



ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
µg	microgram
µm	micron
AAR	Association of American Railroads
ACS	American Community Survey
AFD	Anacortes Fire Department
AOP	Air Operating Permit
APE	Area of Potential Effects
ARU	Aromatics Recovery Unit
ASM	alternative safety measures
A-UD	Anacortes UGA Urban Development District
bbbl	barrels
BEA	Bureau of Economic Analysis
BLEVE	Boiling Liquid Expanding Vapor Explosion
BLM	United States Bureau of Land Management
BMP	best management practice
BNSF Railway	BNSF Railway Company
CAA	Clean Air Act
CAER	Community Awareness and Emergency Response
CEBR	Center for Economic and Business Research
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations

Acronym	Meaning
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent units
CREP	Conservation Reserve Enhancement Program
CRS	Congressional Research Service
CWA	Clean Water Act
cy	cubic yards
DAHP	Washington Department of Archaeological and Historic Preservation
dB	decibel
dBA	A-weighted decibel
DNR	Washington State Department of Natural Resources
DNS	Determination of Nonsignificance
DOH	Washington State Department of Health
DPM	diesel particulate matter
DS	Determination of Significance
Ecology	Washington State Department of Ecology
EEM	estuarine emergent (wetland)
EIA	United States Energy Information Administration
EIS	environmental impact statement
EMD	Washington State Emergency Management Division
EMT	emergency medical technician
EOT	end-of-train
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission



Acronym	Meaning
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	Geographic Information System
GLO	General Land Office
GRP	geographic response plans
GTM	gross-ton-miles
HDPE	high density polyethylene
HPA	Hydraulic Project Approval
ICS	Incident Command System
IDA	International Dark Sky Association
IPCC	Intergovernmental Panel on Climate Change
JARPA	Washington State Joint Aquatic Resource Permit Application
km ²	square kilometer
KOP	Key Observation Point
kW	kilowatt
L	liter
L _{dn}	day-night average sound level
L _{eq}	average energy sound level
L _{eq(h)}	energy-averaged equivalent hourly sound level
LEP	limited English proficiency
L _{max}	maximum sound level
LOI	Line Occupancy Index
LOS	level of service



Acronym	Meaning
MAH	monocyclic aromatic hydrocarbons
MBTA	Migratory Bird Treaty Act
MBTL	Millennium Bulk Terminals-Longview
MDNS	Mitigated Determination of Nonsignificance
MHHW	mean higher high water
MIG	Minnesota IMPLAN Group, Inc.
MP	milepost, monitoring position (noise and vibration)
mph	miles per hour
MRC	Snohomish County Marine Resources Commission
MT	metric tons
MTCA	Model Toxics Control Act
NAAQS	National Ambient Air Quality Standards
NEHRP	National Earthquake Hazard Reduction Program
NEI	National Emissions Inventory
NEPA	National Environmental Policy Act
NERR	National Estuarine Research Reserve
NIPA	National Income and Product Accounts
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Association
NOI	Notice of Intent
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	nephelometric turbidity units



Acronym	Meaning
NWI	National Wetland Inventory
O ₃	ozone
OAC	Order of Approval to Construct
OGP	International Association of Oil and Gas Producers
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
Pb	lead
PEM	palustrine emergent (wetland)
PFO	palustrine forested (wetland)
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM ₁₀	particulate matter smaller than 10 microns
PM _{2.5}	particulate matter smaller than 2.5 microns
ppm	parts per million
PPV	peak particle velocity
PSE	Puget Sound Energy
psi	pounds per square inch
PSNERP	Puget Sound Nearshore Ecosystem Restoration Project
PSR	Puget Sound Refinery
PSS	palustrine scrub-shrub (wetland)
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
rms	root mean square
SARA	Superfund Amendments Reauthorization Act
SCC	Skagit County Code



Acronym	Meaning
SCOG	Skagit Council of Governments
SEPA	State Environmental Policy Act
SERTC	Security and Emergency Response Training Center
Shell	Equilon Enterprises, LLC
SMA	Washington State Shoreline Management Act
SMMP	Shoreline Management Master Program
SO ₂	sulfur dioxide
SPCC	spill prevention, control, and countermeasures
SR	State Route
SSA	Sole source aquifer
SSURGO	Skagit County and Soil Survey Geographic
STB	Surface Transportation Board
SWMMWW	Stormwater Management Manual for Western Washington
SWPPP	Stormwater Pollution Prevention Plan
TCDD	Tetrachlorodibenzo-p-dioxin
TCP	Traditional Cultural Properties
TESC	temporary erosion and sediment control
TMDL	total maximum daily load
TSB	Transportation Safety Board (of Canada)
TTCI	Transportation Technology Center, Inc.
UGA	urban growth area
ULSD	ultra-low sulfur diesel
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard



Acronym	Meaning
USCGS	United States Coast and Geodetic Survey
USDA-NRCS	United States Department of Agriculture-Natural Resources Conservation Service
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
USSG	United States Surveyor General
VdB	vibration decibel
VOC	volatile organic compound
VRM	Visual Resources Management
WAAQS	Washington Ambient Air Quality Standards
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WHR	Washington Heritage Register
WISAARD	Washington Information System for Architectural and Archaeological Records Data
WNHP	Washington Natural Heritage Program
WQI	water quality improvement
WRIA	Water Resource Inventory Area
WSDA	Washington State Department of Agriculture
WSDOT	Washington State Department of Transportation
WSPA	Western States Petroleum Association
WUTC	Washington Utilities and Trade Commission
WWHM	Western Washington Hydrologic Manual



GLOSSARY OF TERMS

Term	Definition
100-year flood	A flood level with a 1-percent chance of being equaled or exceeded in any given year.
100-year storm	A rainfall event total with a 1-percent probability of occurring at that location in that year.
absolute criteria (noise and vibration)	Noise impacts caused by the project alone.
adsorption	The adhesion of atoms, ions, or molecules from a gas, liquid, or dissolved solid to a surface.
air basin	An area that generally has similar meteorological and geographic conditions throughout.
alluvium	Clay, silt, sand, gravel, or similar material deposited by running water.
ambient noise	All noise sources that surround a location and could include third-party industrial noise, transportation sources, animals, and nature.
annual average daily traffic	The average volume of traffic for one day (24-hour period) during a data reporting year.
aquifer	Geologic layers that hold and transmit groundwater.
aquitard	A confining soil stratum that slows down but does not prevent the flow of water to or from an adjacent aquifer.
ash (volcanic)	Fine fragments (less than 2-4 millimeters in diameter) of volcanic rock formed by a volcanic explosion or ejection from a volcanic vent.
at-grade crossing	A junction or intersection where two or more transport paths cross at the same level or grade.
attainment area	An "attainment" classification means that air quality in a particular region meets (or "attains") a federal air quality standard.
average- sensitivity species	Organisms with an average sensitivity to dissolved aromatics (50 µg/L), which is protective of 50 percent of species.
A-weighted decibels	An expression of the relative loudness of sounds in air as perceived by the human ear.
background traffic	Vehicles that are present on the roadway during the AM and PM peak hours.
bad order track	A rail track designated for storage of rail cars with mechanical defects.
baseline probability	The initial set of critical observations or data used for comparison or a control to determine the probability of an incident.



Term	Definition
benzene	A component of products derived from coal and petroleum and found in gasoline and other fuels used in the manufacturing of plastics, detergents, pesticides, and other chemicals.
block group	The U.S. Census Bureau collects data in many geographic units, the smallest of which is a block, and contains general population data. Block groups are a combination of census blocks and generally contain between 600 and 3,000 people.
Boiling Liquid Expanding Vapor Explosion (BLEVE)	An explosion that results when a tank of combustible liquid (such as crude oil) is heated by fire, the pressure increases, and the tank ruptures.
cetaceans	Marine mammals in the taxonomic order <i>Cetacea</i> : whales, dolphins, and porpoises.
chrysene	A polycyclic aromatic hydrocarbon (PAH), a known carcinogen found in railroad ties treated with creosote.
concurrent mitigation	A compensatory mitigation that is implemented at approximately the same time as the authorized activities that result in wetland impacts (Ecology et al. 2006a).
coniferous	A shrub or tree (such as a pine) that produces cones and bears usually needle- or scale-shaped leaves that remain green all year. Found in mixed forested wetlands on the project site.
criteria air pollutants	Common air pollutants regulated by the National Ambient Air Quality Standards: ozone (O ₃), particulate matter (PM _{2.5} and PM ₁₀), carbon monoxide (CO), nitrogen oxides (NO _x), sulfur dioxide (SO ₂), and lead (Pb).
critical area	Areas regulated by county critical areas ordinances, including wetlands, aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas. Some of these, such as geologic hazards and frequently flooded areas, are critical because of the hazards they represent to public health. Others, such as fish and wildlife habitats and wetlands, are critical because of their public value.
critical area buffer	According to Skagit County, a critical area buffer (including wetland) is defined as "an area that is contiguous to and protects a critical area which is required for the continued maintenance, functioning, and/or structural stability of a critical area" (SCC 14.04.020).
cultural resources	Archaeological deposits, historic-era buildings, structures, and objects. Cultural resources illustrate how humans have used and modified the natural world.
cumulative impacts	The incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions (e.g., numerous small changes in land use could collectively lead to degradation of a watershed).



Term	Definition
deciduous	Trees or shrubs that shed their leaves every year. Found in mixed forested wetlands on the project site.
degradation	The biodegradation of organic substances by living organisms.
dewatering	Removing water from sediment, soil or waste materials by centrifugation, filtration, or similar solid-liquid separation processes
diluted bitumen	Low-grade oil sometimes referred to as <i>dil-bit</i> .
direct impacts	Impacts caused by an action and occur at the same time and place as the action. Direct impacts can occur through direct interaction of an activity (e.g., construction or operation of a project) with an environmental resource.
direct impacts (economics)	The primary rounds of economic activity that would create the initial increases in economic output and employment directly attributable to expenditures.
dissolution	A process by which gases, liquids, or solids dissolve to form a solution.
dissolved aromatic components	The small portion of released hydrocarbons that dissolves into water.
distributed power	A train configuration in which two locomotives are placed at the front of the train and two at the rear for improved safety.
ditches	Drainage features constructed to carry water away from built infrastructure.
ecosystem functions	The physical, chemical, and biological processes that contribute to the self-maintenance of an ecosystem.
ecosystem services	The beneficial outcomes that result from ecosystem functions such as support of the food chain, harvesting of animals or plants, and the provision of clean water or scenic views.
emulsification	The process by which a mixture of two or more liquids that are normally unmixable can be combined.
enhanced braking	A functioning two-way end-of-train (EOT) device or a distributive power braking system.
entrainment	A process by which solid particles or gas can be drawn in and transported by the flow of a fluid.
equivalent area	As an example, in a spill scenario, the equivalent area of 100-percent mortality would be the same for a release that resulted in 100-percent mortality over 1 square kilometer (km ²) versus 1-percent mortality over 100 km ² .
estuarine	Related to an estuary, which is a transition zone between fresh and salt water.



Term	Definition
Estuarine Emergent (EEM)	Wetland areas characterized by erect, rooted, herbaceous hydrophytes (plants adapted to living in submerged water), excluding mosses and lichens.
ethnographic	The time period when Native American cultures were in contact with Euro-Americans but still followed the majority of pre-contact lifeways.
explosion	A sudden, intense release of energy that often produces a loud noise, high temperatures, and a shockwave.
extirpation (wildlife)	Local extinction of a species from a given geographic region.
evaporation	The process by which water changes from a liquid to a gas or vapor.
fault	A fracture along which the blocks of crust on either side have moved relative to one another and parallel to the fracture.
fire	A complex chain reaction during which a fuel combines with oxygen to generate heat, smoke, and light.
foot-candle	The intensity of light that is cast on a surface 1 foot away from the source.
freeboard	The vertical distance between the crest of an embankment and the reservoir water surface, such as in a detention pond.
fugitive dust	Particulate matter from the mechanical disturbance of granular material exposed to the air. Common sources of fugitive dust include paved and unpaved roads, activities on vacant land or disturbed areas, unpaved parking lots and equipment yards, and military training exercises.
full cut-off fixture	A light fixture that does not emit light above the horizontal plane (90°).
glaciolacustrine	Derived from glaciers and deposited in glacial lakes.
glacial marine drift	Sediment transported and deposited by glaciers in a marine environment.
glaciomarine	Describing an environment containing both glacial ice and marine water.
greenhouse gas	Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.
groundwater	Water that collects or flows beneath the Earth's surface, filling the porous spaces in soil, sediment, and rock.
halogenated	Chemical compounds that contain halogen atoms—fluorine, chlorine, bromine, or iodine. An example of a halogenated solvent is perchloroethylene (PCE), a chlorinated solvent that is widely used in dry cleaning. By contrast, nonhalogenated means no halogen atoms are present.



Term	Definition
haulout sites (seal)	Locations where seals temporarily leave the water to forage on land.
hazard range	The area around a source (such as a pool fire), measured in distances from the center of the source, from which a range of effects could be experienced by humans, animals, objects, and structures.
High Estimate of Incident Rates and Spills	A conservatively high estimate of the probability of an incident and oil release occurring based on the historic rates of incidents and releases.
high sensitivity species	Organisms that are highly sensitive to environmental changes, particularly dissolved aromatics (5 micrograms per liter [$\mu\text{g/L}$]), which is protective of 97.5 percent of species.
Historic era	The period when Euro-American development and lifeways spread and grew in the region.
Holocene Epoch	The geologic period that dates from about 11,700 years ago to the present day.
hotbox	A detector that measures if rail car wheel bearings are generating excessive heat and, therefore, are in the process of failing.
hydraulic conductivity	The property that describes the ease with which a fluid can move through pore spaces or fractures.
hydric soil	A soil that is formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.
hydrogeology	The study of the geology and soils that influence groundwater flow.
hydroperiod	The seasonal pattern of the water level that results from the combination of the water budget and the storage capacity of the wetland.
igneous rock	Rock that is formed after molten rock (magma) has cooled and solidified (crystallized).
IMPLAN Model	IMPLAN is a widely utilized computer-based simulation tool that can measure the economic impacts of a project.
impervious surface	An area that releases all or a majority of the precipitation that falls on it as runoff. Common examples are rooftops, sidewalks, driveways, and streets, unless they have been specifically designed to allow water to infiltrate.
Incident Command System (ICS)	A management system designed to efficiently integrate a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure.
indirect economic output	The value of all goods and services produced by supporting industries for a specific project, projects, or industry. Used in economic impact analyses.



Term	Definition
indirect impacts	Impacts that result from the same action as direct impacts, but that occur later in time or are more distant. Indirect impacts on one resource may be caused by direct impacts to another, resource.
indirect impacts (economics)	Also known as secondary impacts. Changes in inter-industry purchases as they respond to new demands of directly affected industries.
induced impacts (economics)	The impacts typically reflect changes in spending from households as income increases or decreases due to changes in production.
institutional controls	Measures taken to limit or prohibit activities that may interfere with the integrity of a cleanup action or cause exposure to hazardous substances.
Key Observation Point (KOP)	A term used by the Bureau of Land Management in its Visual Resource Management (VRM) methodology to describe potentially sensitive viewpoints from which a project may be seen. Typically these KOPs include viewpoints from public spaces such as parks, or locations along publically-accessible areas.
lahar	A type of mudflow or debris flow composed of a slurry of pyroclastic material, rocky debris, and water. The material moves down from a volcano, typically along a river valley.
lateral stability	An object's ability to develop forces or to have forces imposed upon it that restore it to or maintain its original condition.
L _{dn}	The day-night equivalent sound level—the average equivalent sound level over a 24-hour period, with a 10 dB penalty added for nighttime hours (between 10 p.m. and 7 a.m.). Also known as the day-night noise indicator.
level of service (LOS) (vehicular traffic)	An expression of roadway intersection delay that uses methods established by the Transportation Research Board's Highway Capacity Manual. Level of service (LOS) ranges from "A" to "F", with the letter "A" describing the least amount of congestion and best operations, and the letter "F" indicating the highest amount of congestion and worst operations.
liquefaction	A process by which water-saturated sediment temporarily loses strength and acts as a fluid. This effect can be caused by earthquake shaking.
lithic scatter	Stone tools and chipped stone debris.
Low Estimate of Incident Rates and Spills	An estimate of the probability of an incident and oil release occurring that accounts for the reductions in the probability associated with policies and regulations specific to the operation of crude-by-rail trains that are already in place, or will be in place in the future.
main line	The track used for through trains or the principal artery of the rail system from which branch lines, yards, sidings, and spurs are connected.
manifest train	A train that carries a mixture of rail car types and cargoes.
marine nearshore	The transition zone between terrestrial, freshwater, and marine ecosystems.



Term	Definition
mass balance	The environmental fate of oil released in an incident over time, including the amount of oil on the water surface, in the water column, on shorelines, evaporated to the atmosphere, on sediments, and oil that has decayed.
metamorphic rock	A rock that has undergone chemical or structural changes produced by an increase in heat or pressure, or by replacement of elements by hot, chemically active fluids.
methyl tertiary butyl ether (MTBE)	A volatile oxygen-containing organic compound that is added to gasoline to promote more complete combustion, thereby reducing air pollution and enhancing octane rating.
mitigation	Avoiding, minimizing, rectifying (repairing), reducing, eliminating, compensating, or monitoring of environmental impacts.
natal stream	The stream in which a fish was hatched.
neap tide	A tide just after the first or third quarters of the moon when there is the least difference between high and low water.
noise	Unwanted sound measured in decibels (dB) on a logarithmic scale.
noise contour	A line on a map that represents equal levels of noise exposure.
nonattainment area	A "nonattainment" classification means that air quality in a particular region does not meet (or "attain") National Ambient Air Quality Standards (NAAQS). Nonattainment areas that fail to achieve attainment could receive cuts in federal transportation funding if air pollutants are expected to increase as a result of new projects.
nonnatal	Nonnatal fish species are produced from adults that spawn in other stream systems and could be present between January and May (e.g., juvenile Chinook salmon).
non-sensitive species	Unlike Special Status Species, nonsensitive species are generally widespread, abundant, and secure in the state.
nonuse values	The willingness of households to pay to avoid environmental damage to an environmental amenity even if they never have or never will use the amenity.
nonvascular plant	Simple plants without a vascular system (for transporting water, minerals, and nutrients throughout their bodies). Nonvascular plants move water and nutrients through the plants' structure cell by cell.
noxious weed	The traditional, legal term for any invasive, nonnative plant that threatens agricultural crops, local ecosystems or fish and wildlife habitat. Examples include nonnative grasses, flowering plants, shrubs, and trees. It also includes aquatic plants that invade wetlands, rivers, lakes, and shorelines.



Term	Definition
OILMAP™ Land	A software application developed by RPS ASA (previously Applied Science Associates or ASA) that uses computers to simulate the two-dimensional trajectory (movement) and fate (behavior) of oil and chemical releases over land and surface water.
Olcott component	The portion of an archaeological site dating to the Olcott period of the Puget Sound region (approximately 5,000 to 8,000 years ago). Artifacts commonly consist of flaked stone including cobble tools and lanceolate-shaped projectile points with few animal remains.
outwash	Sediments deposited by melt water streams beyond active glacier ice.
overpressure	The pressure caused by a shockwave over and above normal atmospheric pressure as measured in pounds per square inch (psi).
Palustrine Emergent (PEM)	Wetland areas dominated by sedges, rushes, grasses, cattails, and bulrushes.
Palustrine Forested (PFO)	Wetland areas dominated by woody vegetation that are 20 feet tall or higher.
Palustrine Scrub-shrub (PSS)	Wetland areas dominated by woody vegetation less than 20 feet tall.
peak particle velocity	The maximum velocity experienced by any point in a structure during a vibration event (defined as an event lasting less than 20 seconds), such as an earthquake.
permeability	The quality of a material or membrane to allow liquids or gases to pass through it without being chemically or physically affected.
petroleum	A naturally occurring complex liquid hydrocarbon.
physiographic province	A geographic region in which climate and geology have given rise to an array of landforms different from those of surrounding regions.
pinnipeds	Refers to marine mammals that have front and rear flippers: seals, sea lions, and walruses.
Pleistocene Epoch	The geological period dating from about 2,588,999 to 11,700 years ago.
polychlorinated biphenyls (PCBs)	A group of 209 man-made compounds that generally occur as complex mixtures. While historically the largest use of PCBs was in electrical equipment, there are many other sources. PCBs are very persistent, lasting for decades in the environment.
pool fire	A fire that burns from a pool of vaporizing fuel.



Term	Definition
positive train control	Uses communication-based/processor-based train control technology that provides a system capable of reliably and functionally preventing train-to-train collisions, overspeed derailments, incursions into established work zone limits, and the movement of a train through a main line switch in the improper position.
polycyclic aromatic hydrocarbons (PAHs)	A group of more than 100 different chemicals that generally occur as complex mixtures found in some natural substances like oil and coal. They are formed during the incomplete burning of organic matter such as coal, oil, gas, wood, garbage, or other organic substances, and are released during commonplace activities, such as burning wood and driving cars, and from commonplace objects like railroad ties.
Precontact	The time period of Native American history prior to initial contact with Euro-American goods and people.
probability	The likelihood that an incident will happen in a given year.
pyroclastic flows	A dense, destructive mass of very hot ash, lava fragments, and gases ejected explosively from a volcano and typically flowing downslope at great speed.
queue length	The distance that vehicles extend back from an intersection while waiting to move through.
rail accident	Rail accidents include derailments, collisions, fire or explosion events, highway-rail incidents, and miscellaneous accidents (e.g., trains striking objects on the track and other impacts). These categories are based on accident reporting data from the Federal Railway Administration (FRA). As used in this EIS, the term rail accident follows the FRA definition of an accident, which is a safety-related event involving on-track rail equipment causing monetary damages above a prescribed amount (currently \$10,500). The term accident is not meant to convey lack of liability or culpability for the event occurring.
reasonably foreseeable future actions	Actions that are considered in a cumulative impact analysis if they meet at least one of the following criteria: 1) are currently within the planning stage and have funding secured for the action; 2) are currently undergoing SEPA review; and 3) the SEPA process has been completed and review is in process for another permitting phase.
relative criteria	Noise impacts caused by a change (increase) in the noise environment as a result of the project.
return period	The amount of time, on average, that passes between consecutive events of a similar magnitude.
riparian	Relating to or situated on the banks of a river.



Term	Definition
Scenic and Recreational Highway	Identified in Washington State law (RCW 47.39 and 47.42) and designated because of a need to develop management plans that will protect and preserve the scenic and recreational resources from loss through inappropriate development.
scenic quality	A measure of the visual appeal of an area based on landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications.
second-growth forest	Forest that grows, either from natural reseeding or human replanting, after a human-caused or natural disturbance.
sedimentary rock	Formed from pre-existing rocks or pieces of once-living organisms. They form from deposits that accumulate on the Earth's surface. Sedimentary rocks often have distinctive layering or bedding.
sedimentation	The tendency for particles in suspension to settle out of the fluid in which they are entrained and come to rest against a barrier.
sensitivity level (visual resources)	A measure of public concern for scenic quality. Each level is assigned a value of low, medium, or high by evaluating the type of users, amount of use, public interest, adjacent land uses, and any land use designations that require protection of visual resources.
seiche	A temporary series of waves in an enclosed or partially enclosed body of water (e.g., harbors, lakes, bays, and rivers) as a result of earthquake shaking. Typically, seiches do not occur close to the epicenter of an earthquake, but hundreds of miles away.
sensitive receptors (noise and vibration)	Places that represent land use activity categories where the Federal Transit Administration has established noise impact criteria pertaining to noise sensitivity. Land use activity categories include residences, recreation areas, hotels, schools, churches, libraries, and hospitals.
sheet flow	An overland flow or downslope movement of water taking the form of a thin, continuous film over relatively smooth soil or rock surfaces that is not concentrated into channels larger than rills.
shell midden	A mound of discarded domestic wastes that can include bones, botanical material, human waste, shells, vermin, and other materials.
shoreline stranding	The visible accumulation of oil on shorelines following a spill.
shockwave	A movement of extremely high pressure air.
siding track	A low-speed auxiliary rail track that is separate from a main line or spur. It may connect to a through track or to other sidings.
SIMAP™	A computer modeling software application developed by Applied Science Associates (ASA), Inc., that estimates physical fates and biological effects of releases of oil.
sloshing	Irregular movement of a liquid in a container,



Term	Definition
sole-source aquifer (SSA)	The U.S. Environmental Protection Agency (USEPA) defines these aquifers as those that supply at least 50 percent of the drinking water for a service area and where there are no reasonably available alternative drinking water sources should the aquifer become contaminated.
Special Status Plants	Vascular and nonvascular plant species that are classified at the federal or state level as endangered, threatened, a species of concern, sensitive species, or candidate species.
stormwater	Water that runs off surfaces such as rooftops, paved streets, highways, and parking lots. It can also come from hard grassy surfaces like lawns, play fields, and from graveled roads and parking lots.
Special-Status Species	Species that are classified at the federal or state level as endangered, threatened, a species of concern, sensitive species, or candidate species. Designated species also include animal aggregations (e.g., heron colonies, bat colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable.
spring tide	A tide just after a new or full moon, when there is the greatest difference between high and low water.
stratum	A layer of soil with internally consistent characteristics that distinguish it from other parallel layers laid down by natural geologic processes.
stream	Natural watercourses that convey water from headwaters to a receiving waterbody.
surface oiling	Oil found floating on the water surface following a release of hydrocarbons.
surface water	Water that moves over land as sheet flow and as channelized flow within streams and ditches.
subdivision	A timetable designation of a portion of railway track within a division.
tectonic plates	Large, thin, rigid plates that move relative to one another on the outer surface of the Earth.
temporary impacts (wetlands)	Direct impacts that do not result in the permanent filling of wetlands or in the permanent loss of wetland function. These impacts can be further divided into short term and long term.
terrestrial (wildlife)	Animals that live predominantly or entirely on land (e.g., cats, ants, snails).
thermal radiation	The process by which energy (heat) is emitted from a source, such as the combustion of a flammable material.
threshold	The magnitude or intensity that must be exceeded for a certain reaction, phenomenon, result, or condition to occur or be manifested.



Term	Definition
tidal estuary	A dynamic ecosystem with a connection to the open sea through which sea water enters with the rhythm of the tides. The sea water entering the estuary is diluted with freshwater flowing from rivers and streams.
till	An unsorted, nonstratified (not occurring in distinct layers), accumulation of glacial sediment deposited directly by glacier ice.
tsunami	A sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands.
train mile	One mile traversed by one train.
trajectory (of a release)	Describes the movement of oil within the environment and includes the spatial extent of the release over time.
turbidity	The relative clarity of a liquid. Turbidity is measured by the amount of light that is scattered by material in the water when a light is shined through the water sample. The higher the intensity of scattered light, the higher the turbidity. Turbidity is reported in nephelometric turbidity units (NTU).
unit train	A train that carries the same type of commodity from origin to destination.
unmitigated release scenario	A response scenario that is modeled assuming that emergency response measures will not take place for some period of time.
urban growth areas	Areas where growth and higher densities are expected and can be supported by urban services.
vascular plant	A plant that is characterized by the presence of conducting tissue that transports fluid and nutrients internally.
visual resources	Physical features that define the visual and aesthetic character of an area, including natural features, scenic vistas, or man-made urban or community visual characteristics such as architecture and skylines.
vollitization	The process whereby a dissolved sample is vaporized.
water column	A conceptual column of water from the surface of a sea, river, or lake to the bottom sediments.
wayside detection system	Wayside detection systems, such as "hot boxes," promote rail safety and performance by using automated technologies to detect defects in railway rolling stock.
Wellhead Protection Area	The area regulated by the Washington State Department of Health surrounding a pumping well, well field, or spring that encompasses all areas or features that supply groundwater recharge to the well, well field, or spring.



Term	Definition
wetlands	Areas that are saturated or inundated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions.
vapor cloud explosion	The result of a flammable material that is released into the atmosphere and ignites.
young-of-the-year	Fish or animals born within the past year.

