Glossary

Adaptive management. A systematic process for continually improving management policies and practices by learning from the outcomes of previous policies and practices. Related to compensatory mitigation, it involves the applicant and the regulatory agencies discussing the problems occurring on a compensation site and coming to agreement on possible solutions or alternative approaches necessary to bring the site into compliance.

Alternative Futures. An approach to prescribing solutions for future development and the protection of wetlands by analyzing different alternative scenarios in terms of their impacts on wetlands and landscape processes. The scenarios include both general planning approaches, such as different patterns of zoning, and more specific approaches, such as different widths of buffers for wetlands with different ratings. The local government usually incorporates other factors into the scenarios based on the priorities of citizens for their communities.

Aquatic resources (systems). Refers to ecological systems where the regular or occasional presence of water is the dominant factor determining the characteristics of the site. Aquatic systems are made up of wetlands, rivers, streams, lakes and other deepwater habitats.

Aspen stands. A type of Washington Department of Fish and Wildlife Priority Habitat, which consists of pure or mixed stands of aspen greater than 0.8 ha (2 acres). See *Priority Habitat and Species list.*

Assessment methods. Methods that generate a number representing an estimate of the performance of a wetland function. The number generated is relative to a predetermined standard (e.g., level of function provided by reference wetlands). Numbers do not reflect an actual level of function performance (Hruby 1999). Examples include the Washington State Methods for Assessing Wetland Functions (also known as WFAM) (Hruby et al. 1999 and 2000) and a Hydrogeomorphic wetland function assessment method (Brinson et al. 1995).

Assessment metrics or metric measures. Represent environmental indicators of condition, stress, or response within an ecosystem that can be used in a predictive manner. Metrics are usually selected based on a significant statistical correlation with scientific data linking environmental stresses to a predictable environmental response (e.g., a correlation between impervious surface and the condition of aquatic habitat). Metrics are frequently used in Alternative Futures analysis to quantify the impacts of different land use scenarios on the landscape.

Atypical wetland. A wetland developed for compensatory mitigation (e.g., created, restored, or enhanced) that does not match the type of existing wetland that would be found in the geomorphic setting of the site (i.e., the water source(s) and hydroperiod proposed for the mitigation site are not typical for the geomorphic setting). For example, excavating a permanently inundated pond in an existing seasonally saturated or inundated wetland is one example of an enhancement project that could result in an atypical wetland.

Avoidance. The first step of mitigation sequencing. See *mitigation*.

Beneficial uses. The term used in the federal and state Clean Water Acts to represent the societal values of aquatic resources that need to be protected. These include, but are not limited to: water supply; surface and groundwater treatment; stormwater attenuation; fish and shellfish migration, rearing, spawning, and harvesting; wildlife habitat; recreation; support of biotic diversity; and aesthetics.

Best management practices (BMPs). Management measures which are reasonable and available and commonly used by professionals in the appropriate field that mitigate adverse impacts to surface and groundwater, and to the functions and values of critical areas.

Biodiversity. The sum total of all the plants, animals (including humans), fungi and microorganisms, along with their individual variations and the interactions between them.

Biological wetland. A biological wetland is a wetland that meets the three parameter criteria of either the 1987 Corps of Engineers Delineation Manual or the 1997 Washington State Wetlands Identification and Delineation Manual (WAC 173-22-035). Compare to *jurisdictional wetland*.

Bog. A unique type of wetland dominated by mosses at the surface and that form peat soils. Bogs form in areas where the climate allows the accumulation of peat to exceed its decomposition. The water regime in bogs is dominated by precipitation rather than surface inflow. The plant community is specialized to survive in the nutrient-poor and highly acidic conditions typical of bog systems.

Buffer averaging. Establishing a width for a buffer around a wetland based on averaging the widths at different points around the wetland rather setting the width as a minimum size everywhere around the wetland. For example, if the standard width for a buffer around a wetland is 100 feet, buffer averaging would allow the width to vary between a minimum and a maximum width but require that the buffer area average be 100 feet in width.

Buffers or buffer areas. Vegetated areas adjacent to wetlands, or other aquatic resources, that can reduce impacts from adjacent land uses through various physical, chemical, and/or biological processes.

Class. A grouping based on shared characteristics in a classification scheme. In the Cowardin et al. (1979) classification of wetlands a class is the third level in the 'taxonomy' of wetlands whereas in the *hydrogeomorphic classification* (Brinson 1993b) it is the highest taxonomic unit.

Clearing. The surface removal of vegetation by cutting, pruning, limbing, topping, relocating, application of herbicides or pesticides, or any application of hazardous or toxic substance that has the affect of destroying or removing the vegetation.

Compensatory mitigation. The compensation stage of the mitigation sequence where impacts to the functions and values of wetlands are replaced through creation, restoration, or enhancement of other wetlands. Because regulatory requirements and policies tend to focus on the compensation stage, the term "mitigation" is often used to refer to compensation, which is just one part of the overall mitigation sequence. See *mitigation*.

Comprehensive plan. A generalized coordinated land use policy statement of the governing body of a county or city.

Connectivity. The structures on the landscape that facilitate movement of living organisms between patches or their habitat that are found across the landscape. The movement can occur either within the lifetime of an organism or over a period of generations. The purpose of facilitating movement is to maintain viable populations that allow species and communities of species to persist in time. Connectivity can be achieved via a continuous and linear habitat feature (as in a corridor) or discrete habitat patches comprised of but not limited to individual forests, wetlands, shrub lands, and shorelines.

Conservation. The protection, preservation, restoration, or careful management of the environment and of natural resources.

Conservation easement. A restriction placed on a piece of property to protect the resources (natural or man-made) associated with the parcel. It restricts the type and amount of development that can take place on a parcel of land. For example, the landowner may sell or donate the development rights while retaining the ownership of the property. Easements are recorded on the property deed and are held in trust by a conservation easement "holder" such as a land trust or government agency. The holder polices the terms of the easement for the duration of its existence, which is usually into perpetuity.

Conservation Futures Levy. Optional provision under RCW 84.34.200 and RCW 84.34.230 authorizing any Washington county to establish a real property tax in the amount of $0.0625 per $1,000 of assessed valuation specifically for the purpose of acquiring land with ecosystem features deemed of high conservation value to the local community.

Contingency plan. A plan outlining actions that would be triggered if monitoring of a project revealed a problem that would prevent the site from attaining its stated goals, objectives, and performance standards. Contingency plans should identify anticipated problems and the specific maintenance activity that would be implemented to rectify each problem.

Contributing basin. The geographic area from which surface water drains to a particular wetland.

Contributing landscape/area. The geographic extent within which the landscape processes occur that influence the functions or structure of associated aquatic resources. A contributing landscape may span jurisdictional boundaries and even span several watersheds.

Conversion. Modification of the vegetation for the purpose of changing land use such a development or agriculture.

Corridor. Corridors are areas that contain relatively undisturbed habitat and/or vegetation that maintain connections for wildlife throughout the landscape. Corridors usually represent linear habitats with the range of environmental functions necessary to permit the movement of animals between larger and more fully functioning habitats. Corridors can include but are not limited to, annual or seasonal migration corridors that connect wintering and breeding habitat, or intra-seasonal corridors that connect foraging and nesting habitat or breeding and dispersal habitat.

Cowardin classification. The first commonly used classification system for wetlands developed in 1979 by the U.S. Fish and Wildlife Service. The Cowardin system classifies wetlands based on water flow, substrate types, vegetation types, and dominant plant species.

Creation. See *establishment*.

Critical areas. As defined by the Growth Management Act RCW 36.70A.030 "include the following areas and ecosystems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas".

Cumulative impacts. The incremental effect of an impact added to other past, present, and reasonably foreseeable future impacts.

De minimus. A legal term meaning 'lacking significance or importance; so minor as to be disregarded.'

Deed restriction. Clauses in a deed limiting the future uses of the property. Deed restrictions may impose a vast variety of limitations and conditions, for example, they may limit the density of buildings, dictate the types of structures that can be erected or prevent buildings from being used for specific purposes or even from being used at all. (This definition is from a legal dictionary.)

Depressional wetland. A *class* of wetlands in the *hydrogeomorphic classification*. These are wetlands that occur in topographic depressions that exhibit closed contour interval(s) on three sides and elevations that are lower than the surrounding landscape.

Detention facility. A facility that collects water from developed areas and releases it at a slower rate than it enters the collection system. The excess of inflow over outflow is temporarily stored in a pond or a vault and is typically released over a few hours or a few days.

Disturbance. An event that disrupts the processes or structure of ecological systems. Disturbances may occur naturally (e.g., wildfires, storms, floods) or be caused by human actions (e.g., clearing land, building roads, altering stream channels). The effects of disturbances on ecological systems are controlled in large part by their intensity, duration, frequency, timing, and size and shape of area affected.

Ditch. Any channel that has been specifically dug to facilitate drainage.

Drainage systems. Often called basins, sub-basins, watersheds, or river basins depending on the size of the area. In this document, drainage systems are generally referred to using one of two terms: 1. *Watershed.* A watershed is a geographic area of land bounded by topographic high points in which water drains to a common destination; and 2. *Contributing basin*. An area from which surface water drains to a particular wetland.

Ecoregion. Geographic regions where climatic conditions are similar and the ecosystems (including wetlands) are relatively homogeneous. Omernik and Gallant (1986) mapped the following ecoregions in Washington: Coast Range, Puget Lowland, Cascades, Eastern Cascades Slopes and Foothills, North Cascades, Columbia Plateau, Blue Mountains, and Northern Rockies.

Ecosystem. A loosely defined assemblage of co-occurring organisms and the geographic location which they inhabit. The term is an operational convenience defined by the user of the term for the convenience of description (Levin 2001). There is no basic geographic scale associated with the term ecosystem, and that also has to be defined by a user. For example, the term can be used to describe the micro-organisms co-occurring in a spoonful of soil (soil ecosystem) at one end of the scale to the ecosystem of the world that encompasses all organisms on the planet.

Ecosystem management. The use of ecological principles in managing natural resources by blending social, physical, economic and biological needs and values to provide ecosystems that are properly functioning. Ecosystems, however, do not have well-defined attributes associated with proper functioning. "Hence, management of an ecosystem in accordance with some defined normative behavior rests on judgments as to what is important in those systems" (Levin 2001).

Edge. The boundary where different habitats meet or where successional stages of plant communities come together.

Effectively drained. Former wetlands that have been drained and converted to non-wetlands, primarily for the purposes of agricultural use. Compare to *partially drained.*

Emergent wetland. A wetland class under the Cowardin classification that is dominated by erect, rooted, herbaceous plants. Emergent wetlands include marshes and wet meadows.

Enhancement. The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention or wildlife habitat. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres. Compare to *establishment, exchange*, and *restoration*.

Environmental processes. The same as *landscape processes*.

Establishment (creation). The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species. Establishment results in a gain in wetland acres. Compare to *enhancement*, and *restoration*. (Note: The U.S. Army Corps of Engineers' Regulatory Guidance Letter 02-2 uses the term "establishment" rather than the previously accepted term "creation." Federal agencies, as well as the Department of Ecology, have started using the term "establishment.")

Estuarine wetland. Wetlands where salt tolerant plant species are dominant and the water regime is influenced by tidal action. The wetlands are usually partially enclosed by land with open, or partially obstructed access to open saline water. In areas where freshwater wetlands grade into estuarine areas, the boundary of the latter extends to an area where the salinity is less than 5 ppt (parts per thousand) during the period of average annual low flow.

Estuary, estuary-like. A type of Washington Department of Fish and Wildlife Priority Habitat, which consists of deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by land but with open, partly obstructed or sporadic access to the open ocean and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically increased above that of the open ocean by evaporation. Along some low-energy coastlines there is appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-derived salts measure less than 0.5% during the period of average annual low flow. This includes both estuaries and lagoons. See *Priority Habitat and Species list.*

Eutrophication. The undesirable overgrowth of vegetation caused by high concentrations of plant nutrients in bodies of water, especially nitrogen and phosphorous, often as a result of human activities.

Exchange. The conversion of one type of wetland for another. For example, resource managers may intend to enhance habitat value for waterfowl by excavating an area of open water within an existing emergent marsh. If the open water replaces the emergent wetland or a large proportion of it, wetland types have been exchanged. See *enhancement.*

Fen. A type of wetland similar to a bog, containing accumulated peat. Fens support marsh-like vegetation including sedges and wildflowers. Fens differ from bogs in their plant communities, hydrology, and water chemistry. They are fed mostly by groundwater and are not as acidic as bogs.

Filtration. The blockage of sediment by standing vegetation.

Flats. A *class* of wetlands in the *hydrogeomorphic classification*. These are wetlands that occur in topographically flat areas that are hydrologically isolated from surrounding ground or surface water. They are primarily maintained by precipitation.

Forested wetland. A wetland *class* in the Cowardin classification where woody plants taller than 20 feet form the dominant cover. Shrubs often form a second layer beneath the forest canopy, with a layer of herbaceous plants growing beneath the shrubs.

Fragmentation. The breaking up of ecosystems into patches of habitat that are separated by areas altered by human land uses. Fragmentation always consists of both the reduction in the area of the original habitat and a change in spatial configuration of what remains.

Functions. The physical, biological, chemical, and geologic interactions among different components of the environment. See *wetland functions*.

Function assessment. The process by which the capacity of a wetland to perform a function is measured or characterized. This approach analyzes the capacity to perform a function using a numeric model. See *assessment methods*.

Geographic Information System (GIS). A system of spatially referenced information, including computer programs that acquire, store, manipulate, analyze, and display spatial data.

Geomorphology. The geologic composition and structure of a landscape – its topography, landforms, soils, and geology.

Geospatial. Refers to the geographic location and characteristics of natural or constructed features and boundaries on the Earth.

Green infrastructure (GRIST). An interconnected network of relatively undisturbed land and water that is protected to support native species, maintains landscape processes, sustains air and water resources, and contributes to the physical and economic health and quality of life of communities. Green Infrastructure also refers to the "services" that this network of ecosystems provide to people and communities. Such services as water filtration and aquifer recharge, flood attenuation, and biodiversity.

Green infrastructure plan (greenprint or GRIST plan). A plan for conservation using the concepts of green infrastructure which is developed by a proactive planning approach that incorporates both an understanding of the landscape and visioning for the future by the community. The plan represents the preservation aspect of a Smart Growth action strategy. The plan identifies areas for preservation and conservation, ensures the economic vitality of working landscapes, and guides development in a manner that is compatible with sustaining landscape processes and the character, quality of life, and economic sustainability of the community.

Greenprint. See *green infrastructure plan*.

Hydrogeomorphic (HGM) classification. A system used to classify wetlands based on the position of the wetland in the landscape (geomorphic setting), the water source for the wetland, and the flow and fluctuation of the water once in the wetland.

Hydrogeomorphic wetland class. The highest level in the hydrogeomorphic classification of wetlands. There are six basic hydrogeomorphic wetland classes including depressional, tidal fringe, slope, riverine, lake fringe, and flat. See *class*.

Hydroperiod. The pattern of water level fluctuations in a wetland. Includes the depth, frequency, duration, and timing of inundation or flooding. Patterns can be daily, monthly, seasonal, annual or longer term.

Impervious surface. A hard surface area which either prevents or retards the entry of water into the soil relative to conditions prior to development; and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development.

In-kind mitigation. Defined in the 2000 State of Washington Alternative Mitigation Policy Guidance (Ecology 2000) as "replacing the same species, habitat type, and function as those affected. However, disturbed habitat shall not be replaced with additional disturbed habitat. In these cases the applicant must restore the site to its natural condition based on adjacent undisturbed sites, as approved by the permitting agencies."

In-lieu fee program. A program that allows applicants for permits that impact wetlands to compensate for wetland losses by paying a fee to a third party such as a government agency or conservation organization. The fees are intended to be used to restore, create, enhance, or preserve wetlands. Generally, in-lieu fee contributions are collected in advance of wetland losses. These funds are accumulated until they are sufficient to design and implement a wetland compensation project

Interdunal wetlands. Wetlands that form in the "deflation plains" and "swales" that are geomorphic features in areas of coastal dunes. These dune forms are the result of the interaction between sand, wind, water, and plants. The dune system immediately behind the ocean beach (i.e., the primary dune system) is very dynamic and can change from storm to storm. These wetlands provide critical habitat in this ecosystem.

Invasive species. Defined by the National Invasive Species Council (NISC) as "(1) a non-native (alien) to the ecosystem under consideration and (2) a species whose introduction is likely to cause economic or environmental harm, or harm to human health."

Isolated wetlands. Isolated wetlands are generally defined as those wetlands that have no surface water connections to other aquatic resources.

Jurisdictional wetland. A wetland that is regulated by the provisions of the law under the jurisdiction of one or more federal, state, or local agencies. Not all areas of the landscape that have the biological characteristics of wetlands are regulated or jurisdictional wetlands. Compare to *biological wetland*.

Keystone species. A keystone species is a species that plays an essential role in the structure, function, or productivity of a habitat or ecosystem at a defined level of organization (habitat, soil, seed dispersal, etc). They are species that have a greater effect on their ecosystems and associated environmentall processes than would otherwise be predicted from their relative abundance or biomass alone. The beaver is a good example of a keystone species because its activities can change the habitat (create open water) and many hydrologic processes (beaver dams reduce water velocities and create areas for water storage).

Lacustrine. Pertaining to lakes or lake shores.

Lacustrine (lake) fringe wetlands. A wetland *class* under the *hydrogeomorphic classification*. These are wetlands that occur at the margins of topographic depressions in which surface water is greater than 8 hectares (20 acres) and greater than 2 meters deep in western Washington and 3 meters in eastern Washington.

Land banking. Is a tool for funding the acquisition of land authorized under RCW 82.46.070. It allows for establishment of a real estate excise tax to generate revenue for land purchase under a "land banking program." Initiated either by resolution of the county legislators or by public petition, the excise tax is approved by citizen vote.

Landscape analysis. An analysis of environmental processes and human impacts that occur at the larger geographic scales. See *landscape processes.*

Landscape processes. Environmental factors that occur at larger geographic scales, such as basins, sub-basins, and watersheds. Processes are dynamic and usually represent the movement of a basic environmental characteristic, such as water, sediment, nutrients and chemicals, energy, or animals and plants. The interaction of landscape processes with the physical environment creates specific geographic locations where groundwater is recharged, flood waters are stored, stream water is oxygenated, pollutants are removed, and wetlands are created.

Landscape scale. The geographic scale that encompasses the broader landscape (i.e., large areas such as basins, sub-basins, watersheds, and habitat corridors). Also see *site scale* and *large scale*.

Land trust. A non-profit organization, with 501-c-3 status under federal tax law, whose purpose is to conserve natural lands through acquisition and ownership. Land Trusts are usually locally-based citizen run grass-roots organizations working to protect a range of different critical ecosystem features within their communities.

Large scale. Large in scope. This term is used specifically to indicate geographic areas that extend beyond the boundaries of an individual site, wetland, or resource. Please note that this term has the opposite meaning when it is used in cartography. Large-scale maps are ones that cover a smaller geographic area than a small-scale map.

Large woody debris (LWD). Large pieces of downed wood such as logs, rootwads, and limbs that are in or near a body of water. LWD provides habitat structure for fish and other aquatic organisms.

Lentic. Having slow moving or still water, such as a pond or lake. Compare to *lotic***.**

Lotic. Having running water, such as a river or stream. Compare to *lentic***.**

Low impact development. Low Impact Development (LID) is a stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

Management area. The geographic area for which plans and regulations are being developed by a local government. The management area is usually a subset of the contributing landscape because it can be based on political boundaries (e.g., a jurisdiction such as a city), or it may be defined geographically to include a specific basin, sub-basin, or WRIA (Water Resource Inventory Area) in a county. Compare to *site scale* and *contributing landscape*.

Marine/estuarine shorelines. A Washington Department of Fish and Wildlife Priority Habitat, which include the intertidal and subtidal zones of beaches, and may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs, snags, mature trees, dunes, meadows). See *Priority Habitat and Species list.*

Metric measures. See *assessment metrics*.

Minimization. The second step of mitigation sequencing, in which an activity that cannot avoid some impact on wetlands is designed in a manner to have minimal impact. See *mitigation*.

Mitigation banking. As defined by the 1995 federal guidance on wetland mitigation banking, “wetland restoration, creation, enhancement, and in exceptional circumstances, preservation undertaken expressly for the purpose of compensating for unavoidable wetland losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial."

Mitigation performance standards. See *performance standards*.

Mitigation (or mitigation sequencing). Mitigation is a series of actions that requires addressing each action, or step, in a particular order. This sequence of steps is used to reduce the severity of negative impacts from activities that potentially affect wetlands. Mitigation involves the following: 1) Avoiding the impact altogether by not taking a certain action or parts of an action; 2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts; 3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; 4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; 5) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and 6) Monitoring the required compensation and taking remedial action when necessary (WAC 197.11.768). See *compensatory mitigation*.

Monitoring. The repetitive measurement of some aspect of a natural resource and/or human activity using ecological indicators as the basis for identifying changes to that resource.

Natural Heritage wetlands. As defined by the Natural Heritage Program of the Washington State Department of Natural Resources, wetlands that are either high quality undisturbed wetlands or wetlands that support threatened, endangered, or sensitive plant species.

Natural resources. The aspects of the non-human environment (often called natural ecosystems) that are valued by a society or culture. This includes wildlife and aquatic resources such as wetlands, estuaries, lakes, and rivers. Other natural resources include land, forests, mineral deposits, water, etc.

Off-site mitigation. Compensatory mitigation in which the replacement wetlands are **not** located at or near to the project that is affecting wetlands. Off-site mitigation is often only allowed if mitigation on the project site is not practicable or if it is environmentally preferable to on-site compensation.

Old-growth/mature forests. A type of Washington Department of Fish and Wildlife Priority Habitat. Old-growth west of Cascade crest: Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age; and > 10 snags/ha (4 snags/acre) over 51 cm (20 in) diameter and 4.6 m (15 ft) tall; with numerous downed logs, including 10 logs/ha (4 logs/acre) > 61 cm (24 in) diameter and > 15 m (50 ft) long. High elevation stands (> 762m [2500ft]) may have lesser dbh [> 76 cm (30 in)], fewer snags [> 0.6/ha (1.5/acre)], and fewer large downed logs [0.8 logs/ha (2 logs/acre) that are > 61 cm (24 in) diameter and > 15 m (50 ft) long]. Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of

fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre)> 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 - 3 snags/acre) > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east of the Cascade crest. See *Priority Habitat and Species list.*

Ongoing agriculture. The continuation of any activity defined as agriculture, including crop rotations and changes in activity (for example, from pasturing to crop farming), as long as they do not include bringing new areas into agricultural use. Ongoing agriculture does not include the conversion of farmed wetlands into uplands.

On-site mitigation. Compensatory mitigation in which the replacement wetlands are located at or near to the project that is affecting wetlands.

Open Space Current Use Taxation (CUT) program. Property tax reduction program for landowners who retain natural landscape features in their undeveloped condition, authorized under RCW 84.34. See *Public Benefit Rating System.*

Open space. An area of land that is valued for natural processes and wildlife, for agricultural production, forestry, for active and passive recreation, and/or for providing other public benefits.

Oregon white oak woodlands. A type of Washington Department of Fish and Wildlife Priority Habitat, which includes stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%; or where total canopy coverage of the stand is <25%, but oak accounts for at least 50% of the canopy coverage present. The latter is often referred to as oak savanna. In non-urbanized areas west of the Cascades, priority oak habitat consists of stands 0.4 ha (1.0 ac) in size. East of the Cascades, priority oak habitat consists of stands 2 ha (5 ac) in size. In urban or urbanizing areas, single oaks or stands < 0.4 ha (1 ac) may also be considered a priority when found to be particularly valuable to fish and wildlife.

Out-of-kind mitigation. Compensatory mitigation in which the wetland and its associated functions used to compensate for the impacts are of a different kind than those impacted. Out-of-kind mitigation is a fairly common practice, for example, when the affected wetlands are highly degraded (e.g., wet pastures dominated by exotic species), and they may be replaced by a native scrub-shrub wetland.

Partially drained. Refers to cases where the water regime of a wetland has been altered by such measures as ditching and/or tiling, but the area still retains sufficient water to meet the wetland criteria. See *effectively drained.*

Performance standards. Observable or measurable attributes used to determine whether a compensatory mitigation project meets its objectives. Standards are usually written as legally enforceable conditions on a permit.

Preservation. In a non-regulatory context, refers to permanently securing lands (using full-fee acquisition or *conservation easements*) to protect the important features of an ecosystem in an "un-impacted" condition. Preservation is essential when a feature of the ecosystem provides a high level of functions, is rare, or otherwise non-replaceable. See *protection/maintenance* for the definition of preservation used in a regulatory context.

Prior Converted Croplands (PCC). As defined in federal law, wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985, to enable production of an agricultural commodity, and that: 1) Have had an agricultural commodity planted or produced at least once prior to December 23, 1985; 2) Do not have standing water (ponding) for more than 14 consecutive days during the growing season; and 3) Have not since been abandoned.

Priority Habitat and Species (PHS) list. The PHS List is a catalog of habitats and species considered to be priorities for conservation and management. "Priority species" require protective measures for their perpetuation due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority species include State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations considered vulnerable; and those species of recreational, commercial, or tribal importance that are vulnerable. "Priority habitats" are those habitat types or elements with unique or significant value to a diverse assemblage of species. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element. There are 18 habitat types, 140 vertebrate species, 28 invertebrate species, and 14 species groups currently on the PHS List. These constitute about 16% of Washington's approximately 1000 vertebrate species and a fraction of the state's invertebrate fauna.

Programmatic mitigation area. A site (or series of sites) that have been identified by a local jurisdiction or a state or federal agency as the preferable area for wetland compensation.

Protection/maintenance (preservation). Removing a threat to, or preventing the decline of, wetland conditions by an action in or near a wetland. This includes the purchase of land or easements, repairing water control structures or fences, or structural protection such as repairing a barrier island. This term also includes activities commonly associated with the term preservation (in a regulatory context). Under regulatory actions preservation does not result in a gain of wetland acres, but may result in a gain in functions over the long term, and is used only in exceptional circumstances. Also see *preservation* for the definition used in a non-regulatory context.

Public Benefit Rating System (PBRS). An optional component of the *Open Space Current Use Taxation (CUT) program* allowing local jurisdictions to tailor their "open" category program to address protection of locally-important landscape features as defined and scored in their specific PBRS.

Reasonable use. That use of the land that is deemed appropriate by a reasonable person when balancing the public's interest against those of the private property owner. When balancing these interests, the reasonable person considers the seriousness of the public problem, the extent to which the owner's land contributes to that problem, the degree to which the proposed mitigating action or regulation solves the problem and the feasibility of less oppressive solutions. At the same time the reasonable person must consider the amount and percentage of value loss; the extent of remaining uses; the past, present, and future uses; the temporary or permanent nature of the regulation; and the extent to which the owner should have anticipated such mitigating actions or regulations and how feasible it is for the owner to alter present or currently planned uses.

Recruitment (of woody debris). The movement of large and small wood from surrounding areas into an aquatic system over time through the actions of wind, water, or other means. The potential for recruitment of woody debris influences the long-term habitat structure within an aquatic system.

Re-establishment. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Activities could include removing fill material, plugging ditches or breaking drain tiles. Re-establishment results in a gain in wetland acres and functions. Compare to *rehabilitation. S*ee also *restoration.*

Reference wetland. In the context of compensatory mitigation, means a wetland chosen to represent the functions and characteristics that are being created, restored, or enhanced at the "mitigation" site. A reference wetland, or wetlands, are used for monitoring the success of the mitigation project. Reference wetlands, in the context of methods for assessing wetland functions, mean the sites chosen to represent the full range of functioning in a region or hydrogeomorphic class. Data collected at these sites is used to calibrate the methods.

Rehabilitation. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions and processes of a degraded wetland. Activities could involve breaching a dike to reconnect wetlands to a floodplain, restoring tidal influence to a wetland, or breaking drain tiles and plugging drainage ditches. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Compare to e*stablishment (creation), re-establishment* and *enhancement.* See also *restoration*.

Restoration. The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into *re-establishment* and *rehabilitation*.

Richness. The number of different species of organisms present in a community.

Riparian. A Washington Department of Fish and Wildlife Priority Habitat, which includes the area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. In riparian systems, the vegetation, water tables, soils, microclimate, and wildlife inhabitants of terrestrial ecosystems are influenced by perennial or intermittent water. Simultaneously, the biological and physical properties of the aquatic ecosystems are influenced by adjacent vegetation, nutrient and sediment loading, terrestrial wildlife, as well as organic and inorganic debris. Riparian habitat encompasses the area beginning at the ordinary high water mark and extends to that portion of the terrestrial landscape that is influenced by, or that directly influences, the aquatic ecosystem. Riparian habitat includes the entire extent of the floodplain and riparian areas of wetlands that are directly connected to stream courses. See *Priority Habitat and Species list*. Also see *riparian* below.

Riparian. The strip of land adjacent to a body of water that is transitional between the aquatic system and the upland. Some riparian areas contain wetlands. Also see *riparian* above.

Riparian areas. Vegetated ecosystems along a water body through which energy, materials, and water pass. Riparian areas characteristically have a high water table and are subject to periodic flooding and influence from the adjacent water body. These systems encompass wetlands, uplands, or some combination of these two landforms. They will not in all cases have all the characteristics necessary for them to be also classified as wetlands.

Risk assessment. The process of establishing information regarding acceptable levels of a risk and/or levels of risk for an individual, group, society, or the environment.

Riverine wetlands. A *class* of wetlands in the *hydrogeomorphic classification*. Wetlands that occur in floodplains and riparian corridors in association with stream or river channels where there is frequent overbank flooding.

Rural natural open space. A Washington Department of Fish and Wildlife Priority Habitat, which includes open spaces in which a priority species resides within it or adjacent to it and the priority species uses it for breeding or regular feeding; and/or the open space functions as a corridor connecting other priority habitats, especially areas that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and surrounded by agricultural developments. Local consideration may be given to open space areas smaller than 4 ha (10 acres). Compare to *urban natural open space.* Also see *Priority Habitat and Species list.*

Sequencing (mitigation sequencing). A series of actions that requires addressing each action, or step, in a particular order. It is the process of working through a series of steps to determine what types of impacts may be permitted and what types of compensatory mitigation may be appropriate. See *mitigation.*

Site processes. Environmental factors that occur within the wetland itself or within its buffer. The interactions of site processes with landscape processes define how a wetland functions.

Site scale. The geographic scale that encompasses the area within the boundary of a single wetland and its immediate surroundings. Compare to *management area* and *contributing landscape*. Also see *landscape scale.*

Slope wetlands. A *class* of wetlands in the *hydrogeomorphic classification.* These are wetlands that occur on the slopes of hills or valleys. The principal water source is usually seepage from groundwater.

Smart Growth. A concept for improving land-use planning and the management of growth in communities by combining principles of ecosystem management with those of comprehensive planning. Its purpose is to minimize the negative effects of sprawl development on both the economic vitality of communities and the environment. Generally, Smart Growth principles and policies encourage limited outward expansion, higher density development, preservation of green space, walk-able communities, and revitalization of urban centers.

Species richness. See *richness***.**

Stormwater. Stormwater is the water coming from rain or snow 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.

Sub-basin. A smaller drainage basin that is part of a larger drainage basin or watershed. For example, the watershed of a large river may be composed of several sub-basins, one for each of the river's tributaries.

Temporal impacts. Impacts to wetland functions that will eventually be replaced as a project of compensatory mitigation matures, but cannot achieve similar levels of function in a short period of time. Compare to *temporal loss.*

Temporal loss (of functions). The concept that there is a time lag between the loss of existing wetland functions through human or natural disturbance and the re-establishment of functions over time in a site that is newly constructed or modified.

Tidal fringe wetlands. A *class* of wetlands in the *hydrogeomorphic classification*. Wetlands that occur on continental margins where marine waters are greater than 2 meters deep and more than 8 hectares (20 acres) in size.

Transfer of Development Rights (TDR). A process by which development rights are severed from parcels of land and transferred to other parcels. Areas are designated where such rights can be bought and used.

Urban natural open space. A Washington Department of Fish and Wildlife Priority Habitat, which includes open spaces in which a priority species resides within it or adjacent to it and the priority species uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other priority habitats, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development. Local considerations may be given to open space areas smaller than 4 ha (10 acres). Compare to *rural natural open space.* Also see *Priority Habitat and Species list.*

Values. See *wetland values*.

Vegetated marine/estuarine. A Washington Department of Fish and Wildlife Priority Habitat, which includes the following: Eelgrass meadows - habitats consisting of intertidal and shallow subtidal shores which are colonized by rooted vascular angiosperms of the genus *Zostera;* Kelp beds - patches of sedentary floating aquatic vegetation of the genus *Macrocystis* and/or *Nereocystis; and* Turf algae - habitats consisting of non-emergent green, red, and/or brown algae plants growing on solid substrates (rocks, shell, hardpan). See *Priority Habitat and Species list.*

Vernal pool. Small depressions in the scabrock or in shallow soils of eastern Washington that fill with snowmelt or spring rains. They retain water until the late spring when reduced precipitation and increased evapotranspiration lead to a complete drying out. The wetlands hold water long enough throughout the year to allow some strictly aquatic organisms to flourish, but not long enough for the development of a typical wetland environment.

Watershed. A geographic area of land bounded by topographic high points in which water drains to a common destination.

Wetland functions. The physical, biological, chemical, and geologic interactions among different components of the environment that occur within a wetland. Wetlands perform many valuable functions and these can be grouped into three categories: functions that improve water quality, functions that change the water regime in a watershed such as flood storage, and functions that provide habitat for plants and animals.

Wetland rating. Also called a wetland rating system. is a tool for dividing or grouping wetlands into groups that have similar needs for protection. One method used in Washington is the Washington State wetland rating systems (Hruby 2004a,b), which places wetlands in categories based on their rarity, sensitivity, our inability to replace them, and their functions.

Wetland values. Wetland processes, characteristics, or attributes that are considered to benefit society.

Wetlands. As defined by the *Washington State Wetlands Delineation Manual* (Ecology 1997), "The Corps of Engineers (CE) (Federal Register 1982), the Environmental Protection Agency (EPA) (Federal Register 1985), the Shoreline Management Act (SMA) and the Growth Management Act (GMA) all define wetlands as: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. In addition, the SMA and GMA definitions add: "Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands."