than the general population to an herbicide or biological agent in the environment

Broadleaf weed: A non-woody dicotyledonous plant with wide bladed leaves designated as a pest species in gardens, farms, or forests.

California Spotted Owl Protected Activity Center: A 300-acre, protected area in which California Spotted owls find suitable nesting sites and several suitable roosts, and in which they carry out at least half of their nighttime foraging during the breeding season

California Wildlife Habitat Relationships System (CWHR): The California Wildlife Habitat Relationships System includes habitat relationships models for over 600 wildlife species in the State of California. The system was designed as a planning tool to predict wildlife species

communities, habitat suitability, and differences in habitat values between two situations for geographic locations and habitats in California. The system provides species habitat suitability ratings for feeding, cover, and foraging in varying habitat types and seral stages. These suitability ratings are converted to numeric values, and the three values are averaged to calculate overall habitat values for each habitat type and seral stage, for particular species. The California Wildlife Habitat Relationships System can be used to predict differences in habitat values between two habitat conditions, and can indicate which species may be negatively or positively affected, based on differences in habitat values between the two habitat conditions.

Cancer potency parameter: A model-dependent measure of cancer potency $(mg/kg/day)^{-1}$ over lifetime exposure. [Often expressed as a q_1^* which is the upper 95% confidence limit of the first dose coefficient (q_1) from the multistage model.]

Carcinogen: A herbicide capable of inducing cancer.

Carcinoma: A malignant tumor.

Carrier: In commercial formulations of insecticides or control agents, a substance added to the formulation to make it easier to handle or apply.

Cholinergic: Refers to nerve cells that release acetylcholine.

Chronic exposure: Long-term exposure studies often used to determine the carcinogenic potential of chemicals. These studies are usually performed in rats, mice, or dogs and extend over the average lifetime of the species (for a rat, exposure is 2 years).

Confounders: A term used in discussions of studies regarding human populations (epidemiology studies) to refer to additional risk factors that if unaccounted for in a study, may lead to erroneous conclusions

Connected actions: Exposure to other chemical and biological agents in addition to exposure to the control agent during program activities to control vegetation.

Contaminants: For herbicides, impurities present in a commercial grade herbicide. For biological agents, other agents that may be present in a commercial product.

Controls: In toxicology or epidemiology studies, a population that is not exposed to the potentially toxic agent under study.

Cooperative Agreement: A written agreement between the Forest Service and a county, State, or Federal agency entered into pursuant to the Federal Noxious Weed Act of 1974, as amended by section 1453 of the Food, Agriculture, Conservation and Trade Act of 1990, when there is an exchange of funds from one agency to another (FSM 1580).

Creatine: An organic acid composed of nitrogen. It supplies the energy required for muscle contraction.

Creatinine: The end product of the metabolism of creatine. It is found in muscle and blood and is excreted in the urine.

Cumulative effects: Changes as a result of more than one action that may enhance or degrade a specific site.

Cumulative exposures: Exposures that may last for several days to several months or exposures resulting from program activities that are repeated more than once during a year or for several consecutive years

Cytosolic: Found in the cytoplasm of a cell.

Dermal: Pertaining to the skin.

Dermatitis: Inflammation of the skin, either due to direct contact with an irritating substance, or to an allergic reaction.

Directed Spray: is accomplished by wand with regulated nozzle in such a fashion that spray is directed within 1 to 2 feet of the target vegetation. This spraying is done at an angle to reduce overspray. Plants that are three feet tall are left standing. Taller plants are will need to be cut or bent to insure that spray is within three feet of the ground.

Dislodgeable residues: The residue of a herbicide or biological agent on foliage as a result of aerial or ground spray applications, which can be removed readily from the foliage by washing, rubbing or having some other form of direct contact with the treated vegetation.

Dose-response assessment: A description of the relationship between the dose of a herbicide and the incidence of occurrence or intensity of an effect. In general, this relationship is plotted by statistical methods. Separate plots are made for experimental data obtained on different species or strains within a species.

Draft Environmental Impact Statement: The statement of environmental effects required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review.

Drift: That portion of a sprayed herbicide that is moved by wind off a target site.

EC_{100}: A concentration that causes complete inhibition or reduction. As used in this document, this values refers to a complete inhibition of growth.

EC_{50}: A concentration that causes 50% inhibition or reduction. As used in this document, this values refers to a 50% inhibition of growth.

Endangered Species: Any species listed in the Federal Register as being in danger of extinction throughout all or a significant portion of its range.

Endocrine: The system in the body consisting of organs that generates compounds that are transported elsewhere in the body and used for regulation of some other part of the body. Examples are the thyroid, the adrenals, and the pituitary glands.

Endogenous: Growing or developing from or on the inside.

Enzymes: A biological catalyst; a protein, produced by an organism itself, which enables the splitting (as in digestion) or fusion of other herbicides.

Epidemiology study: A study of a human population or human populations. In toxicology, a study that examines the relationship of exposures to one or more potentially toxic agent to adverse health effects in human populations.

Estrogen: Any of several steroid hormones produced chiefly by the ovaries and responsible for promoting estrus and the development and maintenance of female secondary sex characteristics.

Estrogenic: a substance that induces female hormonal activity.

Exposure assessment: The process of estimating the extent to which a population will come into contact with a herbicide or biological agent.

Fetal anomaly: An abnormal condition in a fetus, which is usually the result of a congenital defect.

Fibroma: A benign tumor composed mainly of fibrous or fully developed connective tissue.

Forest Plan: The Land and Resource Management Plan for the Modoc National Forest.

Formulation: A commercial preparation of a herbicide including any inerts or contaminants.

Frank effects: Obvious signs of toxicity.

Frank-effect Level (FEL): The dose or concentration of a herbicide or biological agent that causes gross and immediately observable signs of toxicity.

Gavage: The placement of a toxic agent directly into the stomach of an animal, using a gastric tube.

Genotoxic: Causing direct damage to genetic material. Associated with carcinogenicity.

Gestation: The period between conception and birth; in humans, the period known as pregnancy.

Half time or half-life: For compounds that are eliminated by first-order kinetics, the time required for the concentration of the herbicide to decrease by one-half.

Hazard identification: The process of identifying the array of potential effects that an agent may induce in an exposed human population.

Hazard Quotient (HQ): The ratio of the estimated level of exposure to the RfD or some other index of acceptable exposure.

Hematological: Pertaining to the blood.

Hematology: One or more measurements regarding the state or quality of the blood.

Henry's law constant: An index of the tendency of a compound to volatilize from aqueous solutions.

Herbaceous: A plant, annual, biennial, or perennial, that does not develop persistent woody tissue above the ground, but whose aerial portion naturally dies back to the ground at the end of a growing season.

Herbicide: A chemical used to control, suppress, or kill plants.

Histopathology: Signs of tissue damage that can be observed only by microscopic examination.

Home range: The area to which activities of an animal are confined during a defined period of time.

Humoral: of, or related to, elements in the blood.

Hydrolysis: Decomposition or alteration of a herbicide substance by water.

Hydroxylation: The addition of a hydrogen-oxygen or hydroxy (-OH) group to one of the rings. Hydroxylation increases the water solubility of aromatic compounds. Particularly when followed by conjugation with other water soluble compounds in the body, such as sugars or amino acids, hydroxylation greatly facilitates the elimination of the compound in the urine or bile.

Hymolytic anemia: A medical condition in which the number of red blood cells is decreased due to intravascular fragmentation or destruction.

Hyperemia: An increase in the amount of blood in an organ or region of the body with distention of the blood vessels. This may be caused either by an increase in dilation of the blood vessels (active hyperemia) or a hindrance of blood drainage from the site (passive hyperemia).

Hyperplasia: An abnormal increase in the number of cells composing a tissue or organ.

Hypoactivity: Less active than normal.

Hypovolemia: Low or decreased blood volume. If this condition is sufficiently severe, the individual may go into shock and die.

Immunotoxic – damaging to the immune system.

In vitro: Isolated from the living organism and artificially maintained, as in a test tube.

In vivo: Occurring in the living organism.

Inerts: Adjuvants or additives in commercial formulations of Glyphosate that are not readily active with the other components of the mixture.

Integrated Weed Management (IWM): An IWM program is an interdisciplinary management approach for selecting methods for preventing, containing, and controlling noxious weeds in coordination with other resource management activities to achieve optimum management goals and objectives. Methods include: education, preventive measures, herbicide, cultural, physical or mechanical methods, biological control agents, and general land management practices, such as manipulation of livestock or wildlife grazing strategies that accomplish vegetation management objectives. (FSM 2080.5)

Intraperitoneal: Injection into the abdominal cavity.

Invertebrate: An animal that does not have a spine (backbone).

Irritant effect: A reversible effect, compared with a corrosive effect.

Larva (pl. larvae): An insect in the earliest stage after hatching.

Lethal Concentration$_{50}$ (LC_{50}): A calculated concentration of a herbicide in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

Lethal Dose$_{50}$ (LD_{50}): The dose of a herbicide calculated to cause death in 50% of a defined experimental animal population over a specified observation period. The observation period is typically 14 days.

Limited Treatment (a type of weed treatment)**:** Perimeter treatment only to contain infestation.

Lowest-Observed-Adverse-Effect Level (LOAEL): The lowest dose of a herbicide in a study, or group of studies, that produces statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control.

Lowest-Observed-Effect Level (LOEL): The lowest dose of a herbicide where no adverse treatment-related effects were observed.

Lymph: A clear water fluid containing white blood cells. Lymph circulates throughout the lymphatic system, removing bacteria and certain proteins from body tissue. It also is responsible for transporting fat from the small intestine and supplying mature lymphocytes to the blood.

Lymphatic: Pertaining to lymph, a lymph vessel, or a lymph node.

Lymphocyte: white blood cell involved in immune system.

Malignant: Cancerous

Management Indicator Species (MIS): Animals or plants identified in Forest Land and Resources Management Plans (LRMPs, or Forest Plans) developed under the 1982 Planning Rule, that are selected because their population changes are thought to indicate the effect of Forest Service management activities (USDA Forest Service, Pacific Southwest Region, Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement, 2001: 69).

Margin of safety (MOS): The ratio between an effect or no effect level in an animal and the estimated human dose.

Metabolite: A compound formed as a result of the metabolism or bioherbicide change of another compound.

Metameter: Literally, the unit of measure. Used in dose-response or exposure assessments to describe the most relevant way of expressing dose or exposure.

Microorganisms: A generic term for all organisms consisting only of a single cell, such as bacteria, viruses, and fungi.

Microsomal: Pertaining to portions of cell preparations commonly associated with the oxidative metabolism of herbicides.

Minimal Risk Level (MRL): A route-specific (oral or inhalation) and duration- specific estimate of an exposure level that is not likely to be associated with adverse effects in the general population, including sensitive subgroups.

Mitochondria: Subcellular organelles involved in the conversion of food to stored energy.

Monitoring: The collection of information over time, generally on a sample basis to measure change in an indicator or variable, for purposes of determining the effects of resource management treatments.

Most sensitive effect: The adverse effect observed at the lowest dose level, given the available data. This is an important concept in risk assessment because, by definition, if the most sensitive effect is prevented, no other effects will develop. Thus, RfDs and other similar values are normally based on doses at which the most sensitive effect is not likely to develop.

Mutagenicity: The ability to cause genetic damage (that is damage to DNA or RNA). A mutagen is substance that causes mutations. A mutation is change in the genetic material in a body cell. Mutations can lead to birth defects, miscarriages, or cancer.

Myeloma: Primary tumor of the bone marrow.

Myotonic: Pertaining to muscle spasms.

National Environmental Policy Act (NEPA): The United States' basic national charter for protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. The Act directs agencies to inform the public of projects, and that agencies consider public comment.

National Forest Management Act (NFMA): The National Forest Management Act of 1976 amended the Resources Planning Act to direct the Secretary of Agriculture to develop direction and guidance for management of lands and resources of National Forest System lands.

Neuropathy: Damage to the peripheral nervous system.

Neurotransmitter: A substance used by a nerve cell in the transmission of impulses between nerve cells or between nerve cells and an effector cell.

Non-native plants: A plant grown outside of its natural range.

Non-target: Any plant or animal that a treatment inadvertently or unavoidably harms.

No-observed-adverse-effect level (NOAEL) -- The dose of a chemical at which no statistically or biologically significant increases in frequency or severity of adverse effects were observed between the exposed population and its appropriate control. Effects may be produced at this dose, but they are not considered to be adverse.

No-Observed-Adverse-Effect Level (NOAEL): The dose of a herbicide at which no statistically or biologically significant increases in frequency or severity of adverse effects were observed between the exposed population and its appropriate control. Effects may be produced at this dose, but they are not considered to be adverse.

No-Observed-Effect Level (NOEL): The dose of a herbicide at which no treatment-related effects were observed.

Noxious weed: Those plant species designated as noxious weeds by the Secretary of Agriculture or by the responsible State official. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and being non-native or new to or not common to the United States or parts thereof. (FSM 2080.5)

Octanol-Water Partition Coefficient (Kow): The equilibrium ratio of the concentrations of a herbicide in n-octanol and water, in dilute solution.

Oxidative phosphorylation: An metabolic process in which the metabolism of molecules in or derived from nutrients is linked to the conversion (phosphorylation) of ADP to ATP, a major molecule for storing energy in all living things.

Parenteral: Any form of injection.

Partition: In chemistry, the process by which a compound or mixture moves between two or more media.

Pathogen: A living organism that causes disease; for example, a fungus or bacteria.

Pathway: In metabolism, a sequence of metabolic reactions.

Perennial plant: A plant species having a lifespan of more than 2 years.

Perennial stream: A stream that flows throughout the year.

Permeability: The property or condition of being permeable. In this risk assessment, dermal permeability refers to the degree to which a herbicide or herbicide in contact with the skin is able to penetrate the skin.

pH: The negative log of the hydrogen ion concentration. A high pH (>7) is alkaline or basic and a low pH (<7) is acidic.

Pharmacokinetics: The quantitative study of metabolism (i.e., the processes of absorption, distribution, biotransformation, elimination).

Physical (a type of weed treatment): hand-pulling, hoeing, grubbing.

Physical (a type of weed treatment): hand-pulling, hoeing, grubbing, clipping seed head or plant, trimming with string trimmer, covering with mulch or tarp.

Phytoestrogen: A naturally occurring compound of plants, such as soybeans, or plant products, such as whole grain cereals, that acts like estrogen in the body.

pKa: The negative log of the hydrogen ion concentration or pH at which 50% of a weak acid is dissociated.

Plasma cholinesterase: Another term for Pseudocholinesterase. The normal physiological role of this cholinesterase is not known. Inhibition of this enzyme is considered an index of exposure to many organophosphate insecticides.

Plasma: The fluid portion of the blood in which particulates are suspended.

Prospective: looking ahead. In epidemiology, referring to a study in which the populations for study are identified prior to exposure to a presumptive toxic agent, in contrast to a retrospective study.

Protected Activity Center (PAC): This refers to areas of delineation around habitat for a specific animal. Protected activity centers are designed to minimize land disturbance within the delineated area.

Pseudocholinesterase: A term for cholinesterase found in the plasma. The normal physiological role of this cholinesterase is not known. Inhibition of this enzyme is considered an index of exposure to many organophosphate insecticides.

Reference dose (RfD) -- Oral dose (mg/kg/day) not likely to be associated with adverse effects over a lifetime exposure, in the general population, including sensitive subgroups. **RfD:** A daily dose that is not anticipated to cause any adverse effects in a human population over a lifetime of exposure. The U.S. EPA derives these values.

Reproductive effects: Adverse effects on the reproductive system that may result from exposure to a herbicide or biological agent. The toxicity of the agents may be directed spray to the reproductive organs or the related endocrine system. The manifestations of these effects may be noted as alterations in sexual behavior, fertility, pregnancy outcomes, or modifications in other functions dependent on the integrity of this system.

Resorption: Removal by absorption. Often used in describing the unsuccessful development and subsequent removal of post-implantation embryos.

Retrospective: Looking behind. In epidemiology, referring to a study in which the populations for the study are identified after exposure to a presumptive toxic agent, in contrast to a prospective study.

Riparian Conservation Area (RCA): The delineations of RCAs for this FEIS as described below, are from the Sierra Nevada Forest Plan Amendment FEIS Record of Decision (USDA Forest Service Pacific Southwest Region 2004 p.42), and for this FEIS the terms RCA and Streamside Management Zone (SMZ) are interchangeable. (Also see definition of Streamside Management Zone in this glossary.)

Perennial Stream RCA: 300 feet on each side of the stream, measured from the bank full edge of the stream.

Seasonally Flowing Stream RCA (includes intermittent and ephemeral streams): 150 feet on each side of the stream, measured from the bank full edge of the stream

Special Aquatic Feature RCA (includes lakes, wet meadows, bogs, fens, wetlands, vernal pools, and springs): 300 feet from edge of feature or riparian vegetation, whichever width is greater.

Route of exposure: The way in which a herbicide or biological agent enters the body. Most typical routes include oral (eating or drinking), dermal (contact of the agent with the skin), and inhalation.

Ruderal: A ruderal plant grows where the natural vegetational cover has been disturbed by humans.

Scientific notation: The method of expressing quantities as the product of number between 1 and 10 multiplied by 10 raised to some power. For example, in scientific notation, 1 kg = 1,000 g would be expressed as 1 kg = 1 x 10^3 g and 1 mg = 0.001 would be expressed as 1 mg = 1 x 10^{-3}.

Seasonally flowing stream: Any non-permanent flowing drainage feature having a definable channel and evidence of annual scour and deposition, including ephemeral and intermittent streams with a definable channel and evidence of annual scour or deposition.

Sedimentation: The process of sediment deposition, usually resulting from erosion.

Seed bank: Seeds that remain in the ground even after weeds are treated by herbicides or physical methods. They can remain viable for many years.

Sensitive subgroup: Subpopulations that are much more sensitive than the general public to certain agents in the environment.

Sensitive: Sensitive species for herbicide testing are those plant species used in testing that are more sensitive to the herbicides. These are not Forest Service Sensitive (FS sensitive) species.

Sensitization: A condition in which one is or becomes hypersensitive or reactive to an agent through repeated exposure.

Soil Quality Standards (SQS): Threshold values that indicate when changes in soil properties and soil conditions would result in significant change or impairment of productivity potential, hydrologic function, or buffering capacity of the soil. Detrimental soil disturbance is the resulting condition when threshold values are exceeded.

Specialized pollination system: Association between a flowering plant species and a specific pollinator that is required to achieve cross-pollination and seed production.

Species-to-species extrapolation: A method involving the use of exposure data on one species (usually an experimental mammal) to estimate the effects of exposure in another species (usually humans).

Streamside Management Zone: An administratively designated zone adjacent to seasonally flowing and perennial channels, and around standing bodies of water, wetlands, springs, seeps, and other wet or marshland areas. SMZ is also meant to include naming conventions for streamside buffering areas such as stream projection zones, riparian reserves, riparian habitat conservation areas, and so forth. For the Noxious Weeds FEIS, the designated zone for all SMZs are the Riparian Conservation Areas on the Modoc National Forest. (Also see definition of Riparian Conservation Area in this glossary.) Therefore, for the Noxious Weeds FEIS, the terms SMZ and RCA are interchangeable. The Definition of SMZ is from Water Quality Management

for Forest System Lands in California: Best Management Practices (USDA Forest Service Pacific Southwest Region 2000. p. 14).

Sub-chronic exposure: An exposure duration that can last for different periods of time, but 90 days is the most common test duration. The subchronic study is usually performed in two species (rat and dog) by the route of intended use or exposure.

Substrate: With reference to enzymes, the herbicide that the enzyme acts upon.

Surfactant: A specific type of additive to a pesticide formulation that is intended to reduce the surface tension of the carrier, to allow for greater efficacy of the pesticide.

Synapse: The space between two nerve cells or a nerve cell and an effector cell such as muscle.

Synergistic effect: A situation is which the combined effects of two herbicides is much greater than the sum of the effect of each agent given alone.

Systemic toxicity: Effects that require absorption and distribution of a toxic agent to a site distant from its entry point at which point effects are produced. Systemic effects are the obverse of local effects.

Teratogenic: Causing structural defects that affect the development of an organism; causing birth defects.

Teratology: The study of malformations induced during development from conception to birth.

Terrestrial: Anything that lives on land as opposed to living in an aquatic environment.

Threatened and Endangered Species (TES): A plant or animal species identified, defined, and recorded in the Federal Register, as being in danger of extinction throughout all or a significant portion of its range, in accordance with the Endangered Species Act of 1976.

Threshold of Concern (TOC): The level of watershed disturbance that, if exceeded, could create adverse watershed or water quality effects, in spite of application of Best Management Practices and other Design Standards or other prevention measures. Activities near the threshold of concern create increased risks for adverse water quality effects and a possible need for additional analysis or extraordinary mitigation, including rescheduling of projects.

Threshold: The maximum dose or concentration level of a herbicide or biological agent that will not cause an effect in the organism.

Thymus: A small gland that is the site of T-cell production. The gland is composed largely of lymphatic tissue and is situated behind the breastbone. The gland plays an important role in the human immune system.

Toxicity: The inherent ability of an agent to affect living organisms adversely.

Uncertainty factor (UF): A factor used in operationally deriving the RfD and similar values from experimental data. UFs are intended to account or (1) the variation in sensitivity among members of the human population; (2) the uncertainty in extrapolating animal data to the case of