

Treatment processes and scales of operation in stormwater BMP technologies.

	Hydrological processes & outcomes (*)					Treatment process				Scales of application		
	Detention (&/or Retention)	Infiltration	Flow attenuation*	Volume reduction*	Baseflow restoration*	Sedimentation	Filtration	Adsorption	Biological treatment	Household	Streetscape	Precinct/Suburb
Soakaway	++	+++	+	++		+	+++	++	++	X	X	
Green roof / detention roof	++		++	+			++	++	+ ⁴	X		
Swale	++	(++)	+	(+)	(+)	++	(+++)	++	++		X	
Filter strips		+++	+	(+)	(+)	+	+++	+++	++		X	
Detention / infiltration trench	++	(++)	++	(+++)	(++)	+	(+++) ⁵	(+++) ⁵	(+++) ⁵	X	X	
Rain garden / Biofiltration systems	+++	+++	+(+)	(++)	(++)	++	+++	+++	+++	X	X	X
Porous Roads	++	(+++)	++	(++)	(++)	+	(+++) ⁶	(+++) ⁶	(+++) ⁶	X	X	X
Wet pond	+++		+++			++		+	+			X
Wetland	+++		++			++	++	+	+++			X
Dry pond	+++	(+++)	+++	(++)	(+)	++	(+++)	+++	+(+++)			X
Rainwater tank	+++		++	+++	+ ³	++				X	X	
Other equipment that may be used in addition												
Gross Pollutant Trap						+ ¹	+++ ²				X	
Sand filter						++	+++	++	++	X	X	X

Household



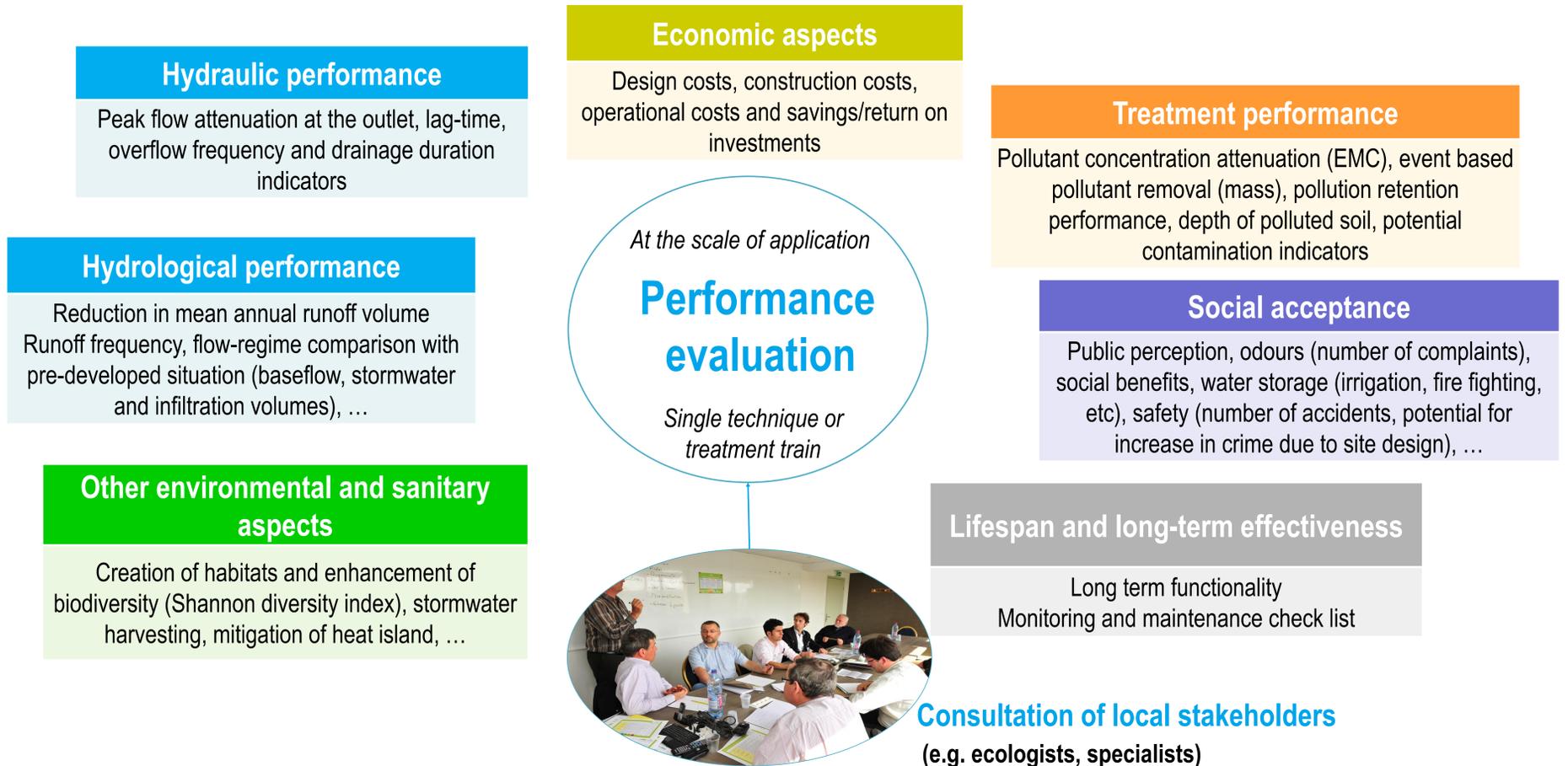
Precinct / Suburb



Streetscape



+ low ability; ++ medium ability; +++ high ability; () only if infiltration is possible
 * These are not strictly hydrological processes, but rather outcomes in terms of changes to the flow regime.
¹ Generally removal of only very coarse sediment, depending on the design
² Achieved typically through screening through a screen with a defined aperture.
³ Only if connected to irrigation or provided with a 'trickle outlet' specifically designed to enhance baseflows.
⁴ if green roof
⁵ if covered by topsoil
⁶ if infiltration porous structure or permeable surface



Output: Adaptive survey according to relevant performance criteria

	Questionnaire	Single site inspection / monitoring / document consultation	Short term measurement campaign (<1 year)	Long term monitoring
Design and circumstance data	Series of questions to gather from the owner and manager	Field investigation to gather information : measures, interview to stakeholders , etc.	Semi-continuous or continuous monitoring for a specific objective	Regular measurements and observations for several years – long-term trends
Hydraulic performance (flood mitigation)	Required	Required	Not appropriate	Not appropriate
Hydrological performance	Only if information is known	Using modelling tool	Not appropriate	At least 1 year for current events
Treatment performance	Only if information is known	Using modelling tool	Not appropriate	At least 1 year for site scale
Economic aspects	Required	Not appropriate	Several events at least	At least around 5 years for catchment scale
Other environmental or sanitary aspects	Only if information is known	Not appropriate or Required (depending on the indicator)	Not appropriate	At least 1 year
Social acceptance	Only if information is known	Required for [yes / no] indicators	Required	Required
Lifespan and long-term effectiveness	Only if information is known	Required (depending on the indicator)	Duration of observation depends on indicators chosen	Duration of observation depends on indicators chosen
			Required for survey at different time / season of the year	Required to monitor the evolution
			Required (depending on the indicator)	Required (depending on the indicator)

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