

Chapter 25

Glossary

Term	Definition
100-year floodplain	Areas with a 1 percent annual chance of flooding.
abundance	The numbers of a particular species population relative to the numbers of other species in a specific community.
accident rate	Accidents per train mile.
acid deposition	Accumulation of acidic pollutants derived from the atmosphere on soil, water, and other surfaces.
<i>ad valorem</i> tax	Tax based on assessed value, such as property tax.
aggradation	Deposition that results in the rise of the channel bed elevation.
air quality related values (AQRV)	Resources that are sensitive to air pollution such as visibility, plants or wildlife.
allochthonous	Originating from outside the aquatic system, such as leaves of terrestrial plants that fall into a stream.
alluvial aquifer	Aquifer characterized by its alluvial deposits.
alluvial deposits	Sediments deposited by flowing water.
alluvium	Sediment such as clay, silt, and sand deposited by flowing water, as in a riverbed, floodplain, or delta.
ambient air	Outdoor air.
ambient noise	Sum of all noise (from human and naturally occurring sources) at a specific location over a specific period.
anaerobic	Occurring in the absence of oxygen.
annual average daily traffic (AADT)	Simple measure of traffic levels; refers to the total volume of traffic that passes an intersection or crossing each year divided by 365 days.
aquifer	Geologic layers that hold and transmit groundwater.
archaeological resources	Physical manifestations of both Native American and European American habitation and use of the environment.

area of potential effects (APE)	Under Section 106, geographic area or areas within which an undertaking may directly or indirectly cause alterations to the character or use of historic properties, if any such properties exist.
arterial road	Functionally classified highway that is characterized by a high degree of continuity and a capacity to quickly move relatively large volumes of traffic but often provide limited access to abutting properties. The arterial system typically provides for high travel speeds and the longest trip movements.
assemblage	Collection of species that have similar habitat requirements or preferences and/or are generally associated with similar habitats.
at-grade crossing	Intersection where two modes of transportation cross at the same elevation level.
attainment	Designation by the U.S. Environmental Protection Agency indicating that a region's criteria pollutant concentrations meet the National Ambient Air Quality Standards.
average megawatt	Amount of electricity generated by the continuous production of one megawatt over one year.
avulsion	Rapid displacement of a river channel.
A-weighted decibel (dBA)	Adjustable measure of noise level that approximates the frequency response of the human ear.
ballast	Crushed stone on which rail ties are laid. Ballast distributes the load from the rail ties and facilitates drainage.
bank armoring	Rock or other material placed along a streambank to prevent erosion.
bank undercutting	Stream and river erosion process that results in undercut banks (see undercut banks).
bankfull width	Width of a channel at flow capacity.
baseflow	Low water flow.
bedload	Material that is transported along the bed of a stream rather than in suspension.
bioavailability	Extent to which a substance can be absorbed by a biological system into which it is introduced.
buckling	Twists in the rail caused by heat or rapid changes in temperature.

British thermal unit (Btu)	Standard unit of measurement denoting how much heat is required to increase the temperature of 16 ounces of water by 1°F.
built resources	Intact buildings, such as ranch houses, and constructed features on the landscape, such as irrigation ditches.
calcareous	Contains calcium carbonate, as in limestone.
cations	Positively charged ions.
census-designated place (CDP)	Concentration of population, as defined by the U.S. Census.
channel braiding	Multiple channels, often with poorly defined banks.
channel geology	Shape and geologic characteristics of a river or stream channel.
channel migration zone	Area exposed to erosion and avulsion caused by river channel migration.
coal life cycle	All elements required to extract, transport, and burn coal.
cofferdam	Temporary structure designed to keep water out of the work area.
collector road	Connects local roads to arterial roads.
colluvium	Loose soil that accumulates at the base of a slope.
color	One component of the visual landscape; the hue caused by light reflected from an object.
confined aquifer	Aquifer that is overlain by rock or clay that limits the flow of water in or out of the aquifer.
consist	Components of a train such as number of cars and locomotives.
constructive use	Under Section 4(f), involves no direct physical use of the property although indirect impacts may impair the property's activities, features, or attributes.
corvid	Bird of the family Corvidae family such as crows, jays, ravens, and magpies.
crest factor	Difference between average and peak vibration levels.
criteria pollutants	Common air pollutants that are regulated by the National Ambient Air Quality Standards: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead.

critical habitat	Physical and biological features of a geographical area occupied by species listed as threatened or endangered that are essential to conservation of the species.
crossbuck sign, crossbuck mast	Traffic sign indicating an at-grade crossing. The sign consists of two slats in an X formation, stating Railroad Crossing. The mast is the post or structure on which the crossbuck is mounted.
cultural resources	Includes sacred sites, archaeological sites not eligible for listing in the National Register of Historic Places, and archaeological collections.
culvert	Closed conduit used to convey water from one area to another, usually from one side of a road or railroad to the other side.
cut and fill	In railroad construction, soil cut from one area is used to fill in other areas to minimize grades.
day-night average noise level (DNL)	Energy average of A-weighted decibels sound level over a 24-hour period; includes a 10-decibel adjustment factor for noise between 10 p.m. and 7 a.m. to account for greater sensitivity to noise during the night.
<i>de minimis</i>	Describes an impact that would not be considered adverse.
deck-plate girder	Bridge in which girders or support beams support the bridge deck.
deciview	Measure of visibility impairment
density abundance index	Average number of individuals detected per baseline survey.
dewatering	Removing water to create a dry construction site.
direct use	Under Section 4(f), occurs when a property is directly and permanently incorporated into a transportation property.
discharge areas	Areas where water emerges from aquifers to the surface.
dispersive	Characterizes soil that loses its ability to clump into aggregates.
diurnal	Active during the day.
downscaling	Using statistical analysis to provide more localized temperature and precipitation predictions caused by climate change.
dustfall	Fine particles suspended in air that can settle.
dynamic equilibrium	Ability of the stream to persist within a range of conditions.

entrainment	Accumulation or drawing in of organisms by a current, such as at a power plant intake.
equivalent sound level (L _{eq})	Average sound energy level for a specified unit of time, frequently 1 hour.
evapotranspiration	Water loss through evaporation and transpiration from plants.
floodway	Channel and adjacent floodplain that contain floodwaters.
flow regime	Characteristics of water flow in a stream or river defined by channel forms, flow resistance, and capacity to transport sediment.
fluvial sedimentation	Erosion or soil movement caused by moving water.
form	Unified mass or shape of an object as defined by surrounding space.
fugitive coal dust	Coal dust that is not emitted from a specific point.
fugitive emissions	Emissions that are not emitted from a stack, vent, or other specific point that controls the discharge.
geomorphic terrain	Landscapes explained by underlying geomorphic processes.
georeferencing	Converting analog data to digital geographic information system (GIS) data.
glide	Shallow stream reach with a maximum depth that is 5 percent or less of the average stream width, a water velocity less than 20 centimeters per second, and without surface turbulence.
global-warming potential	Measure of how effective a greenhouse gas is at trapping heat.
grade-crossing delay	Delay of vehicles at a road/railroad crossing.
grade-separated crossing	Intersection at which traffic crosses at different elevations (e.g., tunnel or overpass).
greenhouse effect	Process by which Earth regulates atmospheric temperature.
greenhouse gas (GHG)	Gas emitted to the atmosphere that can absorb heat, contributing to higher global temperatures.
groundwater discharge	Water that emerges from shallow, near-surface aquifers and reaches the surface.
groundwater recharge	Water that seeps into an aquifer.
guy line	Tensioned cable that provides stability for a tower.

hazardous air pollutants (HAP)	Air pollutants that are known or suspected of causing health effects.
highly likely, moderately likely, and not likely	Likelihood that archaeological sites are located on unsurveyed property in the study area.
hillcut	Areas where soil has been removed from a slope.
historic period	Period when European Americans began to arrive in the area in significant numbers and established large-scale habitations.
historic properties	Cultural resources that are listed in or eligible for listing in the National Register of Historic Places. Defined by the regulations for implementing Section 106 of the National Historic Preservation Act.
historic trail or fence sites	Linear human-made features in the landscape.
historic water-associated structures	Structures made to contain or direct water.
home range	Area in which an animal lives and uses for survival.
hydric soils	Soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic (oxygen-free) conditions in the upper part.
hydrogeomorphic (HGM) class	System of classifying wetlands based on their geomorphic setting, water source, and the way in which water moves through the wetland.
hydrology	Study of the movement, distribution, and quality of water.
hydrophytic vegetation	Vegetation that thrives in hydric soils.
ice-jam flooding	Outburst floods that occur when a dam caused by accumulated ice chunks breaks.
impingement	Trapping of fish in the screens of intake mechanisms.
indicator species	Species whose condition or presence indicates environmental conditions.
inhalable coarse particles	Particles that are smaller than 10 microns and larger than 2.5 microns.
intactness	Visual integrity of the landscape and the lack of encroaching elements.
intermittent flow	Periodic flow in a waterway.

interstitial spaces	Spaces or openings in substrates that provide habitat and cover for benthos (aquatic insects).
isolated artifact	Single or sparse collection of cultural resources.
joule	Measurement of energy equal to 1 watt second. There are 3.6 million watt seconds in 1 kilowatt hour.
key observation point (KOP)	Viewpoints from which an action or project can be observed.
kilovolt (kV)	Measurement of electric potential equal to 1,000 volts.
kilowatt	Measurement of units of power equal to 1,000 watts.
kilowatt hours (kWh)	Unit of energy equal to 1,000 watt-hours.
lacustrine (L) wetland	Any large body of water that is greater than 8 hectares. Found in a topographic depression or is a dammed river channel.
lateral migration	Streambank erosion process where the side-to-side movement of meander migration undercuts the streambank.
lek	Specific location where male sharp-tailed grouse congregate to compete for females.
lethal dose 50% (LD ₅₀)	Amount of toxin required to kill 50 percent of a population.
level of service (LOS)	A qualitative measure of traffic flow.
license tax	Tax charged to authorize operations.
life-cycle assessment (LCA)	Evaluates all stages of a process.
line	Contrast between different forms, colors, or textures.
linear extensibility	Change in volume of an unconfined soil clod as moisture content is decreased from a moist to a dry state.
lithic scatter	Stone flakes and tools found on the ground surface.
logarithmic scale	Scale of measurement in which each step on the scale represents a multiplication of the previous value.
mainstem	Main course of a river or stream, distinguished from its tributaries.
megawatt	Standard output of energy equal to 1 million watts or 1,000 kilowatts.
megawatt hour	Equal to 1 million watts of energy used continuously over 1 hour.

minority and low-income individuals	Members of American Indian, Asian or Pacific Islander, Black, or Hispanic groups; or communities that are below the poverty thresholds defined by the U.S. Census.
minority and low-income populations	Communities where the presence of minorities or low-income individuals is greater than 50 percent or meaningfully greater than in a geographic unit of comparison.
mixing height	Elevation at which all air quality constituents are thoroughly mixed.
multimodal ensemble data	Combined results of multiple climate models.
Native American resources	Locations that have spiritual or tribal significance to Native American groups.
noise contour	Line plotted on a map that shows the day-night average noise levels.
northern alternatives	Build alternatives that would access the proposed and induced mines from the north (Tongue River Alternatives, Colstrip Alternatives, Tongue River Road Alternatives, and Moon Creek Alternatives).
osmoregulatory function	Regulation of fluid in a biological system.
oxbow	U-shaped water body formed from a meandering river.
palustrine aquatic bed (PAB) wetland	Type of wetland defined by more than 30 percent vegetation cover of plants growing on or below the water's surface for most of the growing season in almost all years.
palustrine emergent (PEM) wetland	Type of wetland defined by the dominance of erect rooted herbaceous (not woody) wetland plants.
palustrine scrub-shrub (PSS) wetland	Type of wetland defined by more than 30 percent canopy cover of shrubs or small trees less than 6 meters in height.
palustrine unconsolidated bottom (PUB) wetland	Type of wetland defined by less than 30 percent vegetation cover and a surface with more than 25 percent of the particles smaller than stones.
palustrine unconsolidated shore (PUS) wetland	Type of wetland defined by less than 75 percent areal cover of stones, boulders, or bedrock; less than 30 percent vegetative cover; and irregular exposure due to seasonal or irregular flooding and subsequent drying.
parasitic load	Coal dust spilled from rail cars and wheel assemblies that becomes airborne while the train is moving.

passby	Specific noise event at a receptor as a train passes by.
peak horizontal acceleration	Measure of how hard the earth shakes during an earthquake.
peak particle velocity (PPV)	Maximum instantaneous positive or negative peak of a vibration signal, measured as a distance per unit of time (such as millimeters or inches per second). Used to evaluate shock-wave vibrations from actions like blasting, pile driving, and mining activities, and their relationship to building damage.
percent gradient	Describes the difference between two points on a slope, expressed as a percentage.
physiographic province	Geographic region defined by its geologic characteristics and landforms.
pool	Aquatic habitat in a stream with a gradient less than 1 percent that is normally deeper and wider than aquatic habitats immediately above and below it.
Precontact period	Encompasses most of the time of human occupation of North America, from initial human inhabitation about 13,000 years ago to the arrival of European groups.
primary purpose	Under Section 4(f), relates to the primary function of a property, which determines how it is managed.
profile, shaped profile	Shape of the coal load in the rail car. Profiling or shaping a load in a bread loaf shape reduces fugitive dust emissions.
project viewshed	Total area from which any viewer would have views of the proposed rail line.
proposed and potentially induced	Mines that could be developed if the proposed rail line is approved and constructed. The Otter Creek Mine is currently proposed for development and the Poker Jim Creek–O’Dell Creek and Canyon Creek Mines could be induced, depending on the build alternative approved.
Protohistoric period	Period when Native Americans and their cultures and activities were being influenced by the arrival of Europeans in North America, whether the influences were by direct contact or through indirect trade and contact through other Native American tribes serving as middlemen.
recharge areas	Places where groundwater seeps into an aquifer.

refuse scatter and building remains	Waste material from the historic era and any feature associated with historic structures.
richness	The number of difference species in a particular community.
riffle	Shallow reaches with low flow in that are unstable, characterized by small hydraulic jumps over rough bed material, causing small ripples, waves, and eddies.
riprap	Rock or other material placed along a streambank to prevent erosion.
riverine (R) wetland	All wetlands and deepwater habitats in natural and artificial channels. Contain either periodic or continuous flowing water.
rock cairns and alignments	Piles of rocks associated with ceremonial or directional functions.
rock shelters and depressions	Natural rock formations associated with cultural activities.
root-mean-square (RMS) velocity	Average, or smoothed vibration amplitude, commonly measured over 1-second intervals. Expressed on a log scale in velocity decibels (VdB) referenced to 0.000001×10^{-6} inch per second.
ruling grade	Steepest slope at which a train can operate under normal conditions.
run	Swiftly flowing section of a stream with uniform, unobstructed flow, substrates of variable particle size, and water surface slope roughly parallel to the overall stream gradient.
scour	Removal of sediment in a channel.
sedimentation	Process by which particles settle to the bottom of a water body.
sensitive viewer	Viewers considered sensitive to changes in their visual environment.
set-out tracks	Tracks where cars can be sidelined for maintenance or storage; connects to the main line only on one end.
severance tax	Tax on production.
shear zone	Closely spaced parallel faults where strain is higher than in the surrounding rock.
siding, siding tracks	Train passing lane that connects on both ends to the main line.
single-phase distribution line	Power line of low voltage to support rail signals and detectors.

sinuosity	Ratio of actual channel distance between identified points to straight distances. Expresses curves in the waterway.
slope failure	Landslide in naturally deposited soils, often resulting from heavy rain, increased weight on the slope, or removing the support at the toe of the slope (e.g., road construction).
slope gradient	Degree to which a slope inclines from the horizontal.
slumping	Movement of a soil or rock mass down a slope.
sodic soils	Soils with a high concentration of sodium (more than 15 percent) in the cation exchange complex.
sodium absorption ratio (SAR)	Measure of the relative proportion of sodium cations to calcium and magnesium cations in a soil, expressed as milliequivalents per liter.
soil erodibility factor	Quantifies the susceptibility of soil particles to detachment and movement by water.
sole-source aquifer	Aquifer that supplies at least 50 percent of the drinking water in the area overlying the aquifer.
sorption	Attachment of substances to a surface.
southern alternatives	Build alternatives that would access the proposed and induced mines from the south (Decker Alternatives).
species richness	Total number of species detected in the study area.
specific conductance	Measurement of water's ability to conduct electrical current and a general measure of salinity or dissolved solids.
stone circles	Stones aligned in a circle associated with habitation and ritual activities.
stratigraphic units	Unique bodies of rock based on specific properties.
subballast	Layer of small, crushed gravel that separates the ballast and roadbed.
subgrade	Native material under the constructed railway.
surficial aquifer	Unconfined aquifer at or near the land surface.
survey marker	Small metal post installed as a geographic reference.
synclinal axis	Line in a valley from which the strata slope upward in opposite directions.
taxa	Groups of closely related species.

temporary occupancy	Under Section 4(f), a whole or part of the property is required temporarily for construction activities.
texture	The perceived coarseness of a surface as caused by light and shadow.
Tongue River coal	Coal that would be produced by the proposed and induced mines and transported by the proposed rail line.
topographic shielding	When terrain features dampen impacts on birds.
topper agent	Coating applied to the coal pile in a rail car after loading to reduce fugitive emissions.
track class	One of six track classifications, as defined by the Federal Railroad Administration.
tribal resources	Sites with religious and cultural significance to tribes.
turbidity	Relative clarity of a water body.
unconfined aquifer	Aquifer that is recharged directly by infiltration of precipitation or surface.
unconsolidated	Loose sediment that has not become a rock.
undercut banks	Bank with a cavity below the water line that is maintained by scour from substrates and high water velocities.
undertaking	Project or action that may affect historic properties.
unit train	Train in which all cars start at the same location and terminate at the same destination.
unity	Visual coherence and compositional harmony of the landscape.
valley segments	Geomorphic regions that share geomorphic, hydrologic, and sediment transport characteristics.
vividness	Visual power of landscape components.
visual character	Sum of the components that can influence the perception of an area, including urban and natural features.
visual quality	Characteristic of the visual landscape as measured by vividness, intactness, and unity.
volatilization	Cause a substance to pass into vapor.
watershed	Confined area in which moving surface waters are interconnected and all drain to the same location.

wayside noise	Train noise adjacent to a rail line that comes from sources other than the locomotive horn (e.g., engine noise, exhaust noise, and noise from steel train wheels rolling on steel rails).
wetland	Land where the degree of water saturation determines resident plant and animal communities.
wetted width	Width of the wet part of a channel at the time of a survey.
windshield survey	Observations made from public access points, typically public roads.
Wolman pebble counts	Method for sampling and categorizing stream sediment.
wye	Rail junction with switches at each corner of the triangle.

