

Glossary of Terms used in the Stormwater Industry

Term	Code	Definition
Backfill	Eng	1. The act of returning of excavated material, such as earth, into an excavation or trench for the purpose of raising the surface of the fill material to that of the surrounding land.
	Eng	2. The material used for the purpose of backfilling an area.
Background level	Sci	The concentration of a substance commonly found in the local environment.
Backstone	Sto	The side wall of a side-entry kerb inlet directly opposite the inlet opening (i.e. the back wall). A backstone differs from a lintel in that it does not primarily act as the horizontal support bridging over the opening or the gully pit.
Backwater	Wwy	The water of a stream kept above an otherwise expected elevation due to some downstream influence such as floodwaters within a downstream reach or tributary, or a downstream hydraulic obstruction.
Backwater analysis	Hyd	An analytical procedure for determining water surface levels in open channels under gradually varied, subcritical flow conditions.
Backwater area	Wwy	That part of a stream affected by backwater.
Backwater channel	Wwy	That part of a waterway or drainage channel affected by backwater.
Backwater curve	Hyd	The longitudinal water surface profile resulting from a backwater analysis.
Backwater level	Hyd	The water surface elevation at a particular location in a backwater.
Backwater profile	Hyd	The longitudinal water surface profile resulting from a backwater analysis.
Baffled pit	Sto	A modified stormwater pit fitted with baffles that are specifically designed to encourage heavy sediments and floating debris to remain in the pit. Also known as a CATCH BASIN or TRAPPED STREET GULLY.
Bailer	Min	A device used to withdraw a water sample from a small diameter well or piezometer. A bailer typically is a piece of pipe attached to a wire with a check valve in the bottom.
Bank	Eng	An embankment formed from fill.
	Wwy	The slope bordering the bed of a watercourse or channel along which water normally runs.
Bankfull	Wwy	A water surface elevation estimated by various procedures that describe the channel flow condition preceding significant overbank flow. If benches are well established within the channel, then significant overbank flows might occur prior to the inundation of the floodplain. To avoid erroneous and/or highly variable results, bankfull elevation should not be determined by the shape of a single cross-section, but with observations made along a length of the channel.

Bankfull discharge	Wwy	<p>The channel flow rate that exists when the water surface is level with the channel bank elevation above which the water would spill out of the channel or begin to enter the floodplain.</p> <p>Bankfull discharge is often used as one of the critical design parameters in Natural Channel Design and sediment transport calculations. The frequency of bankfull conditions will vary according to climate regions.</p> <p>Also known as BANKFULL FLOW.</p>
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Barrage	Eng	An artificial obstruction in a watercourse used to increase the depth of the water, facilitate irrigation, and similar.
Barrel	Eng	1. A conduit placed through a dam, levee, or dike to control the release of water.
	Eng	2. The individual flow conduit of a culvert between the end walls. Also known as a CELL.
Barrier	Eco	An obstruction to fish passage.
	Eng	Any constructed impediment to the flow of surface water, such as a flow diversion bank, normally placed along or slightly off the contour. Typically used as a temporary measure to divert overland flows away from a workplace or unstable ground, or as a permanent measure to divert flows to a stable outlet.
Barrier kerb	Eng	<p>A kerb high enough to prevent or discourage driving off the carriageway. Barrier kerbs are of interest in the stormwater industry due to their potential to interfere with the passage of floodwater over roadways.</p> <p>Also known as a NON-MOUNTABLE KERB.</p>
Base drain	Eng	A drainage system consisting of a pervious aggregate layer placed between an upper sealed surface (such as a paved area) and an underlying impervious base course.
Base flow	Hyd	<p>The stream flow rate that cannot be directly attributed to storm events. It includes any regular, long-term inflows such as environmental flows from regulated lakes or reservoirs. The flow rate is usually not constant, but varies with groundwater levels and long-term weather conditions.</p> <p>Also known as DRY WEATHER FLOW.</p>

Basin	Geo	A hollow or depression within which water can be contained.
	Eng	A constructed water storage area used to attenuate stormwater runoff and flood flows, e.g. retention basins and the detention basins.
	Esc	A sediment retention pond formed through excavation and/or the formation of an embankment. More commonly known as a sediment basin when used as a temporary sediment control measure, or a sedimentation basin when operated as a part of a permanent stormwater treatment system.
Basin lag	Hyd	1. The time lapse from the centroid of the rainfall hyetograph to the peak of the outflow hydrograph of a drainage catchment (basin).
	Hyd	2. A parameter used in Snyder's synthetic unit hydrograph method.
Basket	Sto	A steel mesh collection device placed in gully pits or gross pollutant traps to collect debris and other large stormwater pollutants.
Batter (noun)	Eng	1. The side slope of a dam wall, embankment or cutting.
	Eng	2. The degree of a slope, expressed as a ratio of horizontal (X) to vertical (1). May also be described in terms of X:1 (horizontal:vertical) or 1 in X. (Compare with Grade. A 10 to 1 batter has a grade of 0.1 or 10%.)
Batter (verb)	Eng	To form a uniform side slope to a wall, bank or cutting.
Batter chute	Eng	A temporary or permanent structure designed to convey concentrated storm runoff down a cut or fill embankment without causing erosion.
Beaching	Wwy	A layer of loose rock placed against a slope to protect it against wave action or other water erosion. Also known as ROCK BEACHING.
Bed	Wwy	The horizontal or near-horizontal section of a channel located between its banks, or the lower banks, if there is more than one set of banks. The bed of a channel may incorporate a low-flow channel, which typically meanders across the bed.
Bedding	Eng	A layer of suitable material placed on a foundation to provide uniform support for a structure such as a pipe or culvert.
Bedform	Wwy	The topography of a channel bed identifying the macro irregularities. Characteristic bedforms within alluvial channels include ripples, dunes and antidunes.
Bedload	Wwy	Sediment transported by rolling, sliding and saltation (hopping) motion along a channel bed as a result of the stream flow, whether the result of normal stream flow or higher flows.
Bed trap	Wwy	A structure designed to intercept and retain sediment carried by bedload processes, i.e. rolling, sliding and saltation motion.
Bench	Geo	A flat, terrace-like tract of land on a valley slope above the stream bed, or along a coast above the level of a sea or lake.
	Eng	1. A ledge cut or formed in the batter of a cutting or bank to provide greater security against slips, to collect and convey stormwater runoff laterally along the bank, or to provide maintenance access. When used to intercept and convey stormwater runoff, the bench normally slopes in towards the bank. Also known as a BERM.
	Eng	2. A step or working elevation in a mine.

	Wwy	A low-level bank (or shoulder) located below the top of the main bank typically formed by sediment deposits rather than by erosion.
Benching	Eng	The process of forming a bench or a series of benches within a batter, cutting or bank.
Benthic	Gen	Relating to the benthos, bed or substratum of a lake or pond.
	Eco	Relating to organisms living in or on the sediments of aquatic habitats (lakes, rivers, ponds, and so on).
Benthos	Gen	Bottom-dwelling organisms.
	Eco	The sum total of organisms living in, or on, the sediments of aquatic habitats.
Berm	Eng	A ledge constructed at one or more levels between the top and bottom of a batter with the purpose of intercepting runoff and reducing slope instability. Also known as a BENCH.
	Esc	A self-supporting, low-level embankment or flow diversion bank used for erosion and/or drainage control to collect up-slope stormwater runoff and direct it to a stable outlet. Typically made from impervious or slightly pervious material such as earth, concrete or compacted compost. Some commercial products allow a berm to be formed within a geotextile membrane.
Berm drain	Eng	A drain along a constructed ledge between the top and bottom of a batter.
Best management practice (BMP)	Eng	Any program, technology, process, siting criteria, operating method, or device recognised as best practice when assessed against those processes currently used nationally and internationally.
	Sto	Any program, technology, process, siting criteria, operating method, or device implemented to protect water quality and reduce potential for pollution associated with storm water runoff.
Best practice environmental management	Gen	The management of an activity in a manner that achieves ongoing minimisation of environmental harm through cost-effective measures assessed against the measures currently used nationally and internationally for the activity.
Billabong	Wwy	A river meander that has been cut off and becomes isolated from the main channel.
Bio-accumulation	Eco	The process by which chemical substances are accumulated by aquatic organisms either directly from the water or through consumption of food containing the chemicals.
Bioassay	Eco	A test used to evaluate the relative potency of a chemical by comparing its effect on a living organism with the situation of a control that is run under identical conditions but without the test chemical.
Bioavailable	Eco	Relating to the fraction of the total chemicals in the surrounding environment that can be taken up by organisms. The environment may include water, sediment, suspended particles, and food items.

Biochemical oxygen demand (BOD)	Sci	<p>The oxygen consumption (respiration) resulting from bacterial breakdown of organic material or as a result of some inorganic oxygen reducing species.</p> <p>Specifically, BOD is the decrease in oxygen content in a sample of water (mm/L) in the dark at a certain temperature over a certain period of time, which is brought about by the bacterial breakdown of organic matter.</p> <p>BOD is usually measured over a period of 5 days (BOD₅), at which time 70% of the final value has usually been reached.</p>
Bioconcentration	Eco	1. The process by which there is a net accumulation of a chemical directly from water into aquatic organisms resulting from simultaneous uptake (eg. by gill or epithelial tissue) and elimination.
	Eco	2. The net accumulation by organisms of a substance, directly from water via simultaneous uptake and elimination.
Bioconcentration factor (BCF)	Eco	<p>A dimensionless value describing the degree to which a chemical can be concentrated in the tissues of an organism in the aquatic environment.</p> <p>At apparent equilibrium during the uptake phase of a bioconcentration test, the BCF is the concentration of a chemical in one or more tissues of the aquatic organisms divided by the average exposure concentration in the test.</p>
Biodegradable	Gen	Relating to the ability to be broken down by action of living organisms, especially bacteria.
Biodegradation	Eco	The process of decomposition of biological substances into more elementary compounds by the action of micro-organisms, usually bacteria and fungi.
Biodiversity	Eco	1. The biological diversity or the variety of all life forms, comprising genetic diversity (within species), species diversity and ecosystem diversity.
	Eco	2. The extent of the diversity of species of vegetation and wildlife in a given habitat.
Biofilm	Eco	A gelatinous sheath of algae, polysaccharides and microorganisms (including benthic algae and bacteria) formed on gravel and sediment and surfaces of large plants, that adsorbs colloids and nutrients. Biofilm typically contains a diverse and abundant array of microfauna and micro-flora.
Biofilter	Sto	See BIOFILTRATION SYSTEM.
Biofiltration	Sto	<p>The process of filtration and/or infiltration through a biological filter, including its growing media.</p> <p>The key components are biological uptake or treatment, and water filtration or infiltration.</p>
Biofiltration system	Sto	A stormwater treatment swale or shallow detention system that combines vegetative filtration, soil infiltration and sub-surface filtration through a filter medium. The vegetation cover enhances the surface filtration process and delays the blockage of the sub-surface filter. Stormwater treatment processes include filtration, infiltration, adsorption, ion exchange, and biological uptake of pollutants. Biofiltration practices include swales, buffer strips, sub-surface flow wetlands, and those bioretention systems that incorporate filtration or infiltration as a significant part of the

		treatment process.
Biological decomposition	Eco	The separation or resolution into constituent parts or elements through biological activity.
Biological degradation	Sto	The breakdown of complex compounds into simple ones through biological activity.
Biological filter	Sto	A filtration media or process that incorporated living matter as part of the treatment process.
Biological integrity (of water)	Eco	The ability of a body of water to support and maintain a balanced, integrative, adaptive community of organisms having a species composition, diversity and functional organisation comparable to that of the natural habitat of the locality in which the water is situated.
Biological nutrient removal	Wat	A process in wastewater treatment in which nutrient levels in the water are reduced to environmentally acceptable levels by biological activity.
Biological oxygen demand		The oxygen consumption (respiration) resulting from bacterial breakdown of organic material or as a result of some inorganic oxygen reducing species. Also known as BIOCHEMICAL OXYGEN DEMAND.
Biological treatment	Wat	Any method of water treatment in which bacterial or biochemical action is intensified as a means of improving the quality of water.
Biological uptake	Sci	A process by which materials are absorbed and incorporated into organic matter.
Biomagnification	Gen	The increase in toxicity of a chemical as a result of its process along a food chain.
	Eco	The result of the processes of bioconcentration and bioaccumulation by which tissue concentrations of bioaccumulated chemicals increase as the chemical passes up through two or more trophic levels. The term implies an efficient transfer of chemicals from food to consumer, so that residue concentrations increase systematically from one trophic level to the next.
Biomass	Eco	The total mass of living organisms within a given volume or area.
Biomass uptake (assimilation)	Eco	The uptake of ions from soil by aquatic plants through root systems, limited uptake directly from water, and uptake by algae. Typical pollutants assimilated include metals, phosphorus and nitrogen.
Biomonitoring	Eco	The act of monitoring the biodiversity of selected biological groups or families, and comparison to a reference site of a similar ecosystem, used as a measure of ecosystem health.
Biopod	Sto	A small, well-defined bioretention system normally incorporated into street landscapes.

Bioretention	Sci	A process by which stormwater pollutants are absorbed and incorporated into organic matter.
	Sto	<p>A stormwater retention process by which stormwater pollutants are absorbed, modified (treated), or incorporated into organic matter. The retention component of the system involves retaining all or a portion of the processed water for an extended period after the storm.</p> <p>The key components are biological uptake or treatment, and water retention.</p> <p>It is the retention component of the process, and the possible absence of significant infiltration/filtration, that distinguishes bioretention systems from some biofiltration systems.</p>
Bioretention area	Sto	See Bioretention system.
Bioretention cell	Sto	See Bioretention system.
Bioretention system	Sto	<p>A well-vegetated, open water retention cell, pond or basin designed to enhance the degree of water filtration through a specially prepared sub-surface filter medium. Typically formed in grass or vegetated swales through the inclusion of regularly spaced flow control barriers such as check dams or elevated driveway culvert crossings.</p> <p>Essentially the system requires the integration of vegetation, medium-term stormwater retention, and sub-surface filtration or infiltration.</p> <p>Also known as biofiltration systems or biofilters; however, medium-term retention of the stormwater must be a component of such systems in order for the term bioretention to be applicable.</p>
Biota	Gen	The total animal and plant life of a region or period in time.
Bioturbation	Eco	The process by which organisms physically disturb sediments by burrowing and other activities.
Blackwater	Res	Wastewater containing human, animal or plant waste.
Blanket (geotextile)	Esc	A surface-laid geotextile primarily used in areas of sheet flow to control soil erosion.
Bloom	Eco	An unusually large number of organisms per unit of water, usually algae, made up of one or a few species.
Blue-green algae	Eco	<p>T type of naturally occurring, microscopic, primitive photosynthetic bacteria.</p> <p>Also known as CYANOBACTERIA.</p>
BMP	Gen	The abbreviation for best management practice, any program, technology, process, siting criteria, operating method, or device recognised as best practice when assessed against those processes currently used nationally and internationally.
	Sto	Any program, technology, process, siting criteria, operating method, or device implemented to protect water quality and reduce potential for pollution associated with storm water runoff.
BNR	Wat	The abbreviation for biological nutrient removal, a process in wastewater treatment in which nutrient levels in the water are reduced to environmentally acceptable levels by biological activity.

BOD	Sci	<p>The abbreviation for biochemical oxygen demand, The oxygen consumption (respiration) resulting from bacterial breakdown of organic material or as a result of some inorganic oxygen reducing species.</p> <p>Specifically, BOD is the decrease in oxygen content in a sample of water (mm/L) in the dark at a certain temperature over a certain period of time, which is brought about by the bacterial breakdown of organic matter.</p> <p>BOD is usually measured over a period of 5 days (BOD₅), at which time 70% of the final value has usually been reached.</p>
Boom diversion system	Sto	<p>A system that employs a vertically hinged floating boom located in the stormwater flow path primarily designed to capture floating material.</p> <p>Under low to medium flow conditions, the boom diverts all of the flow to an off-line pollutant retention chamber. Floating pollutants are trapped in the chamber using a similar trapping technique to that used in baffled pits, while heavy pollutants sink to the bottom of the chamber.</p> <p>Under high flow conditions, the boom raises and deflects only buoyant items.</p>
Bore	Eng	A drilled hole lined with tubing (usually steel or PVC) that allows the inflow of groundwater at depth.
	Hyd	An abrupt rise in water level (i.e. a wave) that occurs at the leading edge of a flood tide within certain narrowing estuaries and tidal channels.
Bottom	Wwy	The lowest or deepest surface within a channel.
Bottom outlet	Eng	An opening near the bottom of a water retention structure used for draining the reservoir and/or the flushing-out of sediments.
Boulder	Eng	A rounded or sub-angular stone or piece of rock of large size, usually larger than 300mm.
	Wwy	A type of granular bed or bank material larger than 250mm (maximum cobble size) in equivalent diameter.
Box culvert	Eng	A culvert of rectangular cross-section.
Box drain	Eng	A small drainage structure of rectangular cross-section.
Brackish	Gen	Relating to a slightly salty content or briny flavour.
Branch drain	Sto	The system of channels, pipes and overland flow pathways that drain to the main drain or collector drain.
Bridge	Eng	A structure spanning a river, chasm, road or the like, and affording passage.
Brine	Gen	Strongly salted water.
Broadcast seeding	Agr	Any method of planting seed that scatters the seed in random pattern on the surface of the soil.
Broad-crested weir	Hyd	<p>A weir with a flat crest long enough, in the direction of flow, to permit parallel, or near-parallel, flow across the weir. This usually occurs where the ratio of crest length (in direction of flow) to upstream head is greater than 1.5 to 3.</p> <p>If the crest is long enough, the pressure distribution along the crest is hydrostatic allowing critical depth to occur on the crest of the weir.</p>

Brook	Wwy	A small natural stream of fresh water.
Brownfield	Eng	An existing or potential urban development site that has had previous development on it.
Buffer	Esc	A wide vegetative area of land through which sediment-laden water flows as sheet flow, allowing the capture and retention of some of the sediment. The term BUFFER ZONE is more common within the erosion and sediment control industry.
	Sto	The potential pollutant retention area between a place where contaminants are stored or sourced, and a gutter, drain or water.
	Sci	A solution containing a weak acid and its conjugate weak base, the pH of which changes only slightly on the addition of acid or alkali.
Buffer strip	Wwy	A buffer zone with a length significantly greater than its width, usually located along a linear feature such as a watercourse.
Buffer zone	Geo	A corridor of vegetation that separates disturbed land from an adjacent watercourse, protected bushland or other sensitive areas.
	Eng	A corridor of vegetation that separates the edge of a stream or drainage channel and an adjacent land use activity. The buffer may incorporate wildlife corridor benefits, act as a separation barrier between two conflicting land uses, or provide pollutant retention and treatment benefits for overland and/or subsurface flows passing through the buffer.
	Esc	A significant area of vegetation containing at least 70% ground cover which allows overland flow to pass as sheet flow through the buffer area without the concentration of flow. Primarily used as a coarse sediment and/or pollutant filter.
	Wwy	The corridor of native vegetation along the edge of a waterway or wetland that is intimately linked with the waterway.
Building	Eng	A structure with a roof and walls, or a portion of such a structure, whether temporary or permanent, movable or immovable, including examples such as a habitable room; a commercial office or structure; a factory or warehouse; a basement providing car parking space, building services or equipment; or an enclosed car park or enclosed garage.
Buttress dam	Eng	A special type of dam in which the upstream face consists of a series of slabs or arches supported on their downstream faces by a series of buttresses.
Byewash	Eng	The ancient name for a spillway, i.e. channel to carry waste waters.
Bypass flow	Eng	That portion of the flow on a road or in a channel that is not collected by a gully inlet or field inlet, and which is redirected out of the system or to another inlet in the system.
	Esc	That portion of the flow redirected out of a system, or around a device (such as a sediment trap or stormwater treatment system) such that the bypassed flow does not pass through, or is treated by, the device.
Bypass system	Sto	A hydraulic system which enables a flow to temporarily bypass a stormwater facility to allow maintenance works.
Bywash	Eng	A spillway on a rural farm dam.

Bywash spillway	Eng	A spillway that conveys water away from or around an embankment. Its control section is generally trapezoidal in cross-section and leads to either a diversion channel, or spills directly onto the natural ground surface by way of a sill (level sill spillway).
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