

GLOSSARY



4(d) Rule - (Protective Regulations): Whenever any species is listed as a threatened species pursuant to subsection (c) of this section, the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species. The Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1), in the case of fish or wildlife, or section 9(a)(2), in the case of plants, with respect to endangered species; except that with respect to the taking of resident species of fish or wildlife, such regulations shall apply in any State which has entered into a cooperative agreement pursuant to section 6(c) of this Act only to the extent that such regulations have also been adopted by such State.

Summary Statement: 4(d) rule- Allows for the promulgation of regulations to provide for the protection and conservation of listed species. In some cases, a 4(d) rule may sanction certain activities for the take of a threatened species if that activity is conducted in compliance with an approved program.

Adaptive Management - A formalized process to evaluate the efficiency of Best Management Practices.

Agency - means a public utility district, joint operating agency, city, county, or any other state governmental agency, entity, or political subdivision.

Alley - A highway not designed for general travel and primarily used as a means of access to the rear of residences and business establishments.

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, physical structures, maintenance procedures and other management practices to reduce pollution or to provide habitat protection/maintenance.

Biofiltration - The simultaneous process of filtration, infiltration, adsorption, and biological uptake of pollutants in stormwater that takes place when runoff flows over and through vegetated areas.

Box Culvert - A box structure, usually constructed out of concrete, which conveys water under a roadway or embankment.

Bridge - A structure spanning and providing passage over an obstacle, such as a waterway.

Buffer - The zone contiguous with a sensitive area that is required for the continued maintenance, function, and structural stability of the sensitive area.



Capital Improvement Project (CIP) - A construction project intended to create new or expand existing roadway, drainage and/or utility infrastructure. Maintenance or repair of currently serviceable structures is not a Capital Improvement Project, but is mitigation for the life of the project.

Case Studies - The framework of a set of reasons, arguments or supporting facts offered to inquire or investigate in pursuit of knowledge.

Catch Basin - A chamber or well, usually built at the curb line of a street, for the collection of surface water to a sewer or drainage system, having at its base a sediment sump designed to retain sediment, debris or soil particles below the point of overflow.

Channel - A feature that conveys surface water and is open to the air.

Check Dam - A barrier constructed in an open drainage system to decrease the streamflow velocity, minimize channel scour, and promote deposition of sediment.

Clear zone - Area adjacent to the roadway to remain clear of unmovable objects (which includes trees larger than four-inches in diameter). Clear zone requirements are specified in local, state and federal traffic laws and guidelines.

Clearing - Vegetation removal during development or re-development activities. Routine maintenance tasks of ROW structures, for example, mowing, brush cutting and ditch cleaning are not clearing, but are mitigation for the life of the project.

Conservation Outcomes - The goals of the final consequences of the uses of the Best Management Practices.

Constructed Wetland - A wetland that is created on a site that previously was not a wetland.

Conveyance System - The drainage facilities, both natural and man-made, which collect, contain, and provide for the flow of surface and stormwater from the highest points on the land down to a receiving water. The natural elements of the conveyance system include swales and small drainage courses, streams, rivers, lakes, and wetlands. The human-made elements of the conveyance system include roads, gutters, ditches, pipes, channels, constructed wetlands and retention/detention facilities.



Decant - To release water gradually from a truck mounted drainage system cleaning device (Vactor, Camel, Vac-Con) so as to not disturb sediment in truck.

Detention - The storage and subsequent release of excess stormwater runoff.

Detention Facility - An above or below ground facility, such as a pond or tank, that temporarily stores stormwater runoff and subsequently releases it at a slower rate than it is collected by the drainage facility system.

Development - The act, process, or result of developing land or property. Road maintenance activities are not regulated as development or re-development .

Development Regulation - Per Growth Management Act and other state regulations that govern the act and process of development. Road maintenance activities are not regulated as development or re-development. Maintenance is mitigation for the lift of the development.

Dike - A system of embankments, drains, ditches, canals, flumes, locks and all other necessary artificial appliances necessary to protect land from flooding.

Discharge - The act of releasing or discharging controlling flows.

Ditch - A long, narrow trench or furrow dug in the ground for surface/storm water drainage.

Drain - A buried pipe or other conduit (closed drain). A ditch (open drain) for carrying off surplus surface water or ground water.

Drainage - Refers to the collection, conveyance, containment, and/or discharge of surface and storm water runoff.

Drainage System - A combination of facilities (such as ditches, pipes, conduits, storage facilities, trenches) and natural features (such as open streams, ponds) which operate together, to convey surface water from the point of origin to an ultimate discharge point.

ESA Section 4 - Determination of Endangered Species and Threatened Species: provides guidance regarding the promulgation of protective rules (e.g., 4(d) rules), the steps within the listing determination process, the designation of habitat, and recovery plans.



Easement - A non-profitable interest in land owned by another that entitles its holder to a specific limited use or enjoyment.

Ecology - Department of Ecology

Emergency - An event causing imminent threat or danger: to public health or safety, to public or private property, or serious environmental degradation.

Endangered - The classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range.

Endangered Species Act of 1973, as amended - Federal legislation intended to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and provide programs for the conservation of those species, thus preventing extinction of native plants and animals.

Energy Dissipater - Any means by which the total energy of flowing water is reduced. In stormwater design, they are usually mechanisms that reduce velocity prior to, or at, discharge from an outfall in order to prevent erosion. They may include rock splash pads, drop manholes, concrete stilling basins, baffles, and/or check dams.

Erosion - The wearing away by the action of running water, wind, ice, or geological agents, including such processes as gravitational creep. Also, the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

Erosion, Gully - The erosion process whereby water accumulates in narrow channels and, over short periods, removes the soil from this narrow area to considerable depths, ranging from 1 to 2 feet to as much as 75 to 100 feet.

Erosion, Rill - An erosion process in which numerous small channels only several inches deep are formed; occurs mainly on recently disturbed and exposed soils. See Rill.

Erosion, Sheet - The removal of a fairly uniform layer of soil from the land surface by runoff.

Erosion, Splash - The spattering of small soil particles caused by the impact of raindrops on wet soils. The loosened and spattered particles may or may not be subsequently removed by surface runoff.



Erosion and Sediment Control - Any temporary or permanent measures taken to reduce erosion, control siltation and sedimentation, and reduce sediment-laden water from leaving a site.

Erosion and Sediment Control Facility - A type of drainage facility designed to hold water for a period of time to allow sediment contained in the surface and stormwater runoff directed to the facility to settle out so as to improve the quality of the runoff.

Excavation - The act or process of excavating, the digging and removal of material to expose by digging away soil. (Not including roadway/shoulder, ditch, or ROW surface maintenance. Excavation does not include the mitigation required to maintain facilities such as road ROW structures including stormwater systems or, the removal of sediments or slide material during maintenance.)

Existing Site Conditions - The conditions (ground cover, slope, drainage patterns) of a site as they existed on the first day that the project entered the design phase.

Facilities - means designed or built structures above or below the ground such as lines, conduits, ducts, poles, wires, cables, cross-arms, receivers, transmitters, instruments, machines, appliances, instrumentalities, pipes, buildings, drainage, roadway, water, sewer and all devices, real estate, easements, apparatus, property and routes used, operated, owned or controlled by any agency or utilities company to facilitate the provision of the ROW or utilities service.

Fascine - Bundles of living woody plant cuttings that are tied together. These fabricated structures are capable of rooting. Also called contour wattles.

Fill - Earth, sand, gravel, rock, or other solid material used to increase the ground surface elevation. (Fill does not include the mitigation required to maintain facilities, such as replacing sand filters in a stormwater system).

Filling - Any act by which earth, sand, gravel, rock, or other solid material is deposited to raise the ground elevation (not including roadway/shoulder, ditch, stormwater, or ROW surface structure or facility maintenance).

Fish Exclusion Protocol - See Appendix E

Forbs - A herbaceous plant other than a grass.



Freeboard - The vertical distance between the design water surface elevation and the elevation of the barrier which contains the water.

Gabion - A rectangular or cylindrical wire mesh cage filled with rock and used as a protecting agent or revetment against erosion. Soft gabions, often used in stream bank stabilization, are made of geotextiles filled with dirt, in between which cuttings are placed.

Grading - Leveling off to a smooth horizontal or sloping surface, to level to a desired slope or elevation.

Gravel - Consist of crushed, partially crushed, or naturally occurring granular material or loose round rock of variable sizes.

Gully - A channel caused by the concentrated flow of surface and stormwater runoff over unprotected erodible land.

Habitat - The location where a particular species (or identified subspecies) of plant or animal lives and its surroundings, both living and non-living. Habitat includes the presence of a group of particular environmental conditions surrounding an organism including air, water, soil, mineral elements, moisture, temperature, and topography.

Harm - Defined in regulations implementing the ESA as an act "which actually kills or injures" listed wildlife. Harm may include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3).

Hydrology - The science of the behavior of water in the atmosphere, on the surface of the earth, and underground.

Infiltration - The downward movement of water from the surface to the subsoil.

Infiltration Facility (or system) - A drainage facility (including ponds) designed to use the hydrologic process of surface and stormwater runoff soaking into the ground, commonly referred to as a percolation, to dispose of surface and stormwater runoff.

Infrastructure - The basic facilities (roads, bridges, drainage, utilities, easements and the ROW surface), equipment, and installations needed for the functioning of a transportation system (transportation, utilities, etc.).



Inlet - A form of connection between surface of the ground and a drain or sewer for the collection of surface and stormwater runoff.

Invert - The lowest point on the inside of a pipe.

Large Woody Material (LWM) - Trees or tree parts larger than four inches in diameter and longer than six feet and rootwads, wholly or partially waterward of the ordinary high water line. (WAC 220-110-020(48)).

Macroinvertebrate - An organism without a backbone that you can see with your naked eye.

Maintenance: Repair and maintenance includes activities that:

- (a) are conducted on currently serviceable structures, facilities, and equipment;
- (b) involve no expansion of or change in use of such structures, facilities, and equipment beyond those which existed previously; and,
- (c) do not result in significant negative hydrological impact.

Repair and maintenance include those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems and includes replacement of dysfunctioning facilities. Repair and maintenance also include the replacement of existing structures with different types of structures, PROVIDED THAT such replacement is required to meet current engineering standards or by one or more environmental permits and the functioning characteristics of the original structure are not changed. (An example would be replacing a collapsed, fish blocking, round or wooden culvert, with a new box culvert under the same span, or width of roadway.)

Mitigation - To moderate, reduce, or alleviate the impacts of a proposed activity, including: a) avoiding the impact altogether by not taking a certain action or part of an action; b) minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts; c) rectifying the impact by repairing, rehabilitating or restoring the affected environment; **d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;** and e) compensation for the impact by replacing, enhancing, or providing substitute resources or environments. (40 CFR 1508.20)



Monitor - To systematically and repeatedly observe something in order to track its current condition.

Monitoring - The collection of data by various methods for the purposes of understanding maintenance activity BMPs, and features, or assessing the performance of mitigation measures.

Nutrients - Essential chemicals needed by plants or animals for growth.

Off-site - Any area that is not in the work zone .

Open Drainage System - includes stormwater conveyance systems that were created entirely by artificial means, such as roadside ditches and storm or surface water run-off facilities. Open drainage systems that contain watercourses or streams will be treated as watercourses.

Ordinary high water mark - on all lakes, streams, and tidal water is that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department: PROVIDED, That in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water.

Outlet - Point of water discharge from a stream, river, lake, tidewater, or artificial drain.

Pick Up Broom - A type of street sweeper machine that picks up material.

Plant Establishment Period - the time frame required for new seeds, live stakes and/or plants to germinate, develop a root system and the potential for casualty has passed.

Plug and Play - The process defined by NMFS and USFWS so that agencies can define their Part 1, 2 and 3 to use the Regional Road Maintenance ESA Program for a 4(d) take limit (NMFS), a special 4(d) Rule, and/or Seciton 7 take exception (USFWS).



Project - Maintenance activity(ies) at a specific site.

Public Utilities - means pipes, conduits, ROW structure, easements and similar facilities for distribution of water, electricity, natural gas, telephone, other electronic communication, and sewers, including sewer outfall lines. Public Utilities also means the agencies operating/maintaining these facilities.

Receiving Waters - Bodies of water or surface water systems receiving water from upstream manmade (or natural) streams.

Recovery - The process by which the decline of an endangered or threatened species is arrested or reversed, and threats neutralized so that its survival in the wild can be ensured. The goal of the ESA is for the recovery of listed species to levels where protection under the ESA is no longer necessary [50 CFR 402.02].

Redevelopment - The act or process of renovation of a blighted area. (Road maintenance activities are not regulated as redevelopment but as maintenance.)

Regional - All areas of the State that encompasses all agencies approved by NMFS and USFWS for Plug & Play into the Regional Road Maintenance ESA Program.

Repair - Repair and maintenance includes activities conducted on currently serviceable structures, facilities and equipment involving no expansion of or change in use of such structure, facilities, and equipment beyond those which existed previously and do not result in significant negative hydrologic impact. It includes those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems and includes replacement of disfunctioning facilities. Repair also includes the replacement of existing structures with different types of structures, including cases where environmental permits require replacing an existing structure with a different type structure, and the functioning characteristics of the original structure are not changed. (An example would be replacing a collapsed, fish blocking, round culvert, with a new box culvert under the same span, or width, of roadway.) Repair is not development or re-development but is maintenance.

Retention - The process of collecting and holding surface and stormwater runoff with no surface outflow.



Retrofitting - A form of maintenance function for replacing or repairing an existing structure or facility to meet changed conditions, required code or standards, or to improve performance.

Right of Way - means that area of land dedicated for public use or secured by the public for purposes of ingress and egress to abutting property and other public purposes. Right-of-way includes areas maintained by public agencies through prescriptive rights.

Rill - A small intermittent watercourse with steep sides, usually only a few inches deep. Often rills are caused by an increase in surface water flow when soil is cleared of vegetation.

Riparian - Pertaining to the banks of streams, wetlands, lakes or tidewater.

Roadway - Portion of the right-of-way structure that is set aside for transportation as assigned by Growth Management Act.

Salmonid - Any member of the taxonomic family Salmonidae, which includes all species of salmon, trout, and char [Salmon and Steelhead Stock Inventory].

Sediment - Fragmented material that originates from weathering and erosion of rocks or unconsolidated deposits and organic material, and is transported by, suspended in, or deposited by water.

Sedimentation - The depositing or formation of sediment.

Sensitive Area - (Shoreline Management Act) Shall mean those areas with especially fragile biophysical characteristics and/or with significant environmental resources as identified in a scientifically documented inventory accomplished as part of the SEPA/NEPA process or other recognized assessment. Sensitive areas include but are not limited to: unstable bluffs; wildlife habitat areas; fish breeding, rearing or feeding areas; wetlands; estuaries and dunes.

Services - National Marine Fisheries Service and United States Fish and Wildlife Services.

Sewer Systems - Combined sewage collection, treatment, and/or disposal facilities and services on-site or off-site sanitary sewerage facilities, inspection services and maintenance services for public or private on-site systems, or any other means of sewage treatment and disposal; combined sanitary sewerage



disposal and storm or surface water sewers; outfalls for storm drainage or sanitary sewage and works, plants, and facilities for storm drainage or sanitary sewage treatment and disposal, and rights and interests in property relating to the system; combined water and sewerage systems.

Sheetflow - Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

Species - (ESA Section 3) Any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.

Spillway - A passage such as a paved or rock apron, or channel for surplus water over or around a barrier or similar obstruction.

Stormwater - That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes into a defined surface water channel, or a constructed infiltration facility.

Stormwater Drainage System - Constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate, divert, treat or filter stormwater.

Stormwater Facility - A constructed component of a stormwater drainage system, designed or constructed to perform a particular function, or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins and modular pavement.

Streambed Gravel - That portion of the streambed structure comprised of loose rounded or fragmented rock of variable sizes found in stream beds.

Streams - " 'Watercourse' and 'river or stream' means any portion of a channel, bed, bank, or bottom waterward of the ordinary high water line of waters of the state including areas in which fish may spawn, reside, or through which they may pass, and tributary waters with defined bed or banks, which influence the quality of fish habitat downstream. This includes watercourses which flow on an intermittent basis or which fluctuate in level during the year and applies to the entire bed of such watercourse whether or not the water is at peak level. This definition does not include irrigation ditches, canals,



stormwater runoff devices, or other entirely artificial watercourses, except where they exist in a natural watercourse which has been altered by humans" WAC 220-110-020 (41).

Swale - A shallow drainage conveyance with relatively gentle side slopes, generally with flow depths less than one foot.

Take - (ESA Section 3) "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" with respect to federally listed endangered species of wildlife. Federal regulations provide the opportunity to apply take prohibitions to threatened species as would ordinarily only apply to endangered species [50 CFR 17.31(a)]. Take of a listed species includes modifying the habitat of a listed species in such a way that interferes with essential behavioral patterns including breeding, feeding or sheltering.

Toe - A point or line of slope in an excavation or cut where the lower surface changes to horizontal or meets the existing ground slope; or a point or line on the upper surface of a slope where it changes to horizontal or meets the original surface.

Turbidity - Stirred up sediment or foreign particles suspended in water causing a darkening of the water.

Watercourse - See Streams

Waters of the State - All salt waters and fresh waters waterward of ordinary high water lines and within the territorial boundaries of the state. WAC 220-110.43

Waters of the United States - All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: Which are or could be used by interstate or foreign travelers for recreational or other purposes; From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or Which are used or could be used for industrial purpose by industries in interstate commerce; All impoundment's of waters otherwise



defined as waters of the United States under the definition; Tributaries of waters identified in paragraphs (a) (1) through (4) of this section; The territorial seas; Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding the Clean Water Act jurisdiction remains with EPA (33CFR328.3).

Water Pollution Control Facility - or "water pollution control facilities" means any facilities or systems owned or operated by a public body for the control, collection, storage, treatment, disposal, or recycling of wastewater.

Water System - includes all real estate, easements, fixtures, personal property, dams, dikes, head gates, weirs, canals, reservoirs, flumes or other structures or appliances operated, owned, used or to be used for or in connection with or to facilitate the supply, storage, distribution, sale, furnishing, diversion, carriage, apportionment or measurement of water for power, irrigation, reclamation, manufacturing, municipal, domestic or other beneficial uses for hire.



ACRONYMS

4(d)	- See glossary
ACOE	- Army Corps of Engineers
BMP	- Best Management Practice
ESA	- Endangered Species Act
H&LP (OSC)	- Highways and Local Programs Olympia Service Center
HPA	- Hydraulic Project Approval
LWM	- Large Woody Material
NMFS	- National Marine Fisheries Service
ROW	- Right of Way
T2	- Technology Transfer
USFWS	- United States Fish and Wildlife Service
WAC	- Washington Administrative Code
WSDOT	- Washington State Department of Transportation
WDFW	- Washington State Department of Fish and Wildlife