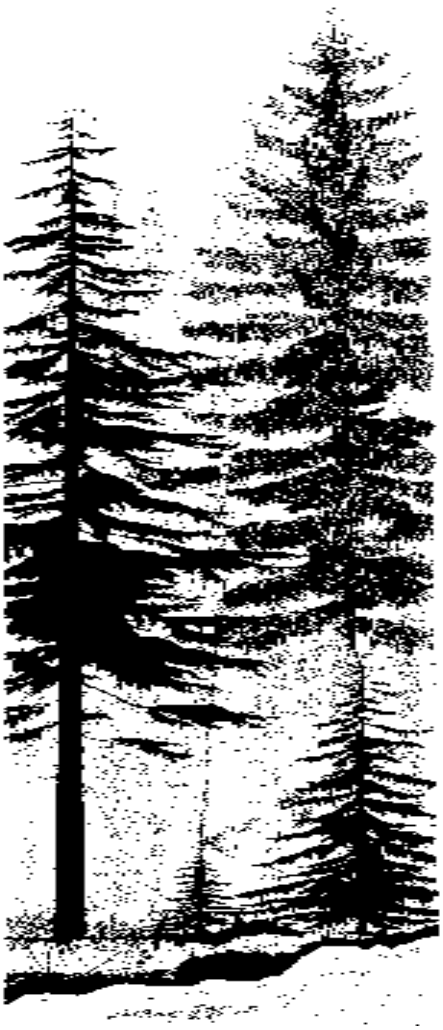

Glossary

Glossary

The following definitions have been gathered from a variety of sources, including the Forests and Fish Report (April 1999). The definitions are not necessarily the same as those in the Forest Practices Act or the forest practices rules (Washington Administrative Code 222).

Adaptive management – A formal process for: a) evaluating the current resource status, b) evaluating the effectiveness of rules and guidance necessary to meet the goals and objectives for the protection, maintenance, and enhancement of resources, and c) based on the findings, making any necessary adjustments to management practices to achieve resource objectives.

Allochthonous – Derived from outside a system, such as leaves of terrestrial plants that fall into a stream.

Alluvial fan – See "sensitive sites" definition.

Anadromous fish – Those species of fish that mature in the ocean and migrate to freshwater streams to spawn; an example is salmon.

Angular canopy density (ACD) – A measure of solar radiation reaching a stream; the projection of canopy closure measured at the angle at which solar radiation directly passes through the canopy to the stream.

Aquatic resources – Water quality, fish, the Columbia torrent salamander (*Rhyacotriton kezeri*), the Cascade torrent salamander (*Rhyacotriton cascadae*), the Olympic torrent salamander (*Rhyacotriton olympicus*), the Dunn's salamander (*Plethodon dunni*), the Van Dyke's salamander (*Plethodon vandyke*), the Coastal tailed frog (*Ascaphus truei*), the Rocky Mountain tailed frog (*A. montanus)*, and their respective habitats.

Archaeological object – An object that comprises the physical evidence of an indigenous and subsequent culture including material remains of past human life such as monuments, symbols, tools, facilities, and technological by-products (from RCW Chapter 27.53.030).

Archaeological resources – All sites, objects, structures, artifacts, implements, and locations of prehistorical or archaeological interest, whether previously recorded or still unrecognized, including, but not limited to, those pertaining to prehistoric and historic American Indian or aboriginal burials, campsites, dwellings, and habitation sites, including rock shelters and caves, their artifacts and implements of culture such as projectile points, arrowheads, skeletal remains, grave goods, basketry, pestles, mauls and grinding stones, knives, scrapers, rock carvings and paintings, and other implements and artifacts of any material that are located in, on, or under the surface of any lands or waters owned by or under the possession, custody, or control of the State of Washington or any county, city, or political subdivision of the State (from RCW Chapter 27.53.040).

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Archaeological site – A geographic locality in Washington, including, but not limited to, submerged and submersible lands and the bed of the sea within the State's jurisdiction, that contains archaeological objects (from RCW Chapter 27.53.030).

Autochthonous – Derived from within a system, such as organic matter in a stream resulting from photosynthesis of aquatic plants.

Bankfull depth – The average vertical distance between the channel bed and the estimated water surface elevation required to completely fill the channel to a point above which water would enter the floodplain or intersect a terrace or hill slope. In cases where multiple channels exist, the bankfull depth is the average depth of all channels along the cross-section.

Bankfull width – The measurement of the lateral extent of the water surface elevation perpendicular to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the sum of the individual channel widths along the cross-section.

Basal area – The area in square feet of the cross-section of a tree bole measured at 4.5 feet above the ground.

Bedrock hollow – (Colluvium-filled bedrock hollows or hollows; also referred to as zero-order basins, swales, or bedrock depressions.) Landforms that are commonly spoon-shaped areas of convergent topography (upward or contour concavity) within unchannelled valleys on hillslopes. Hollows are formed on slopes of varying steepness and tend to be longitudinally linear on the slope. Their upper ends can extend to the ridge, or begin as much as several hundred feet below. Most hollows are approximately 75 to 200 feet wide at the top and may narrow to 30 to 60 feet downhill. They terminate at distinct channels, either at the point of channel initiation or along a stream side. Bedrock hollows typically experience episodic evacuation of debris by shallow-rapid mass movement, followed by slow refilling with colluvium. Debris slides that begin within bedrock hollows commonly evolve into debris torrents, which have the potential to reach great distances downhill and downstream.

Biological diversity – The relative degree of abundance of wildlife species, plant species, communities, habitats or habitat features within an area.

Blowdown – Trees felled by high winds.

Board foot – The amount of wood equivalent to a piece 1 foot by 1 foot by 1 inch thick.

Bog – A hydrologically isolated, low nutrient wetland that receives its water from precipitation only. Bogs typically have no inflow and rarely have outflows. Bogs have peat soils 16 or more inches in depth (except where over bedrock), and specifically adapted vegetation such as sphagnum moss, Labrador tea, bog laurel, sundews, and some sedges. Bogs may have an overstory of spruce, hemlock, cedar, or other tree species, and may be associated with open water.

Buffer – A forested area of trees left unharvested during timber harvest to conserve sensitive ecosystems or wildlife habitat, or potentially unstable slopes. Management activities may be allowed as long as they are consistent with the objectives for the buffer.

Bull trout habitat overlay – Those portions of eastern Washington streams containing bull trout habitat as identified in the Washington Department of Fish and Wildlife's bull trout map (see WAC 222-16-010). Prior to the development of a bull trout field protocol and of the habitat-based predictive model, the bull trout habitat overlay map may be modified to allow for locally-based corrections using current data, field knowledge, and best professional judgment. A landowner may meet with the Departments of Natural Resources and Fish and Wildlife and, in consultation with affected tribes and Federal biologists, determine whether certain stream reaches have habitat conditions that are unsuitable for bull trout. If such a determination is mutually agreed upon, documentation submitted to the department will result in the applicable stream reaches no longer being included within the definition of bull trout habitat overlay. Conversely, if suitable bull trout habitat is discovered outside the current mapped range, those waters will be included within the definition of bull trout habitat overlay by a similar process.

Candidate species – A Federal plant or and animal species for which the U.S. Fish and Wildlife Service has sufficient information on the biological status and threats to the species to propose them as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. The National Marine Fisheries Service, which has jurisdiction over most marine species, defines candidate species more broadly to include species whose status is of concern but more information is needed before they can be proposed for listing. State candidate species include fish and wildlife species that the Department will review for possible listing as State Endangered, Threatened, or Sensitive.

Canopy – The continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

Canopy closure – The degree to which the canopy (forest layers above one's head) blocks sunlight or obscures the sky.

Channel migration zone –The area where the active channel of a stream is prone to move and where movement would result in a potential near-term loss of riparian function and associated habitat adjacent to the stream, except as modified by a permanent levee or dike. For purposes of this report, channel migration zones are associated with moderately confined streams, and unconfined avulsing streams.

Class IV-Special – A Washington forest practices class; forest practices that are subject to SEPA requirements (RCW Chapter 76.09.05), as they have been determined to have potential for a substantial impact on the environment, and so require an environmental checklist and additional review.

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Clearcut – A timber harvest method in which all or almost all of the trees are removed in one cutting; an even-aged silvicultural system.

Climax – The culminating, highly stable stage in plant succession for a given environment; an ecosystem will stay at the climax stage until disturbance affects the ecosystem and the stages of ecological succession begin again.

Closed-canopy forest – Coniferous forests between 40 and 70 years of age. Also called a closed forest.

Code of Federal Regulations (CFR) – A codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal government.

Commercial thinning – The removal of generally merchantable trees from an even-aged stand, so that the remaining trees can develop faster and with less competition.

Compliance monitoring – Monitoring conducted to determine the degree to which forest landowners and operators are adhering to forest practices rules.

Convergent headwall (or headwalls) – Landforms that are teardrop-shaped, broad at the ridgetop and terminate where headwaters converge into a single channel. They are broadly concave both longitudinally and across the slope, but may contain sharp ridges that separate the headwater channels. Convergent headwalls generally range in size from about 30 to 300 acres; slope gradients are typically steeper than 35 degrees and may exceed 45 degrees. Soils are thin because slides are frequent in these landforms. It is the arrangement of bedrock hollows and first-order channels on the landscape that causes a convergent headwall to be a unique mass-wasting feature. Landslides that evolve into debris flows in convergent headwalls typically deliver debris to larger channels downstream. Channel gradients are extremely steep within headwalls, and generally remain so for long distances downstream. Channels that exit the bottoms of headwalls have been formed by repeated debris flows and have forms and gradients that are efficient at conducting them. Convergent headwalls commonly have debris fans at the base of their slopes.

Core zone – For eastern Washington, the area between the bankfull width or channel migration zone edge of a Type S or F water and a line 30 feet parallel to the bankfull width or channel migration zone edge (measured as horizontal distance); for western Washington, the area between the bankfull width or channel migration zone edge of a Type S or F water and a line 50 feet parallel to the bankfull width or channel migration zone edge (measured as horizontal distance). Also see Edge (water).

Covered lands – Covered lands are forestlands within the State of Washington subject to the Washington Forest Practices Act, chapter 76.09 RCW (FPA). Forestland means "all land which is capable of supporting a merchantable stand of timber and is not being actively used for a use which is incompatible with timber growing" (RCW Chapter 76.09.010(9)). Approximately 9.1 million acres of forestlands are covered lands; this primarily includes private and state forestlands, although local government forestlands are also covered by the Forest Practices Habitat Conservation Plan (FPHCP). Forestlands covered by existing federally approved habitat conservation plans are generally not considered part of FPHCP covered lands (WAC 222-12-041). However, there are two exceptions. One is the Boise Cascade Single-Species Habitat Conservation Plan that encompasses 620 acres and provides coverage for the northern spotted owl, but does not include coverage for aquatic species. The other is approximately 228,000 acres of Washington DNR managed land on the eastside of the Cascade crest. The Washington DNR State Lands Habitat Conservation Plan provides coverage for terrestrial species in this area, but does not include coverage for aquatic species. The forestland contained within these two areas is considered covered lands under the FPHCP.

Covered species – Fish, the Columbia torrent salamander (*Rhyacotriton kezeri*), the Cascade torrent salamander (*Rhyacotriton cascadae*), the Olympic torrent salamander (*Rhyacotriton olympicus*), the Dunn's salamander (*Plethodon dunni*), the Van Dyke's salamander (*Plethodon vandyke*), the Coastal tailed frog (*Ascaphus truei*), and the Rocky Mountain tailed frog (*A. montanus)*.

Critical habitat, Federal – Areas designated under the Federal Endangered Species Act that have the physical and biological features necessary for the conservation of a listed species, or which require special management considerations or protection.

Critical habitat, State – Habitats of threatened or endangered species as designated by the Washington Forest Practices Board (WAC 222-16-080).

Cultural resources – Archaeological and historic sites and artifacts and traditional religious, ceremonial and social uses and activities of affected Indian tribes (from WAC 222-16-010).

Debris flow – A moving mass of rock, soil, and organic debris, more than half the particles being larger than sand size; can travel many miles down steep confined mountain channels; a form of debris torrent.

Debris slide – The very rapid and usually sudden sliding and flow of incoherent, unsorted mixtures of soil, weathered bedrock, and organic debris.

Debris torrent – Debris flow or dam-break flood. Rapid movement of a large quantity of materials, including rock, soil, and organic debris, down a stream channel. Usually occurs in smaller streams during storms or floods, and scours the stream bed in steeper channels.

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Deep-seated landslide – Landslides in which the zone of movement is mostly below the maximum rooting depth of trees, to depths of tens to hundreds of feet. Deep-seated landslides can vary greatly in size (up to thousands of acres) and activity level and can occur almost anywhere on the hillslope. Deep-seated landslides are usually formed in incompetent materials such as glacial deposits, volcaniclastic rocks, and fault gouge. Movement can be translational, rotational, or complex, range from slow to rapid, and include small to large displacements.

Desired future condition (DFC) – The stand conditions of a mature riparian forest. For management purposes, measurements of a mature riparian forest at 140 years of age are used.

Detritus – Undissolved organic or inorganic matter resulting from decomposition of parent material.

Diameter at breast height (dbh) – The diameter of a tree, measured 4.5 feet above the ground on the uphill side of the tree.

Dispersal – The movement of juvenile, subadult, and adult animals from one sub-population to another.

Early seral stage – Forest development classification that corresponds with: (1) closed sapling-pole, small sawtimber condition (Brown 1985); (2) young forest (Spies and Franklin 1991); and (3) stand initiation stage, stem exclusion stage (Oliver 1981).

Earthflow – Mass movement process and landform characterized by downslope translation of soil and weathered rock over a landslide within well-defined lateral boundaries. Earthflows are often considered a class of deep-seated landslides.

Eastern Washington – The geographic area in Washington east of the crest of the Cascade Mountains from the international border to the top of Mt. Adams; then east of the ridge line dividing the White Salmon River drainage from the Lewis River drainage, and east of the ridge line dividing the Little White Salmon River drainage from the Wind River drainage, to the Columbia River.

Eastern Washington timber habitat types.

Tree Species Zone	Elevation
Ponderosa pine	0 to 2,500 feet
Mixed conifer	2,500 to 5,000 feet
High elevation	Above 5,000 feet

Edge (habitat) – An abrupt change between adjacent plant communities, successional stages, or vegetative conditions.

Edge (water) – Edge of any water means the outer edge of the bankfull channel or, where applicable, the outer edge of the channel migration zone.

Edge effects – The modified environmental conditions along the margins, or edges, of forest patches.

Effectiveness monitoring – Monitoring conducted to determine if measures implemented for the protection, maintenance, and enhancement of resources have the desired effect.

Endangered Species – A federally listed species which is in danger of extinction throughout all or a significant portion of its range. A State listed wildlife species native to the State of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the State.

Endangered Species Act (ESA) – The Federal Endangered Species Act of 1973 (16 U.S.C. §1531 et. seq.), as amended, sets up processes by which plant and animal species can be designated as threatened or endangered. Two Federal agencies, the USFWS and NMFS, administer the act. Once species are listed, the act also provides that these agencies develop recovery plans for these species, including conserving the ecosystems on which listed species depend.

Endemic – Term used to describe a species whose habitat exists in a particular area.

Environmental Impact Statement (EIS) – A document prepared under the National or State Environmental Policy Acts to assess the effects that a particular action or program will have on the environment.

Equipment limitation zone – The area between the edge of a Type N water and a line 30 feet (measured as horizontal distance) parallel to the edge.

Even-aged – A system of forest management in which stands are produced or maintained with relatively minor differences (generally, less than 10 years) in age.

Evolutionarily significant units (ESU) – A population that is substantially reproductively isolated from other population units of the same species, and represents an important component in the evolutionary legacy of the species.

Extirpation – The elimination of a species from a particular area.

Federally listed – Species formally listed as threatened or endangered under the Federal Endangered Species Act; designations are made by the USFWS or NMFS.

Fish – For purposes of this report, species of the vertebrate classes Cephalospidomorphi and Osteichthyes.

Forest Practices Act – A Washington State statute (Chapter RCW 76.09) establishing minimum standards for forest practices, and providing for necessary administrative procedures and rules applicable to activities conducted on or pertaining to forests, on both State-managed and private lands.

Forest Practices Board – A Washington State agency created by the Forest Practices Act to adopt forest practices rules that protect public resources coincident with the maintenance of a viable forest products industry. These rules are administered and enforced by Washington DNR.

Fragmentation – The spatial arrangement of successional stages across the landscape as the result of disturbance; often used to refer specifically to the process of reducing the size and connectivity of late-successional or old-growth forests.

Geographic information system (GIS) – A computer system that stores and manipulates spatial data, and can produce a variety of maps and analyses. Washington DNR's GIS is able to: (1) assign information and attributes to polygons and lines, which represent relationships on the ground; and (2) update and retrieve inventory, mapping, and statistical information. Washington DNR uses its GIS as one of several tools for setting landscape-level planning objectives.

Geomorphic processes – Landscape-modifying processes such as surface erosion, mass wasting, and stream flow.

Green-tree retention – A stand management practice in which live trees are left within harvest units to provide habitat after harvest.

Groundwater recharge area – The topographically defined basin above a glacial deep-seated landslide that contributes surface and ground water to the landslide; an impermeable perching layer beneath the groundwater recharge area is assumed to exist.

Habitat Conservation Plan (HCP) – An implementable conservation program for the long-term protection and benefit of a species in a defined area; required as part of a Section 10 incidental taking permit application under the Federal Endangered Species Act.

High-elevation habitat type – The habitat series on the eastside ranging from elevations of 5,000 feet to the tree line.

Historic archaeological resources – Those properties which are listed in or eligible for listing in the Washington State Register of Historic Places (RCW Chapter 27.34.220) or the National Register of Historic Places as defined in the National Historic Preservation Act of 1966 (Title 1, Sec. 101, Public Law 89-665; 80 Stat. 915; 16 U.S.C. Sec. 470) as amended (See RCW Chapter 27.53.030).

Historic site – Sites, areas, and structures or other evidence of human activities illustrative of the origins, evolution, and development of the nation, State, or locality; or places associated with a personality important in history; or places where significant historical events are known to have occurred even though no physical evidence of the event remains (See WAC 222-16-010).

Horizontal distance – The distance on a line parallel to the horizon (not parallel to the slope).

Hydrologic analysis unit (HAU) – Subdivisions of the watershed administrative unit (WAU) used in the hydrologic change module of the Washington Forest Practices Board's watershed analysis procedures.

Hydrologic maturity – The degree to which hydrologic processes (e.g., interception, evapotranspiration, snow accumulation, snowmelt, infiltration, runoff) and outputs (e.g., water yield and peak discharge) in a particular forest stand approach those expected in a late seral stand under the same climatic and site conditions.

Hyporheic zone – Area adjacent to and below water bodies, typically streams and rivers, where interstitial water is exchanged with surface water.

Identifiable channel – A channel with well-defined and measurable banks where vegetative ground cover has been disturbed and sediment is exposed.

Implementation Agreement (IA) – A part of an application for an incidental take permit, typically accompanying an HCP, which specifies the terms and conditions, resources, schedule of activities, and expectations to the parties of the agreement.

Incidental take – The taking of a federally listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity.

Incidental take permit – Permit issued by the USFWS and/or NOAA Fisheries to a non-Federal entity (State, tribe, private landowner) that authorizes incidental taking of a threatened or endangered species.

Inner gorges – Canyon walls created by a combination of stream downcutting/ undercutting action and mass movement on the slope walls. Inner gorges may show evidence of recent movement, such as obvious landslides, vertical tracks of disturbance vegetation, or areas that are concave in contour and/or profile. In competent bedrock, slope gradients of 35 degrees or steeper can be maintained, but soil mantles are increasingly sensitive to root-strength loss at these angles; slope gradients as gentle as 28 degrees can be unstable in gorges cut into incompetent bedrock. The top of the inner gorge is typically a distinct break in slope, but in some places the upper boundary is a subtle zone where the slope becomes markedly steeper or convex downhill. Inner gorge walls can be continuous for great lengths, as along a highly confined stream that is actively downcutting; or they can be discontinuous, as along a flood-plain channel that is undercutting the adjacent hillslopes in isolated places where the stream has meandered to the valley edge.

Inner zone – For the eastside, the area between the outer boundary of the adjacent core zone and a line 45 feet (for streams less than 15 feet wide) or 70 feet (for streams more than 15 feet wide) from the outer boundary of the core zone (in each case measured as horizontal distance). For the west side, the area measured horizontally from the outer boundary of the core zone to the outer limit of the inner zone. The inner zone outer boundary is determined based on the channel width, site class and the management option chosen for timber harvest within the inner zone.

Interagency Scientific Committee – The U.S. Interagency Scientific Committee to address the conservation of the northern spotted owl; cited in this document as Thomas et al. (1990).

Interception – In hydrology, the rain and snow caught in the forest canopy.

Landscape – Large regional units of lands that are viewed as a mosaic of communities, or a unit of land with separate plant communities or ecosystems forming ecological units with distinguishable structure, function, geomorphology, and disturbance regimes.

Landslide – Any mass movement process characterized by downslope transport of soil and rock, under gravitational stress, by sliding over a discrete failure surface; or the resultant landform. In forested watersheds, landsliding typically occurs when local changes in the pore-water pressure increase to a degree that the friction between particles is inadequate to hold the mass on the slope.

Large woody debris – Large pieces of wood in stream channels or on the ground, includes logs, pieces of logs, and large chunks of wood; provides streambed stability and/or habitat complexity. Also called coarse woody debris or down woody debris. Large organic debris is large woody debris, but may contain additional nonwoody debris, such as animal carcasses.

Late-successional forest – A mature and/or old-growth forest stand, also called late seral-stage forest. Typical characteristics are moderate to high canopy closure, a multi-layered, multi-species canopy dominated by large overstory trees, many large snags, and abundant large woody debris (such as fallen trees) on the ground.

Listed species – Species formally listed as endangered, threatened, or sensitive by a federal (USFWS or NMFS) or State (Washington Fish and Wildlife Commission) agency.

Low-order streams – Small streams with very few tributaries; often are headwaters. They typically include first and second order channels.

Mass wasting – Dislodgment and downslope transport of soil and rock under the direct application of gravitational stress.

Mature stand – A forest stand in the period from culmination of mean annual increment to old-growth stage. This is a time of gradually increasing stand diversity.

Mid-seral stage – Forest development classification that corresponds with: (1) large sawtimber condition (Brown 1985); (2) mature forest (Spies and Franklin 1991); and (3) understory reinitiation stage (Oliver 1981). Age of dominant trees is 80-195 years (Spies and Franklin 1991); due to stand density, brush, grass, or herbs decrease in the stand. Hiding cover may be present.

Mixed conifer habitat type – The habitat series on the eastside ranging from elevations above 2,500 feet up to 5,000 feet.

National Environmental Policy Act (NEPA) – The law requiring all Federal agencies to consider and analyze all significant environmental impacts of any action proposed by those agencies; to inform and involve the public in the agencies' decision-making processes; and to consider the environmental impacts in those processes.

National Marine Fisheries Service (NOAA Fisheries or NMFS) – The Federal agency that is the listing authority for marine mammals and anadromous fish under the Federal Endangered Species Act.

Old-growth forest – A forest that is in the successional stage after maturity, which may or may not include climax old-growth species; the final seral stage.

Outer zone – The area measured horizontally between the outer extent of the inner zone and the RMZ width as specified in riparian management zone definitions.

Partial cutting – Removal of selected trees from a forest stand.

Perennial stream – Waters that do not go dry any time of a year of normal rainfall; may include intermittent dry portions of a perennial channel below the uppermost point of perennial flow.

Physiographic province – A region having similar geologic structure and climate, and which had a consistent geomorphic history; a region whose pattern of relief features or landforms differs significantly from that of adjacent regions.

Placement strategy – A strategy for the placement of woody debris in streams.

Ponderosa pine habitat type – The habitat series on the eastside ranging from the lower elevation limit of tree growth to an elevation of 2,500 feet.

Precommercial thinning – Cutting trees at an immature age to allow for better growth of the remaining trees; may include removal of excess and/or diseased trees.

Priority species – As defined by the Washington Department of Fish and Wildlife, priority species are fish and wildlife species requiring protective measures and/or management guidelines to ensure their perpetuation.

Proposed 4(d) special rule – Refers to section 4(d) of the Federal Endangered Species Act. Pursuant to section 4(d), special rules may be promulgated "to provide for the conservation of [threatened] species." Such special rules may limit the application of the prohibition against take.

Proposed threatened or endangered species – Species proposed by the U.S. Fish and Wildlife Service or NOAA Fisheries for listing as threatened or endangered under the Federal Endangered Species Act; not a final designation.

Qualified expert – With regard to slope-instability issues: a person with at least (i) either: (A) a master's degree in geology or geomorphology or a related field, or (B) a significant amount of post-graduate course or thesis work or other training in geomorphology or mass-movements; and (ii) an additional 5 years of field experience in the evaluation of relevant problems in forested lands.

Rain-on-snow zone – Area, generally defined as an elevation zone, where it is common for snowpacks to be partially or completely melted during rainstorms. Commonly referred to as the "transient snow zone."

Recovery plan – A plan developed by a government agency, that if implemented would be expected to result in the recovery of a threatened or endangered species to the extent that the species can be removed from threatened or endangered status under the Endangered Species Act.

Revised Code of Washington (RCW) – A revised, consolidated, and codified form and arrangement of all the laws of the State of a general and permanent nature.

Riparian area – Areas of land directly influenced by water or that influence water. Riparian areas usually have visible vegetative or physical characteristics reflecting the influence of water. Riversides and lake shores are typical riparian areas. Commonly referred to as "riparian zone."

Riparian buffer – A riparian management zone that serves to protect aquatic habitat; see also buffer.

Riparian ecosystem – The area of direct interaction between terrestrial and aquatic environments.

Riparian leave trees – Trees that must be retained in the outer zone of riparian management zones in western Washington. This includes conifer trees with a dbh of 12 inches or greater; or, in the case of trees left to protect a sensitive feature, trees that are representative of the overstory canopy in or around such sensitive features (including, where applicable, hardwoods), and which have a dbh of eight inches or greater.

Salmonid – Fish species belonging to the family Salmonidae, including trout, salmon, char, and whitefish species.

Salvage – The removal of snags, down logs, windthrow, or dead and dying material.

Scoping – Determining the range of proposed actions, alternatives, and impacts to be discussed in a NEPA or SEPA EIS (WAC 197-11-793).

Seasonal stream – Streams in which surface flow is not present for at least some potion of a year of normal rainfall.

Selective harvest – A general term for partial cutting or salvage cutting in which individual trees are removed.

Sensitive sites – Any of the following:

(1) A headwall seep is a seep located at the toe of a cliff or other steep topographical feature and at the head of Type N_p water that connects to the channel network via overland flow, and is characterized by loose substrate and fractured bedrock with perennial water at or near the surface throughout the year.

(2) A side-slope seep is a seep within 100 feet of Type N_p water located on side-slopes steeper than 20 percent, connected to the channel network via overland flow, and characterized by loose substrate and fractured bedrock with perennial water at or near the surface throughout the year. Water flow to the Type N_p channel is visible by someone standing in or near the stream.

(3) A side-slope seep is a seep within 100 feet of Type N_p water that is the initiation point for a stream, and is connected to the channel network via perennial channelized flow.

(4) Headwater spring means the place where perennial flow begins on Type N_p Water. (See WAC 222-16-010 definition for more details.)

(5) An alluvial fan is a depositional landform consisting of typically cone-shaped deposit of water-borne, often coarse-sized sediments.

(a) The upstream end of the fan (cone apex) is typically characterized by a distinct increase in channel width where a stream emerges from a narrow valley;

(b) The downstream edge of the fan is defined as the sediment confluence with a higher order channel;

(c) The lateral margins of a fan are characterized by distinct local changes in elevation, and commonly show disturbed vegetation.

Seral stage – One of the developmental stages that succeed each other as an ecosystem changes over time; specifically, the stage of ecological succession as a forest develops. There are various subdivisions for seral stages, e.g., (1) early seral stage; mid-seral stage; and late seral stage; (2) young forest; mature forest; and old-growth forest; (3) grass-forb; shrub; open sapling-pole; closed sapling-pole-sawtimber; large sawtimber; and old growth; and (4) stand initiation; stem exclusion; understory reinitiation; and old growth.

Silt – Sedimentary material composed of fine particles, suspended in or deposited by water; mud or fine earth in suspension.

Siltation – The deposition or accumulation of sediment that is suspended throughout a body of standing water or in some considerable portion of it; especially the choking, filling, or covering with stream-deposited silt or sand behind a place of retarded flow.

Silviculture – The theory and practice of controlling the establishment, composition, growth, and quality of forest stands in order to achieve management objectives.

Site class – A group or range of site indices. Under current forest practices rules, the site class determines the RMZ width (See WAC 222-30-021 and 222-30-022).

(1) For western Washington

Site class	50-year site index range (State soil survey)
I	137+
II	119-136
III	97-118
IV	76-96
V	≤75

(2) For eastern Washington

Site class	100-year site index range (State soil survey)	50-year site index range (State soil survey)
I	120+	86+
II	101-120	72-85
III	81-100	58-71
IV	61-80	44-57
V	≤60	<44

Site index – A measure of forest productivity, expressed as the average height of dominant and co-dominant trees in a stand at specified age (usually 50 or 100 years).

Site potential tree height (SPTH) – The height represented by the approximate mid-point of a site class based on a site index of 100 years, as in the following table.

Region	Site Class	Site Potential Tree Height
Westside	I	200
	II	170
	III	140
	IV	110
	V	90
Eastside	I	130
	II	110
	III	90
	IV	70
	V	60

SPTH numbers in the preceding table were derived from Douglas-fir stands. SPTH for a stand age of 250 years are also presented within the main body of the EIS.

Slump – A landslide characterized by movement of a mass of rock or earth along a typically curved slip surface (concave upward). Sliding is normally about an axis across to the slope from which it descends, and by backward tilting of the mass so that the slump surface commonly exhibits a reversed slope facing uphill.

Snag – A dead tree that is still standing.

Stand – A group of trees that possess sufficient uniformity in composition, structure, age, spatial arrangement, or condition to distinguish them from adjacent groups.

Stand conversion – The conversion of stands from low-commercial value species to more valuable species.

State Environmental Policy Act (SEPA) – This law (Chapter 43.21C RCW) is the basic State statute for protection of the environment. SEPA requires all State agencies to consider and analyze all significant environmental impacts of any action proposed by those agencies; to inform and involve the public in the agencies' decision-making processes; and to consider the environmental impacts in the agencies' decision-making processes.

Stream-adjacent parallel road – A road in a riparian management zone with an alignment parallel to the stream. Included are stream crossings where the alignment of the road continues parallel to the stream for more than 250 feet on either side of the stream. Not included are Federal, State, county or municipal roads that are not subject to forest practices rules, or roads of another adjacent landowner.

Stream order – A number from 1 through 6 or higher, ranked from headwaters to river terminus, that designates the relative position of a stream or stream segment in a drainage basin.

Succession – A series of changes by which one group of organisms succeeds another group in an ecosystem; a series of developmental stages in a community.

Take (Taking) – To take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a federally listed threatened or endangered species, or to attempt to engage in any such conduct. See also incidental take.

Talus – A deposit of rock rubble derived from and lying at the base of a cliff or very steep, rocky slope.

Threaten public safety – To increase the risk to the public at large from snow avalanches, identified in consultation with the department of transportation or a local government, or landslides or debris torrents caused or triggered by forest practices.

Threatened species – A federally listed species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. A State listed wildlife species native to the State of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the State without cooperative management or removal of threats.

Trust land – Lands held in trust and managed by Washington DNR for the benefit of a trust beneficiary.

Turbidity – The relative lack of clarity of water, which may be affected by material in suspension.

Uneven-aged – Forests composed of trees that differ markedly in age.

U.S. Fish and Wildlife Service (USFWS) – Federal agency that is the listing authority for species, other than some marine mammals and most anadromous fish, under the Federal Endangered Species Act.

Validation monitoring – Monitoring conducted as part of a research program to validate assumptions that are basis for resource protection measures.

Viable population – A population that is of sufficient size and distribution to be able to persist for a long period of time in the face of demographic variations, random events that influence the genetic composition of the population, and fluctuations in environmental conditions, including some catastrophic events.

Washington Administrative Code (WAC) – The compilation of all current, permanent rules of State agencies.

Water quality classification – Washington State Department of Ecology water quality standards; specifications are given in WAC 173-201-045. Class AA water is "extraordinary," Class A water is "excellent," Class B water is "good," and so on.

Water resource inventory area (WRIA) – Watershed-based planning unit, defined by the Washington State Department of Ecology. The 62 WRIAs are determined by drainages to common water bodies.

Water typing system – A simplified explanation of the Forest Practices Rules water typing system in effect on January 1, 1999, is as follows:

> **Type 1:** All waters, within their ordinary high-water mark, as inventoried as shorelines of the State under the SMA.
>
> **Type 2:** Segments of natural waters that are not Type 1 and have a high use and are important from a water quality standpoint for domestic water supplies; public recreation; fish spawning, rearing, or migration or wildlife use; are highly significant to protect water quality.

Type 3: Segments of natural waters that are not Type 1 or 2 and are moderately important from a water quality standpoint for: domestic use; public recreation; fish spawning, rearing, or migration or wildlife uses; or have moderate value to protect water quality.

Type 4: Segments of natural waters that are not Type 1, 2, or 3, and for the purpose of protecting water quality downstream are classified as Type 4 Water upstream until the channel width becomes less than two feet in width between the ordinary high-water marks. These may be perennial or intermittent.

Type 5: Natural waters that are not Type 1, 2, 3, or 4; including streams with or without well-defined channels, areas of perennial or intermittent seepage, ponds, natural sinks and drainage ways having short periods of spring or storm runoff.

The revised water typing system under the current Forest Practices Rules is as follows:

Type S: All waters inventoried as "shorelines of the State."

Type F: Waters not classified as Type S, which contain fish habitat. It also includes some waters diverted for domestic and fish hatchery use.

Type N: Waters not classified as Type S or F, which are either perennial streams or are physically connected by an above-ground channel system to downstream waters such that water or sediment initially delivered to such waters will eventually be delivered to a Type S or F water. Type N waters include two subcategories: seasonal, Ns streams, and perennial, Np streams.

Watershed – The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.

Watershed administrative unit (WAU) – In Washington, the geographic area used for watershed analysis. See WAC 222-22-020 for more information.

Watershed analysis – A systematic procedure for characterizing watershed and ecological processes to meet specific management objectives; provides a basis for resource management planning. In Washington, watershed analysis is conducted in accordance with forest practices rules and Board Manual guidance (Chapter 222-22 WAC).

Western Washington – The geographic area of Washington west of the Cascade crest and the drainages defined in the "eastern Washington" definition.

Wetland – An area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and under normal circumstances does support) a prevalence of vegetation typically adapted for life in saturated soil conditions; includes swamps, bogs, fens, and similar areas.

Wetland management zone (WMZ) – Zones adjacent to Type A and Type B wetlands, measured horizontally from the wetland edge or the point where the nonforested wetland becomes a forested wetland. WMZs have variable widths based on the size of the wetland and wetland type. WMZ widths are specified in WAC 222-30-020.

Wetland typing system – A simplified explanation of Washington's classifications of wetland types appears here. For the complete classification system, see WAC 222-16-035.

> **Nonforested wetland** – Any wetland or portion thereof that has (or if the trees were mature would have) a crown closure of less than 30 percent. There are two types of nonforested wetlands. A Type A wetland is: (1) greater than 0.5 acre in size; (2) associated with at least 0.5 acre of ponded or standing open water; or (3) bogs and fens greater than 0.25 acre. All other nonforested wetlands greater than 0.25 acre are Type B wetlands.
>
> **Forested wetland** – Any wetland or portion thereof that has (or if the trees were mature would have) a crown closure of 30 percent or more.

Wildlife tree – Wildlife trees include large live trees, snags, cavities, and down logs that provide forest-habitat structures for wildlife.

Windthrow – Trees blown down by wind; also called blowdown.

Yarding – Transporting logs from the point of felling to a collecting point or landing.

Yarding corridor – A narrow, linear path through a stand to allow suspended cables necessary to support cable yarding methods, and suspended or partially suspended logs to be transported through these areas by cable yarding methods.