

8.0 Glossary

Definitions are derived from various sources as indicated in the *Sources* list at the end of the Glossary, or formulated uniquely for this project.

Term	Definition
A	
Abandoned road	A road that is permanently closed, stabilized, and no longer passable by vehicles, and is not intended for future forest management use.
Active channel	Defined by Washington Department of Natural Resources (WDNR) as the stream area occupied by typical flood events, characterized by the 2-year recurring flood. The active channel generally coincides with the ordinary high-water mark, but may encompass side channels and adjacent floodplain areas.
Adaptive management	Adaptive management is a conservation strategy that blends rigorous science with practical management designed to provide the basis for “learning by doing.” It is a continuing process of planning, implementation, monitoring, and evaluation to incorporate improved scientific understanding into adjusted management strategies, using a “feedback loop” procedure to meet goals and objectives of the Proposed Action.
Adfluvial	Fish stocks that actively migrate between lakes and streams.
Age class	A distinct aggregation of trees originating from a single natural event or regeneration activity.
Alluvial	Describes soil and similar materials that were transported and deposited by running water.
Alluvial fan	An assemblage of sediments deposited where a stream moves from a steep gradient to a gentler gradient.
Anadromous fish	Those species of fish that mature in the ocean and migrate to freshwater rivers and streams to spawn; an example is salmon.
Aquatic Conservation Strategy (ACS)	A federal conservation strategy developed by the Forest Ecosystem Management Assessment Team. The ACS was designed to provide a scientific basis for protecting aquatic ecosystems and has four components: Riparian Reserves, Key Watersheds, Watershed Analysis, and Watershed Restoration.

Term	Definition
Audit	A procedure to evaluate implementation and effectiveness of NFHCP features.
Avulsion	The process of a stream leaving its channel suddenly, usually because the existing channel becomes incapable of containing all of the water, sediment, and debris supplied to it.
B	
Bankfull depth	The average depth of a stream when the flow is at the ordinary high water mark
Bankfull width	The average width of the stream when the flow is at the ordinary high water mark.
Bedload	Gravel, rock, and boulders that form the bottom of streams and rivers that may be mobilized during floods.
Bench	The top of a terrace slope, where there is a definite break in slope beyond which is less than 15 percent slope.
Beneficial uses	One of several uses of streams and lakes that may include drinking, fish habitat, and recreation. This phrase has a specific technical connotation because the federal Clean Water Act requires states to adopt standards and procedures that protect designated beneficial uses of public waters.
Best management practice	A practice or combination of practices determined by a state or an agency to be the most effective and practical means (technological, economic, and institutional) of controlling point and nonpoint source pollutants at levels compatible with environmental quality.
Biological diversity	The variety and abundance of life forms, processes, functions, and structures of plants, animals, and other living organisms, including the relative complexity of species, communities, gene pools, and ecosystems at spatial scales that range from local, through regional, through global.
Biological relevance	Used in the NFHCP adaptive management strategy, it is a measurable change in Permit species habitat utilization as a result of engaging in the covered activities according to the NFHCP.
Biomass	Organic material such as leaves, needles, branches, stems, and vertebrate and invertebrate animal species.

Term	Definition
Boreal	High-latitude (northern), primarily coniferous forests.
Buffer	A vegetation strip or management zone of varying size, shape, and character maintained along a stream, lake, road, recreation site, or different vegetation zone to mitigate the impacts of actions on adjacent lands, to enhance aesthetic values, or as a best management practice.
Bull trout	In this document, the term bull trout refers to the Columbia River Basin bull trout Distinct Population Segment (CRB bull trout DPS).
C	
Candidate species	A state and federal designation. State candidate species are those that will be reviewed for possible listing as endangered, threatened, or sensitive. Species for which there is substantial information to support listing the species as threatened or endangered; listing proposals are either being prepared or are delayed by work on higher priority species.
Canopy	The cover of branches and foliage formed collectively by the crowns of trees and other woody growth. See also <i>Understory canopy</i> and <i>Overstory canopy</i> .
Canopy closure or Canopy cover	The ground area covered by the crowns of trees or woody vegetation. The amount of sunlight that is blocked from soil and water surfaces by vegetation. The vegetation canopy produces shade, which varies throughout the day as the sun moves.
Causal linkage	A scientifically demonstrated relationship between an activity or a conservation measure and a measurable change in habitat or riparian function.
Changed circumstance	A change in the circumstances beyond the control of the permit holder affecting a Permit species. This changed circumstance can be reasonably anticipated and a plan developed to accommodate the change. Examples of changed circumstances are fires or floods.
Channel complexity	A quality of streams that have great diversity of habitats available for fish rearing, hiding, and foraging. These qualities include the presence of overhanging banks, pools, riffles, large woody debris, and boulders.

Term	Definition
Channel migration zone (CMZ)	The active floodplain where a stream is likely to move around or migrate during a period of decades or forest management cycle. For the NFHCP, it is described as the area that would be inundated by water if the water level were twice bankfull depth, provided there is evidence of active or relic side channels.
Checkerboard ownership	A pattern of intermingled ownership of land. In the West, checkerboard ownership usually refers to sections of land (each section is about 640 acres) in national forest ownership next to sections of land in private ownership, such as Plum Creek.
Class 1 stream	In Idaho, a stream that is “important for spawning, rearing, or migration of fish.” In Montana, any stream that supports fish, or any stream that flows more than 6 months per year and contributes surface flow to another water.
Class 2 stream	In Idaho, a stream that is “used by few, if any, fish for spawning or rearing.” In Montana, Class 2 streams do not support fish and flow less than 6 months per year.
Clearcut	A silvicultural method of harvesting and regenerating a stand of trees. Using this method, virtually all of the vegetation on the site is removed so that all of the growing space becomes available for new trees which are established as a part of this method, either naturally or through planting.
Clinometer	A hand-held tool used by foresters to calculate percent slope, tree height, and other functions that involve trigonometric relationships.
Cobble	Rock that is between about 3 and 12 inches in diameter.
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.
Commitment	An agreement or pledge to do something; adopted policies and practices to minimize impacts on native fish habitat. Such commitments are made for each of the <i>conservation categories</i> .
Competition control	Reduction of weeds and brush through mechanical or chemical methods to promote growth of desired forest species.
Confined stream channel	Stream alignment that has a very small chance of migrating to significantly different locations because of valley walls or high banks.

Term	Definition
Confluence	A place where two water courses join together.
Connected perennial headwater stream	Perennial streams that regularly contribute surface flow to other streams likely to support fish, but do not appear to regularly support fish for spawning or rearing. These streams include Class II streams in Idaho, all Type 4 streams in Washington, and a portion of the Class 1 streams in Montana.
Conservation buyer	An individual or organization who purchases land and is committed to the practice of conservation strategies on that land.
Conservation categories	<p>The Proposed Plan and each alternative consist of seven categories of conservation commitments intended to benefit native fish, specifically native salmonids:</p> <ul style="list-style-type: none"> • Forest Road and Upland Management • Riparian Management • Grazing (Range) Management • Land Use Planning • Legacy and Restoration • Administration and Implementation • Adaptive Management and Monitoring
Conservation costs	Either direct costs or indirect costs that occur because of the implementation of conservation.
Conservation easement	Voluntary restrictions placed on land by the owner so that future owners may not change the land use specified by the current owner.
Conservation guidance	As used in various commitments and rationale statements, conservation guidance is defined as voluntary management measures undertaken, where applicable, to enhance conservation of permit species by providing additional protections to fish habitat and water quality. Since these actions are not easily measured or ubiquitously employed, they are not considered mandatory measures for the purposes of reporting or application.
Constructed skid trail	A skid trail that has been constructed in advance to facilitate ground based skidding of logs. Construction involves some excavation and creating cuts and fills.
Continuous improvement monitoring	A routine system for incorporating new knowledge and monitoring feedback into better land management practices.

Term	Definition
Cooperative Management Response	A change to the NFHCP for purposes of continuous improvement proposed by either party and voluntarily agreed to by both. Once agreed, the response becomes a mandatory part of the NFHCP.
Core Adaptive Management Project	These are mostly “experimental management” projects and are designed to test key hypotheses and assumptions used in the development of NFHCP commitments. Data acquired in these projects will also be used to evaluate the success of meeting the biological goals of the NFHCP.
Cost-share agreements	A contractual agreement between two or more parties to jointly develop and maintain roads that are used for shared access in a given area.
Covered activity	Certain activities carried out by Plum Creek on covered lands that may result in incidental take of covered species. All activities for which incidental take coverage is provided by the Permit.
Covered land	Plum Creek land included in the NFHCP (see also <i>Project Area</i>).
Covered species	See <i>Permit species</i> .
Criteria air pollutants	Air pollutants for which federal standards have been established.
Critical habitat	<p>State: Habitats of threatened or endangered species as designated by various state forest practices boards.</p> <p>Federal: Areas designated under the federal Endangered Species Act that meet these criteria:</p> <ol style="list-style-type: none"> <li data-bbox="514 1356 1382 1499">1. Areas within the geographic area occupied by a federally listed species on which are found physical and biological features essential to the conservation of the species, and that may require special management considerations or protection. <li data-bbox="514 1537 1365 1640">2. Areas outside the geographic area occupied by a listed species, when it is determined that such areas are essential for the conservation of the species.
Culvert	A large pipe, usually of diameters at least a foot or larger, buried at a perpendicular angle under a road and used to conduct flowing water under the road.
Cutting cycle	The planned interval between partial harvests in an uneven-aged stand.

Term	Definition
D	
Demonstration watershed	River basins selected by Plum Creek because of geologies, landforms, and climates that are representative of the Project Area where scientific studies are conducted to test NFHCP assumptions and effectiveness.
Diameter at breast height (DBH)	The diameter of a tree, measured 4.5 feet above the ground on the uphill side of the tree.
Direct costs	Out-of-pocket costs resulting from actions prescribed under the alternative. For example, extra conservation measures associated with road construction, riparian fencing, and increased timber harvest costs are all direct costs. Direct costs include increases in the cost of doing business because of measures specified in the alternatives.
Disposition	A term used for the transfer of land itself or its development rights, either by outright sale or land exchange.
Distinct population segment	A species population that can be considered independent of other populations of the same species, usually because of geographic separation. A distinct population segment can be listed as threatened or endangered separately from the rest of the population or species.
Draft environmental impact statement (DEIS)	A preliminary public report of environmental effects of a proposed action on an area of land, prepared pursuant to state or National Environmental Policy Act (NEPA).
Drift fence	An obstacle fashioned from barbed wire, or woody debris that is designed to restrict or control cattle movement.
E	
Ecoclassification	The hierarchical classification of landscapes based on climate, bedrock geology, landforms, valley bottom types, and vegetation..
Ecosystem	See <i>Forest ecosystem</i> .
Effectiveness monitoring	Monitoring conducted to determine whether the conservation strategies result in the anticipated habitat conditions.
Electrofishing	Use of direct electrical current to stun fish for capture and identification, or to count them for population estimates.

Term	Definition
Endangered species	A federal and state designation. A species determined to be in danger of extinction throughout all or a significant portion of its range.
Endangered Species Act (ESA)	The federal Endangered Species Act of 1973, as amended, sets up processes by which plant or animal species can be designated as threatened or endangered. Two federal agencies, the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (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.
Engineered habitat restoration	Projects that create important fish habitat using artificial structures to simulate natural features.
Enhanced BMPs	Practices that provide more conservation value than the usual BMPs that States require. They are expected to be more effective than usual BMPs for one or more of these reasons: 1) they are more specific, 2) they are mandatory instead of optional, 3) they require more rigorous conservation measures, and 4) they may be applied in situations that usual BMPs do not cover.
Environmental forestry	The application of Plum Creek’s Environmental Principles in conducting commercial forestry on company lands.
Environmental impact statement (EIS)	A document prepared under the National or State Environmental Policy Acts to assess the effects that a particular action will have on the environment.
Environmental Principles	Policy developed by Plum Creek in 1991. These principles are intended to promote internal and external awareness of Plum Creek’s conservation goals and management philosophies, reflect Plum Creek’s endorsement and consistent implementation of conservation commitments, and provide a basis of accountability for Plum Creek’s management performance. The principles are described in detail in the NFHCP (see Chapter 3).
Environmental uncertainty	The lack or inadequacy of knowledge needed to quantify the relative likelihood of alternative outcomes; or unpredictable changes in environmental conditions such as weather conditions, food supply, populations of predators or competitors, and habitat distribution.

Term	Definition
Evapotranspiration	The conversion of water, whether open or as soil moisture (both by evaporation) or within plants (by transpiration), into water vapor that is released to the atmosphere.
Evolutionarily Significant Unit (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.
Exotic fish species	Species that are not native to an area but have been introduced in the past, either legally or illegally.
Experimental management projects	These are scientific experiments designed to test key hypotheses and assumptions used to develop NFHCP commitments.
Extirpation	The elimination of a species from a particular area.
F	
Federally listed	Species formally listed as a threatened or endangered species under the ESA. Designations are made by the FWS or NMFS.
Felling	The cutting down of trees.
Field Implementation Manual	Written procedures for Plum Creek land managers to ensure consistent implementation of NFHCP prescriptions and practices in the field.
Filtration zone	Area of undisturbed forest floor between roads and streams through which sediments are filtered from water that runs off roads before that water can enter streams.
First-order stream	A stream with no tributaries; the smallest unbranched streams on a topographic map showing all intermittent and permanent streams. See also second-order stream, third-order stream, and fourth-order stream.
Fish passage barrier	An obstruction to fish migration.
Five-Points Policy	Draft guidance for habitat conservation plans outlined by the US Fish and Wildlife Service and the National Marine Fisheries Service on March 9, 1999 (64 FR 11485). It contains specific guidance for incorporating biological goals, adaptive management, and monitoring into habitat conservation plans.
Flood prone width	The valley width at the elevation of two times bankfull depth.

Term	Definition
Fluvial	Fish stocks that migrate between small streams and larger rivers.
Forest ecosystem	A spatially defined area suitable for tree growth that includes all interacting organisms and environmental components within its boundaries.
Forest Ecosystem Management Assessment Team	A science team organized by the federal government in 1993 to develop a management plan for federal lands within the range of the northern spotted owl.
Forest practices	Activities associated with the harvest of forest tree species, such as road construction, reforestation, application of chemicals or fertilizers to grow or manage forest tree species, management of slashings resulting from harvest, and management or improvement of forest tree species or the use of prescribed fire on forest land. Forest practices do not include forestry preparation work, such as timber sale preparation.
Forest Practices Act	State legislation establishing minimum standards for forest practices and providing for necessary administrative procedures, rules, and regulations applicable to activities conducted on or pertaining to forests on both state managed and private lands.
Forest Practices Board	A state board created to write forest practices regulations which are administered and enforced by a state natural resources agency.
Four C's	Stream habitat requirements of bull trout: clean, cold, complex, and connected water. The Four C's are the basis for the NFHCP biological goals.
Fourth-order stream	A stream formed when two third-order streams come together. See also first-order stream, second-order stream, and third-order stream.
G	
Genetic introgression	Reproductive crosses between species that result in a sterile hybrid (such as brook trout/bull trout hybrids), as well as crosses between species that result in changes to the gene pool of one species (such as cutthroat/rainbow hybrids or introduction of genetic material from hatchery fish).

Term	Definition
Geographic information system (GIS)	<p>A computer system that stores and manipulates spatial data, and can produce a variety of maps and analyses. GISs are used to set landscape-level planning objectives. GISs can do the following:</p> <ol style="list-style-type: none"> 1. Assign information and attributes to polygons and lines, which represent relationships on the ground. 2. Update and retrieve inventory, mapping, and statistical information.
Geomorphic processes	Landscape-modifying processes such as surface erosion, mass wasting, and stream flow.
Geotechnical specialist	A professional geotechnical engineer, or an individual who is certified to conduct Level 2 mass wasting analyses by the Washington State Department of Natural Resources.
Grazing allotment	A designated area on Plum Creek land that is leased to ranchers for grazing their cattle in the spring, summer, and fall.
Grazing lease	Compensated agreement allowing grazing activity in a designated area.
Green tree retention	A stand management practice in which live trees are left within harvest units to provide habitat components.
H	
Habitat Conservation Plan (HCP)	An implementable program for the long-term protection and benefit of a species in conjunction with long-term regulatory certainty in a defined area; required as part of a Section 10 incidental take permit application under the ESA.
Harass	A form of take under the ESA; defined in federal regulations as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.
Harm	A form of take under the ESA; defined in federal regulations as an act which actually kills or injures wildlife. Such acts may include significant habitat modification or degradation where it actually kills wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Term	Definition
Headwater stream	Perennial or intermittent streams that are likely not to support fish spawning or rearing, and may or may not be connected to other streams.
High-priority watersheds	These watersheds will be selected based on several criteria including excessive sediment delivery to streams from past management actions, presence of granitic bedrock in area, and presence of unique assemblages of native fish species.
High sensitivity stream segment	A stream segment that has a high sensitivity to management activity with respect to potential impacts on riparian function.
Higher and Better Use (HBU)	Plum Creek timberland which have a much higher potential value under land uses other than commercial forestry.
Hot spot	One of four road segment categories that will be defined in the Plum Creek road condition tracking process. A road segment not meeting current state BMPs that may include the following characteristics: fish passage barriers, existing roads in unacceptable locations, or active sediment production sites from roads or skid trails. Segments are categorized as hot spots when accelerated treatment is warranted.
Hydrologic divide	The boundary between adjacent watersheds.
Hyporheic zone	The groundwater under a stream channel or floodplain that contributes water to the stream. Also contributes biologically, sometimes supporting an extensive biotic community.
I	
Identifiable channel	A channel with well-defined and measurable banks where vegetative ground cover has been disturbed and sediment is exposed.
Implementing Agreement (IA)	A part of the application for an incidental take permit that specifies the terms and conditions, resources, schedule of activities, and expectations to the parties of the agreement.
Implementation monitoring	Monitoring done to determine whether the HCP conservation strategies are carried out as written.
Incidental take	The taking of a federally listed wildlife species, if the taking is incidental to, and not the purpose of, carrying out otherwise lawful activities. See also <i>Take</i> .

Term	Definition
Incidental Take Permit	Permit issued by the FWS to a nonfederal entity (state, tribe, private landowner) that allows incidental take of a threatened or endangered species; Permit also requires permittee to carry out specified actions that minimize and mitigate the incidental take.
Indirect costs	The side effects of the actions under the alternatives, such as land set-asides and reduced access to timber harvest areas.
Inner gorge	Streamside slopes with a slope length greater than 10 feet, and with a slope angle of 35 degrees (70 percent) or greater. In many cases, inner gorges are bounded above by a well-defined break in slope.
Interception	In hydrology, the rainfall and snowfall caught in the forest canopy. Also by roads or other discontinuities in surface or subsurface flow.
Interface caution area	The interface area between the riparian and upland areas where extra caution can be employed to reduce the risk of impacts to fish habitat while preserving forest management opportunities. The NFHCP contains prescriptions specific to this area.
Intermittent stream	A stream, or portion of a stream, that does not flow year-round.
Interspecies competition	Occurs over a wide range of ecological situations when two or more organisms compete for the same limited resource. It includes physical competition between individuals, and niche specialization where one species is more efficient at using a habitat than another.
K	
Key Migratory Rivers	Segments of large rivers bordering and longitudinally encompassed by Plum Creek lands that provide habitat for any and all Permit species.
Key Watersheds	A component of the federal ACS. Watersheds that provide critical, high-quality habitat. May be either Tier 1 watersheds or Tier 2 lands.
Known costs	Predictable and measurable costs.
L	
Lacustrine	Pertaining to or associated with lakes, such as fish stocks that spend their entire lives in lakes.

Term	Definition
Land Use Conservation Area	Land parcel with transferable standards governing land development activities and where conservation strategies similar to forestry standards are applied to other uses.
Land Use Principles	Plum Creek’s land use policy developed in 1995. The purpose of the policy was to develop and document a principled basis to guide company land use planning activities.
Landings	The areas where cut trees are gathered (through skidding or yarding) for transport out of the forest.
Landscape	Large regional units of land 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. In the NFHCP, a landscape is defined as a large area comprised of various interacting patterns of stand structure and function going through alterations over time.
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 soil pore water pressure increase to a degree that the friction between soil particles is inadequate to bind them together.
Large woody debris (LWD)	Large pieces of wood in stream channels or on the ground— includes logs, pieces of logs, and large chunks of wood that provide streambed stability or habitat complexity. In the NFHCP, LWD is defined as pieces at least 10 cm (4 inches) in diameter and at least 2 meters (6.5 feet) long.
Layered	A forest structure characterized by the development of multiple age classes of timber. There is greater vertical structural diversity than with single age class timber stands.
Legacy	Features or conditions that persist through time, and have resulted from or survived past natural or anthropogenic influences. An organism, structure, or pattern inherited from a previous ecosystem.
Lifeform type	Species with similar ecological feeding and breeding niches.

Term	Definition
Limited harvest rule	A prescription for reduced harvesting intensity in riparian and other areas on which usual harvesting practices may impact fish habitat. The rule states that a limited harvest must retain 88 trees per acre of size ranges from the pre-harvest stand and that no more than 50 percent of trees larger than 8 inches dbh may be harvested.
Listed wildlife species	Species formally listed as endangered, threatened, or sensitive by a federal (FWS or NMFS) or state agency.
Litter fall	Leaves, needles, and other organic debris that falls into streams and provides nutrients to aquatic biological communities.
Low-order streams	Small streams with very few tributaries; often are headwaters. First- and second-order streams are low-order streams.
M	
Management response	A change in Plum Creek management under the NFHCP in response to monitoring and adaptive management discoveries.
Mandatory collaborative management response	An NFHCP management response that is mandatory but not specifically described in advance. It is developed collaboratively between Plum Creek and the Services based upon new data in order to improve the NFHCP. Mutual agreement is required.
Mass wasting	Dislodgment and downslope transport of soil and rock under the direct application of gravitational stress (see also landslide).
Maximum extent practicable	A standard presented in the Endangered Species Act that is required of landowners presenting an HCP to apply for an incidental take permit. This standard requires that landowners take as much action as they possible can within economic and operational considerations to minimize impact to permit species.
Migration and foraging streams	Streams where bull trout occur but which are not used for spawning or juvenile rearing; these occur on Tier 2 lands.
Minimization	Methods of reducing adverse impacts of active forest management by limiting the degree or magnitude of an action or improving the method of implementation.

Term	Definition
Mitigation	<p>Methods for repairing or compensating for adverse impacts of past or present management activities through the following:</p> <ol style="list-style-type: none"> 1. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment 2. Compensating for the impact by replacing or providing substitute resources or environments
Monitor	To check systematically or scrutinize for the purpose of collecting specified categories of data.
Monitoring	A process of collecting information to evaluate whether or not objectives of a project are being realized. In land management, monitoring is used to describe continuous or regular measurement of conditions that can be used to validate assumptions, alter decisions, change implementation, or maintain current management direction.
N	
National Environmental Policy Act (NEPA)	This law is the basic national charter for protection of the environment. NEPA requires 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 agency's decision-making process, and to consider the environmental impacts in the agency's decision-making process.
National Marine Fisheries Service (NMFS)	The federal agency that is the listing authority for marine mammals and anadromous fish under the ESA.
Native	Indigenous; living naturally within a given area.
Native Fish Assemblages	Designated watersheds with a unique diversity of native fish species.
Native Fish Habitat Conservation Plan (NFHCP or Plan)	The HCP prepared by Plum Creek for its lands in Montana, Idaho, and Washington. The NFHCP is found at the end of Chapter 3 of the combined <i>Plum Creek Native Fish Habitat Conservation Plan and Environmental Impact Statement</i> (EIS/NFHCP).
Natural catastrophes	Extreme forms of environmental destruction that usually occur on a large scale, have widespread impacts, but are short in duration

Term	Definition
Natural Heritage Program	A state program that identifies, selects and nominates outstanding natural areas; also, oversees state listing of plants and animals.
No Surprises rule	A commitment by the FWS and NMFS to honor their agreements under an approved HCP. The rule states that the covered activities proposed in an HCP can be conducted as described without further mitigation beyond that described in the monitoring and adaptive management commitments component of the NFHCP, as long as the terms of the NFHCP are being met.
Non-attainment areas	Areas where the federal standards of the Clean Air Act have been violated.
Non-fish-bearing stream	Stream segment fish as defined by state rules.
Non-migratory resident	A life history strategy of those resident freshwater fish stocks that remain in the streams where they were born.
Northwest Forest Plan	President’s Forest Plan; federal land planning process convened by President Clinton to resolve management conflicts on federal lands within the range of the northern spotted owl.
O	
Opportunity costs	The lost revenue from reduced timber harvest or grazing opportunities.
Ordinary high water mark	The stage regularly reached by a body of water at the peak of fluctuation in its water level; generally observable as a clear, natural line impressed on the bank.
Overstory canopy	The uppermost forest canopy layer.
P	
Partial cutting	Removal of only part of a forest stand to retain structure or elements of the pre-harvest stand. Partial cutting is used in silviculture to provide seed or shelter for new stands or room to grow for existing stands.

Term	Definition
Pay-as-you-go	The strategy of the NFHCP which results in a net improvement in riparian function for fish from the outset of the Plan and allows termination of the Permit and NFHCP by Plum Creek at any time, with mitigation debt.
Peer review	The process of authors of scientific reports or articles sending them to colleagues in their profession for comments on accuracy of scientific methods chosen and results and conclusions drawn.
Perched road fills	Unconsolidated soil material that has been placed during road construction on the downslope side of a road built along the contour of a steep slope. This fill acts to flatten the road surface to make it driveable, but may create a risk of erosion.
Perennial fish-bearing stream	Streams with year-round flow supporting fish as defined by states.
Performance metric	Unit of measurement specific to each NFHCP commitment and used to evaluate the effectiveness of each commitment.
Permit	See <i>Incidental Take Permit</i> .
Permit species	A species covered under an <i>Incidental Take Permit</i> . Also referred to as <i>covered species</i> .
Pest and disease control	Use of pesticides or biological controls to reduce the incidence of forest pests and diseases.
Phantom roads	Roads that exist on the ground, but are unnamed, unnumbered, and/or unmapped. Phantom roads are generally scattered remnants of old road systems that have been forgotten or overlooked.
Physiographic province	A geographic area having a similar set of biophysical characteristics and processes due to effects of climate and geology that result in patterns of soils and broad-scale plant communities.
Plan	The NFHCP is sometimes referred to as the “Plan.” See <i>NFHCP</i>
Plane-bed/forced-pool riffle stream reaches	Stream segments that have low gradient and depend on large woody debris to create pools, which provide important fish habitat.
Planning Area	Lands adjacent to Plum Creek’s timberlands. This entire area, 17 million acres, could potentially be influenced by actions selected as a result of this EIS. Adjacent ownerships include state, federal, tribal, and private. Compare to <i>Project Area</i> .

Term	Definition
Planning Area Basin	River basins in the Planning Area that are identified on the Project and Planning Area map. These river basins contain watersheds with Plum Creek ownership and provide the context for planning and the analysis of effects associated with the alternatives. They represent stream systems that are potentially connected in terms of fish mobility.
Precommercial thinning	The removal of trees, not for immediate financial return, but to reduce stocking to concentrate growth on the more desirable trees.
Predation	This term includes feeding on one species by another, and feeding by larger (older) fish on smaller ones of the same species.
Prescription	A planned series of treatments designed to change current stand structure to one that meets management goals.
Primary habitat	A preferred or optimal habitat that predictably supports the highest population density of a species; that habitat upon which a species is essentially dependent for long-term population maintenance.
Programmatic plan	A plan that provides a broad approach to management which ensures site specific planning and implementation as an outcome.
Project Area	Plum Creek’s timberlands included in the NFHCP; 1.7 million acres. Compare to <i>Planning Area</i> .
Proportionality factor	A proportionality factor is an assigned value applied to NFHCP land transactions based upon relative and certainty of conservation under changing ownerships.
Proposed Action	Issuance of an Incidental Take Permit by FWS and NMFS. Three of the four alternatives may result in the issuance of a Permit.
Proposed Plan	The NFHCP proposed by Plum Creek is the Proposed Plan. If the plan is accepted by FWS and NMFS, they may choose to carry out the Proposed Action.
Proposed threatened or endangered species	Species proposed by FWS or NMFS for listing as threatened or endangered under the ESA; not a final designation.

Term	Definition
Purpose and Need Statement	The purpose and need statement is essentially a goals statement, and is used as a yardstick to measure the NFHCP, action alternatives, and No Action Alternative. This approach allows a decision-maker to decide whether to issue a Permit and to choose an alternative, or a combination of alternatives, to be implemented. The purpose and need statement is provided in Chapter 1.
R	
Rain-on-snow zone	Area, generally defined as an elevation zone, where it is common for snowpacks to be partially or completely melted during mid-winter rainstorms.
Recovery plan	A plan developed by a government agency that, if implemented, is intended to result in an increase in population size or occupied by a threatened or endangered species to the extent that the species can be delisted from threatened or endangered status.
Redd	A spawning nest constructed by a fish. A depression excavated in gravels where eggs are deposited.
Regeneration	Tree seedlings that are intended to become components of the future forest on a given site and will be managed as such.
Relic channels	Residual stream channels from streams that once flowed through them, but no longer do.
Resident freshwater fish	These species spend their entire lives in freshwater rivers, streams, or lakes. However, freshwater species can have several fundamental variations in their life history strategies, including <i>adfluvial</i> , <i>fluvial</i> , <i>non-migratory resident</i> , and <i>lacustrine</i> (terms defined in this glossary).
Riffle	Area in a stream of shallow, fast water with a broken surface.
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 borders are typical riparian areas.
Riparian assessment	An analysis of the causes and effects of conditions in riparian areas.
Riparian buffer	A management delineation adjacent to an aquatic area or stream requiring special attention or protection.

Term	Definition
Riparian condition survey	Process for identifying important stream reaches to prioritize riparian assessments and action plans.
Riparian ecosystem	The area of direct interaction between terrestrial and aquatic environments.
Riparian-upland interface	A zone of distinct or subtle transition between a riparian area and an upland area. Management activities in this area require extra caution to reduce impacts to fish habitat while preserving forest management opportunities.
Riparian zone	A terrestrial area of variable width adjacent to or influenced by a perennial or intermittent body of water.
River mile	A statute mile as measured along the center line of a river. River miles are measured from the mouth of the river, or are discrete measures of distance (for example, a distance of 2 to 4 river miles).
Road	A part of the permanent transportation system for use by log trucks and administrative vehicles that is recorded in the Plum Creek GIS Road Database.
Road abandonment	A condition of road that is permanently closed, stabilized, and no longer passable by vehicles, and is not intended for future forest management use.
Road database layer	A computer tracking system that accounts for the BMP status of all roads either fully or partially under Plum Creek responsibility.
Road maintenance	Work performed on a road to restore and preserve the design features to which the road was constructed or upgraded.
Road prism	This is the horizontal template of a road that includes the road running surface, cutslope, fillslope, and ditch.
Road restrictions	Administrative rules applied to roads that are intended to manage public vehicular use. Yearlong road restrictions prohibit public vehicular use yearlong, whereas season road restrictions restrict public vehicular use only a portion of the year.
Road upgrading	Reconstructing roads to a different set of design standards usually intended to reduce erosion potential and sediment delivery to streams.

Term	Definition
Rocking or road surfacing	Applying gravel to a road to reduce surface erosion.
S	
Salmonid	Fish species belonging to the family Salmonidae, including trout, salmon, char, and whitefish species.
Scoping	The process of determining the range of proposed actions, alternatives, and impacts to be discussed in an EIS; includes public meetings.
Second-order stream	A stream that has as tributaries only first-order streams. See also first-order stream, third-order stream, and fourth-order stream.
Secondary habitat	Habitat that is used by a species, but is clearly less suitable than primary habitat as indicated by a lower population density or less frequent use.
Sediment	This is a generic term used loosely to describe silt or sand-sized particles that may settle out of flowing water onto the bottom of streams and rivers, which may cover gravels otherwise used by salmonid fish for spawning and rearing young. Sediments may also inhibit oxygen uptake by fish eggs and therefore reduce reproductive success.
Seral stages	<p>Developmental stages that succeed each other as an ecosystem changes over time; specifically, the stages of ecological succession as a forest develops. Subdivisions for seral stages include the following:</p> <ol style="list-style-type: none"> 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 4. Stand initiation; stem exclusion; understory re-initiation; and old growth
Shade tolerant trees	Tree species capable of reproducing under the shade of parent trees. These species have characteristics such as ability to photosynthesize in limited light intensity and ability to withstand root competition from surrounding trees.

Term	Definition
Silt	Material composed of fine particles, such as soil, suspended in or deposited by water; mud or fine earth in suspension.
Siltation	The deposition or accumulation of silt 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 behind a place of an impeded flow.
Silviculture	The theory and practice of controlling the establishment, composition, growth, and quality of forest stands to achieve management objectives.
Site index	A measure of forest productivity expressed as the height of the dominant trees in a stand at an index age.
Site potential tree height	The height a dominant tree may attain given the site conditions where it occurs.
Skidding	A land-based method of removing trees from the area in which they are cut. This usually involves dragging, or carrying, trees on the ground with a tractor.
Skid trail	An access cut through the woods for skidding logs with ground based equipment. It is not a high enough standard for use by highway vehicles such as log truck and is therefore not a road.
Slash filter windrow	A barrier constructed of logging slash that slows the velocity of surface runoff, causing deposition of most sediment. They can be constructed on or immediately below the fillslope.
Snag	Dead tree that is still standing.
Species	The lowest principal category of a biological classification distinct from other groups.
Stand	A group of trees that possesses sufficient uniformity in composition, structure, age, spatial arrangement, or condition to distinguish it from adjacent groups.
Step-pool type stream	A stream with a fairly steep gradient and areas of large rocks in the stream itself that form pools and provide deep hiding cover for fish. This type of stream is not as dependent on large woody debris to form pools.

Term	Definition
Stream	A natural watercourse of perceptible extent that has a generally sandy or rocky bottom or definite banks and that confines and conducts continuously or intermittently flowing water.
Stream segment	A length of stream that can be described with similar characteristics for the determination and implementation of appropriate management prescriptions.
Stream Segment of Concern	A regulatory designation made for some streams in Idaho designated in the early 1990s as part of their anti-degradation program. Designation was made using public input to identify portions of rivers and streams with unique water quality concerns, and to design management practices to either maintain or improve conditions.
Streambed substrate	The material that makes up the bottom of the stream; i.e., some rivers have a gravel substrate, whereas other are silt or sand.
Streamside Management Zone (SMZ)	The area of land governed by the Montana Streamside Management Zone Law. It extends from the edge of a stream to a specified measured distance from the stream.
Sub-population	A well-defined set of interacting individuals that comprise a proportion of a larger, interbreeding population.
Succession	The gradual supplanting of one group of organisms by another; a series of developmental stages in a plant community.
Suitable habitat for salmonids	Any stream that meets some or all of the life needs of the salmonids including spawning, rearing, and migration.
Surplus road	A road that Plum Creek determines is no longer useful for forest management.
Synergistic relationship	The simultaneous action of separate physical factors on fish that when combined have a greater total effect than the sum of their individual effects.

Term	Definition
T	
Take	A prohibited action under federal law, except where authorized. To harass, harm, pursue, hunt, wound, kill, trap, capture, or collect a federally listed threatened or endangered species, or to attempt to do so. Take may include disturbance of the listed species, nest, or habitat, when disturbance is extensive enough to disrupt normal behavioral patterns for the species, although the affected individuals may not actually die. See also <i>Harm</i> , <i>Harass</i> , and <i>Incidental take</i> .
Talus	Rock debris at the base of a cliff.
Temporary Road	A road that is constructed to minimal standards and abandoned within the same year and therefore is not added to, or removed from, the road database. These roads cannot be tracked for BMP status.
Terrace	A valley bottom landform composed of glacial or alluvial fill that occurs at a higher elevation than the active flood plain or CMZ.
Terrace slope	The slope that rises from the active flood plain or CMZ to the immediately adjacent glacial or alluvial terrace.
Thalweg	The location in a streams cross section where energy (and water velocity) is highest.
Thermal management zone	An area with special harvesting requirements whose objective is to retain sufficient canopy cover to ensure that water temperatures stay within a range suitable for native salmonids. When a stream contributes more than 20 percent to the flow to a stream that may support fish, the lowermost 500 feet of the headwater stream above the confluence will have special harvest prescriptions within 50 feet of the stream; this strip is designated as a thermal management zone.
Thinning	A treatment to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality.
Third-order stream	A stream formed when two second-order streams come together. See also first-order stream, second-order stream, and fourth-order stream.
Threatened and endangered species	Formal classifications of species under the Endangered Species Act. Federal designations are made by the FWS or the NMFS.

Term	Definition
Threatened species	A federal and state designation. Species likely to become an endangered species throughout all or a significant portion of their range within the foreseeable future.
Tier 1 Watersheds	Watersheds of fourth order streams known to be important for bull trout spawning and juvenile rearing.
Tier 2 Lands	Plum Creek lands in the NFHCP Project Area that are not in Tier 1 watersheds.
Toolbox	A set of management practices that are available for achieving conservation goals.
Total Maximum Daily Load	A pollution identification and control process provided for under the federal Clean Water Act.
Trigger	A threshold identified in the NFHCP Adaptive Management strategy that is identified through monitoring and indicates that a management response may be warranted.
Turbidity	The relative clarity of water, which may be affected by material in suspension in the water.
Turnout	When cattle are moved onto grazing allotments, usually in the late spring.
U	
Underburning	Prescribed burning of the forest floor or understory for botanical or wildlife habitat objectives, hazard reduction, or silvicultural objectives.
Understory canopy	Forest undergrowth; the lowest canopy layer of trees and woody species.
Unforeseen circumstances	A substantial and material adverse change in the status of a species resulting from events occurring or circumstances changing that could not reasonably have been anticipated by Plum Creek and the Services at the time of the NFHCP's development. All such substantial and material adverse changes in the status of a species that are not identified in the NFHCP as <i>changed circumstances</i> are unforeseen circumstances.
Uneven-aged	A stand with trees of three or more distinct age classes, either intimately mixed or in small groups.

Term	Definition
Unknown costs	Costs not predictable or measurable and associated with an uncertain regulatory future.
Unlisted species	A species that is not a listed species.
Upland area	Forestland away from streams outside of riparian areas where soil and vegetative conditions are not influenced by localized streamside or wetland conditions, but rather by broad-scale environmental conditions such as aspect, elevation, soil type, and precipitation.
U.S. Fish and Wildlife Service (FWS)	The federal agency that is the listing authority for species other than marine mammals and anadromous fish under the ESA.
V	
Validation monitoring	Monitoring with the specific purpose of validating models and assumptions used in evaluating the value of conservation measures.
Viable population	A population 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 catastrophic events.
W	
Water Quality Limited Streams	A stream listed under the Clean Water Act as not fully supporting designated beneficial uses. It is for these waterbodies that Total Maximum Daily Loads are required to be developed.
Waterbarring	A technique to divert flowing water off roads or trails to prevent erosion and sediment delivery to streams. Usually, a ditch or shallow gully is constructed across the road or trail at a diagonal angle to prevent water from flowing directly down them.
Watershed	The catchment area of land draining into a river, river system, or body of water; the drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.
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, the assessment of a watershed administrative unit completed under Washington state law. It is also a component of the federal ACS.

Term	Definition
Watershed restoration	A component of the federal ACS. These restoration activities focus on removing and upgrading roads, applying silvicultural treatments to restore large conifers, and installing instream structures to restore channel complexity.
Wetland	Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, such as swamps, bogs, fens, and similar areas.
Wildlife trees	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.
Y	
Yarding	Transporting logs from the point of felling to a collecting point or landing. An above-ground method of collecting cut trees using a cable and pulley system, or helicopter. This method is used on sloped land.

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