

GLOSSARY OF TERMS

A → **Absorption:** the process of taking up one substance into the body of another, such as a sponge absorbing water.

Acid rain: precipitation that has a low pH (less than pH 5.6, which is normal for “natural” precipitation); the precipitation becomes acidic when moisture in the air reacts with sulfur and nitrogen pollutants in the atmosphere; because of its low pH, acid rain has a harmful effect on some plants, soils and surface waters, buildings and indirectly, on some organisms that live in surface waters.

Adsorption: attraction and holding of one substance on the surface of another; this often involves the attraction of molecules in gases and liquids to the surface of a solid.

Aeration: the process to increase oxygen levels in the water by circulating the water in a lake or pond.

Aerobic: living or active only in the presence of oxygen.

Aerobic decomposition: to decay by aerobic microorganisms.

Agrochemical: synthetic chemicals (pesticides and fertilizers) used in agricultural production.

Algae: nonvascular plants, usually aquatic and capable of using carbon dioxide by photosynthesis. Algae grow naturally in most rivers, lakes, and bays. Nutrients like phosphorus and nitrogen can make algae grow faster.

Algal bloom: large, readily visible masses of algae found in bodies of water (usually ponds and lakes) during warm weather.

Algicide: any substance that will kill or control algal growth.

Alkalinity: the capacity of water to neutralize acids by its contents of bicarbonates, carbonates, or hydroxides (alkaline substances).

Anaerobic: living or active in the absence of oxygen.
Anaerobic decomposition: reduction of organic matter by anaerobic microorganisms in an oxygen free environment.

Anoxia: lacking sufficient oxygen to sustain the organisms that need it.

Anti-vortex device: a device that promotes the settling of pollutants by preventing a whirlpool from occurring at the outlet device.

Aquaculture: the controlled cultivation and harvest of aquatic plants or animals (i.e., edible marine algae, clams, oysters, etc.)

Aquascaping: landscaping the shoreline of ponds and lakes with aquatic and wetland plants.

Aquatic: plants or animal life living in, growing in, or adapted to water.

Aquifer: a geologic formation that can hold, and provide, large quantities of water readily. Aquifers can be classified as confined or unconfined.

Atmospheric deposition: release of nitrogen into the air due to ammonia volatilization and nitrous oxide production largely promoted by the combustion of fossil fuels.

B → **Bacteria:** microscopic one-celled organisms that have no chlorophyll, are aerobic, or for very brief periods anaerobic, and multiply by simple cell division. Bacteria exist essentially everywhere and perform a variety of functions; not always useful to people. While decomposing organic matter in water, bacteria can greatly reduce the quantity of oxygen in water.

Bank: the portion of the land surface which normally abuts and confines a waterbody. It occurs between a waterbody and a bordering vegetated wetland and adjacent flood plain, or, in the absence of these, it occurs between a waterbody and upland. The upper boundary of a bank is the first observable break in the slope of mean annual flood level, whichever is lower. The lower boundary of a bank is the mean annual low flow level.

Basal area: the area in square feet of the cross section of a tree taken at breast height (4.5 feet above the ground).

Baseflow: the portion of streamflow derived from groundwater discharge.

Bedrock: solid rock, commonly called "ledge" that forms the earth's crust. It is locally exposed at the surface but more commonly is buried beneath a few inches to more than 300 feet of overburden.

Benthic: pertaining to the bottom (bed) of a water body.

Berm: a ridge of material, typically soil, which is used to retain or redirect storm water flow.

Best Management Practices (BMPs): structural, nonstructural and managerial techniques that are recognized to be the most effective and practical means to prevent and reduce nonpoint source pollutants. BMPs should be compatible with the productive use of the resource to which they are applied and should be cost effective.

Bioaugmentation: adding naturally occurring bacteria to a pond or lake to reduce nutrient levels, typically used to reduce algae blooms.

Biochemical oxygen demand (BOD): a laboratory measurement of the “strength” or potency of an organic or inorganic waste; the test determines the amount of oxygen used by microorganisms as they biochemically degrade (reduce to simply by-products) the waste. BOD values provide a somewhat standard measure of how much oxygen will be required to degrade a waste, and therefore reflect the effect the waste may have on fish or other aquatic organisms that require oxygen to live.

Biodegradable: capable of being broken down (decomposed) by microorganisms.

Biodiversity: the existence of a wide variety of species in a particular area or during a specific period of time.

Biofiltration: the use of a series of vegetated swales to provide filtering treatment for stormwater as it is conveyed through the channel. The swales can be grassed, or contain emergent wetlands or high marsh plants.

Biological criteria: numerical values or narrative descriptions that depict the biological integrity of aquatic communities in that state. May be listed in state water quality standards.

Black water: liquid and solid human waste and the carriage water generated through toilet usage.


Bordering vegetated wetland: a freshwater wetland which borders on creeks, rivers, streams, ponds, and lakes, such as wet meadows, marshes, swamps, and bogs. The boundary of a bordering wetland is the line within which 50% of the vegetation community consists of wetland plant species identified in the Wetlands Protection Act.

Buffers: see Vegetative Buffers

Buffer strips: strips of grass or other close growing vegetation that separates a waterway (ditch, stream, brook) from an intensive land use area (subdivision, farm); also referred to as filter strips, vegetated filter strips, and grassed buffers.

By-Law: a town law.

Bypass system: a system which allows maintenance by temporarily diverting stormwater.

 **Catch basin:** a structure for the capture of stormwater utilized in streets and parking areas. It typically includes an inlet, sump, and outlet and provides minimal removal of suspended solids. In most cases a hood also is included to separate oil and grease from the stormwater.

Certified vernal pool: under the Massachusetts Wetlands Protection Regulations, 310 CMR 10.57(a)(5)-(6), these are pools that have been certified by the Massachusetts Division of Fisheries and Wildlife, and the area 100 feet from the boundary of said pool. If the pool has not been certified, the wetlands regulations contain procedures for determining the probable extent of said habitat. These pools provide crucial habitat to several vertebrate and many invertebrate species of wildlife.

Channel: the section of the stream that contains the main flow.

Channelization: the straightening of a stream; this often is a result of human activity.

Channel modification: see Hydromodification

Check dam: an earthen or log structure used in grass swales (perpendicular to the runoff flow) to reduce water velocity, promote sedimentation, and enhance infiltration.

Chlorinated hydrocarbons: synthetic compounds that contain chlorine, hydrogen, and carbon; often a main ingredient in pesticides.

Chlorination: one method of disinfecting water (either drinking water or waste water). There is some concern that chlorine used in waste water disinfection may be harmful to sensitive aquatic organisms inhabiting the waters that receive the treated wastewater.

Clarity: a measure of the amount of particles suspended in water; determined by using a secchi disk or turbidity test.

Clay Soil: a soil containing more than 40% clay, but less than 45% sand, and less than 40% silt.

Cobble: medium-sized rocks (2-10 inches) that are found in a stream bed.

Coliform bacteria: a special kind of bacteria that produces acid and gas when decomposing lactose (a carbohydrate also known as milk sugar) under anaerobic conditions. Coliform bacteria typically inhabit the intestines of warm blooded animals, as well as surfaces of plants and soil.

Combined sewer: a sewer that transports surface water runoff and human domestic wastes (sewage) and sometimes industrial wastes.

Combined sewer overflow (CSO): flow of wastewater and stormwater runoff in a combined sewer in excess of the sewer capacity. This is especially common in older cities. During a big storm, combined sewers may overflow and dump untreated sewage into streams, lakes and coastal waters.

Composting: a controlled microbial degradation of organic waste yielding an environmentally sound, nuisance free product of potential value as a soil conditioner.

Cone of depression: a roughly circular area around a well where the groundwater level is lowered by pumping.

Confined aquifer: an aquifer whose upper and perhaps lower boundary is defined by a (confined) layer of natural material that does not transmit water readily. Groundwater trapped within this type of aquifer is under pressure.

Contour farming: a conservation based method of farming in which all farming operations are performed across (rather than up and down) the slope.

Contour strip cropping: a type of contour farming in which row crops are planted in strips between alternating strips of close-growing, erosion resistant forage (grass, grain, or hay) crops.

Conventional tillage: the traditional method of farming in which soil is prepared for planting by completely inverting it with a moldboard plow. Subsequent working of the soil with other implements is usually performed to smooth the soil surface. Bare soil is exposed to the weather for some varying length of time depending on soil and climatic conditions.

Conveyance: system of pipes, conduits, ditches, and channels.

Cost effectiveness: a measure used to compare alternatives on the basis of cost inputs per units of resulting benefits.

Cover crop: a crop that provides temporary protection for delicate seedlings and/or provides a canopy for seasonal soil protection and improvement between normal crop production periods.

Crop rotation: a system of farming in which a regular succession of different crops are planted on the same land area.

Culvert: man-made construction that diverts the natural flow of water.

D → **Dam/Embankment:** the structure that impounds runoff into a stormwater facility.

Designated uses: state-established desirable uses that waters should support, such as fishing, swimming, and aquatic life. Listed in state water quality standards.

Detention time: the amount of time that a unit volume of stormwater actually remains in a BMP. Greater detention times will provide increased removal of suspended solids.

Detention basin/pond: a BMP which provides temporary storage of stormwater runoff. Also known as a dry pond.

Discharge: water or effluent released to a receiving water body.

Discharge point: places where groundwater flows out of an aquifer. Springs are visible discharge points. Discharge points also occur as seepage into wetlands, lakes, and streams.

Dissolved oxygen (DO): oxygen dissolved in water and available for living organisms to use for respiration. The amount is usually expressed in parts per million (ppm) or milligrams per liter (mg/L).

Drawdown: the lowering of the water table caused by the withdrawal of water from an aquifer by pumping. Also, a best management practice used to control some types of aquatic plants in lakes and ponds, performed by lowering the water level and exposing plant roots or rhizomes to freezing and thawing.

Dredge: to remove sediments from the stream bed to deepen or widen the channel.

E → **Ecology:** the study of the relationships of plants and animals with each other and with their environment.

Effluent: wastewater as it leaves some type of treatment system, such as septic tank effluent or municipal wastewater treatment plant effluent.

Emergency outlet/spillway: a structure that safely conveys stormwater overflow from a BMP pond.

Emergent plants: an aquatic plant that is rooted in sediment but has leaves at or above the water.

Erosion: wearing away of soil by running water, wind or ice.

Estuary: the area where the fresh water of a river meets and mixes with the salt water of the ocean.

Eutrophic: applied to water bodies which are rich in plant nutrients and are therefore highly productive.

Eutrophication: the natural aging process of surface waters (such as rivers, streams, reservoirs) through enrichment by nutrients which may lead to depleted oxygen concentrations. In the end, eutrophication results in the decreased volume of a waterbody. Eutrophication is a natural process that is frequently accelerated and intensified by human activities.

Extended detention basin: an area surrounded by an embankment, or an excavated pit, designed to temporarily hold stormwater long enough to allow settling of solids and reduce local and downstream flooding.

F → **Fauna:** the animal life characteristic of a region of environment.

Fecal coliform: coliform bacteria that originate in the intestinal tract of humans and other warm-blooded animals; fecal coliform are not harmful to humans by themselves, but are used to indicate the potential presence of other harmful bacteria.

Filter fabric/Geomembrane: a webbed fabric which serves to filter pollutants or to hold a filter medium, such as sand or gravel, in place.

Filter strip (forest): an area of forest land, adjoining the bank of a waterbody, where no more than 50% of the basal area is cut at any one time.

Fish passages: an aquatic habitat structure involving the modification or removal of barriers that restrict or prevent fish from movement upstream or downstream for spawning, habitat utilization and other life functions.

Floatables: materials in stormwater or sanitary flows which float to the surface.

Floating plants: plants that grow free floating, rather than being attached to the stream bed.

Flocculent: a mass of particles that form into a clump as a result of a chemical reaction.

Floodplain: the flat or nearly flat land on the floor of a stream valley or tidal area that is covered by water during floods.

G → **Gabion:** a rectangular basket or mattress made of galvanized, and sometimes PVC-coated, steel wire in a hexagonal mesh. Gabions are generally subdivided into equal-sized cells that are wired together and filled with 4- to 8-inch-diameter stone, forming a large, heavy mass that can be used as a shore-protection device. (USACE, 1990)

Grade stabilization structure: A structure used to control the grade and head cutting in natural or artificial channels (USDA-SCS, 1988).

Grassed waterway: a natural or constructed conveyance for surface runoff, lined with an erosion-resistant grass that transports runoff to a suitable discharge point at a non-erosive rate.

Grey water: wastewater other than sewage, such as sink discharge or washing machine discharge.

Groundwater: the supply of fresh water that is found under the earth's surface in underground rock formations or soil.

Groundwater recharge: the replenishment of groundwater by infiltration or seepage from precipitation or surface runoff.

H → **Habitat:** the natural environmental of an organism.

Hazardous materials: any solid, liquid, or gas that can cause harm to humans and other living organisms due to being flammable or explosive, irritating or damaging to skin or lungs, interfering with oxygen intake and absorption, or causing allergic reactions.

Hazardous waste: any waste material that is potentially dangerous, including, but not limited to, explosives, radioactive materials and chemicals.

Headwaters: the origins of a stream.

Herbicides: agrochemicals (pesticides) used to control undesirable plants.

Household hazardous waste: any number of commonly used household cleaning products, workshop and outdoor chemicals, automotive fluids, and personal care products that are potentially dangerous to the environment.

Hydrology: The science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil, and underlying rocks, and in the atmosphere

Hydrologic soil groups: U.S. Natural Resources Conservation Service (NRCS, formerly SCS) soil classification system for estimating the runoff potential of soils as a result of precipitation. Soils not protected by vegetation are assigned to one of four groups (A-D). They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long duration storms. The NRCS county soil surveys classify which soil belongs in which hydrologic soil group.

Hydrologic soil group "A": soils having a high infiltration rate when thoroughly wet, with a low runoff potential. These consist mainly of deep, well-drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission, and include sand, loamy sand, or sandy loam.

Hydrologic soil group "B": soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission, and include silt loam or loam.

Hydrologic soil group "C": soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission, and include sandy clay loams.

Hydrologic soil group "D": soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Hydromodification: The alteration of the natural circulation or distribution of water by the placement of structures or other activities

➔ **Impairment:** degradation.

Impermeable: soil or rock that does not allow water to pass through it.

Impervious surfaces: paved, concrete or otherwise developed areas such as rooftops and parking lots that have no vegetation. These surfaces send runoff directly to stormdrains, carrying pollutants and debris picked up by the stormwater directly into the stormdrain system.

Impervious area: impermeable surface, such as pavement or roof top, which prevents the infiltration of water into the soil.

Impoundment: a body of water contained by a barrier, such as a dam.

Infiltration: the entry of water (from precipitation, irrigation, or runoff) into the soil.

Infiltration basin: an impoundment where incoming stormwater runoff is stored gradually until it exfiltrates through the soil of the basin floor.

Infiltration BMP: a type of BMP designed to enhance the movement of stormwater runoff from the surface to the subsoil.

Infiltration trench: stone filled excavations that temporarily store stormwater runoff and allow it to soak into the soil.

Inlet: the pipe that carries stormwater into the BMP.

Insecticides: agrochemicals (pesticides) used to control undesirable insects.

Integrated pest management: a planned program that coordinates economically and environmentally acceptable methods of pest control with judicious and minimal use of toxic pesticides and is based on careful assessment of local conditions.

Invasive species: those species that evolved elsewhere and have been purposely or accidentally relocated. Introduced species often find no natural enemies in their new habitat and therefore spread easily and quickly.

Invertebrates: animals that do not have a backbone. Invertebrates are cold-blooded; their body temperature depends on the temperature of their environment.

L → **Landing (forest):** the location on a piece of forested property currently being harvested where forest products such as logs are collected.

Land uses: activities that take place on the land, such as construction, farming, or tree clearing.
Livestock operation: a facility that raises animals such as cows, sheep, or hogs. Fecal coliform bacteria are present in livestock waste.

M → **Macroinvertebrate:** organisms that lack a backbone and can be seen with the naked eye.

Macrophytes: the macroscopic (large enough to be observed by the naked eye) aquatic plants found in water bodies. Excludes algae and phytoplankton.

Microorganisms: a simple form of life with microscopic dimensions; microbes.

Mulch: any substance spread or allowed to remain on the soil surface to conserve soil moisture and shield soil particles from the erosive forces of raindrops and runoff.

N → **Nitrogen:** a nutrient that is essential to plants and animals.

Nonpoint Source Pollution: Pollution of surface water or groundwater supplies originating from land-use activities and/or the atmosphere, having no well-defined point of entry.

Nonstructural/Nonstructural BMP: a preventative action that does not require construction to protect receiving water quality. Nonstructural BMPs rely predominantly on behavioral changes in order to be effective. Major categories of non-structural BMPs include education, recycling, maintenance practices and source controls.

No-tillage: a method of crop production in which the seedbed preparation involves only opening a small slit in the soil (when plowing is eliminated) for seed and agrochemical placement; pest control is subsequently achieved through the use of agrochemicals, rather than tillage; also referred to as “no-till” or zero-till”.

NPDES: National Pollutant Discharge Elimination System, a national program in which pollution dischargers such as factories and sewage treatment plants are given permits to discharge. These permits contain limits on the pollutants they are allowed to discharge.

Nutrients: substances such as nitrogen, carbon, potassium, and phosphorus which are essential for plant and animal growth. Excess amounts of nitrogen and phosphorus can cause algae blooms and fish kills.

Nutrient pollution: contamination of water resources by excessive inputs of nutrients; in surface waters, excess algal or aquatic plant production is a result of elevated nutrient concentrations.

O → **Operation and maintenance plan:** this plan outlines the regular inspection/cleaning schedule necessary to keep a BMP in good repair and operating efficiently and is a critical component to the success of either a stormwater runoff control BMP or a PPP required under the NPDES program.

Ordinance: a city law

Organic filter: a surface sand filter in which a layer of compost or organic peat lies on top of a thinner sand layer for enhanced removal of pollutants.

Outfall: the pipe through which industrial facilities and wastewater treatment plants discharge their effluent (wastewater) into a waterbody.

P → **Particulates:** small pieces of material (such as sand) floating in the water.

Pathogens: disease causing microorganisms such as bacteria, viruses and pathogenic protozoa.

Permeable: porous.

Pervious surface: a surface which allows water to soak into it.

Pesticides: chemical compounds used to control specific pests (plants and animals). Insecticides control insects; herbicides control plants.

pH: a numerical measure of the hydrogen ion concentration used to indicate the alkalinity or acidity of a substance. Measured on a scale of 1.0 (acidic) to 14.0 (basic); 7.0 is neutral.

Phosphorus: a nutrient that is essential to plants and animals.

Photosynthesis: the chemical reaction in plants that utilizes light energy from the sun to convert water and carbon dioxide into simple sugars. This reaction is facilitated by chlorophyll. At night, this process reverses: plants and algae suck oxygen out of the water.

Point source pollution: pollution of ground or surface water supplies at a well-defined, usually manufactured, points or locations; discharges of treated wastewater from municipal and industrial treatment plants are common point sources of pollution.

Pollutant: any substance of such character and in such quantities that upon reaching the environment (soil, water or air) is degrading in effect so as to impair the environment's usefulness or render it offensive.

Pollution: the occurrence of contaminating materials in the environment (water, soil or air) above natural background levels.

Pool: deeper portion of a stream where water flows slower than in neighboring, shallower portions.

Porous pavement: a manufactured surface that allows water to penetrate through and percolate into the soil (as in porous asphalt pavement or concrete). Porous asphalt pavement is comprised of irregular shaped crushed rock, pre-coated with asphalt binder. Water seeps through into the lower layers of gravel for temporary storage, then filters naturally into the soil.

Primary treatment: removal of floating and suspended solids, using physical processes.

Principle outlet: the main structure that controls and conveys a facility's flow of water.

Pump system: electrical and mechanical components including pipework used to convey BMP discharge.

R → **Receiving waters:** bodies of water that receive runoff or wastewater discharges, such as streams, rivers, ponds, lakes, and estuaries.

Retention basin/pond: a BMP which provides permanent storage of stormwater runoff. Also known as a wet pond.

Retrofit: a modification to the existing urban area or stormwater infrastructure.

Revetment: A facing of stone, concrete, etc., built to protect a scarp, embankment, or shore structure against erosion by wave action or currents (USACE, 1984).

Riffle: shallow area in a stream where water flows swiftly over gravel and rock.

Rip Rap: rocks used on an embankment to protect against bank erosion.

Riparian: of or pertaining to the banks of a body of water.

Riparian zone: the vegetative area on each bank of a body of water.

Riser: a vertical pipe extending from the bottom of a BMP that is used to control the rate of stormwater discharge.

Runoff: water from rain, snowmelt, or irrigation that flows over the ground and returns to streams. It can collect pollutants from air or land and carry them to streams and other waterbodies.

S → **Sand:** soil particles between 0.05 and 2 mm in diameter.

Sand filter: self-contained beds of sand underlain with perforated underdrains. Runoff is filtered through the sand and is collected in the underdrain system and discharged to receiving water or to another BMP for further treatment.

Sanitary sewer: a sewer that transports only wastewaters (from domestic residences and/or industries) to a wastewater treatment plant.

Secchi disk: a black-and-white disk used to measure the clarity of water. The disk is lowered into the water until it cannot be seen and then the depth of the disk is measured.

Sediments: soil particles carried by rainwater into streams, lakes, rivers and bays.

Sedimentation: the deposition of transported soil particles due to a reduction in the rate of flow of water carrying these particles.

Septage: the liquid and semi-solid contents removed by pumping from a septic tank.
Septic system: an on-site system designed to treat and dispose of domestic sewage under the ground; a typical system consists of a tank that receives wastes from a residence or business, a distribution box, and a leach field.

Setbacks: a safety precaution that require a minimum distance for septic tanks from wells, surface waters, building foundations, and property boundaries. This is meant to minimize the threat to public health and the environment. The specific setback should be based on soil type, slope, presence and character of the water table and the type of septic system.

Sewage: liquid and solid wastes carried in sewers.

Sewer: an underground system of conduits (pipes and/or tunnels) that collect and transport wastewaters and/or runoff; gravity sewers carry free-flowing water and wastes; pressurized sewers carry pumped wastewaters under pressure.

Silviculture: management of forest land for timber.

Skid road or trail (forest): the main road in the forest, including its branches, which will be used repeatedly by a skidder or forwarder to remove the forest floor, make ruts, compact the soil, and otherwise create conditions that can cause erosion.

Source controls or source reduction: a practice or structural measure to prevent pollutants from entering stormwater runoff or other environmental media.

Storm sewer: a sewer that collects and transports surface runoff to a discharge point (infiltration basin, receiving waterbody, treatment plant).

Stormwater: rainwater that runs off over land.

Stream bank erosion: the process which occurs when stream banks are gradually undercut, and slump into the channel.

Strip cropping: a crop production system that involves planting alternating strips of row crops and close growing forage crops; the forage strips intercept and slow runoff from the less protected row crop strips.

Structural BMP: includes constructed facilities or measures to help protect receiving water quality and control stormwater quantity.

Submergent plants: plants that live and grow fully submerged under the water.

Swale: Gently sloped area of vegetation used to slow the flow of runoff, channeling it to other BMPs.

Surface runoff: precipitation, snow melt, or irrigation in excess of what can infiltrate the soil surface and be stored in small surface depressions; runoff is a major transporter of nonpoint source pollutants.

T → **Terrace:** a broad channel, bench or embankment constructed across the slope to intercept runoff and detain or channel it to protected outlets, thereby reducing erosion from agricultural areas.

Thermal pollution: The excessive raising or lowering of water temperature above or below normal seasonal ranges in streams, lakes, or estuaries or oceans as the result of discharge of hot or cold effluents into such water.

Toxicity: refers to the capacity of a substance to produce injury to the human body or other biological system.

Treated wastewater: wastewater that has been subjected to one or more physical, chemical and biological processes to reduce its pollution and/or health hazard.

Treatment BMP: a BMP intended to remove pollutants once they are already contained in stormwater. Examples of treatment BMPs include: oil/water separators, biofiltration swales, and wet-settling basins.

Tributaries: a body of water that drains into another body of water.

Turbidity: murkiness or cloudiness of water, indicating the presence of some suspended sediments, dissolved solids, natural or manmade chemicals, algae, etc. For cloudy water, turbidity would be high; for clear water, turbidity would be low.

U → **Underground injection wells:** drains in industrial buildings that allow pollutants to seep into the ground and threaten groundwater supplies.

Urban: cities and other incorporated places of 2,500 or more population; developed areas

V → **Vegetative buffer:** areas of vegetation that remove pollutants in runoff as the water flows through it (also known as filter strips and buffers).

Vegetative filter strip: a permanent, maintained strip of planted or indigenous vegetation located between nonpoint sources of pollution and receiving water bodies for the purpose of removing or mitigating the effects of nonpoint source pollutants such as nutrients, pesticides, sediments, and suspended solids. A VFS, which both decreases velocity and removes pollutants from the stormwater, is designed to receive overland flow from an upland development. Also referred to as a Vegetative Buffer Area.

Vegetative swale: A natural depression or wide, shallow vegetated ditch used to temporarily store, route, or filter runoff.

W → **Wastewater:** literally, water that has been used for some purpose and discarded, or wasted; typically liquid discharged from residential, business or industrial sources that contains a variety of wastes (fecal matter, by-products).

Wastewater treatment plant: a facility that receives wastewaters (and sometimes runoff) from domestic and/or industrial sources, and by a combination of physical, chemical and biological processes reduces (treats) the wastewaters to less harmful by-products; known by the acronyms WWTP, STP (sewage treatment plant), and POTW (publicly owned treatment works).

Waters of the Commonwealth: broadly defined to include all waters within the jurisdiction of the Commonwealth, including, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters, and groundwater.

Water quality criteria: maximum concentrations of pollutants that are acceptable, if those waters are to meet water quality standards. Listed in state water quality standards.

Water quality standards: written goals for state waters, established by each state and approved by EPA.

Water table: the upper level of a saturated zone below the soil surface; often the upper boundary of a water table aquifer. The water table rises and falls according to the season and the amount of rain and snowmelt that occurs.

Watershed: A watershed is a geographic area of land in which all surface and ground water flows downhill to common point, such as a river, stream, pond, lake, wetland, or estuary.

Wetland buffer zone: area of land extending 100 feet horizontally outward from the boundary of any resource area defined under the Wetland Protection Act Regulations (310 CMR 10.00) except for land under water bodies, land subject to tidal action, land subject to coastal storm flowage and land subject to flooding.

Wetlands: tidal and non-tidal areas characterized by saturated or nearly saturated soils most of the year that are located between terrestrial (land-based) and aquatic (water based) environments; includes freshwater marshes around ponds and channels (rivers and streams), brackish and salt marshes; common names include marshes, swamps, and bogs.

Wetlands Protection Act: the Massachusetts Wetlands Protection Act, MGL c.131, s.40. Under the provisions of the Act, no person may remove, fill, dredge, or alter certain resource areas without first filing a Notice of Intent and obtaining an Order of Conditions. The Act requires that the Order contain conditions to preserve and promote the protection of public or private water supply and groundwater supply, flood control, storm damage protection, the prevention of pollution and the protection of fisheries, land containing shellfish, and wildlife habitat.

Wet pond: an area surrounded by an embankment, or an excavated pit, designed with a permanent pool of water. Runoff entering the wet pond displaces the water already present in the pool and remains there until displaced by the next storm event. Detention of the runoff in the pool allows for settling of solids and reduces local and downstream flooding.