

Long Creek Restoration Project

Rev. 3 (6/9/08)

Appendix A

Glossary of Terms

Best Management Practices (BMP): Structural, vegetative and managerial practices implemented to control nonpoint source pollution.

Buffer: A barrier of permanent vegetation, either forest or meadow, located adjacent to and down-gradient of developed areas, designed to intercept and filter out pollution before it reaches the surface water resource.

Catchment: (also referred to as a watershed or drainage basin) is an area of land that drains downhill into a body of water, such as a stream, river, lake, estuary or the sea.

CLF: Conservation Law Foundation

Confluence: Point at which two or more watercourses intersect.

Critical area: That part of the watershed that is contributing a majority of the pollutants and is having the most significant impacts on the waterbody.

Culvert: A covered channel or a large diameter pipe that directs water flow below the ground level.

DCIA: Directly Connected Impervious Area - are impervious surfaces that contribute concentrated runoff directly to a water body without engineered or natural mitigation. Natural mitigation may include effective buffers, natural depressions, or shallow wetland areas.

DEP: Department of Environmental Protection

Designated uses: Recognized uses of water established by state and federal water quality programs

Detention basin: an artificial flow control structure that is used to contain flood water for a limited period of a time, thereby providing protection for areas downstream. This is opposed to a retention basin that holds water for an extended period of time. Most detention basins have not been designed for water quality treatment.

Dissolved Oxygen (D.O.): The amount of free (not chemically combined) oxygen dissolved in water, wastewater, or other liquid, usually expressed in milligrams per liter, parts per million, or percent of saturation.

DOT (Maine): Department of Transportation

E. coli: Bacterium used as an indicator of the presence of waste from humans and other warm-blooded animals.

EPA: Environmental Protection Administration

Erosion: Detachment and movement of rocks and soil particles by gravity, wind, and water.

Floodplain: Land built of sediment that is regularly covered with water as a result of the flooding of a nearby stream.

Fluvial Geomorphology: The study of the shape and stability of river and stream systems. It assesses not only the form of these watercourses, but also the associated contributing physical processes related to water and sediment transport. At the advanced level, this science applies natural channel design for restoring or rehabilitating channel reaches, and provides integration with aquatic biology to enhance habitat or community structure.

Focus groups: Groups of individuals brought together to discuss a particular topic or situation.

Geomorphology: A branch of both physiography and geology that deals with the form of the earth, the general configuration of its surface, and the changes that take place due to erosion of the primary elements and the buildup of erosional debris.

GIS: Geographical Information System: A system that analyzes and models data in a spatial context and displays digitally recreated map layers.

GPS: Global Positioning System: A system capable of providing worldwide navigation and positioning by pinpointing locations.

Groundwater: The subsurface water supply in the saturated zone below the water table.

Head: The difference in elevation between two points in a body of fluid.

Headwaters: The origin and upper reaches of a river or stream.

Hotspots: Stormwater hotspots are land uses or activities that may produce higher concentrations of trace metals, hydrocarbons, or priority pollutants than are normally found in urban runoff. Common hotspots may include auto recyclers, commercial parking lots, fleet storage areas, industrial rooftops, landscaping/nurseries, public works facilities, vehicle washing areas, auto repair services and others.

Hydrologically distinct: Defined by drainage basins or watersheds rather than areas arbitrarily defined by political boundaries.

Impairment: Degradation.

Impervious: A surface through which little or no water will move. Impervious areas include paved parking lots, roof tops, streets, highways, and many gravel surfaces.

Infiltration: The penetration of water through the ground surface into subsurface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls.

Long Creek Watershed: Land area within So. Portland, Scarborough, Westbrook, and Portland that drains into the 4 branches of Long Creek, then flows into Clark's Pond and the Fore River.

MTA: Maine Turnpike Authority

Nonpoint source pollution: Pollution caused when rain, snowmelt, or wind carry pollutants off the land and into the waterbodies.

Permit: An authorization, license, or equivalent control document issued by EPA or an approved state agency to implement the requirements of an environmental regulation; e.g., a permit to operate a wastewater treatment plant or to operate a facility that may generate harmful emissions.

Point source: The release of an effluent from a pipe or discrete conveyance into a waterbody or a watercourse leading to a body of water.

Pollutant: Any substance of such character and in such quantities that when it reaches a body of water, soil, or air, it contributes to the degradation or impairment of its usefulness or renders it offensive.

Resource management system: A combination of best management practices that, when installed, will at a minimum protect the resource base by meeting acceptable soil losses; protect or improve water quality; and conserve plant, air, and animal resources.

Riparian: Person who lives along or holds title to the shore area of a lake or bank of a river or stream.

Riparian Buffer: The width of naturally vegetated (or recently planted) land adjacent to the stream between the top of the bank and the edge of other land uses. A buffer is largely undisturbed and consists of the trees, shrubs, groundcover plants, duff layer, and naturally uneven ground surface. The buffer serves to protect the water body from the impacts of adjacent land uses.

Riparian corridor: Areas bordering streams, lakes, rivers, and other watercourses. These areas have high water tables and support plants requiring saturated soils during all or part of the year.

Riparian Zone: An area of land and vegetation adjacent to a stream (or lake) that has a direct effect on the stream. This includes shorelands, streambanks, woodlands, vegetation, and part (or all of) floodplains.

Runoff: That portion of the precipitation or irrigation water that travels over the land surface and ends up in surface streams or water bodies.

Sediment: Soil, sand, and minerals which can take the form of bedload, suspended, or dissolved material.

Soil erosion: The wearing away of land surface by wind or water. Erosion occurs naturally from weather or runoff but can be intensified by land-clearing practices related to farming, residential or industrial development, road building, or timber cutting.

SPLT: South Portland Land Trust

Spatially referenced data: Assigning specific geographic locations to data.

Stakeholder: Any organization, governmental entity, or individual that has a stake in or may be affected by a given approach to environmental regulation, pollution prevention, or energy conservation.

Storm drain (storm sewer): A slotted opening leading to an underground pipe or an open ditch that carries surface runoff.

Storm water: Runoff from a storm, snow melt runoff, and surface runoff and drainage.

Stream Channel: A long narrow depression shaped by the concentrated flow of a stream and covered continuously or periodically by water.

Surface water: All water naturally open to the atmosphere (rivers, lakes, reservoirs, streams, wetlands impoundment, and seas).

Suspended solids: Sediment particles in the water column and carried with the flow of water.

Total Maximum Daily Load (TMDL): A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Topographic maps: Land maps that display elevation along with natural and man-made features.

Topography: The physical features of a surface area including relative elevations and the position of natural and man-made features.

Tributary: A river or stream that flows into a larger river or stream.

Vegetative controls: Control measures or practices that usually involve the use of cropping systems, permanent grass, or other vegetative cover to reduce erosion and control.

Water quality: The biological, chemical, and physical conditions of a waterbody, often measured by its ability to support life.

Water Quality Classification: AA, A, B, & C - defines water quality criteria for fresh surface waters, as well as estuarine and marine waters

Watershed: The geographic region within which water drains into a particular river, stream, or body of water. Watershed boundaries are defined by the ridges separating watersheds. Urban watershed boundaries may be defined by storm sewer drainage infrastructure as opposed to surface ridges. Subwatersheds are a smaller hydrologically-distinct unit and can be broken down into catchments, subcatchments, or drainage areas. These terms can be used interchangeably. These areas may represent an area as small as a single shed roof or a few parking spaces. Engineers use the term subcatchment to define small "watershed" boundaries in hydrologic modeling efforts.

Wetland: An area that is regularly saturated by surface or groundwater and subsequently is characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, fens, and marshes.

Appendix B

Nonpoint source pollutants are any of the substances listed below that can degrade the water quality by impairing the designated use(s) of the water.

Animal manure—Manure is a source of nutrients, salts, and organic matter that can degrade water quality.

Depressed dissolved oxygen—When the oxygen dissolved in water and readily available to aquatic organisms (mg/l) is below optimal levels.

Hydrologic flow fluctuation—When the natural hydrology of the watershed changes due to increases in storm water runoff.

Metals—Toxic substances, such as mercury and lead, that come from urban runoff or atmospheric deposition.

Nitrogen—An element that at certain levels can cause excessive algae and aquatic weed growth.

Organic matter—Residue from plant or animal origin (including leaves and grass clippings). In excessive amounts organic matter can lower dissolved oxygen levels.

Pathogens—Human disease causing bacteria or viruses.

Pesticides—Chemical substances used to kill pests such as weeds, insects, algae, rodents, and other undesirable agents.

Petroleum and petroleum by-products (oil and grease)—Urban pollutants that are transported by rainfall from roads, parking lots, and improper storm drains.

Phosphorus - a limiting nutrient for algal production. Predominant sources in urban areas are high use road and parking lot runoff and fertilized lawns.

Salts—Chemical compounds from winter road deicing, septic systems, and water softener outwash.

Sediment—Soil that is transported by air and water and deposited on the stream bottom.

Temperature—An elevation in water temperature that stresses fish and aquatic insects.